

January 1989

# DOD HEALTH CARE

## Occurrence Screen Program Undergoing Changes, but Weaknesses Still Exist



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**Human Resources Division**

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January 5, 1989

The Honorable Beverly B. Byron  
Chairman, Subcommittee on Military  
Personnel and Compensation  
Committee on Armed Services  
House of Representatives

The Honorable Daniel K. Inouye  
United States Senate

The Honorable Claiborne Pell  
United States Senate

The Honorable Jim Sasser  
United States Senate

In response to your requests and agreements with your offices, we prepared this report, which describes the current status of the Department of Defense's efforts to implement an occurrence screen program as an integral part of its quality assurance activities. In this report we emphasize program activities at the hospital level and make recommendations to improve hospitals' initial screening processes. We also recommend that occurrence screen data be collected and analyzed above the hospital level to help both hospitals and command levels focus their quality assurance resources and efforts.

Copies of this report are being sent to the Secretary of Defense, appropriate congressional committees, and other interested parties.

This report was prepared under the direction of David P. Baine, Associate Director. Other major contributors are listed in appendix III.

Lawrence H. Thompson  
Assistant Comptroller General

# Executive Summary

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## Purpose

The quality of health care provided by the Department of Defense (DOD) direct health care system is of continuing concern to the Congress and users of the system. DOD has undertaken several initiatives to assure high-quality care. One of these initiatives—the occurrence screen program—is intended to identify individual cases as well as patterns of potentially substandard care or care that could be improved. GAO conducted its review to determine how well occurrence screen programs were being implemented to meet this intent.

GAO concentrated its study on how well DOD hospitals were identifying indicators of potentially substandard care during the first review of a patient's medical records—the initial screening process. GAO also examined program changes being implemented by DOD to determine their potential impact on the effectiveness of the occurrence screen program.

GAO's work was done at the request of the Chairman, Subcommittee on Military Personnel and Compensation, House Committee on Armed Services, and Senators Daniel K. Inouye, Claiborne Pell, and Jim Sasser.

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## Background

Occurrence screening is one of several elements in a DOD hospital's quality assurance program. It involves a review of patient records by trained personnel who use designated criteria to identify occurrences that represent deviations from normal procedures or expected outcomes. For example, if a patient had a drug or transfusion reaction or was unexpectedly returned to an operating room after initial surgery, each such incident would be considered an "occurrence." Once identified during the review of a medical record, the occurrence is evaluated through a peer review by physicians, who determine whether the care given was appropriate and met acceptable medical standards.

Occurrence screen data can be used to identify single instances of potentially substandard care or can be aggregated by the hospital to provide information on trends in the type of care provided by either the hospital or individual physicians within it. (See p. 8.)

DOD established the occurrence screen program in 1984 to help address problems identified in military health care. In late 1986 and in 1987, while GAO was conducting its review, DOD restructured its program from one of centralized oversight through reporting of cumulative data on hospital performance to DOD, to a more localized effort, wherein services and individual hospitals develop and use occurrence screen data for their own particular needs. (See pp. 8, 10.)

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## Results in Brief

Substantial numbers of occurrences were not being identified during the initial screening process. Full identification of all occurrences is important not only to identify potential instances of substandard care but also to accurately identify patterns or trends in the delivery of care in DOD hospitals. (See p. 21.)

DOD's 1986 and 1987 policy changes were designed to improve the utility of occurrence screen programs at the hospital level and were needed to achieve more positive acceptance of the program by the hospitals. The extent to which these changes help to improve individual hospitals' programs, however, will depend on how the hospitals and services design and implement their programs within the revised policy framework. (See p. 13.)

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## Principal Findings

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### Improvements Needed in Initial Screening Process

GAO's examination of selected patient medical records revealed that hospital personnel failed to identify substantial numbers of occurrences during their initial screening reviews. GAO's analysis of 251 patient records containing occurrences at six hospitals showed that one or more occurrences were missed by hospital reviewers in 164, or about 65 percent, of the records. No single service was significantly more proficient than another in detecting occurrences. Failure to identify occurrences undermines the intent of the program—to identify individual cases and patterns of potentially substandard care and care that could be improved. (See p. 21.)

GAO identified three factors in hospitals' initial screening processes that it believes contribute to missed occurrences. First, DOD and the services had not provided sufficient guidance on what to do if more than one occurrence is found in a patient's medical record. As a result, reviewers did not always record every occurrence identified in the medical file. (See p. 23.)

Second, in the two Navy hospitals GAO visited, the personnel who reviewed patient records to identify possible occurrences included corpsmen. Officials in one hospital indicated that these corpsmen may not have had sufficient medical expertise and training to identify all of the occurrences. (See pp. 23, 24.)

Third, attending physicians in the Army and Air Force screen their own patient records. From an internal control perspective, this practice raises the issue of reviewer objectivity and raises questions about the screen programs' credibility. (See pp. 24, 25, 26.)

### DOD Program Changes Aimed at Strengthening Hospital-Level Programs

DOD hospitals did not make full use of the original occurrence screen program primarily because (1) the screens required by DOD were deemed to be too prescriptive (2) and the management information system (AQCESS) did not provide sufficient accurate data to make occurrence screen programs useful at individual hospitals. (See p. 13.)

DOD's 1986 and 1987 policy initiatives were designed primarily to allow the services and individual hospitals more flexibility in determining the specific occurrences they want to monitor without obtaining prior DOD concurrence. Service and hospital officials as well as civilian experts agree that hospitals should be involved in designing their own occurrence screen programs, relevant to their specific needs. (See pp. 14, 15.)

DOD has also attempted to make occurrence screen programs more useful to hospitals by expanding the number of screening criteria and other quality assurance indicators that can be tracked by the system and increasing its data analysis capabilities. All three services are requiring their hospitals to use a standard set of six screening criteria in their programs. However, the information tracking capabilities of the revised management information system allow many additional screens to be used at the option of each hospital, depending on their unique requirements. (See pp. 15, 16, 17, 18.)

### Data Collection and Analysis Above Hospital Level Could Improve Program Effectiveness

The services' decision to use a specified minimum set of screening criteria at each service hospital will provide a degree of uniformity in the data collected at the hospital level. This uniformity could facilitate multihospital trending and analysis if the data were collected and analyzed by service commands above the individual hospital level. Such analysis could be used by both individual hospitals and command levels to focus quality assurance resources and efforts.

The Air Force and Navy are requiring that data be reported above the hospital level—the former to mid-level commands and the latter to the Naval Medical Command. The Army, although not requiring hospitals to report data to higher commands, has asked hospitals to submit screens that have had a positive effect on the quality of patient care. These data

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should be helpful; however, the Army will not have information readily available to measure the performance of its hospitals against each other or other hospitals in the DOD system and to identify systemwide trends in the quality of care being provided. (See pp. 17, 18, 19.)

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## Recommendations

The Secretary of Defense should direct the service secretaries, in conjunction with the Assistant Secretary of Defense for Health Affairs, to:

- Instruct screeners to identify all applicable occurrences during the initial screening process. (See p. 27.)
- Discontinue using attending physicians to screen their own patient records and use properly trained nonphysician personnel to perform this function. (See p. 27.)
- Collect and analyze occurrence screen data above the hospital level and provide comparative and related analysis to the individual hospital commanders for management purposes. (See pp. 19, 20.)

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## Agency Comments

DOD agrees that the concept of collecting data above the hospital level and analyzing it for trends has great potential. But, because of past experience with occurrence screen data, DOD does not want to require collection by the services until it knows more precisely what data will be meaningful. DOD concurred with GAO's recommendation to instruct screeners to identify all occurrences and stated that its management information system now has the software to facilitate this. DOD also agreed that in most instances the initial screens could be done by non-physicians, but expressed the opinion that individuals (e.g., physicians) who are most knowledgeable about the case should not be excluded. DOD believes its automated medical system, which should be in place by the mid to late 1990's, will enable it to perform the vast majority of initial screenings and satisfy both the GAO and the DOD perspectives on improvements needed. (See pp. 43-45.)

GAO continues to believe that attending physicians should not screen their own patient records. DOD's suggestion that its automated medical system is the best solution to this problem and would satisfy both GAO and DOD perspectives would have merit if its implementation date were more immediate. (See p. 45.)

# Contents

<b>Executive Summary</b>		2
<b>Chapter 1</b>		8
<b>Introduction</b>	Objectives, Scope, and Methodology	10
<b>Chapter 2</b>		13
<b>DOD Policy and Management Information System Changes Aimed at Improved Hospital Implementation of Occurrence Screen Program</b>	DOD Policy and Management Information System Changes Effectiveness of DOD Initiatives Depends on Hospitals' Implementation Data Collection Above Hospital Level Would Further Improve Program Conclusions Recommendation Agency Comments	14 17 17 18 19 20
<b>Chapter 3</b>		21
<b>Improvements Needed in Initial Screening Process</b>	Hospitals Did Not Identify a Substantial Number of Occurrences During Initial Screening Factors Inhibiting Identification of Occurrences Conclusions Recommendations Agency Comments	21 22 26 27 27
<b>Appendixes</b>	Appendix I: Number of Operating Beds and Admissions for Hospitals Visited Appendix II: Comments From the Department of Defense Appendix III: Major Contributors to This Report	30 31 46
<b>Tables</b>	Table 1.1: DOD Occurrence Screen Criteria Table 3.1: Results of GAO Analysis of Sampled Cases at Hospitals Reviewed Table 3.2: Criteria Most Frequently Missed by Selected Hospitals During Initial Screening	9 21 22

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**Contents**

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**Abbreviations**

AQCESS Automated Quality of Care Evaluation Support System  
DOD Department of Defense  
GAO General Accounting Office

# Introduction

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In recent years the Congress and military beneficiaries have been increasingly concerned about the quality of health care provided by the military's direct health care system. In response to these concerns, the Department of Defense (DOD) undertook several initiatives to assure high-quality care. One such initiative was an occurrence screen program.

Occurrence screening is one of several elements in a typical quality assurance program. It is increasingly being used in civilian hospitals and has been required in all Veterans Administration facilities since October 1988. Under occurrence screen programs in DOD hospitals,<sup>1</sup> patient medical records are reviewed by personnel with medical training using objective designated criteria. The reviewers identify events that took place during a patient's treatment in the hospital that represent a deviation from normal procedures or expected outcomes. All patient records in which such occurrences are identified are reviewed by physician peers, who determine whether the care provided was appropriate or whether any opportunity for improvement of care exists. If the care is deemed to be substandard, appropriate action is taken. Depending on the problem, these actions can range from having the providing physician counseled by his supervisor to discontinuing use of faulty medical equipment. Occurrence screen data can also be used to identify events that are applicable to other elements of a hospital's quality assurance program. According to DOD, as experience is gained with occurrence screening, quality assurance officials have come increasingly to appreciate the methodology and apply it to a broader range of activities, such as resource allocation.

A 1983 directive on standards for DOD health care provider performance mandated that mortality and complication rates be determined for individual DOD health care providers and used in evaluating their work. To comply with this directive, in September 1984 DOD instituted a program called occurrence screening, under which inpatient records were to be reviewed as a way to record and report provider-related patient care complications. At that time, DOD required that all inpatient records be screened against 18 specified criteria<sup>2</sup> and that any instances of proven substandard care be recorded in the provider's credentials file and used

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<sup>1</sup>In fiscal year 1986, DOD operated 168 hospitals, admitted over 877,000 patients, and had an average daily census of about 13,500.

<sup>2</sup>These criteria were derived from criteria used in the 1977 California Medical Insurance Feasibility Study. In this study, researchers identified a number of adverse events (occurrences) pertinent to the population of hospitalized patients.

in his/her performance assessment. The screening criteria, or occurrences, to be used are shown in table 1.1.

**Table 1.1: DOD Occurrence Screen Criteria**

Criterion	Description
1	Admission for a condition that may represent a complication of previous outpatient treatment
2	Readmission within 6 months for a condition that is possibly a complication of previous treatment
3	Drug or transfusion reaction
4	Unexpected transfer from a general care bed to a special care bed
5	Unanticipated transfer to another acute care facility
6	Cardiac or respiratory arrest
7	Organ failure (heart, kidney, lung, brain) not present on admission
8	Death
9	Neurosensory or functional deficit or intractable pain not present on admission
10	APGAR score of four or less at 1 minute or seven or less at 5 minutes <sup>a</sup>
11	Injury of organ/body part during invasive procedure (including obstetrical delivery)
12	Unexpected return to operating room
13	Unplanned removal or repair of normal body part during surgery (not documented on the informed consent)
14	Postoperation complication
15	Acute myocardial infarction or cardiovascular accident after surgery
16	Operation for removal of foreign body left in operative site
17	Repeat of the same invasive procedure during the same admission
18	Discharge against medical advice

<sup>a</sup>The APGAR score is the numerical expression of the condition of a newborn infant on assessment of the infant's heart rate, respiratory effort, muscle tone, reflex irritability, and color.

As part of its original program, DOD instructed each service to submit an annual report summarizing the number of times any of the aforementioned occurrences were identified in each hospital. The data were to be arranged across four provider specialty groupings (pediatrics, obstetrics/gynecology, surgery, and medicine). DOD officials hoped that the annual reports would yield information useful for systemwide quality assurance analysis. DOD also established the Automated Quality of Care Evaluation Support System (AQCESS),<sup>3</sup> a hospital-based management information system intended in part to assist the hospitals in collecting

<sup>3</sup>AQCESS was developed to collect and report clinical, administrative, and managerial information necessary to support inpatient administration of the medical quality assurance programs within DOD. Occurrence screening is one functional capability of the system's quality assurance module, which includes, among other things, incident reporting and credentialing.

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and analyzing data on indicators of quality of care, including occurrence screen criteria.

We began our review of DOD's occurrence screen program in May 1987. In late 1986 and 1987, DOD significantly revised its objectives and expectations for the program and made major changes in AQCESS. DOD discontinued central reporting and redirected its efforts toward revising the occurrence screen program and its AQCESS support, with emphasis on hospital-level development and use. Specifically, DOD eliminated the requirement for both the 18 specific screens and the annual report containing summary data on individual hospital screening results.

DOD now allows hospitals to design their own occurrence screen programs, including development of their own screen criteria. DOD also made major revisions to AQCESS to provide space for additional screens and to enhance hospitals' ability to collect and analyze data. These changes were made because DOD recognized that its initial approach was not achieving the desired results at the hospital level. DOD found that (1) all 18 specified screen criteria are not necessarily appropriate in every hospital, (2) occurrence screening is most effective as a hospital-based program focusing on improving each facility's overall medical care, (3) the data analysis and data gathering capacity of AQCESS was insufficient, and (4) central reporting of data to DOD was not as useful as originally expected.

We completed our work at the hospitals in December 1987. By May 1988, DOD, the Army, and the Air Force had issued revised policies and procedures that reflected the changes made to the occurrence screen program. The Navy had an interim policy. At that time, staff in most of the hospitals had also received training on the new version of AQCESS, which includes major modifications to the quality assurance component.

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## Objectives, Scope, and Methodology

Our review of the occurrence screen program was requested by the Chairman, Subcommittee on Military Personnel and Compensation, House Committee on Armed Services, and Senators Daniel K. Inouye, Claiborne Pell, and Jim Sasser, who asked us to monitor the implementation of several DOD initiatives aimed at improving the quality of care provided in military health care facilities. As agreed with the requesters, we did not undertake a full assessment of the occurrence screen program because DOD was making significant changes to it. Instead, we focused on the effectiveness of individual hospitals' screening of patients' medical records to identify occurrences that could indicate that

the patient received substandard care. This effort is termed initial screening. We also reviewed program changes, such as the elimination of specified screens and revisions to AQCCESS, being implemented by DOD to determine their potential impact on hospitals' effectiveness in detecting and assessing patterns that might indicate substandard or improvable care.

We interviewed officials and reviewed pertinent occurrence screen policies and procedures at the Office of the Assistant Secretary of Defense for Health Affairs; the Army, Navy, and Air Force Offices of the Surgeons General; and the Naval Medical Command. We also obtained their views on the effectiveness of the current program and the potential effect that the 1986 and 1987 changes may have on the situations we observed at the hospitals.

We also reviewed occurrence screen data and interviewed personnel involved in quality assurance activities at six military hospitals: Womack Army Community Hospital, Fort Bragg, North Carolina; Kenner Army Community Hospital, Fort Lee, Virginia; Naval Hospital, Jacksonville, Florida; Naval Hospital, Bethesda, Maryland; United States Air Force Regional Hospital, Langley Air Force Base, Virginia; and Malcolm Grow United States Air Force Medical Center, Andrews Air Force Base, Maryland. These facilities were judgmentally selected to include hospitals from the three military services and both small and large hospitals, in terms of number of beds. (See app. I for information on the hospitals we visited.) The results of our work cannot be projected to all military hospitals.

To determine the completeness of the initial screening process, we compared hospital-identified occurrences at the six locations visited to those identified by civilian medical record abstractors who reviewed a sample of inpatient hospital records as a part of DOD's civilian peer review program.<sup>4</sup> With the exception of Kenner Army Community Hospital, abstractors had identified between 15 and 81 cases with occurrences at each facility for the period we selected for review—July and August 1986. We used a longer period at Kenner—March through August 1986—because so few cases with occurrences were noted by the

<sup>4</sup>These reviewers are employed under contract as part of a program of civilian peer review of military health care. Under that program, a sample of inpatient records based on selected diagnoses and procedures (about 15 percent of discharges) are reviewed. First, records abstractors collect information from the sample records. That information is then analyzed using computer programs embodying medical criteria and standards and, if further indicated, through physician peer review. The abstractors subject all cases included in the civilian peer review to DOD's occurrence screen criteria.

abstractors in July and August. At the time of our review, these data were the most recent available.

Our initial universe at the six hospitals consisted of 313 patient medical records, in which civilian peer reviewers had identified 518 occurrences. As a result of our review, 62 medical records and 118 occurrences were eliminated because (1) GAO's Chief Medical Advisor believed that the civilian abstractor had made an error and the hospital's initial screener was correct to have excluded it; (2) the hospital was using slightly different criteria from the abstractor's and, when measured against the hospital's criteria, no error had been made; or (3) the patient file could not be located. Our final sample consisted of 251 patient medical records, in which the civilian peer reviewers had identified 400 occurrences that should have been identified by the hospitals.

If the hospital did not identify an occurrence that the abstractors did, we discussed the case with hospital officials. In many cases they agreed that the occurrence should have been noted. Where they disagreed, GAO's Chief Medical Advisor reviewed the case to determine if, in his opinion, the occurrence should have been identified.

We interviewed DOD hospital personnel as well as individuals in the public and private sectors who are knowledgeable about occurrence screening to obtain their opinions on (1) ways to implement occurrence screen programs, including those used by DOD hospitals we visited; (2) results achieved by the military hospitals we visited in identifying instances of potentially substandard care; and (3) DOD's proposed changes to the program. Among those contacted in the public and private sectors were the Joint Commission on Accreditation of Healthcare Organizations, Chicago; the American Hospital Association, Chicago; the Department of Health and Human Services's Health Care Financing Administration, Baltimore; the Maryland Hospital Education Institute, Lutherville (Maryland); the Risk Management Division of St. Paul Fire and Marine Casualty, a medical malpractice insurance company, St. Paul; and two risk management/quality assurance consulting firms, Interqual, Boston, and Medical Management Analysis, Inc., Auburn (California).

We performed our work between May and December 1987 in accordance with generally accepted government auditing standards.

# DOD Policy and Management Information System Changes Aimed at Improved Hospital Implementation of Occurrence Screen Program

DOD hospitals did not make full use of the original occurrence screen program because the screens required by DOD were deemed to be too prescriptive, and the management information system (AQCESS) did not provide sufficient accurate data to make occurrence screen programs useful at individual hospitals. DOD recognized that in order to achieve more effective hospital-level programs and greater acceptance of the program by hospital personnel, changes would have to be made in the requirements.

Through policy revisions DOD reduced its involvement in occurrence screen programs and allowed hospitals greater leeway in developing programs to suit their individual needs. These revisions have been generally acclaimed at the service level and by hospital quality assurance personnel as positive moves to enhance the effectiveness and utility of screen programs. The changes are also supported, in principle, by quality assurance personnel we spoke to in the private sector—most of whom favored hospital-specific occurrence screen programs.

Revisions to the information-tracking capabilities of AQCESS, made to improve individual hospitals' ability to collect and analyze screen data pertinent to their own specific interests, have received praise from users of the system.

By May 1988, the new policies had been implemented and enhancements to the management information system installed in most service hospitals. Whether hospitals realize the full potential of these changes will depend on the kind of analyses they choose to perform and the extent to which they develop meaningful screens. Also, as discussed in chapter 3, DOD's revisions do not address problems in the way hospitals implement the initial screening process.

The Air Force and Navy are requiring each of their hospitals to submit some occurrence screen data to higher commands for evaluation and use in preparing summary information for the Surgeons General. Among other things their data can be used to identify problems in individual hospitals or to compare hospital performance to identify possible systemic problems that need higher command attention. The Army has not required its hospitals to submit such data beyond the hospital level.

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## DOD Policy and Management Information System Changes

DOD's current occurrence screen policy requires only that hospitals have a screen program. DOD no longer requires that certain screen criteria be used or that all patient records be screened. This allows the services and individual hospitals more flexibility in developing screen programs to meet their specific needs. Modifications to the AQCCESS quality assurance module are intended to enhance individual hospitals' ability to collect and analyze occurrence screen and other quality assurance data each believes important to assure high-quality care. These data are used in conjunction with other quality assurance mechanisms to help identify quality-of-care problems that need attention or aspects of care that could be improved.

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## Impact of Revised Screening Policy on Hospitals

Before DOD implemented its revised screen program, we spoke to quality assurance personnel and physicians at four DOD hospitals about the changes being contemplated. (At the time of our visits to the other two facilities, hospital officials were not aware of the changes DOD had planned.) Of those officials who knew of the policy changes, all believed they would have a positive effect on the program. They especially favored having the authority to develop their own screens rather than use the 18 screens formerly prescribed by DOD—which some officials believed to be too subjective. One Air Force hospital quality assurance coordinator indicated that soon after he announced the new program, he received sets of specialty-specific screens (such as for obstetrics and general surgery) from eight departments.

Hospital-level programs have support in the private sector as well. For example, the Joint Commission on Accreditation of Healthcare Organizations emphasizes that quality assurance monitoring and evaluation methods should be tailored to the needs of individual facilities. This concept was echoed by officials of the other organizations we contacted—for example, the medical services manager at St. Paul Fire and Marine Insurance Company, a major insurer of civilian hospitals, stated that how a hospital uses occurrence screen data depends on its individual situation and problems.

Although DOD-specified program requirements have been removed, each service has specified some basic program requirements, including continuation of 100-percent record screening and the use of a minimum set of screen criteria. The minimum screen criteria established by each service include six criteria that DOD originally considered requiring of all

military hospitals under the revised program.<sup>1</sup> Specifying a minimum set of screen criteria will help assure at least a minimum program in all military hospitals and will not conflict with the need for and development of hospital-specific programs because, as discussed below, (1) the revised management information system has expanded capacity to allow hospitals to use additional locally developed screen criteria and (2) the six specified criteria are generally accepted as applicable to most hospitals.

### AQCESS Changes Designed to Enhance Hospital Programs

The revised quality assurance module of AQCESS is designed to facilitate broader analysis of quality assurance data, including occurrence screen data, at the individual hospital level. According to DOD officials, the revisions will allow more and better defined occurrence screen criteria to be tracked by the system and will facilitate follow-up of any patterns of substandard care. The system's quality assurance module permits designation of up to 99 events—and up to 99 subcategories for each of these events—for data collection and analysis by hospital staff. According to DOD officials, the term “event” includes, but is not limited to, occurrence screen criteria. An event is defined as any negative or positive item relating to patient care that the hospital may wish to monitor. The revised system can accommodate events identified as hospitalwide or department-specific occurrences. Additionally, other quality assurance/risk management indicators, such as incident reports, can be included among events recorded.

The revised system can provide a list of occurrences or other factors attributed to a specific provider and can provide a summary description of the problem involved in each case for which an occurrence has been noted. In addition, patterns of care can be identified and initially analyzed without going back to medical records. Other changes have been designed into the system to encourage and facilitate hospital analysis of occurrence screen data. The following are some of the more significant changes.

1. Occurrences can be attributed to problems with staffing, administrative support, equipment, or other facility-related conditions. Attribution

<sup>1</sup>In making its policy changes, DOD considered requiring hospitals to use a minimum set of six specific screens and to report these data to DOD. These six screens were agreed upon by a tri-service AQCESS quality assurance working group composed of service representatives. DOD's final policies did not include the six screens, however. Officials explained that they decided against requiring the screens at the DOD level because they believe that occurrence screen data cannot be effectively interpreted there.

may be made to more than one source, and a description of the role that one or more individuals played in the event may be recorded.

2. Events can be placed into one of four categories (as opposed to the original two—adequate and substandard) according to the predictability of the occurrence and the extent to which an acceptable standard of care has been met. Categories I and II include predictable and unpredictable occurrences within accepted standards of care; categories III and IV include occurrences related to minor and significant deviations from accepted standards of care. The significance of patterns of care can also be more easily interpreted. This system was originally developed by the Navy for its occurrence screen program, and Navy officials said physicians feel more at ease with the broader categorization of occurrences.

3. Events that are deemed through peer review to have individually met the expected standard of care can be analyzed. For example, certain occurrences may be known as fairly common complications of a given procedure. However, when an individual provider continually has the same occurrence appearing on his or her cases, analysis could determine whether there is a pattern that indicates a problem needing attention. To illustrate, during delivery, tissue is sometimes torn near the mother's birth canal as a result of the baby's movement. Minor tears happen fairly regularly, but major tears are unusual, often the result of an unusually large baby or extremely quick birth. In any individual case, a severe tear may be considered "within standard," but if a provider has a large percentage of cases with tears, it would raise a question about the adequacy of the technique used.

Quality-of-care personnel and physicians at the hospitals we visited who were familiar with the revised system believed the additional AQCESS tracking capability would allow individual departments within the hospital to collect more meaningful information and develop more effective analysis. DOD officials emphasized to us, however, that the system's purpose is to facilitate hospitals' implementation of their individually designed quality assurance programs and does not have to be fully used. But, through such means as training courses and conferences, DOD has tried to foster positive attitudes about the revised AQCESS and its usefulness as a tool to facilitate occurrence screen and quality assurance programs. The services have also supported the modifications and have communicated this support to command-level personnel.

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## Effectiveness of DOD Initiatives Depends on Hospitals' Implementation

The extent to which DOD's policy changes have a positive impact on individual occurrence screen programs will depend on how hospitals and services design and implement their programs. Given the latitude afforded hospitals in program design and implementation, and differences of opinion about the usefulness of occurrence screen programs, the effect of DOD policy revisions and changes to the management information system could vary significantly among facilities.

At the hospitals visited, we found not only significant differences in program development (such as differences in definitions of criteria, the screening process, and data analysis), but also varying attitudes toward the usefulness of occurrence screen programs. Although officials at the hospitals we visited generally supported the concept of occurrence screening, some added that they had learned of no new problems through its use. One quality assurance representative told us that occurrence screening is best used as a cross-check with other quality assurance mechanisms. We were also told that many physicians believed the program to be punitive. According to one department quality assurance representative, physicians' perceptions were that occurrence screen data were being collected for use against providers during performance assessments. Other hospitals' quality assurance personnel had seen some improvement in physician attitudes toward occurrence screening. For example, the chief of hospital services at one hospital said that physicians had become more cooperative over time because they had seen that occurrence identification did not equate to punitive action.

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## Data Collection Above Hospital Level Would Further Improve Program

In November 1987 the Assistant Secretary of Defense for Health Affairs informed the services that central reporting of occurrence screen data to his office had not been useful for quality assurance analysis and was no longer required. For his purposes, useful data on quality assurance processes were being provided through several other programs. Whether the services collected data from their hospitals was made optional.

Service policies with regard to accumulating and reporting occurrence screen data vary. The Air Force and Navy require hospitals to accumulate and report data above the hospital level—the Air Force to the major mid-level commands, and the Navy to the Naval Medical Command. As of June 1988 officials at the Naval Medical Command were analyzing the first set of data and planned to refine their program based on the hospitals' experiences with the revised ACCESS. Air Force officials said they intended that the commands review the occurrence screen

data and report summary information to the Surgeon General's office. At the time of our review, the Army Surgeon General did not require data to be reported because officials told us they see no use for it at a higher level. Further, according to DOD, the Army obtains information from such sources as peer review processes, which permits it to monitor patient care. But, as part of its effort to identify and develop more meaningful data, the Army is now requesting each of its facilities to submit a copy of no more than three screens per department that have had a positive effect on the quality and appropriateness of patient care. These will then be disseminated to all facilities for their consideration in the Army quality assurance program. The first reports to the Army Surgeon General are due by the end of April 1989.

Although they supported the need for hospital-developed programs, civilian experts also indicated that occurrence screen programs could benefit from the collection and analysis of data to establish norms and allow comparisons among hospitals.<sup>2</sup> For example, a representative of the American Hospital Association noted that having systemwide norms would be useful to individual hospitals in identifying areas for possible improvement. Likewise, a Health Care Financing Administration official stated that cumulative data for more than one hospital could be a useful management tool to identify problems and determine where resources should be directed. Officials of other organizations, such as the Joint Commission on Accreditation of Healthcare Organizations, also encouraged central data analyses.

## Conclusions

DOD began its original occurrence screen program in 1984 by imposing rigid screening and reporting demands on its hospitals and providing a management information system that did not adequately support hospital use of occurrence screen data. Within 2 years DOD recognized that major changes were necessary in order for the program to establish its credibility in hospitals. Thus, DOD revised its occurrence screen policy to lessen its involvement and strengthen the program's use at the hospital level. The changes appear to be well directed and are designed to encourage identification of patterns of improvable care, as well as individual cases of potentially substandard care, by allowing hospitals to design programs to meet their unique needs. ACCESS information tracking capabilities were also increased to facilitate this process.

<sup>2</sup>A hospital could compare its rate of specific occurrences to the average rates for other hospitals within the service, within DOD, etc. If a hospital's rate for transfusion reactions, for example, is significantly higher than other hospitals', it could investigate to determine if care could be improved.

Since hospitals had not implemented the changes when we completed our review, we could not judge their impact on the occurrence screen program. Varying opinions about the usefulness of occurrence screening, differences in past programs, and the flexibility given hospitals to design and implement their own programs point to the possibility that the effectiveness of hospital occurrence screening may vary. On the other hand, DOD efforts to encourage positive attitudes and service acceptance of the new policies and revisions to the ACCESS tracking capabilities have established the framework from which effective programs can develop.

The program could be further improved, however. Data should be collected and analyzed above the hospital level by all the services. As pointed out by civilian experts, data collection and analysis above the hospital level could add a valuable aspect to the program by allowing the development of system norms and giving individual hospitals, the services, and DOD (if it chose to do so) a way to compare hospital results to both the system norms and to other hospitals' results in order to better identify problems and focus resources. It would also be possible to analyze data at the higher command level to identify trends and assist in management decisions concerning potential quality assurance problems and solutions. Data could be reviewed to identify individual problem hospitals or possible systemic problems that need higher command attention and to help monitor hospitals' program implementation. In using such data higher commands could look for command-related problems, such as staff shortages or inadequate medical equipment, which could result in the delivery of substandard care. Also, hospitals could be compared to identify outliers that may have significantly more or fewer problems.

Two of the services are requiring data above the hospital level. The Army has requested each of its hospitals to submit three screens/criteria that have had a positive effect on patient care. By limiting its data collection, the Army will not have information readily available to measure the performance of its hospitals against each other or hospitals in the DOD system and to identify systemwide trends in the quality of care being provided.

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## Recommendation

To help assure effective implementation of occurrence screen programs in military hospitals, we recommend that the Secretary of Defense direct the service secretaries, in conjunction with the Assistant Secretary of Defense for Health Affairs, to collect and analyze occurrence screen

data above the hospital level and provide comparative and related analysis to the individual hospital commanders for management purposes.

## Agency Comments

In a November 3, 1988, letter commenting on a draft of this report (see app. II), DOD partially concurred with our recommendation to collect and analyze data above the hospital level and provide the data to hospitals for management purposes. DOD stated that, theoretically, trending data to look for improvable patterns of care in a multihospital system has great potential. But, DOD added that trending of identified occurrences should be selective and developed after careful peer review and assessment of the screening product. According to DOD, while collection of occurrence screen data from DOD hospitals has not produced meaningful results in the past, ideas are emerging about data analysis above the hospital level and these ideas will require some time to refine. Thus, DOD believes it would be inappropriate at this time to require reporting of data until it knows more about which data are meaningful to report. As it is determined which data would be useful to higher authority, DOD said it would require appropriate reporting.

We agree that the services should only collect and disseminate information that is useful. The Navy and Air Force are gathering occurrence screen data above the hospital level, and the Army's effort to collect screens that have had a positive effect on patient care is in keeping with the intent of our recommendation. Continued service attention and emphasis to identifying occurrences that affect health care and patient experience is important, and efforts should continue to be made to identify and report on problems that may be of systemic significance.

# Improvements Needed in Initial Screening Process

Although DOD is modifying many aspects of the occurrence screen program, none of the changes address the initial screening phase. In initial screening, the patient's medical records are reviewed and an assessment made as to whether an occurrence exists that could indicate that a patient received substandard care. Our review at six DOD hospitals revealed that in each facility, many occurrences were not identified during the initial screening process. Three factors contributed to this situation: (1) the hospitals had been given insufficient guidance on what to do if an individual case contained more than one occurrence, (2) Navy corpsmen screeners at one of the facilities did not have the technical knowledge to identify all occurrences, and (3) in many cases attending physicians in the Army and Air Force were screening their own patients' records.

## Hospitals Did Not Identify a Substantial Number of Occurrences During Initial Screening

Our analysis of 251 patient medical records at six DOD hospitals disclosed that one or more occurrences were missed in about 65 percent of the medical records reviewed.<sup>1</sup> More specifically, the hospitals missed 210 of 400 occurrences that they should have noted during the initial screening process, as shown in table 3.1. No single service was significantly more proficient than the others in identifying occurrences in the medical files.

**Table 3.1: Results of GAO Analysis of Sampled Cases at Hospitals Reviewed**

	Number		Percent	
	Cases	Occurrences	Cases	Occurrences
Hospital identified all correctly	87	112	34.7	28.0
Hospital missed entirely	103	122	41.0	30.5
Hospital partially correct:	61		24.3	
Identified correctly		78		19.5
Did not identify correctly		88		22.0
<b>Total sample size</b>	<b>251</b>	<b>400</b>	<b>100.0</b>	<b>100.0</b>

We did not determine if occurrences missed had been identified through other hospital quality assurance systems, nor did we assess the quality of care in cases where occurrences were missed. Further, we have no indication that care provided in the individual cases where occurrences were identified was substandard.

<sup>1</sup>As discussed on page 12, our initial sample consisted of 313 cases and 518 occurrences identified by DOD's civilian peer review. Our final sample consisted of 251 cases and 400 occurrences.

Air Force and Navy officials we spoke to believe that if an occurrence was noted elsewhere in the hospital's quality assurance program, the impact of its nonidentification during the initial screening process is lessened. We disagree. Full identification of occurrences is important not only to identify potential instances of substandard care but also to identify patterns or trends in the delivery of care in the DOD hospitals. In fact, some civilian experts cite trending of occurrences as the major benefit of occurrence screening and point to the need to identify all occurrences, not just those that are deemed to be substandard, in order to effectively identify potential problems in hospital systems, procedures, and provider performance.

Identification of occurrences and subsequent trending is also recognized as valuable by the Navy. In a February 1988 memorandum, the commander, Naval Medical Command, informed Navy hospitals that "Occurrence screening data should continue to be trended and analyzed at least quarterly" at each hospital, and "trending of individually justifiable adverse events, will enhance our ability to identify opportunities to improve the care and services we provide."

## Factors Inhibiting Identification of Occurrences

Discussions with hospital officials and our analysis of records indicated that three factors contributed to occurrences not being identified during initial screening: (1) confusion as to when more than one occurrence should be identified in a patient's medical file, (2) Navy corpsmen at one of the facilities not having sufficient technical knowledge to recognize all occurrences, and (3) use of attending physicians to screen their own patients' records.

Table 3.2 summarizes the most frequently missed occurrences at the hospitals visited.

**Table 3.2: Criteria Most Frequently Missed by Selected Hospitals During Initial Screening**

<b>Criteria</b>	<b>Number missed</b>	<b>Percent of total (210) missed</b>
Unexpected transfer from a general to a special care bed	38	18.1
Readmission within 6 months for a condition that is possibly a complication of previous treatment	30	14.3
Postoperation complication	29	13.8
Organ failure (heart, lung, etc.) not present on admission	26	12.4
Injury of organ/body part during invasive procedure	20	9.5
<b>Total</b>		<b>68.1</b>

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## Services Not Identifying All Screens Present in a Patient's Medical Record

Although the occurrence screens are designed to be objective, many involve judgment on the part of the reviewer. Often, more than one occurrence can appear in a patient's record. For example, a patient could have a drug reaction at one point in the hospital stay, followed by a postoperation complication, and ultimately death. In this example (and using DOD's original 18 screen criteria cited on p. 9), three occurrences—drug reaction, postoperation complication, and death—should be identified. DOD and service guidance recognizes that a patient's record could have multiple occurrences and implies that all should be reported. The guidance does not, however, explicitly state that all occurrences in a patient's record should be identified and reported. As a result, service personnel have made their own interpretations of the guidance. Quality assurance personnel at one Army and one Navy hospital thought it unnecessary to identify such multiple occurrences. In their opinion, the medical record review is designed to flag a case of potentially substandard care for later peer review, which can be accomplished by identifying a single occurrence. Another official indicated that multiple occurrences need not be identified if a single incident triggered them, for example, if a heart attack caused subsequent death. This explains some missed occurrences in situations where the hospital correctly identified some, but not all, of the occurrences in our sampled cases (see p. 21).

We disagree with the arguments presented for not identifying all occurrences because they fail to recognize the importance to hospital management of knowing all situations where potential substandard or improvable care was delivered. Complete data are needed to identify patterns of improvable care and individual cases of potentially substandard care. They are also needed to assure that any comparative analyses or trending data are based on the most complete and accurate information available.

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## Navy Corpsmen Not Sufficiently Trained as Screeners

In the Navy, initial screening is done by nonphysicians trained as utilization review/occurrence screen technicians. At the two Navy hospitals visited—Bethesda and Jacksonville—the screeners were primarily corpsmen. At Bethesda, quality assurance officials commented that the corpsmen screeners may not have had enough training to identify certain types of occurrences, such as postoperative complications, and problems relating to the nervous system not present on admission, called neurosensory deficits. At the time of our review, we noted that the screeners at Bethesda had independently determined that they needed

additional guidance and, in conjunction with nurse advisors, had developed additional informal written guidance for use in identifying occurrences. The guidance provides standard operating procedures for corpsmen to use when identifying occurrences in patient records.

Civilian experts stressed the importance of training for screeners. In their opinion, well-trained screeners are crucial to the accuracy and comprehensiveness of the screening data, and training lessens the variability among screeners. Screeners must be well versed in the way to review a record, the meaning of the screen criteria, and the significance of being an objective reviewer. These experts also believe that staff other than nurses and doctors are capable of doing the initial screening. Navy officials at Bethesda were confident that appropriate training and experience would result in accurate initial screening by their corpsmen.

### Attending Physicians at Air Force and Army Hospitals Screen Their Own Records

In Army and Air Force occurrence screen programs, attending physicians are allowed to screen their own cases. Air Force officials argue that this is done because there is a shortage of other personnel (such as registered nurses) to screen records and because only physicians have the necessary training and judgment to properly identify occurrences. In addition, they believe allowing physicians to screen their own records saves time in completing screening checklists because they are already familiar with the case being screened and do not have to review unfamiliar patient files. Army officials told us, however, that at larger facilities nurses were beginning to be used more extensively in the occurrence screen program.

While personnel shortages may exist and physicians may be able to screen their own records more quickly, DOD is responsible for assuring that its facilities are providing high-quality care and must act accordingly. Allowing Air Force and Army physicians to conduct the initial screening of their own patients' records is not a good management practice. It raises a question about the reviewers' objectivity and violates the internal control principle of separation of duties. The latter is meant to reduce the risk of error or wrongful acts and the risk of their going undetected—a concept that has direct applicability to this specific DOD practice. Officials of organizations involved in occurrence screening unanimously told us that allowing attending physicians to screen their own records seriously undermines the system's credibility and almost certainly will result in not all occurrences being identified. A civilian

official active in quality control efforts informed us that the system promoted by her organization uses independent registered nurses for the initial screening process to avoid conflicts of interest.

The medical services manager of a prominent insurance company also expressed the belief that an occurrence screen program relying on attending physicians to do the initial screening would not identify all occurrences. This is, he said, because physicians, like any other individuals, do not like to report adverse events that may warrant further scrutiny by their superiors and hospital management. He went on to say that allowing physicians to screen their own records calls into question a program's validity and usefulness.

For some of the foregoing reasons, the Health Care Financing Administration decided in 1985 that attending physicians, or any person having any connection with a particular hospital, would not be allowed to screen their own records during the initial generic screening process of its Professional Review Organization program. Through a series of contracts, that agency sponsors a review program that conducts several review functions of Medicare patient files at hospitals throughout the United States. One of the components is a generic occurrence screen program, by which registered nurses or medical records technicians review medical records to determine if certain adverse events have occurred. According to an official of the agency's Office of Medical Review, such nurses and technicians possess the necessary credentials to adequately conduct initial screening of medical records.

The question of whether attending physicians in the Air Force are in a conflict-of-interest position when screening records of their own patients has been addressed by the Air Force Audit Agency. The agency concluded that one of the reasons that Air Force hospitals were failing to detect occurrences during initial screening was that attending physicians were allowed to screen their own cases and decide which occurrences to report. It also concluded that:

"Permitting attending physicians to decide which occurrences should be elevated for peer review will almost always result in fewer occurrences being identified and inconsistent application of screening criteria, and could significantly limit the overall effectiveness of the quality assurance program."

Air Force Surgeon General officials disagreed with the Audit Agency's position and responded that attending physicians could complete the screening checklists more quickly than anyone else because they are

most knowledgeable about the case. The Audit Agency agreed with this contention but maintained that it was still inappropriate for physicians to screen their own records because of a loss of independence.

The Assistant Secretary of Defense for Health Affairs reviewed the disagreement between the Audit Agency and the Surgeon General. The Assistant Secretary stated that DOD had not established a policy regarding either the type of personnel that should screen medical records or the independence of the screener. He said that initial screening should be done without judgment regarding the significance of the occurrence and that, ideally, independent physicians would do the screening but that this was not practical due to resource limitations. The Assistant Secretary went on to say that reviewers with clinical experience, such as nurses, screen more effectively than do less trained reviewers, such as medical record abstractors or technicians. Ultimately, according to the Assistant Secretary, the individual military services have the responsibility to decide the appropriate balance of effectiveness and cost in deciding which type of personnel will screen medical records.

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## Conclusions

Although DOD has revised many aspects of its occurrence screen program, the changes do not address the initial screening phase, in which we found hospitals had failed to identify substantial numbers of occurrences. Providing explicit instructions to screeners about recording multiple occurrences identified in a single patient medical record should improve the initial screening phase. It should also enhance subsequent data trending and analysis by improving consistency among screeners and providing a more complete data base. Training of personnel charged with the task of initial screening of records to identify occurrences is also important.

We recognize that resource and capability considerations play a significant role in designating which type of staff is given the task of initial screening. But, as long as they are properly trained, staff other than attending physicians can be used to screen records. Civilian hospitals use nonphysicians to perform initial screening, as does the Navy and, to a limited degree, the Army. As pointed out by several experts, continued use of attending physicians to screen their own records will result in the underidentification of occurrences and undermine the credibility of the occurrence screen program. Further, such a practice is in direct violation of effective internal control procedures. Therefore, the services should discontinue this practice.

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## Recommendations

To improve the reliability of the initial occurrence screening process, we recommend that the Secretary of Defense direct the service secretaries, in conjunction with the Assistant Secretary of Defense for Health Affairs, to:

- Instruct screeners to identify all applicable occurrences during the initial screening process.
- Discontinue using attending physicians to screen their own patient records and use properly trained nonphysician personnel to perform this function.

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## Agency Comments

In its November 3, 1988, letter (see app. II), DOD concurred with our recommendation that screeners be instructed to identify all applicable occurrences during the initial screening process and refer them for appropriate peer review. DOD stated that this concept was addressed in the redesign of the quality assurance module of AQCESS software, which now permits all applicable occurrences in each case to be entered into the data base.

DOD partially concurred with our recommendation to discontinue using attending physicians to screen their own records. DOD stated that, currently, the personnel used by the services for initial screening may not always be ideal. DOD said however, that if our proposal were to be implemented immediately, an adverse impact on patient care or access would likely occur since such a requirement would divert clinical capability and compound an already critical shortage. In DOD's opinion, the addition of automation support in clinical areas in the form of medical automation systems will permit the capture of events that need review, but in the process of providing and documenting care for patients, rather than as a retrospective additional duty. According to DOD, automation will satisfy both our perspective on improvements needed and DOD's. In DOD's opinion this solution is feasible, more obtainable, and capable of being adopted as quickly as any of the less desirable alternatives. Computer software for such a system is expected to become available in the mid to late 1990's.

DOD objected to actions that would exclude by regulation an attending physician from conducting an initial screen. In DOD's opinion it would be functionally dangerous and inherently defeating to establish a policy that systematically precludes the involvement of the most knowledgeable, involved, and accountable personnel in the process. According to

DOD there are some situations in which nonphysician screeners are simply not qualified to assess whether an occurrence or "event" has happened (for example, "Unplanned transfer to critical care area"). Further, in its opinion, the checks and balances structured within its overall quality assurance program make it nearly impossible for a physician with a conflict of interest to "cover up" deficient performance.

DOD commented that in the Air Force, given enough trained nonphysicians, the initial screen could, in most instances, be performed by nonphysicians. But, given the current operational environment of limited administrative support staff and small hospitals with "departments" that have only one specialist, the Air Force believes that it is more efficient, economical, and accurate to have the attending physician review his or her own medical records. Thus, in the interim, the Air Force will rely on the checks and balances inherent in the existing quality assurance program for internal management control.

DOD's position that automation may eventually resolve this issue to both our satisfaction and DOD's has merit. But, with full implementation of that automation not expected until the mid or late 1990's, it will have no impact on the issue in the near term. DOD's view that in some situations nonphysician screeners are not qualified to assess whether an occurrence has happened is not an insurmountable problem. When such a situation arises, the screener could immediately seek the advice of a physician not associated with the case. This physician could then discuss the case with the attending physician if necessary. No initial screener, especially if he or she is a nonphysician (for example, corpsman or nurse) should be placed in a confrontational position with an attending physician.

The Air Force position that it has limited administrative support and many small hospitals which preclude use of anyone other than an attending physician to screen records has some validity in certain circumstances (for example, very small hospitals). However, we continue to believe that DOD should, with minimal and defined exceptions, require the services to discontinue using attending physicians to screen their own patient records.



# Number of Operating Beds and Admissions for Hospitals Visited

<b>Facility</b>	<b>Operating beds</b>	<b>Inpatient admissions</b>
Womack Army Community Hospital, Fort Bragg, North Carolina	225	17,012
Kenner Army Community Hospital, Fort Lee, Virginia	78	3,981
Naval Hospital, Jacksonville, Jacksonville, Florida	178	10,534
Naval Hospital, Bethesda, Bethesda, Maryland	494	16,358
United States Air Force Regional Hospital, Langley Air Force Base, Virginia	75	4,925
Malcolm Grow United States Air Force Medical Center, Andrews Air Force Base, Maryland	275	9,191

Note: Fiscal year 1986 statistics provided by DOD represent the latest information available at the time of our review.

# Comments From the Department of Defense



HEALTH AFFAIRS

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

NOV 03 1988

Mr. Lawrence H. Thompson  
 Assistant Comptroller General  
 Human Resources Division  
 U. S. General Accounting Office  
 Washington, D.C.

Dear Mr. Thompson:

This is the Department of Defense (DoD) response to the General Accounting Office Draft Report, "DOD HEALTH CARE: Occurrence Screen Program Undergoing Changes But Weaknesses Still Exist," dated September 8, 1988 (GAO Code 101318/OSD Case 7763). The DoD concurs or partially concurs with all but one finding. In addition, the DoD concurs with one recommendation, and partially concurs with the other two.

Three central points emerged in framing our response. First, occurrence screening has its greatest value as a methodology applicable in many arenas as a means to screen and, thereby, identify cases for further peer review analysis. It is not limited to individual patient/physician care review. Further, it is not a suitable tool for accounting purposes nor is it suitable as a "stand-alone" internal management control mechanism.

Secondly, the Civilian External Peer Review Program contractor conducts independent occurrence screening for the Office of the Assistant Secretary of Defense (Health Affairs), which then provides cumulative data appropriate for comparing facilities back to the Services.

Finally, the perception of a lack of reliability by physicians screening their own records must be addressed. There are multiple checks and balances in the DoD Quality Assurance Program that would negate theoretical attempts by an individual to suppress his or her own poor performance. These checks and balances, which serve as internal management control mechanisms, range from the 10 percent audits performed by independent reviewers in the Army Military Treatment Facilities to the reviews performed by the External Civilian Peer Review Program. While the DoD concurs that it is beneficial to have nonphysicians perform the initial screening in a uniform way and involve physicians at the peer review level, there are occasions when, because of the required complexity of the screen, the process is benefited by having physicians perform the initial screening. For example, nonphysicians lack the clinical skills to identify "unexpected" or "unplanned" events. Thus, it is appropriate and efficient that

**Appendix II**  
**Comments From the Department of Defense**

health care providers--and most particularly the responsible attending physician or physician staff--not be excluded by regulation or directive from the process of occurrence identification and initial case review.

The detailed DoD comments on the report findings and recommendations are provided in the enclosure. The Department appreciates the opportunity to comment on the GAO draft report.

Sincerely,



61 William Mayer, M.D.

Enclosure  
As stated

GAO DRAFT REPORT - DATED SEPTEMBER 8, 1988  
(GAO CODE 101318) OSD CASE 7763

"DoD HEALTH CARE: OCCURRENCE SCREEN PROGRAM  
UNDERGOING CHANGES BUT WEAKNESSES STILL EXIST"

DEPARTMENT OF DEFENSE COMMENTS

\* \* \* \* \*

FINDINGS

- \* FINDING A: DoD Occurrence Screening. The GAO observed that occurrence screening is one of several elements in a DoD hospital quality assurance program under which patient records are reviewed by personnel with medical training, using objective designated criteria to identify occurrences that look place during a patient's treatment in the hospital and which represent a deviation from normal procedures or expected outcomes. According to the GAO, once occurrences are identified, a review by physician peers is undertaken to determine whether the care provided was appropriate and met acceptable medical standards. The GAO explained that, if the care is deemed to be substandard, appropriate action is taken, which can range from counseling of the providing physician by his supervisor to discontinuing use of faulty medical equipment, depending on the problem. (p. 3, p. 15/GAO Draft Report)

DoD Response: Partially concur. This is an incomplete explanation of occurrence screening. Occurrence screening is both a methodology to identify patient experience for further review and to identify events which, for whatever reason, are deemed to constitute an identifiable component of a quality assurance concern or program. As experience is gained with occurrence screening, quality assurance professionals have come increasingly to appreciate the methodology and apply it to a broader range of activities. These activities or events are of interest to various groups, from departments and committees to the Department of Defense level, involve both clinical and administrative foci, and can be applicable to broader considerations--e.g., resource allocation and availability--rather than individual outcome alone.

- \* FINDING B: DoD Implementation of Occurrence Screening: Establishment of AQCESS. The GAO referenced a 1983 Directive on standards for DoD health care provider performance that mandated mortality and complication rates be determined for individual DoD health care providers and used in evaluating his/her work. The GAO noted that, as a result of this requirement, in September 1984, the DoD instituted an

Now on pp 2.8.

**Appendix II**  
**Comments From the Department of Defense**

occurrence screening program where inpatient records were to be reviewed as a way of recording and reporting provider-related patient care complications. The GAO added that, initially, the DoD required all inpatient records be screened against 18 specified criteria and any instances where it was proven substandard care was provided, it be recorded in the provider's credentials file and used in his/her performance assessment. The GAO noted that, as part of the original program, each of the Services was to submit an annual report summarizing the number of times any of the occurrences were identified in each hospital, in the hope that the reports would also yield information useful for system-wide quality assurance analysis. The GAO reported that the DoD also established the Automated Quality of Care Evaluation Support System (AQCESS), a hospital-based management information system intended (in part) to assist the hospitals in collecting and analyzing data on indicators of quality of care, including occurrence screening criteria. The GAO observed that, in late 1986 and 1987, during the GAO occurrence screening review, the DoD significantly revised its objectives and expectations for the occurrence screening program and made major changes in the AQCESS management information system, discontinuing central reporting and redirecting efforts toward revising the occurrence screen program and its AQCESS support, with emphasis on hospital-level development and use. The GAO found that, specifically, the DoD eliminated the requirement for both the specific screens and the annual report to contain summary data on individual hospital screening results. The GAO further found that DoD hospitals now design their own occurrence screen programs, including development of their own screening criteria, and provide space for additional screens to enhance a hospital's ability to collect and analyze data. (p. 4, p. 15-20/GAO Draft Report)

**DoD Response:** Concur.

- \* **FINDING C: Impact of Revised Screening Policy On Hospitals.** The GAO reported that, before the DoD implemented its revised screening program, the GAO discussed contemplated changes with quality assurance personnel and physicians at four DoD hospitals, and found that all believed the changes would have a positive effect on the program and especially favored having the authority to develop their own screens rather than use the 18 screens formerly prescribed by the DoD, which some officials considered to be too subjective. The GAO further reported that, although DoD-specified program requirements have been removed, each Service has specified some basic program requirements, including continuation of one hundred percent record screening and the use of a minimum set of screening criteria. The GAO found that the minimum screening criteria established by each Service include six criteria that the DoD originally considered requiring of all Military

Now on pp. 2, 8-10.

**Appendix II**  
**Comments From the Department of Defense**

Now on pp 4, 14, 15.

hospitals under the revised program. The GAO concluded that specifying a minimum set of screening criteria will help assure at least a minimum program in all military hospitals and will not conflict with the need for a development of hospital-specific programs because (1) the revised management information system has expanded capacity to allow hospitals to use additional locally developed screening criteria and (2) the six specified screening criteria are generally accepted as applicable to most hospitals. (pp. 8-9, pp. 27-29, p. 36/GAO Draft Report)

**DoD Response:** Concur.

\* **FINDING D: AQCESS Changes Designed to Enhance Hospital Programs.** The GAO reported that the revised AQCESS quality assurance module is designed to facilitate broader analysis of quality assurance data, including occurrence screen data, at the individual hospital level. The GAO learned the system quality assurance module permits designation of up to 99 events--and up to 99 subcategories for each of these events--for data collection and analysis by hospital staff. (The GAO explained that the term "event" includes, but is not limited to, occurrence screen criteria and is defined as any negative or positive item relating to patient care that the hospital may wish to monitor). The GAO further found that the revised system can accommodate events identified as hospital-wide or department-specific occurrences and other quality assurance/risk management indicators, such as incident reports, as well as provide a list of occurrences or other factors attributed to a specific provider. The GAO also noted other changes that have been designed into the system to encourage and facilitate hospital analysis of occurrence screen data.

The GAO found that the quality of health care personnel at the hospitals it visited, who were familiar with the revised system, indicated the additional AQCESS tracking capability would allow individual departments within the hospital to collect more meaningful information and develop more effective analysis. The GAO concluded that, through training courses, conferences etc., the DoD has made efforts to foster positive attitudes about the revised AQCESS and its usefulness as a tool to support facility occurrence screening and quality assurance programs. The GAO further concluded that the Services have also been supportive of the modifications and have communicated this support to command level personnel. (pp. 10-11, pp. 29-32, p. 36/GAO Draft Report)

Now on pp 4, 5, 15, 16.

**DoD Response:** Concur. It is essential to any screening process that the initial event be considered neutral (not positive or negative) until it is reviewed in context. Also, the series or set of events that are screened needs to be broad enough to assess the spectrum of care being reviewed.

- \* FINDING E: Effectiveness of DoD Initiatives Depends On Hospital Implementation. At the hospital level, the GAO found not only significant differences in program development (such as in definitions of criteria, the screening process, and data analysis), but also varying attitudes toward the usefulness of occurrence screening programs. The GAO explained that, although officials at the hospitals it visited generally supported the concept of occurrence screening, some added they had learned of no new problems through its use. According to the GAO, many physicians consider the program to be punitive. The GAO noted one Department quality assurance representative indicated that physician perceptions were that occurrence screen data were being collected for use against providers during performance assessments, while other hospital quality assurance personnel indicated they had seen some improvement in physician attitudes toward occurrence screening. The GAO concluded that the extent to which DoD policy changes have positive impact on individual occurrence screen programs will depend on how the Services and hospitals design and implement their programs. The GAO further concluded that, given the latitude afforded hospitals in program design and implementation and the differences of opinion about the usefulness of occurrence screening programs, the effect of DoD policy revisions and changes to the management information system could be expected to vary significantly among facilities. (pp. 10-11, pp. 33-34, p. 36/GAO Draft Report)

DoD Response: Concur. The providers' perception of occurrence screening will improve when they experience that the documentation produced is effective in assisting their efforts to improve their practice, in balancing assigned missions with available resources, and in protecting competent practitioners.

- \* FINDING F: Data Collection Above Hospital Level Would Further Improve Program. The GAO reported that, in November 1987, the Assistant Secretary of Defense for Health Affairs informed the Services that central reporting of occurrence screening data to his office had not been useful for quality assurance analysis and was no longer required, since useful data on quality assurance processes were being provided through several other programs. The GAO observed that, at that point, whether or not the Services collected data from their hospitals became optional. The GAO found that Service policies vary with regard to accumulating and reporting occurrence screen data. The GAO reported that the Air Force and Navy require hospitals to accumulate and report data above the hospital level--in the Air Force to the major midlevel commands and in the Navy to the Naval Medical Command. The GAO commented that, as of June 1988, officials at the Naval Medical Command were analyzing the first set of data and planned to refine their program based on the hospitals' experiences with the revised AQCESS; while Air Force officials intended that the commands review the occurrence screen data

Now on pp. 4, 5, 17-19.

**Appendix II  
Comments From the Department of Defense**

and report summary information to the Surgeon General's office. The GAO reported that the Army Surgeon General did not require data to be reported because Army officials see no use for it at a higher level. The GAO concluded that, by this action, the Army will not have information readily available to measure the performance of each of its hospitals against each other or to other hospitals in the DoD system. The GAO further concluded that the Army will not be in a position to identify system wide trends in the quality of care being provided. The GAO observed that, although it supported the need for hospital-developed programs, civilian experts also indicated that the occurrence screening program could benefit from collection and analysis of data to establish norms and allow comparisons among hospitals. The GAO concluded that using such data would permit higher commands to identify command-related problems, such as staff shortages or inadequate medical equipment, which could result in the delivery of substandard care. The GAO further concluded that using such data would also permit hospitals to be compared, to determine those that may have significantly more or less problems. (pp. 10-11, p. 34, p. 38/GAO Draft Report)

Now on pp. 4, 5, 17-20

**DoD Response:** Partially Concur. The facts of this finding are correct. However, the interpretation that "the Army will not have information readily available to measure the performance of each of its hospitals..." fails to take into account the information collected by other sources, which permit monitoring of patient care. For instance, the Civilian External Peer Review Program utilizes occurrence screening methodology, sophisticated automated data review, and extensive peer review processes to collect and report data to the Office of the Assistant Secretary of Defense (OASD(HA)). Various informational products are then reported to all three Services. In addition, as part of its effort to identify and develop more meaningful data, the Army is requesting from each facility a copy of no more than three screens/criteria per department and service. These screens must have had a positive effect on the quality and appropriateness of patient care. They will then be disseminated to all facilities for further benefit in the Army quality assurance program. If any of these screens appear to be applicable Army-wide, they will be considered for central tabulation. The first report to the Army Surgeon General is due by the end of April 1989. The usefulness of occurrence screen information will vary among administrative levels because of what is screened. When data from an occurrence screen are useful to management at any level, the DoD concurs that such data should be reported to the appropriate level.

- \* **FINDING G: Hospitals Did Not Identify A Substantial Number of Occurrences During Initial Screening.** The GAO reported that, although the DoD is modifying many aspects of the occurrence screening program, none of the changes address the initial screening phase. The GAO found that, at each of the six DoD hospitals included in its review, substantial numbers of occurrences were not identified during the initial screening process. The GAO analysis of 251 medical records records

**Appendix II**  
**Comments From the Department of Defense**

showed that one or more occurrences was missed in about 65 percent of the records reviewed. The GAO concluded that no single Service was significantly more proficient than the others in identifying occurrences from the medical files. The GAO disagreed with Air Force and Navy officials who indicated that, if an occurrence was noted elsewhere in the hospital quality assurance program, the impact of its nonidentification during the initial screening process is lessened. The GAO concluded that full identification of occurrences is important, not only to identify potential instances of substandard care, but also to identify patterns or trends in the delivery of care in the DoD hospital. The GAO concluded that some civilian experts cite trending of occurrences as the major benefit of occurrence screening and pointed to the need to identify all occurrences, not just those deemed to be substandard, in order to identify effectively potential problems in hospital systems, procedures and provider performance. The GAO further noted that, in a February 1988 memorandum, the Commander, Naval Medical Command, informed Navy hospitals, "Occurrence screening data should continue to be trended and analyzed at least quarterly" [at each hospital], and "trending of individual justifiable adverse events, will enhance our ability to identify opportunities to improve the care and services we provide." (pp. 4-6, pp. 39-43/GAO Draft Report)

Now on pp. 3, 21, 22.

**DoD Response:** Partially concur. There is potential here for inappropriate policy implementation. The DoD agrees that accuracy and completeness of occurrence identification are essential ingredients of a quality assurance program. Improved software has been provided, which will allow for complete and accurate reporting. It will also allow the development of more focused and sophisticated criteria, which should provide more useful data for trending.

Early experience has demonstrated, however, that indiscriminate "trending" of all identified occurrences is not useful. Trending of identified occurrences should be selective and developed after careful peer review and assessment of the screening product. As experience with occurrence screening methodology continues to be acquired, it seems likely that both sampling and selectivity-refined for different levels of review-will support identification and pursuit of opportunities for improvement in health care and patient experience.

It is prudent at this point to allow flexibility in implementation, while supporting evolutionary refinement. These policy goals have been largely achieved. The DoD currently requires institutional occurrence screening and encourages various command level initiatives in developing and using criteria. As previously mentioned, the Civilian External Peer Review Program complements this particular effort. Currently, review Tasks IA-IE (9/51 of total review tasks or 20 percent) constitute "classic" occurrence screening criteria and address the general inpatient review category.

- \* **FINDING H: Services Not Identifying All Screens Present.** The GAO reported that, although the occurrence screens are designed to be objective, many involve judgment of the reviewer and more than one occurrence can appear in a patient record. The GAO pointed out that DoD and Service guidance recognizes that a patient record could have multiple occurrences and implies that all should be reported, but does not explicitly state that all occurrences should be identified and reported. The GAO concluded that, as a result, Service personnel have made their own interpretations of the guidance. The GAO found that quality assurance personnel at one Army and one Navy hospital it visited thought it unnecessary to identify such multiple occurrences because the medical record review is designed to flag a case of potentially substandard care for later peer review and this can be accomplished by identifying a single occurrence--while another official indicated that multiple occurrences need not be identified if a single incident triggered them. The GAO concluded that complete data are needed for identify patterns of improvable care and individual cases of potentially substandard care. The GAO further concluded that complete data are also needed to assure that any comparative analyses or trending data are based on the most complete and accurate information available. (p. 6, p. 9, pp. 43-45/GAO Draft Report)

Now on pp 3, 23

**DoD Response:** Concur. Confusion regarding whether or not more than one occurrence was to be noted did occur. In large part this was caused by first generation computer software that did not allow more than one occurrence per patient to be reported. This software deficiency has been corrected. It is noteworthy that the quality assurance personnel in the field recognized the problem and did compensate for it by reviewing the entire record and not just the identified occurrence. Further, as noted previously, indiscriminate "trending" of all identified occurrences generally is not useful. Trending of identified occurrences should be selective and developed after careful peer review and assessment of the screening product.

- \* **FINDING I: Navy Corpsman Not Sufficiently Trained As Screeners.** The GAO reported that, in the Navy, initial screening is done by nonphysicians trained as utilization review/occurrence screen technicians. At the two Navy hospitals the GAO visited, the screeners were primarily corpsmen. The GAO noted that, at Bethesda, quality assurance officials commented that the corpsmen screeners may not have had enough training to identify certain types of occurrences such as post operative complications and problems relating to the nervous system not present on admission (for example, neurosensory deficits). The GAO further noted that, at the time of its review, the screeners at Bethesda had independently determined they needed additional guidance and, in conjunction with nurse advisors, had developed additional

Now on pp. 3, 23, 24.

informal written guidance for use in identifying occurrences. The GAO observed that civilian experts stress the importance of training for screeners--i.e., well-trained screeners are not only important to the accuracy and comprehensiveness of the screening data, training lessens the variability among screeners. The GAO further observed that, according to these experts, staff other than nurses and doctors are capable of doing the initial screening. The GAO concluded that screeners must be well versed in (1) how to review a record, (2) the meaning of the screening criteria, and (3) the significance of being an objective reviewer. (pp. 6-7, pp. 45-46/GAO Draft Report)

DoD Response: Concur.

- \* **FINDING J: Attending Physicians Screening Their Own Records.** The GAO reported that, in Army and Air Force occurrence screening programs, attending physicians screen their own cases. According to the GAO, Air Force officials argue that this is done (1) because there is a shortage of other personnel necessary to screen records, (2) because only physicians have the necessary training and judgment to properly identify occurrences, and (3) because it saves time in completing screening checklists, inasmuch as the physicians are already familiar with the case being screened and do not have to review unfamiliar patient files. The GAO found that, at larger Army facilities, however, nurses were beginning to be used more extensively in the occurrence screening program. The GAO observed that the DoD is responsible for assuring that its facilities are providing high quality care and must act accordingly. The GAO concluded that, by allowing Air Force and Army physicians to conduct the initial screening of their own patient records, it raises a question about reviewer objectivity and violates the internal control principle of separation of duties. The GAO reported officials of organizations involved in occurrence screening unanimously agreed that allowing attending physicians to screen their own records seriously undermines the system's credibility and almost certainly will result in not all occurrences being identified. The GAO found that the DoD has not established a policy as to which type of personnel should screen medical records, nor has it established a policy as to the independence of the screener. According to the GAO, the Assistant Secretary of Defense for Health Affairs indicated that initial screening should be done without judgment regarding the significance of the occurrence and that, ideally, independent physicians would do the screening, but that this was not practical due to resource limitations. The GAO added the Assistant Secretary further stated that reviewers with clinical experience, such as nurses, screen more effectively than do less trained reviewers, such as medical record abstractors or technicians and, ultimately, the individual Military Services have the responsibility to decide

**Appendix II**  
**Comments From the Department of Defense**

the appropriate balance of effectiveness and cost to deciding which class of personnell will screen medical records. The GAO nonetheless concluded that permitting physicians to screen their own records is a violation of effective internal control principles and should be discontinued. (p. 7, pp. 46-50/GAO Draft Report)

Now on pp. 4, 24-26.

DoD Response: Nonconcur. The perception that allowing the involved health care provider to screen his or her own records is insensitive to past experience and operational requirements. A system of checks and balances structured within the overall quality assurance program makes it nearly impossible for conflict of interest to functionally impair the system. For example, surgical case review derives data from sources other than the classic occurrence screen, making it extremely difficult for a surgeon to "cover up" missed diagnoses, intraoperative complications, inappropriate operations, and post operative complications. Similarly, incident reporting mechanisms, transfusion review, medical records review, patient surveys, infection control review, and risk management reviews, all structured within the existing DoD quality assurance program provide significant overlap and redundant reporting of information sought by classic occurrence screening. Finally, the Civilian External Peer Review Program includes ten classic occurrences. Occurrences identified by the Civilian External Peer Review Program (CEPRP), which do not meet stated standards, are sent back to the cognizant facility for comment. The facility's comments and any additional data provided are then reviewed by the appropriate CEPRP peer review panel.

Past experience, as revealed by both the military and civilian medical communities in professional literature over decades, shows that patient experience has been scrutinized by health care providers themselves with appropriately increasing sophistication. Opportunities for improvement have been and continue to be identified and developed. In this very real sense, "quality assurance" is not new.

Additionally, from an operational standpoint, it would be functionally dangerous and inherently defeating to establish a policy that systematically precludes the involvement of the most knowledgeable, involved, and accountable personnel in the process. In some situations, nonphysician screeners are simply not qualified to assess whether or not an occurrence or "event" has happened (e.g., "unplanned transfer to critical care area").

Accuracy and completeness of occurrence identification, which are essential to eliminating a credibility concern, derive from appropriateness of chart documentation, accuracy and completeness of coding, staff education, institutional administrative structure, and so on. This is largely a staffing related--not merely a health provider--issue. A quality assurance program provides the necessary structure whereby data related to occurrences can be developed and integrated into the institutional

**Appendix II**  
**Comments From the Department of Defense**

corporate awareness and function. If one lesson has been learned, it is that the quality assurance process should structure and encourage participation from all health personnel as participants in the process. Health care provider input can augment or be incorporated into a comprehensive structured review process utilizing specifically assigned and appropriately experienced personnel. Such participation must be encouraged--not excluded by regulation.

A related issue, given its current operational environment of limited administrative support staff and small hospitals with "departments" that have only one specialist, it is the current Air Force view that it is more efficient, economical, and accurate to have the attending physician review his or her own medical records. Given adequate numbers of trained nonphysicians, the initial screen could, in most instances, be performed by those nonphysicians. The physicians would, however, still be required to perform some initial screening and to perform their peer review. In the interim, the Air Force will rely on the checks and balances already inherent in the existing quality assurance program for internal management control.

RECOMMENDATIONS

- \* RECOMMENDATION 1: To help assure effective implementation of occurrence screening programs in Military hospitals, the GAO recommended that the Secretary of Defense direct the Service Secretaries, in conjunction with the Assistant Secretary of Defense for Health Affairs, to collect and analyze occurrence screening data above the hospital level and provide comparative and related analysis to the individual hospital commanders for management purposes. (p. 11, p. 38/GAO Draft Report)

Now on pp. 5, 19, 20

DoD Response. Partially concur. Theoretically, trending data and looking for improvable patterns of care in a multi-hospital system, have great potential. In practice, much of the occurrence screening previously done in DoD hospitals has not produced meaningful results. Complete answers cannot be found from the public or private sector because the civilian multi-hospital systems and the Veterans Administration are also in the early phases of system implementation. As previously indicated, much has been learned from the faults in the initial DoD automation system and reporting requirements. Ideas are emerging about data analysis above the hospital. However, these ideas will require some time to refine. Thus, it would be inappropriate at this time to direct reporting of data until more is known about which data are meaningful to report.

The quality assurance module in the new version of AQCESS software was designed to permit trending of data to look for improvable patterns of care, and for that analysis to occur at any level of management. This, and expanding the scope of analysis beyond the health care provider, are two major innovative features of the philosophy behind the software improvement. The eighteen generic occurrence screens in the initial version of the software, when trended at the OASD(HA) level, did not reveal a single opportunity for improving care. The Tri-Service obstetrical study, the initial trial at specialty-specific occurrence screening, also failed to reveal any improvable patterns of care above the hospital. And yet similar obstetrical data using refined criteria and analogous methodology, in the form of the Perinatal Morbidity and Mortality Statistics, were responsible for reducing perinatal mortality dramatically in the past three decades. These statistical data are broad indicators. A greater level of detail by etiology, management techniques, and sometimes individual case review are necessary to find the opportunity for improvement. After implementation, it may require a system-wide analysis of present outcomes to previous outcomes to demonstrate a significant improvement. Such examples do not negate the benefit of trending quality assurance data across hospitals. They do, however,

**Appendix II  
Comments From the Department of Defense**

illustrate that there is much to be learned about data definition, selection, and utilization. As it is determined certain data would be useful to higher authority, the DoD will require appropriate reporting.

\* **RECOMMENDATION 2:** To improve the reliability of the initial occurrence screening process, the GAO recommended that the Secretary of Defense direct the Service Secretaries, in conjunction with the Assistant Secretary of Defense for Health Affairs, to instruct screeners to identify all applicable occurrences during the initial screen process. (P. 11, p. 51/GAO Draft Report)

Now on pp. 5, 27.

**DoD Response:** Concur. Applicable occurrences in each case should be identified by the initial screening process and referred for appropriate peer review. This concept is recognized by the OASD(HA) and was addressed in the redesign of the Quality Assurance module of the AQCESS software. The current release of the AQCESS software permits entering all the occurrences applicable in each case. In addition, the new software permits subcategorization of events (or occurrences) into acceptable and unacceptable varieties, or those that are designated for review and those that are not. The sample of screened charts for the GAO audit was from July and August, 1986. The new software was proliferated to the field at the end of 1987.

\* **RECOMMENDATION 3:** To improve the reliability of the initial occurrence screening process, the GAO recommended that the Secretary of Defense direct the Service Secretaries, in conjunction with the Assistant Secretary of Defense or Health Affairs, to discontinue using attending physicians to screen their own patient records and, instead, use properly trained nonphysician personnel to perform this function. (p. 11, p. 51/GAO Draft Report)

Now on pp. 5, 27.

**DoD Response.** Partially concur. There is a spectrum of expertise that would qualify a person to perform initial screening of charts from a trained corpsman, through medical records personnel, nurses, physicians, in general, to physicians in the same specialty. The DoD agrees that the initial screening of practice, or collection and entry of data, needs to be more uniform and complete. Achievement of this goal is resource dependent (funded staffing levels) and will require appropriate authorization. To recruit and retain appropriate personnel, it is anticipated that pay levels, job descriptions, and training requirements will require extensive revision. For today, the personnel used by the Services for initial screening may not always be ideal. If such a proposal were to be implemented immediately, an adverse impact on patient care or access to it would likely occur since such a requirement would divert clinical capability and compound an already critical shortage. The addition of automation support in clinical areas in the form of medical automation systems will permit the capture of events that need review, but in the process of providing and documenting care for patients, rather than as a

**Appendix II**  
**Comments From the Department of Defense**

retrospective additional duty. This will satisfy both the GAO and the DoD perspectives on improvements needed. This solution is feasible, and is more obtainable, and within at least the same time frame as any of the less desirable alternatives. The Department anticipates that computer software, which will enable us to have the computer perform the vast majority of initial screenings, will become available in the mid to late 1990s. The Department further anticipates that the necessary hardware will become available simultaneously. Given the known constraints on the national budget, the DoD does not envision that a significant increase in personnel resources can be expected any earlier.

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