Audit Report

OFFICE OF THE INSPECTOR GENERAL

**MEDICAL TREATMENT FACILITY REQUIREMENTS-
FITZSIMONS ARMY MEDICAL CENTER**

Report No. 94-063 March 21, 1994

Department of Defense

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Acronyms

ASMRO	Armed Services Medical Regulating Office
BRAC	Base Realignment and Closure
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
DMFO	Defense Medical Facilities Office
FAMC	Fitzsimons Army Medical Center
GME	Graduate Medical Education
HSC	Health Services Command
LAFB	Lowry Air Force Base
MC	Medical Center
MILCON	Military Construction
MTF	Military Treatment Facility
OB/GYN	Obstetrics/Gynecology
OASD(HA)	Office of the Assistant Secretary of Defense (Health Affairs)
STS	Specialized Treatment Services

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
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March 21, 1994

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY
ASSISTANT SECRETARY OF DEFENSE (HEALTH AFFAIRS)
COMPTROLLER OF THE DEPARTMENT OF DEFENSE

SUBJECT: Medical Treatment Facility Requirements-Fitzsimons Army Medical Center (Report No. 94-063)

We are providing this final report for your review and comments. It discusses the planned construction of a replacement medical center at Fitzsimons Army Medical Center, Denver, Colorado. Comments on a draft of this report were considered in preparing the final report. The report discusses many of the same issues addressed in the Assistant Secretary of Defense (Health Affairs) report, "Fitzsimons Army Medical Center: Revalidation of Requirement," November 1992. We validated the November 1992 report's conclusion that a replacement medical center is not needed at Fitzsimons Army Medical Center.

DoD Directive 7650.3 requires that all audit recommendations be resolved promptly. Therefore, we request that the Under Secretary of Defense for Acquisition and Technology, Assistant Secretary of Defense (Health Affairs), and the Comptroller of the Department of Defense provide comments on unresolved recommendations and potential monetary benefits by May 20, 1994. DoD Directive 7650.3 also requires that comments indicate concurrence or nonconcurrence in each recommendation addressed to you. If you concur, describe the corrective actions taken or planned, the completion dates for actions already taken, and the estimated dates for completion of planned actions. If you nonconcur, state your specific reasons for each nonconcurrence. If appropriate, you may propose alternative methods for accomplishing desired improvements.

If you nonconcur with the estimated monetary benefits or any part thereof, you must state the amount you nonconcur with and the basis for your nonconcurrence. Recommendations and potential monetary benefits are subject to resolution in accordance with DoD Directive 7650.3 in the event of nonconcurrence or failure to comment. We also ask that your comments indicate concurrence or nonconcurrence with the internal control weaknesses highlighted in Part I.

The courtesies extended to the audit staff are appreciated. If you have any questions on this audit, please contact Mr. Michael A. Joseph, Program Director, at (804) 766-2703 or Mr. Jack L. Armstrong, Project Manager, at (804) 766-3265. The distribution of this report is in Appendix J.

Robert J. Lieberman
Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. 94-063 **March 21, 1994**
(Project No. 3LF-0004)

MEDICAL TREATMENT FACILITY REQUIREMENTS- FITZSIMONS ARMY MEDICAL CENTER

EXECUTIVE SUMMARY

Introduction. The Fitzsimons Army Medical Center (FAMC) provides a comprehensive range of acute care and outpatient medical services to active duty military personnel and retirees, and their dependents. FAMC has 434 patient beds and incurred over $212.3 million in expenditures in FY 1992. During our review, DoD was planning to construct a replacement medical center at a cost of $225 million. Congress has appropriated $30 million for design work and $2.0 million of military construction funds for site preparation. Plans showed that an additional $46.4 million will be spent for equipment and the Army will spend $29.8 million for support facilities.

The Assistant Secretary of Defense (Health Affairs) issued a report on the revalidation of requirements developed by the Army for the FAMC replacement facility in November 1992. The Assistant Secretary concluded that the replacement was not needed and that several medical specialties should be expanded at Evans Army Community Hospital, Fort Carson, Colorado. However, the Congress appropriated funding for design of the facility and the Under Secretary of Defense for Acquisition and Technology directed the Assistant Secretary of Defense (Health Affairs) to proceed. The Comptroller released design funds in December 1993.

Objectives. The objective of the audit was to determine if the construction of the FAMC replacement facility was planned and programmed to meet essential requirements in an economical, efficient, and timely manner. Applicable internal controls were also evaluated.

Audit Results. The FAMC replacement facility is not economically justified or needed to satisfy the local work load. DoD could realize a potential monetary benefit of $301.4 million in construction, design, and equipment funds by discontinuing further design work on the FAMC replacement facility. DoD could also realize a potential monetary benefit of $102.6 million over the next 6 years by reducing graduate medical education programs and utilizing civilian facilities near patients' homes when it is cost-effective rather than referring them to FAMC.

Internal Controls. Internal controls within the Army were not adequate to ensure that the construction project and collateral equipment were justified and needed. Additionally, internal controls were not in place to ensure that referring patients to FAMC instead of using civilian facilities was cost effective. See Part I for a description of the internal controls assessed, and Part II for a discussion on the weaknesses found.

Potential Benefits of Audit. We identified potential monetary benefits consisting of a one-time cost avoidance in the military construction and procurement appropriations, and an additional 6-year annual cost avoidance in the operations and maintenance and military pay appropriations (see Appendix H).

Summary of Recommendations. We recommended that the Under Secretary of Defense for Acquisition and Technology discontinue efforts to construct a replacement facility at FAMC, and that the Comptroller of the Department of Defense reprogram or rescind the unexpended portion of the $32 million appropriated for design ($30 million) and site preparation ($2 million) for the facility. We also recommended that the Acting Assistant Secretary of Defense (Health Affairs) require that military treatment facility commanders perform cost comparisons between military treatment facilities and other alternatives before referring patients to military treatment facilities outside their catchment area. Additionally, we recommended that the Acting Assistant Secretary discontinue two FAMC graduate medical education programs, and reevaluate the need for the remaining FAMC graduate medical education programs.

Management Comments. The Office of the Under Secretary of Defense for Acquisition and Technology stated that the replacement facility should proceed, but provided no justification. The Comptroller of the Department of Defense nonconcurred with the recommendation to reprogram or rescind the construction and design funds, and stated that the replacement project is in the best interest of DoD. The Acting Assistant Secretary of Defense (Health Affairs) agreed with the finding but neither concurred nor nonconcurred with the recommendations requiring military treatment facility commanders to perform cost comparisons, discontinue two FAMC graduate medical education programs, and revalidate the need for the remaining FAMC graduate medical education programs. The Army nonconcurred with the finding and recommendations. The complete texts of managements' comments are in Part IV.

Audit Response. We acknowledge that the currently approved project plan is scaled down from the original plan. Nevertheless, the issues raised in the draft report have not been adequately addressed. The Office of the Under Secretary of Defense for Acquisition and Technology and the Comptroller of the Department of Defense did not provide the rationale to support continuation of the project. Accordingly, we request that the Under Secretary and the Comptroller reconsider their positions on our recommendations and provide comments to the final report by May 20, 1994. We revised the estimated collateral equipment requirement and FY 1992 design cost based on data provided by the Acting Assistant Secretary of Defense (Health Affairs). Although the Acting Assistant Secretary concurred with the finding, we request comments on the three recommendations addressed to the Acting Assistant Secretary by May 20, 1994.

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This report was prepared by the Logistics Support Directorate, Office of the Assistant Inspector General for Auditing, Department of Defense.

Part I - Introduction

Background

National Health Care. Health care costs in the United States continue to increase dramatically. The increase in health care cost, in excess of the rate of inflation, cannot be attributed solely to any one cause. The cost of facilities and equipment, procedures for new treatments, staffing, and the cost related to insurance and administration are major contributors to cost growth. Excessive idle hospital capacity within a community is also a contributor to high medical costs.

In addition to increasing health care costs, 37 million Americas do not have insurance to pay for health care. The current administration has proposed a National Health Care Program to address health care issues. The Program will provide health care for all Americans. The role that DoD medical treatment facilities (MTFs) will play in this program has not been definitized.

Operations. The Fitzsimons Army Medical Center (FAMC), one of seven Army teaching hospitals, provides medical and surgical care for members of all branches of the Armed Forces and their dependents as well as retired personnel and their dependents. It is a full service medical center (MC) with 20 graduate medical education (GME) programs. FAMC is a major medical referral center for Army and Air Force hospitals in a 12-state area and is located on the east side of Denver, Colorado.

The MC is the nucleus of a self-sustaining Army installation, known as FAMC, with approximately 577 acres, containing more than 380 buildings and structures, including the utility system necessary to operate the installation. The acute care facility (Building 500) is a nine-floor brick structure that was dedicated December 3, 1941. Building 500 is 427,300 square feet and houses 434 inpatient beds. Medical care is also administered from clinics located throughout the installation. The clinic buildings are World War I and World War II temporary structures constructed between 1914 and 1945. The medical functions and related base operations functions are contained in more than 80 buildings comprising about 800,000 square feet.

Catchment Area. The FAMC catchment area encompasses the beneficiary population within a 40-mile radius of FAMC and partially overlaps with the U.S. Air Force Academy Hospital (Academy) and Evans Army Community Hospital (Evans), Fort Carson, catchment areas. The Academy and Evans MTFs are located in Colorado Springs, about 70 miles south of the FAMC. The FY 1992 FAMC catchment area population totaled approximately 62,700 active duty personnel, retirees, and dependent beneficiaries. The beneficiaries in the Denver metropolitan area have accessible health care at FAMC, 21 civilian acute care hospitals, and a Department of Veterans Affairs MC. All those facilities have idle inpatient bed capacity.

In FY 1992, DoD spent $221.6 million for health care costs in the FAMC catchment area. FAMC spent $212.3 million for 711,912 patient visits to clinics, 103,710 inpatient bed days (an average of 284 beds per day, excluding bassinet days), and other medical services and support functions. The Civilian

Health and Medical Program of the Uniformed Services (CHAMPUS) spent $9.3 million for over 96,000 patient visits and 6,800 inpatient bed days (an average of 19 per day). Retirees and their dependents under age 65 are eligible for CHAMPUS benefits and those age 65 years and over are entitled to Medicare. All retirees can receive care at the Veterans Affairs MC. Care given to retirees at the Veterans Affairs MCs is influenced by the retirees' priority designation.

Construction Project. The military construction (MILCON) plans include a new regional MC as a replacement for the existing MC. The new MC includes a clinical investigation facility and a central office facility to house a centralized communication system. The planned 1.5 million square foot MC will contain: outpatient clinics, 450 inpatient beds, operating rooms, emergency treatment facilities, and laboratories. Construction will also include a chilled water distribution system, roads, parking lots, and landscaping. Many of the buildings constructed between 1914 and 1945 will be demolished. The existing acute care facility (Building 500) will be retained for offices, support functions, and tenant activities.

DoD spent $10.6 million to reach the 35-percent design milestone directed by Congress. As planned originally, the new MC would have cost DoD an estimated additional $517.5 million ($390 million construction, $97.5 million collateral equipment, and $30 million design).

On August 26, 1993, the Under Secretary of Defense for Acquisition and Technology decided that a replacement MC should be built at FAMC at a cost not to exceed $225 million. Additionally, the project included $46.4 million for collateral equipment and $29.8 million for a steam plant, dial central telephone facility, and Directorate of Engineering and Housing facilities to be funded by the Army. The Office of the Assistant Secretary of Defense (Health Affairs) (OASD[HA]) was directed to establish a construction schedule and design parameters considering the:

o Potential changes caused by the President's national health care program.

o Changes caused by the 1993 and prior base realignment and closure proposals.

o Changes caused by Army graduate medical education decisions.

o Issues raised by the Inspector General, DoD, audit.

Other Military Facilities. MTF occupancy data showed that MTFs are underutilized throughout DoD, especially within the Army. Since 1975, the Army has built or completely renovated seven MTFs. Three of the MTFs are MCs (Madigan, Eisenhower, and Walter Reed) with multiple GME programs and a FY 1992 occupancy rate of 56 percent. During FY 1992, an average of only 1,513 (52 percent) of the 2,889 beds available at the seven MTFs were utilized daily. Table 1. shows the number of occupied bed days for the Army MTFs.

Table 1. Army MTF Utilization in FY 1992

Facility	Year Built	Beds Available	Average Daily Occupied Beds	Occupancy Rate (Percent)
Madigan AMC, WA	1992	414	271	65
Fort Carson, CO	1986	195	90	46
Fort Stewart, GA	1983	165	73	44
Fort Polk, LA	1983	152	57	38
Fort Campbell, KY	1982	241	100	41
Walter Reed AMC, DC	1978	962	635	66
Eisenhower AMC, GA	1975	760	287	38
Total		2,889	1,513	

Objectives

The objective of the audit was to determine if the proposed MILCON project to replace the MC at FAMC was being planned and programmed to meet essential requirements economically, efficiently, and in a timely manner. We also evaluated internal controls related to the construction project, including controls established to monitor justifying, prioritizing, sizing, and processing the project, as well as controls related to developing equipment and staffing requirements.

Scope and Methodology

We reviewed the Army's August 1987 economic analysis and the OASD(HA) November 1991 economic analysis and the OASD(HA) November 1992 requirements revalidation study for the planned MILCON project. We reviewed data collected on civilian hospitals in the catchment area for calendar years (CY) 1989 through 1991 related to utilization of those facilities and types of medical services offered. We also reviewed the FY 1992 bed utilization for seven Army MTFs.

We reviewed information on the FAMC's operations from FY 1982 through the third quarter of FY 1993. The information included operating budgets, catchment area population data, patient workload data, historical operating costs, staffing, GME programs, and professional and service contract data. We collected and analyzed CHAMPUS data on patient work load and expenditures for FYs 1985 through 1992. We neither verified the appropriateness of care for the workload data we reviewed nor the accuracy of Defense Medical Information System data related to CHAMPUS and FAMC cost and workload

data. The accuracy of computer processed cost and workload data in the Defense Medical Information System will be reviewed in our planned audit of DoD health care accounting systems.

In reviewing the condition of existing facilities, we collected and analyzed maintenance and repair reports and the Joint Commission on Accreditation of Health Care Organizations reports. We also had discussions with Defense Medical Facilities Office (DMFO) and OASD(HA) personnel and inspected the FAMC facilities.

To determine the cost-effectiveness of aeromedical evacuation referrals at FAMC, we randomly sampled 285 patients (90 inpatients and 195 outpatients) from 4,070 patients referred to FAMC during CY 1992 through the Armed Services Medical Regulating Office (ASMRO). This office is a joint service organization that is responsible for scheduling the transfer of DoD patients to MTFs outside the patients' catchment areas. (Appendix A contains the details of the universe and sample selected.) We then calculated a cost for performing the medical care at FAMC, including transportation for all referrals and per diem costs for active duty patients and their attendants. That cost was compared to the cost for performing the care at or near the patients' residences. (Appendix B contains the details of the methodology used in calculating cost-effectiveness.)

We reviewed the pediatrics and obstetrics/gynecology (OB/GYN) GME programs. We analyzed the cost analyses that FAMC prepared to justify continuance of those programs using civilian residents. (Appendix C contains a discussion of the FAMC analysis and the details of our analysis.)

We performed our audit from October 1992 through July 1993. Appendix I lists the organizations visited or contacted. This economy and efficiency audit was performed in accordance with auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD, and accordingly included such tests of internal controls as were considered necessary.

Internal Controls

Controls assessed. We evaluated the internal controls related to the MILCON project. The evaluation included the controls established to monitor justifying, prioritizing, sizing, and processing the project, as well as controls related to the development of the equipment and staffing requirements.

Internal control weaknesses. The audit identified material internal control weaknesses as defined by Office of Management and Budget Circular A-123 and DoD Directive 5010.38. Controls within the Army were not adequate to ensure that the MILCON and collateral equipment were properly justified and needed. Internal controls were not in place to

ensure that referring patients to FAMC instead of using civilian facilities was cost-effective. Details of the internal control weaknesses are discussed in Part II of this report.

Recommendation 3.a., if implemented, and recent efforts by the OASD(HA) will correct the weaknesses. The monetary benefits of $14.9 million that can be realized by implementing Recommendation 3.a. are described in Appendix H. Additional monetary benefits would be realized at other MTFs by implementing Recommendation 3.a., but we are unable to estimate the additional monetary benefits. Internal control deficiencies related to the processing of medical MILCON projects will be addressed in a future medical facilities planning report.

The Army did not identify the medical construction process as an assessable unit within its internal management control process. Although the OASD(HA) did not identify the medical construction process as an assessable unit, its independent revalidation process is an excellent internal control and it had identified that the medical construction project was not needed. A copy of the final report will be provided to the senior officials responsible for internal controls within OASD(HA) and the Army.

Prior Audits and Other Reviews

Five related audits and two reviews were completed between September 1990 and January 1993. The audits and reviews addressed key issues concerning the need and justification for a new FAMC, and procedures for planning and programming medical facility construction projects. Details of the audits and reviews are provided in Appendix D.

Part II - Finding and Recommendations

Construction Requirements

Congress directed DoD to design a new replacement medical center at Fitzsimons Army Medical Center that is not economically justified and is not needed to satisfy the local work load. The Army supported the congressional initiative. The condition occurred although a new replacement facility is not the most economical solution. The Fitzsimons Army Medical Center beneficiary population and work load are not sufficient to justify the replacement facility if uneconomical referral work load is excluded. Army facility requirements were partially based on uneconomical and duplicative graduate medical education programs. Additionally, the Army did not properly consider alternative sources of health care. As a result, DoD could realize a potential monetary benefit of $301.4 million in construction, design, and equipment funds by discontinuing the Fitzsimons Army Medical Center military construction project. DoD could also realize a potential monetary benefit of $17.1 million annually, or $102.6 million over the next 6 years by utilizing civilian facilities near patients' homes when it is cost-effective, rather than referring patients to Fitzsimons Army Medical Center.

Background

Criteria.

Public Law. United States Code (U.S.C.), title 10, sections 1074 and 1076, establish the criteria by which DoD beneficiaries receive care at a MTF. Active duty personnel are entitled to receive care at MTFs. Active duty dependents receive care at MTFs on a space available basis. Retirees and dependents of retirees are not entitled to care at MTFs; but they may receive care subject to space availability, capabilities, and staffing and providing that such care does not interfere with the primary mission of the MTF.

DoD Instructions. DoD Instruction 6015.17, "Planning and Acquisition of Military Health Facilities," March 17, 1983, requires that an economic analysis be prepared to select the most cost-effective alternative. Changes being drafted to the Instruction (to be renamed "Procedures for the Planning, Programming, Budgeting, and Execution for Construction of Military Health Facilities") will require OASD(HA) to validate and revalidate the requirements for a MILCON project at various stages of the design and construction process.

DoD Instruction 7040.4, "Military Construction Authorization and Appropriation," March 5, 1979, requires that:

o a special effort be made to utilize efficiently all existing DoD installations and facilities, and

o an economic analysis be prepared and used as an aid to establish MILCON priorities and determine optimum allocation of resources to construction.

DoD Instruction 7041.3, "Economic Analysis and Program Evaluation for Resource Management," October 18, 1972, requires that an economic analysis:

o systematically identify benefits, other outputs, and costs associated with missions and alternate ways to accomplish a program; and

o evaluate alternate financing, such as lease or buy.

DoD Position and Project Status. In FY 1990, the House Armed Services Committee directed the Secretary of Defense to accelerate the design of the FAMC replacement facility for inclusion in the FY 1992 budget request. In May 1990, the Army submitted the FAMC project to be included in the FY 1993 construction program; however, DoD subsequently put the FAMC project on hold. In July 1991, OASD(HA) released a medical MILCON program to Congress that did not include the FAMC replacement facility. A discussion with OASD(HA) disclosed that due to the troop reductions and base realignment and closure (BRAC) actions, OASD(HA) did not consider a replacement FAMC facility necessary or the best value for the limited medical MILCON funding.

Despite the position of OASD(HA), Congress directed the Secretary of Defense, in the FY 1992 Defense Appropriation Act, to contract for the concept design (35 percent completion) to be completed no later than September 30, 1992, for a FAMC replacement facility with a capacity of at least 400 beds. A 450 inpatient bed concept design was prepared. Although the concept design was completed, OASD(HA) has not progressed with the design completion, despite continuing pressure from the Army and Congress to go forward with the project. In November 1992, OASD(HA) completed a revalidation study which stated the FAMC project was not needed.

At the direction of Congress, DoD spent $10.6 million for the concept design. In FY 1993, Congress authorized $390 million for construction and appropriated $30 million for design and $2 million for site preparation.

Audit Results

We support the position of OASD(HA) that the FAMC replacement facility is not cost-effective and is not needed. Army justification was not consistent with the most economical solution to health care program requirements. Despite various DoD studies that have demonstrated that a replacement FAMC facility is uneconomical and its size is not justified as planned, the Army continued to support a 450-bed replacement hospital. Existing facilities will be adequate to support the catchment area population and work load if the uneconomical referral work load is excluded. Some FAMC GME programs are not cost-effective, are duplicated at several DoD MTFs, and may incur future budget reductions. Further, the Army did not adequately consider local civilian and other DoD medical facilities that are underutilized as alternate sources of health care.

Army Justification. Although OASD(HA) determined that FAMC requirements were unsupported and placed the project design on hold, the Army Surgeon General supported the FAMC replacement project and provided the following rationale.

o Several studies have shown that the MILCON is needed.

o The only means to providing alternative health care is to fly DoD patients to FAMC.

o The FAMC population is over 895,000.

o Bed utilization is between 330 and 370.

o The FAMC is essential to the Army's GME program and the FAMC has developed low cost programs.

o It is cheaper for FAMC to provide care than to purchase care.

The Army statements were not accurate. We found no mission or economic rationale supporting the construction of a 450-bed facility at FAMC at this time. Two economic analyses did not identify construction of a new 450-bed MC as the most cost-effective alternative.

Economic Analyses. The Army completed an economic analysis of the FAMC replacement facility in August 1987, and DMFO completed a second economic analysis in November 1991. Construction of a replacement facility was neither the first nor the second most cost-effective alternative recommended in the two studies. One study recommended closing FAMC.

August 1987 Economic Analysis. The Army's August 31, 1987, economic analysis considered six alternatives and found that constructing a replacement FAMC facility ranked third in terms of cost-effectiveness. The new construction alternative included an assumption that the work load would remain the same as in 1985 and that referrals from outside the catchment area (40-mile radius of FAMC) would continue. No referral transportation cost was considered. As discussed in the analysis under the section, "Referrals," ASMRO referrals comprised about 21.9 percent of FAMC's inpatient work load and cost about $2,848 per round trip.

The most cost-effective alternative in the 1987 analysis was to close FAMC, transfer the appropriate medical missions to the Evans MTF (adding beds and establishing teaching programs) and, if required, construct an appropriately sized health care facility at Lowry Air Force Base (LAFB). The alternative was

proposed before the BRAC decision was made to close LAFB and to reduce the current budget and personnel. Based on the LAFB closure in FY 1994, the transfer of medical missions to Evans MTF appears even more cost-effective.

The second most cost-effective alternative was to maintain FAMC and upgrade the current facilities to meet the life and safety codes of the National Fire Protection Association. Since FY 1985, 37 upgrade projects have been planned for FAMC at a cost of $39 million. Of the 37 projects, 22 have been completed, 5 are partially completed, and 10 have expected start dates in FYs 1994 through 1999. According to DMFO, the present facility is structurally sound. Additionally, the $5 million of fire and safety upgrades funded in FY 1990 along with a $3 million fire and safety project funded in FY 1992 have brought virtually all of the facility into compliance with fire and safety codes. In effect, the second alternative has been implemented.

November 1991 Analysis. The November 1991 DMFO economic analysis considered the planned troop reductions and BRAC actions. The analysis stated that only a 95-bed community hospital would be needed to provide medical care for the 40-mile catchment area beneficiary population. If medical care was to continue within a 12-state catchment area and transportation cost was not considered, a 299-bed facility would be required. We believe that a much smaller facility is needed given the same assumptions used in the 1991 analysis.

OASD(HA) November 1992 Revalidation. In response to prior Inspector General, DoD, audit recommendations, OASD(HA) initiated a study in September 1992 to revalidate the requirement for the proposed FAMC replacement facility. The study specifically addressed the Colorado Springs area as a major source of referrals to FAMC, and the significant availability of capacity at the Evans MTF and the Academy MTF. Expansion of capabilities and resources at the Evans MTF in orthopedics, OB/GYN, gastroenterology, and nonsurgical cardiology would eliminate the need for many referrals to FAMC. Additional details of the study are summarized in Appendix D. The OASD(HA) issued its report, based on the findings of the study, in November 1992. The report stated:

> DoD must confront force reductions, budgetary cutbacks, staffing shortages, excess inpatient capability at major medical centers within MHSS (Military Health Service System), and pending reductions in Graduate Medical Education. DoD has not initiated replacement of FAMC. Allocation of scarce construction dollars and resources have been programmed for Medical Treatment Facilities (MTF's) which first and foremost support active duty populations.
>
> Diversion of resources to FAMC will seriously impede DoD's ability to aggressively respond to current and future challenges. I recommend that FAMC not be replaced and that all design effort be stopped immediately.

FAMC Population and Work Load. The FAMC did not have the beneficiary population and work load from within the catchment area to justify the replacement facility. Referrals from outside the catchment area were generally not a cost-effective means of providing medical care. The size and status (active duty, active duty dependents, retirees, or retiree dependents) of the beneficiary population are essential characteristics when sizing a new facility or in determining if a new MC is needed. FAMC has a much smaller beneficiary

population to support than other MCs. Smaller facilities have been constructed in areas with similar beneficiary populations. As shown in Table 2., FAMC has about the same population as Nellis Air Force Base hospital but will have about five times the patient beds and space if the planned MC is constructed.

Table 2. Comparison of FAMC With Other Projects

	Catchment Population	Number of Beds	MTF Square Feet (Millions)	Ratio of Beds to Population
Fitzsimons AMC[1]	54,378	450	1.5	1:120.8
Naval Hospital Portsmouth	326,235	363	1.5[2]	1:945.4
Nellis AFB Hospital[3]	58,148	77	.3	1:755.2

[1]The FAMC population reflects the LAFB closure in FY 1994.
[2]Includes renovated areas.
[3]Air Force Base.

The number of beds and the size of the planned facility at FAMC are not justified based on the work load in the catchment area. FAMC relies on referral patients to sustain its current operations and GME programs. Table 3. provides details on CY 1992 average work load by beneficiary status.

Table 3. CY 1992 Average Work Load by Beneficiary Status

Beneficiary Status	Number of Bed Days	Percent
Catchment area active duty and dependents without LAFB	35	12
LAFB active duty and dependents	12	4
Retirees and dependents under age 65 in catchment area[2]	45	16
Retirees and dependents age 65 and over in catchment area[2]	38	13
Referrals outside catchment area	158[1]	55
Total	288[1]	

[1]Includes bassinets.
[2]Includes survivors of deceased active duty and retired personnel.

Retiree Population and Work Load. After the LAFB closure (see Table 4.), retirees and their dependents in the catchment area will comprise 80.1 percent (43,583) of the total 54,378 beneficiary population. The retirees and retiree dependents occupied an average of 83 bed days at FAMC in CY 1992, or 28.8 percent of FAMC's 288 average daily occupied beds.

Table 4. FY 1992 FAMC Catchment Area Beneficiary Population Adjusted for the LAFB Closure

Beneficiary Category	Number in Category	Percentage of Total
Active Duty	3,904	7.2
Active Duty Dependents	6,891	12.7
Retirees and their Dependents under 65*	33,404	61.4
Retirees and their Dependents 65 and over*	10,179	18.7
Total	54,378	

*Includes survivors of deceased active duty and retired personnel.

The November 1992 OASD(HA) study stated that the retiree population is growing while the active duty population is decreasing and at the same time the age 65 and over population is accounting for an increasing number of bed days at FAMC. The study concluded that allocation of scarce MILCON dollars and resources should first and foremost support active duty populations. Retirees and retiree dependents have access to medical care through CHAMPUS or MEDICARE.

FAMC personnel disclosed that they were aware that the majority of the beneficiary population is retirees, retiree dependents, and others and that the population within the FAMC catchment area did not justify a 450-bed facility. However, they indicated that a 450-bed facility is needed to continue GME at FAMC and to support the Army's medical readiness requirements. They stated that it was appropriate to encourage the referral of patients to FAMC from a 12-state area. Such referrals would maintain the variety and volume of cases needed to properly train residents. GME programs are discussed later in this report.

Active Duty Population and Work Load. Of the estimated 62,700 beneficiary population in the FAMC catchment area (includes LAFB), 22,800 (36.4 percent) were active duty and their dependents. In CY 1992, only 47 (or 16 percent) of the average 288 daily bed occupants at FAMC were active duty personnel and their dependents. The number of catchment area active duty and their dependents and average occupied daily beds will decrease to 10,795 and 35, respectively, with the closure of LAFB. Because the primary mission of all MTFs is to provide care to active duty personnel and their dependents, the planned 450-bed facility at FAMC far exceeds the requirements

to satisfy that mission. Furthermore, FAMC personnel will make up 1,174 (30 percent) of the active duty and 2,139 (31 percent) of the active duty dependent population in the catchment area after LAFB closes.

Referrals. Our analysis of the FAMC CY 1992 work load showed that 57,707 (55 percent) of the 104,886 inpatient bed days were for patients from outside the FAMC catchment area (an average of 158 of 288 daily occupied beds). An estimated 22,990 (39.8 percent) of the referral bed days were for 4,070 patients referred to FAMC from multiple MTFs through the ASMRO, while the Colorado Springs area referred an estimated 22,692 (39.3 percent) (not a statistical estimate) of the referral bed days to FAMC.

Airlift Referrals. Of the 4,070 patients scheduled by ASMRO to fly to FAMC, an estimated 3,526 (86.6 percent) patients could have remained in the local area and been treated in civilian facilities at an annual savings of $14.9 million ($89.4 million for the six year Defense plan). ASMRO reported that the 4,070 patients included 932 inpatients and 3,138 ambulatory patients. This savings estimate was based on our sample of 285 and included a cost comparison between the cost of local medical care, medical care at FAMC, and the cost of transportation and per diem. According to Air Mobility Command personnel, it costs an average of $2,848 per round trip to transport a patient via the DoD aeromedical evacuation system. If transportation and per diem costs are excluded from our calculations, we estimate that 1,668 (41 percent) of the 4,070 patients could have been treated in local civilian facilities at an annual savings of $7.1 million. The details of our analysis are in Appendix B, and the details on each of our cases reviewed are in Appendix E.

Of the 3,138 (77.1 percent) outpatients shown in the ASMRO data files, an estimated 1,400 patients (44.6 percent) were admitted as inpatients when they arrived at FAMC. Personnel at ASMRO and FAMC disclosed that inpatients are frequently shown in the ASMRO computer system as outpatients in order to circumvent the system, which is programmed to send all inpatients to the nearest MTF with the capability and availability to treat the patients' conditions. The referring physicians or patients frequently feel strongly about which MTF provides the best treatment, and as a result, the referring physician enters the patient into the ASMRO system as an outpatient so that the patient is sent to the MTF of choice. The average CHAMPUS outpatient cost nationally in FY 1992 was $92 per visit; therefore, only in rare instances was it cost-effective to refer outpatients to MTFs through ASMRO at an average round-trip cost of $2,848.

Of the ASMRO patients referred to FAMC, an estimated 41.3 percent (1,681) were active duty, 34.5 percent (1,403) were retirees or retiree dependents, and 16.5 percent (670) were active duty dependents. (We could not determine the status of 7.7 percent.) DoD could have reduced the transportation and medical costs if retirees, retiree dependents, and active duty dependents had been treated at a civilian facility. Of the 147 non-active duty referrals in our sample, it was only less expensive to treat 10 of the referrals at FAMC. Appendix F contains examples of some of the uneconomical referrals to FAMC.

FAMC personnel stated that we should not consider the ASMRO flight costs in our computations of total costs because these flights were necessary for flight

crew training and readiness. However, the U.S. Transportation Command Patient Regulating and Evacuation Analysis, November 1, 1993, stated that almost 100 percent of the pilot and medical crew training requirements could be met by flying one mission per month. The analysis also stated that 80 percent of the patients moved are no-care ambulatory patients. These patients provide little readiness training. We are not making a recommendation on this subject because it will be addressed in the ongoing joint Inspector General, DoD, and Air Force Audit Agency audit of the aeromedical evacuation system.

Colorado Springs Referrals. The Colorado Springs area is FAMC's largest single source of referrals. In CY 1992, Colorado Springs referrals accounted for an estimated 22,692 bed days (or 39.3 percent) of FAMC's total referral bed days. Evans MTF operates a bus that shuttles patients to FAMC daily (140 miles round-trip). Of the estimated 22,692 bed days for Colorado Springs referrals, only 6,524 (28.8 percent) were occupied by active duty personnel. Additionally, 71.2 percent of the referrals were eligible for CHAMPUS or MEDICARE. According to the OASD(HA) November 1992 study, about 20 percent of the Colorado Springs referral bed days were for pregnancies and neonatal cases. FAMC assigned OB/GYN residents to Evans MTF so they could obtain experience in routine deliveries.

Evans MTF management gave us little justification for transporting patients to FAMC to receive care versus referring patients to local area CHAMPUS providers. A top administrative official at Evans MTF told us that his primary concern was to keep his CHAMPUS budget from increasing. Therefore, patients were transported to FAMC so the cost would not be charged to Evans' CHAMPUS budget. An analysis was not performed by Evans personnel to determine which alternative was most cost-effective.

More cost-effective and convenient alternatives to providing health care for the Colorado Springs referrals exist. As the General Accounting Office (see Appendix D) and OASD(HA) studies have shown, Evans MTF has excess capacity. The studies show that with proper resources, Evans MTF could provide most of the care for the Colorado Springs patients being referred to FAMC for orthopedics, OB/GYN, gastroenterology, and nonsurgical cardiology. Our research also showed it would be cheaper to treat psychiatric referral patients through CHAMPUS in the Colorado Springs area than referring them to FAMC.

Graduate Medical Education. The Army included in its facility requirements uneconomical OB/GYN and Pediatric GME programs. FAMC's GME programs duplicated other GME programs within DoD, and with the planned physician reductions in the Army, there is little justification for maintaining the OB/GYN and Pediatric GME programs at FAMC. Also, FAMC's use of civilian residents in its GME program does not enhance the readiness of the military.

GME Cost Analysis. With the relatively few remaining active duty personnel and active duty dependents (approximately 10,795) in the FAMC catchment area after the closure of LAFB, the Army Health Services Command (HSC) decided to curtail the number of military residents assigned to FAMC's

OB/GYN and Pediatric GME programs. We believe the decision was appropriate. Discussions with HSC personnel disclosed that the intent of such action was to phase out the two GME programs at FAMC because of insufficient work load in FAMC's catchment area to support them.

FAMC resisted the phasing out of the two GME programs and received permission from HSC to continue the programs with civilian residents if it was cost-effective. However, HSC stated that no additional funding would be given to cover the cost of hiring and paying salaries of civilian residents or continuing the GME programs.

In June 1992, FAMC hired four OB/GYN civilian residents at a cost of approximately $120,000 annually ($30,000 each). FAMC plans to hire 3 residents each year until the 4-year OB/GYN GME program is staffed entirely with 12 civilian residents at a cost of approximately $360,000 per year. FAMC hired four Pediatric civilian residents in June 1993, and will continue to do so each year until the 3-year GME program is filled with civilian residents.

In February 1993, FAMC forwarded two cost analyses to HSC, projecting a savings of over $5.0 million and $9.0 million annually for the OB/GYN and Pediatrics GME programs, respectively, to justify staffing these programs with civilian residents. The cost analyses were based on an assumption that 65 percent of the FAMC work load in the two specialty areas would shift to CHAMPUS if the GME programs were discontinued.

In our discussion with the HSC staff responsible for reviewing the FAMC cost analyses, the HSC staff disclosed that there were deficiencies in the analyses and they considered the analyses invalid. However, the HSC staff also informed us that the HSC commanding officer approved the analyses before the HSC analysts had an opportunity to review the analyses and point out deficiencies.

We found that the analyses were flawed. It will cost DoD about $2.2 million more annually, or $13.2 million more over the next 6 years, to keep the OB/GYN and Pediatrics programs at FAMC rather than shift the programs to CHAMPUS. The FAMC analyses overstated CHAMPUS costs and excluded transportation costs (details of the analyses and the associated deficiencies are in Appendix C).

Neither our analysis nor the FAMC analysis included all overhead costs that FAMC incurred when providing care. As discussed in Appendix B under "FAMC Cost," FAMC's patient care costs are understated because support costs (for example, medical training, staff food service, and installation maintenance) are not included in patient care costs. If we adjusted the GME cost estimate to reflect the overhead expenses, the estimated cost avoidance in phasing out the two GME programs would have been substantially higher.

Readiness. FAMC personnel believed that the Army's medical readiness can be enhanced by training civilian residents in the OB/GYN and Pediatric GME programs. Their rationale is that maintaining the programs, even with civilian residents, provides the Army with a means for moving military residents back into these programs should it become necessary and feasible.

We believe that filling MTF resident billets with civilians does little to enhance DoD's medical readiness, because after graduation the expertise is passed on to the civilian medical community. In wartime, the civilian residents could not be ordered to serve in a combat area or any other location that would better serve DoD's needs.

GME Program Duplication. DoD does not need to rely on GME programs at FAMC to meet future needs because GME programs at FAMC are duplicated at other DoD MCs. FAMC is 1 of 7 Army and 15 DoD MCs that offer GME programs. DoD also maintained GME programs at community hospitals, primarily in Family Practice. The Assistant Secretary of Defense (Programs Analysis and Evaluation) estimated that DoD had spent over $600 million annually for GME programs. At the time of our review, FAMC had 20 GME programs and 161 GME trainees. Of the 20 GME programs at FAMC, 17 were offered at 3 or more other DoD MCs. Appendix G provides examples of this duplication.

The size of the beneficiary population within a MTF's catchment area is a key factor in deciding where to locate GME programs. The larger the population, the greater the potential for sufficient work load to support a GME program. The Flag Officer GME Committee at OASD(HA), cautioned that maintaining GME programs at sites with service area populations of less than 100,000 should be carefully reviewed, because such programs rely heavily on referrals from outside their catchment area. Because of its small beneficiary population, FAMC is experiencing problems finding sufficient work load to meet the Residency Review Committee (the Committee) requirements for its OB/GYN GME program. FAMC sends its OB/GYN residents to Evans MTF so the residents can participate in a sufficient number of routine births to meet the Committee requirements.

Staffing Reductions. A December 1992, the Flag Officer GME Committee report disclosed that because of the ongoing base closures and troop reductions, the number of physicians in DoD would be reduced by 6 percent from 14,210 to 13,292 by FY 1997. The physician reductions will be accompanied by similar reductions in nursing and support staff. The report projected that 728 (79 percent) of the 918 reductions were planned for the Army. On April 29, 1993, the Army Surgeon General told the Subcommittee on Defense, House Appropriations Committee, that the Army will reduce 1,000 physician positions. Such action would reduce the total number of Army physicians from 5,591 to 4,591 (18 percent) by FY 1996.

The impact of these reductions on the Army's overall GME program and on the Army's MCs has not been determined. However, the Army Surgeon General stated that the current budget cuts have left him unable to fully staff the recently

constructed Madigan Army MC at Fort Lewis, Washington. Further, the Acting Secretary of the Army stated that GME trainees at FAMC will have to be reduced by about 35 percent. Because the Army cannot fully staff its existing facilities and more physician reductions are planned, we do not believe sufficient resources will be available to properly staff the FAMC replacement facility as originally planned.

Underutilized Hospitals. The Army is not maximizing its use of available hospitals. With bed occupancy rates approaching 60 percent in the Denver civilian hospitals and 50 percent in the Army and DoD MTFs, sufficient excess capacity is available to handle the FAMC work load. Greater utilization of existing hospitals should take priority over the construction of new hospitals.

Civilian Hospitals. During CY 1991, the 21 civilian hospitals in the FAMC catchment area averaged 59 percent occupancy for 5,248 beds (2,128 unoccupied beds). Denver has 12 open heart surgery centers, 5 organ transplant centers, and 10 neonatal intensive care units. Denver hospitals have the latest technology equipment, including computed axial tomography scans and magnetic resonance imaging systems.

Denver's excess capacity provides an excellent opportunity for the Army to negotiate favorable rates at the Denver hospitals. The OASD(HA) strongly supports the comparison of MTF and civilian health care costs and shifting work load to whichever source is most cost-effective. However, the current cost accounting system that FAMC and all MTFs use, does not collect data in a manner which allows for a comparable analysis to be made. Thus, the Army and FAMC are not aggressively identifying areas where shifting health care to the underutilized civilian facilities would be cost-effective.

DoD MTFs. We believe that the FAMC replacement facility, as planned, would be another example of an underutilized Army MTF, as discussed earlier. The Colorado Springs area has a relatively new 195-bed MTF at Fort Carson and a 65-bed MTF at the Air Force Academy. Both MTFs are underutilized. Colorado Springs' and FAMC catchment areas partially overlap. Colorado Springs has over 129,000 beneficiaries, of which 83,400 (64.7 percent) are active duty personnel and their dependents. The beneficiary population is expected to increase in FY 1995 as a result of BRAC. When the realignments are completed, the Colorado Springs area will have 2.5 times the FAMC population and 8.6 times more active duty personnel than FAMC, as shown in Table 5.

Table 5. Comparison of Colorado Springs and FAMC Populations after Base Realignment and Closure

	Colorado Springs	FAMC	Ratio of Colorado Springs to FAMC
Active duty	33,582	3,904	8.6:1
Dependents of active duty*	57,847	6,891	8.4:1
Retirees and their dependents*	45,584	43,583	1.0:1
Totals	137,013	54,378	

*Includes survivors of deceased active duty and retired personnel.

Although Colorado Springs referred 22,692 (average of 63 per day) bed days to FAMC in FY 1992, DoD still spent $154.1 million for health care in the Colorado Springs area. Evans MTF had 30,360 (average 84 per day) inpatient bed days (bassinets not included) and 570,000 outpatient visits at a cost of $80 million. The Academy MTF had 14,759 (average of 41 per day) inpatient bed days and 256,000 outpatient visits at a cost of $44.4 million. CHAMPUS spent $29.2 million for 19,500 (average of 54 per day) inpatient bed days and 201,581 outpatient visits. Even with the FY 1995 BRAC increase in the Colorado Springs area, Evans MTF has the capacity to provide health care to additional patients. We calculated that Evans MTF utilization will increase only by an average of 9 daily occupied bed days due to the BRAC increase.

Management Actions. During the audit, FAMC and OASD(HA) began implementing measures to lessen the impact of budget reductions. FY 1994 budget guidance shows that FAMC will receive a $20 million reduction compared to its actual FY 1993 budget. In an attempt to reduce costs, OASD(HA) has proposed that specialized treatment service (STS) facilities be established. An STS facility is an MTF with specialized equipment and staff that performs complex medical procedures within a geographical area.

FAMC Actions. Because of the projected budget reductions, FAMC took actions in March and April 1993 to reduce admissions and total occupied bed days. FAMC stopped admitting patients for 1-day surgeries and established a 24-bed transient ward in the hospital for patients awaiting ASMRO flights. Patients in the transient ward will not be counted as inpatients in the hospital's daily census. From April through July 1993, the average number of occupied beds per day was 171 beds. This is a decrease of 117 (41 percent) from the CY 1992 average number of occupied beds per day of 288, supporting our contention that the construction project is not necessary.

FAMC's actions to reduce admissions and occupied bed days should reduce the number of operating beds required at FAMC. However, the actions have not reduced the cost of care or the average bed day cost at FAMC. The average bed day cost has increased from $715 in CY 1992 to $1,129 in April and

May 1993, a 57.9 percent increase in 5 months. Although the average bed day cost increased, the average patient acuity and length of stay at FAMC has remained about the same since CY 1992.

The average bed day cost increase to $1,129 is particularly significant since the third party billing rate in FY 1992 was $701. The third party rate represents the DoD-wide average bed day operating cost. The FY 1992 CHAMPUS average bed day cost was about $803. If FAMC cannot reduce its average bed day costs, it will not be able to compete with other DoD or civilian hospitals. To make meaningful cost reductions, FAMC must trim those medical services that it cannot perform efficiently or economically. For example, GME programs and professional staff are high-cost areas that were not reduced.

Additionally, in FY 1993 FAMC was placed under capitation budgeting. Under capitation budgeting, MTFs will receive funding based on the number of beneficiaries within its catchment area. OASD(HA) has not developed procedures for funding the referral work load when capitation budgeting is fully implemented.

OASD(HA) Actions. OASD(HA) is developing the STS program to make DoD health care more efficient and cost-effective. Under the STS program, OASD(HA) has proposed 12 geographic regions in the United States. An STS would be assigned to a designated MTF. Other MTFs in a particular region would refer patients to an STS facility for specialized treatment. According to the plan, MTFs would be required to apply for STS status for each specialized program it planned to offer. FAMC applied for five specialized programs in its region.

OASD(HA) personnel expressed concerns over FAMC's future existence as a major MC. OASD(HA) personnel stated that FAMC had a relatively small beneficiary population in it's 40-mile catchment area and that much of FAMC's work load came from referrals throughout the 12-state area. They did not believe that DoD should force critically ill patients to fly long distances for treatment in an STS facility when patients could be treated in a civilian facility near the patients' homes. Therefore, they believed that an STS program at FAMC would not have sufficient patient load to support many of the highly specialized procedures expected of an STS facility. As discussed above, as FAMC's occupancy decreased and its average bed day costs increased, FAMC has proven not to be a cost-effective health care facility and may not be able to compete with civilian facilities.

The Secretary of Defense announced on September 2, 1993, that DoD will reduce its Active Duty Forces to 10 Army divisions and 20 Air Force fighter wings. Those reductions will exceed reductions discussed previously in this report. DoD personnel indicated that many of the reductions will be in the Colorado 12-state region. Therefore, FAMC's existence as a cost-effective STS is questionable.

Summary

The building of MTFs in excess of need and in locations with little active duty populations is contrary to DoD policy. On April 5, 1993, the Deputy Assistant Secretary of Defense (Health Services Operations) stated:

Residual population, primarily of retirees and their dependents, usually remain in an area after a base closes. We have viable alternatives for continued health care for these beneficiaries. Beneficiaries under the age of 65 remain eligible for CHAMPUS benefits. Those over 65 have MEDICARE coverage.

The costs in dollars and manpower to DoD to continue to operate military hospitals when a base closes are prohibitively expensive. DoD cannot afford to keep an excess bed inventory.

Recommendations, Management Comments, and Audit Response

1. We recommend that the Under Secretary of Defense for Acquisition and Technology discontinue DoD efforts to plan and construct a replacement facility at Fitzsimons Army Medical Center (FAMC).

Management Comments. The Deputy Under Secretary of Defense (Environmental Security) responded for the Under Secretary on January 11, 1994, and stated that a $225 million replacement facility, not to exceed 200 patient beds, was authorized. The $225 million is to include all related construction costs. The Assistant Deputy Under Secretary of Defense (Conservation and Installations) clarified the Office of the Under Secretary's position in a January 27, 1994, memorandum stating that the $225 million did not include design or collateral equipment costs. The full texts of the Office of the Under Secretary responses are in Part IV of this report.

Audit Response. The Office of the Under Secretary's comments were not responsive to the recommendation and did not provide justification for continuation of a replacement MC at FAMC. Although the Under Secretary did not discontinue DoD efforts to plan and construct a replacement facility, the Under Secretary did reduce the scope of the replacement facility from 450 beds to no more than 200 beds, and the estimated cost from $517.5 million to $301.4 million (includes MILCON, collateral equipment, and design). We believe the recommendation is still warranted despite the reduction because the facts in the report show that a replacement facility is neither economically justified nor needed to handle the catchment area workload. At the very least, efforts to design and construct the replacement facility, should be deferred pending final resolution of GME, STS, downsizing, and BRAC 1995 decisions.

As a referral MC, FAMC has not been competitive on a cost basis. The "Defense Base Closure and Realignment Commission Report to the President," (accepted by the President of the United States), July 14, 1993, stated that the ASD(HA):

> ...should continue to increase emphasis and focus efforts to improve health care operations and cost effectiveness by: ...(4) creating health care programs that operate on a competitive cost basis to support all beneficiaries....

The Deputy Under Secretary of Defense (Environmental Security) comments of January 11, 1994, limited the total cost of the facility to $225 million including the dial center, heat plant, and other related construction cost. Attachment 2 of the January 27, 1994, clarifying memorandum stated that the $225 million cost limitation included the MC's share of the dial center, heat plant, and related construction. The dial center and heat plant, as well as the Directorate of Engineering and Housing facility, are MC related construction projects that primarily will support the MC. The Army has designated $29.8 million of its MILCON funds for the three projects. We request that the Under Secretary of Defense clarify whether the $225 million cost limitation applies to the total cost of the dial center, heat plant, and Directorate of Engineering and Housing facility or just to the MC's share of the three facilities. We further request that the Under Secretary reconsider his position on the recommendation and provide comments to the final report.

2. We recommend that the Comptroller of the Department of Defense reprogram or rescind the $30 million design and $2 million military construction (site preparation) funds for the FAMC replacement facility.

Management Comments. In a January 26, 1994, memorandum the Comptroller nonconcurred with the recommendation and stated that a determination was made, in the best interest of DoD, to construct the replacement medical facility. The complete text of the Comptroller's comments is in Part IV of this report.

Audit Response. The Comptroller's comments are non responsive and provided no details or justification to support its position. We do not believe that building the replacement facility in an area with a small active duty population is the best use of limited DoD funds. The Comptroller's office expressed a similar concern in its "Department of Defense FY 1993 Appeal to the Senate Armed Services Committee," June 15, 1992, when it stated, "There is a much diminished need for medical services in this area and a replacement facility is not required."

We request that the Comptroller reconsider his position and provide comments to the final report.

3. We recommend that the Assistant Secretary of Defense (Health Affairs):

a. Instruct military treatment facility commanders who refer patients to other military facilities to evaluate the costs of other alternatives including the Civilian Health and Medical Program of the Uniformed Services and

document the results. The cost comparison should include transportation and per diem related to the patients' visit.

b. Discontinue obstetrics/gynecology and pediatrics graduate medical education programs at FAMC.

c. Perform an economic analysis of graduate medical education programs at FAMC. The analysis should consider staffing shortfalls at other DoD Facilities and other methods of providing the training or obtaining trained personnel. Discontinue or transfer those programs that are not cost-effective and readiness essential.

Management Comments. The Acting Assistant Secretary of Defense (Health Affairs) concurred with the reported findings and suggested changes to the collateral equipment cost, design cost, and the number of bed days referred from the Colorado Springs area. The Acting Assistant Secretary of Defense did not concur or nonconcur with the recommendations and did not provide comments on planned corrective actions. The full text of the Acting Assistant Secretary's comments are in Part IV of this report.

Audit Response. The OASD(HA) provided data showing that the collateral equipment cost estimate was reduced from $60 million to $46.4 million after the completion of our audit. The data also confirmed that $1.6 million was expended on the project design in addition to the $9 million design cost incurred in FY 1992. Accordingly, we reduced the collateral equipment cost and increased the design cost in the final report. We did not change the reported number of referral bed days from the Colorado Springs area. The figure in our report was based on FAMC admission records, which are the source records; and we believe those records are more reliable than the Defense Medical Information System Data used by the OASD(HA). Although OASD(HA) concurred with the finding, specific comments were not made to Recommendations 3.a., 3.b., or 3.c. We request that the OASD(HA) concur or nonconcur with the recommendations, and provide planned corrective actions in response to the final report.

Army Comments. Although recommendations were not directed to the Army, the Acting Assistant Secretary of the Army (Manpower and Reserve Affairs) nonconcurred with the report findings. The Acting Assistant Secretary of the Army claimed that the report was flawed, in that it omitted references to the statutory authority for sizing military health facilities, that it based economic savings on an incomplete audit of the aeromedical system, and that it incorrectly attributed responsibility for internal control to the Army. The Acting Assistant Secretary stated that not building a replacement medical facility would adversely affect readiness and cost of providing care. He also stated that the Under Secretary of Defense for Acquisition and Technology agreed that a replacement hospital should be constructed. The full text of the Acting Assistant Secretary's comments is in Part IV of this report.

Audit Response. The Army's comments are similar to the data originally used to support the replacement medical facility project. Much of the Army's information was inaccurate (see Army Justification) and our findings were

consistent with other studies cited in the report including the OASD(HA) revalidation study. A detailed audit response to the Army's comments is in Part IV of this report.

Part III - Additional Information

Appendix A. Statistical Sampling Plan and Results

Sampling Plan

In coordination with the Quantitative Methods Division, Office of the Inspector General (IG), DoD, we developed the sample to estimate the costs for medical care provided to patients scheduled by ASMRO and referred to FAMC during CY 1992. We computed the estimated number of cases and their value using the relative weighted product (RWP) formula and third party program billing rate (see Appendix B for a discussion of the two methods). We compared the two estimates with CHAMPUS costs. We also computed travel costs, including transportation and per diem when applicable, for the visits. The resulting estimates yielded four comparisons: FAMC (RWP) costs versus CHAMPUS costs when FAMC costs exceeded CHAMPUS with and without travel costs, and FAMC (third-party) costs versus CHAMPUS costs when FAMC costs exceeded CHAMPUS with and without travel costs. We also computed the estimated number of patients by category (for example, survivors and dependents of retirees, and ambulatory patients), and where appropriate, the mean value or number of days (length of stay).

The sample is based on records of 4,070 trips scheduled by ASMRO to transport patients to FAMC during CY 1992. Initial work with the ASMRO data showed that 932 of the trips were for patients who were to be admitted as inpatients. The remaining 3,138 trips were outpatient referrals.

We stratified the sample by inpatient and outpatient, and developed simple random sampling plans for use within each stratum. The sample consisted of 90 inpatient referrals to FAMC and 195 outpatient referrals to FAMC for a total sample of 285. The team identified about 40 to 50 percent of the cases transported as outpatients who were subsequently admitted as inpatients. We intentionally oversampled the outpatient cases to get about 80 to 90 cases involving persons transported as outpatients but admitted as inpatients.

Of the 90 inpatient referral cases, we could not determine the status for 15. From this, we projected the number of patients from the 932 inpatient referrals for whom we could not determine the status. (Referral was an attendant, not a patient, or insufficient records existed to document whether the patient was treated by FAMC.)

The audit showed that 87 of the 195 outpatient referrals were subsequently admitted as inpatients. We confirmed that 98 of the 195 were treated as outpatients at FAMC. We could not determine the status for 10 of the 195 outpatient referrals. We projected the number of patients from the

3,138 outpatient referrals that were subsequently admitted as inpatients, the number who remained outpatients, and the number of patients whose status could not be determined. The results are shown in Table A.1.

Table A.1. Projection of Universe

Category	Original Universe	Sample Size	Status of Sample	Adjusted Universe
Inpatient Referral:	932	90	--	--
Care Recorded	--	--	75	777
Status Not Determined	--	--	15	155
Outpatient Referral:	3,138	195	--	--
Outpatient Care	--	--	98	1,577
Admitted as Inpatient	--	--	87	1,400
Status Not Determined	--	--	10	161
Total	4,070	285	285	4,070

We computed the results using a 90-percent confidence level in calculating the margins of error. For analysis purposes, we divided the outpatient referrals into two groups, those that FAMC admitted as inpatients and those that remained outpatients. The results, both by stratum and overall, have the following meaning. The number of episodes (all care provided during the referral) represents the projected number of episodes in which in-house RWP or third-party constructive costs exceeded that of the CHAMPUS cost.

For example, the CHAMPUS results for cases in which RWP FAMC costs (including travel) exceeded CHAMPUS project to 3,526 of the 4,070 episodes for which an actual visit could be documented. The mean CHAMPUS cost is $7,815 for the episodes. This projects to $8.129 million, which is the total cost of treatment (excluding travel) for all episodes where CHAMPUS cost would be lower than the RWP FAMC cost. The actual CHAMPUS cost is projected to be between $6.258 million and $10.000 million. The number of episodes is projected to be between 3,372 to 3,680. The comparable RWP projections are 3,526 episodes at a cost of $23.037 million. We claimed the difference ($14.9 million) between the $23.037 million and the $8.129 million as potential monetary benefits.

Results

Tables A.2. and A.3. are projections of RWP FAMC costs, CHAMPUS costs, and the number of episodes when RWP FAMC costs exceeded CHAMPUS costs.

Table A.2. RWP Costs Without Travel Costs Included

Category	RWP	CHAMPUS
Cost (millions)	$13.608	$ 6.522
Precision (millions)	+/-2.916	+/-.332
Number of Episodes	1,668	1,668
Precision	+/-332	+/-332

Table A.3. RWP Costs With Travel Costs Included

Category	RWP	CHAMPUS
Cost (millions)*	$23.037	$8.129
Precision (millions)	+/-2.615	+/-1.871
Number of Episodes	3,526	3,526
Precision	+/-154	+/-154

*This projection was used to determine an annual monetary benefits estimate. The RWP projection of $23.037 million less the CHAMPUS cost of $8.129 million equals the $14.9 million claim in annual monetary benefits for using local providers in lieu of referrals to FAMC.

Tables A.4. and A.5. are projections of third-party FAMC costs, CHAMPUS costs, and the number of episodes when third-party FAMC costs exceeded CHAMPUS costs.

Table A.4. Third-Party Costs Without Travel Costs Included

Category	RWP	CHAMPUS
Cost (millions)	$20.060	$6.607
Precision (millions)	+/-3.389	+/-1.766
Number of Episodes	1,853	1,853
Precision	+/-327	+/-327

Table A.5. Third-Party Costs With Travel Costs Included

Category	RWP	CHAMPUS
Cost (millions)	$28.289	$7.656
Precision (millions)	+/-3.410	+/-1.743
Number of Episodes	3,425	3,425
Precision	+/-181	+/-181

Other Projections (Patients referred to FAMC from multiple MTFs through the ASMRO)

Bed Days:
22,990 days with a margin of error of +/-1,578
Active duty (inpatients and outpatients):
1,681 cases with a margin of error of +/-179
Dependents of active duty (inpatients and outpatients):
670 cases with a margin of error of +/-143
Retirees and their dependents (inpatients and outpatients):
1,403 cases with a margin of error of +/-177
Outpatient referrals from ASMRO admitted as inpatients at FAMC:
1,400 cases with a margin of error of +/-175
The margin of error on the estimated 316 cases where status could not be determined was +/-98.

Appendix B. Referral Case Cost Comparison Method

For each referral case selected as part of our sample from the ASMRO list, we estimated a cost for providing care at FAMC. The referral cases received either inpatient or outpatient care at FAMC. The estimated FAMC cost included transportation and per diem costs, when applicable. We compared the referral cost to the cost of care at civilian facilities to determine which source of care was more cost-effective.

Insurance coverage held by the patients in our sample was not used to offset DoD costs for two reasons. First, any third party payment would offset both the FAMC cost and payment to civilian facilities. Second, based on available records at FAMC, only 7 (2.5 percent) cases of the 285 cases sampled had insurance coverage. The methodology used to cost our sample cases is explained below.

Inpatient. We reviewed medical records for the episode of care for each case in our sample. The information was used for determining both the FAMC cost and CHAMPUS cost. From FAMC, we obtained inpatient cover sheet, narrative summary, FAMC historical information system printout, diagnosis related group assigned at FAMC by the DoD encoder grouper, and additional inpatient information necessary for review.

FAMC Cost. We estimated the cost of providing care at FAMC using two different methods, the third party reimbursement rate and the RWP formula. Those methods are discussed below along with the advantages and disadvantages of each. We compared those two methods to the CHAMPUS cost estimate. Two factors influence inpatient costs, length of stay and complexity of care provided.

The FAMC health care cost estimates are based on Medical Expense and Performance Reporting System (MEPRS) reports and do not accurately reflect all costs associated with an episode of care. MEPRS did not include in its patient care cost all support costs, such as medical training, staff food service, ambulance service, and installation maintenance and support. We estimated that in CY 1992, total direct patient care costs of $136.2 million were understated by over $40.1 million (29.4 percent). The expenditures were part of the cost of doing business that civilian hospitals would pass on to patients, Medicare, and insurance companies.

Third Party Reimbursement Rate. DoD uses this rate for billing third party insurance companies. For example, if a retiree with health insurance coverage used a MTF for medical care, the health insurance company would be billed as a third party. Under U.S.C., title 10, this rate is to reflect the MTF cost incurred in providing care. It is an average bed day cost for all medical specialties. We multiplied this rate by the number of bed days each patient was in FAMC for medical care to estimate the total cost for each episode of care. We then added the cost for transportation and per diem when applicable. This

method reflects a cost for the length of stay incurred by the MTF but does not reflect the acuity of care because it is an average cost. For example, mental health care is cheaper than providing care in an intensive care unit on a per day basis. The FY 1992 third party reimbursement rate per bed day was $701.

Relative Weighted Product. OASD(HA) developed this formula for estimating the average cost of a diagnosis related group. A diagnosis related group is one of 492 diagnosis classifications of similar medical problems. The Health Care Finance Administration has assigned a case mix index (a weighted number) to each diagnosis related group that reflects average resource consumption, patient length of stay, and the complexity of care for a medical problem. However, the case mix index is an average and does not reflect the total cost of excessive lengths of stay. For a medical specialty, the case mix indexes for all patient discharges are totaled and divided into the MEPRS cost for that medical specialty to determine the RWP cost. The RWP is then multiplied by the case mix index of a specific case to estimate the FAMC cost.

In determining the cost using RWP, we obtained from HSC CY 1992 monthly RWP data for FAMC, by clinical service. We added the monthly RWP data to obtain an annual RWP sum for each clinical service. For example, the annual RWP sum for cardiovascular and thoracic surgery equals 887.4. We calculated the cost per RWP for each clinical service by dividing the FAMC CY 1992 MEPRS cost for each clinical service by the annual RWP sum for each clinical service. For example, the cardiovascular and thoracic surgery CY 1992 MEPRS cost of $2,759,745 divided by 887.4 equals $3,109.92. We estimated the cost per episode of care by multiplying the cost per RWP for the patient's clinical service by the case mix index for the patient's diagnosis related group. For example, the case mix index for diagnosis related group 105 (cardiovascular and thoracic surgery) is 6.1581; thus, 6.1581 times $3,109.92 equals $19,151.20. The cost for transportation and per diem were added as applicable. As an example, if round-trip transportation is $2,848 and per diem is not authorized, then the cost for cardiovascular surgery was $21,999.20; ($19,151.20 plus $2,848.)

In this report, we used the estimated savings based on RWP because it was more conservative. If we had reported savings based on the third party rate, savings identified in the report would have increased.

CHAMPUS Cost. For the cost of care at civilian facilities we used CHAMPUS to determine the Government cost. The CHAMPUS cost was calculated by CHAMPUS fiscal intermediaries (contractors that pay CHAMPUS claims). The civilian facilities used in the analysis were at or near the patient's community. The fiscal intermediaries processed the data through the CHAMPUS encoder grouper and provided the payment amount to which the hospital would have been entitled. For retirees and dependents, we deducted all cost share amounts from the fiscal intermediary amount to arrive at the Government cost. We did not reduce any amounts for the annual deductible.

For active duty patients, we did not deduct any cost share amounts. The payments calculated by the fiscal intermediaries did not have any offset for third party payments.

The payment amounts provided by the fiscal intermediaries did not include professional fees for medical services. To determine the fees, we applied the Retrospective Case Mix Analysis System adjustment factor used in the Defense Medical Information System to the patient's diagnosis related group. This provided an estimate of the total cost of the episode of care.

Outpatient. To determine the cost-effectiveness of providing outpatient care at FAMC for aeromedical evacuation patients, we used the MEPRS cost per visit for the respective clinic visited. We then added transportation and per diem when applicable. For civilian provider cost, we used CHAMPUS cost per visit for the medical specialty involved. The cost came from the CHAMPUS Health Care Summary report for the local area from which the patient was referred.

Analysis of Referrals. The projected results of our costing is summarized in Appendix A. Both pricing methodologies show that it is more cost-effective to send patients to civilian hospitals than refer them to FAMC.

Appendix C. FAMC OB/GYN and Pediatric GME Cost Analysis

FAMC's economic analysis of the OB/GYN and Pediatric GME programs was inadequate. FAMC overstated the estimated savings for keeping the OB/GYN and Pediatric GME programs by $7.2 million and $10 million, respectively. Specifically, FAMC overstated the CHAMPUS cost estimates. Our estimates showed that a net savings of about $2.2 million would be realized if FAMC discontinued the two GME programs and shifted the related work load to CHAMPUS.

FAMC CHAMPUS Analysis (Inpatient). FAMC significantly overstated the average CHAMPUS costs for OB/GYN and Pediatrics by misinterpreting and misapplying data in the FY 1990 CHAMPUS Health Care Summary Report. A review of the report showed only 13 OB, 4 GYN, and 1 Pediatric CHAMPUS admissions in the FAMC catchment area during FY 1990. The admissions were expensive and complex cases and did not provide a sufficient mix and volume of cases for estimating the average inpatient CHAMPUS costs in those specialties.

FAMC further overstated the potential CHAMPUS costs by including professional services costs that were not associated with these CHAMPUS admissions. For example, during FY 1990 only 13 CHAMPUS OB patients were admitted in the FAMC catchment area. The combined hospital services cost for the 13 patients totaled $23,954. To that amount FAMC added professional services costs of $66,355 for 787 patients. The 787 patients included the 13 OB CHAMPUS admissions plus 774 patients who were not admitted to civilian hospitals under CHAMPUS. Of the 774 patients, 731 were treated at FAMC by civilian doctors under the Partnership Program (civilian medical personnel under contract). We realize that the Partnership Program is funded through CHAMPUS; however, since the 731 patients were not admitted to a civilian hospital it was inappropriate for FAMC to add the professional costs for the patients to the costs for the 13 who were treated through CHAMPUS in civilian hospitals. Similar errors were made in FAMC's estimated CHAMPUS costs in the GYN and Pediatric areas.

Audit CHAMPUS Analysis (Inpatient). Since there were so few OB/GYN and Pediatric CHAMPUS admissions in the FAMC catchment area, we used the national average costs of the CHAMPUS diagnosis related groups. We selected the 10 most active diagnosis related groups at FAMC in each speciality and developed an average CHAMPUS diagnosis related group cost for the speciality. Only the institutional costs are included in the CHAMPUS diagnosis related group cost averages. Therefore, to this cost we applied an adjustment factor shown in the Retrospective Case Mix Analysis System to determine the total costs (institutional and professional) for an episode of care in CHAMPUS. We also applied the appropriate location adjustment factor suggested by the CHAMPUS Manual for the Denver area. We further adjusted the national average costs to account for FAMC's higher cost tertiary care work load.

CHAMPUS Analysis (Outpatient) To estimate the CHAMPUS outpatient costs, we used the average cost per OB/GYN and Pediatrics visit from the Tri-Service CHAMPUS statistical data base for FY 1992 and multiplied the costs times the number of visits shown in the FAMC MEPRS report. FAMC used a similar method for estimating the outpatient CHAMPUS costs in those specialities. However, FAMC used FY 1990 average CHAMPUS rates and applied a 15 percent inflation factor. Since the CHAMPUS OB/GYN and Pediatrics average outpatient cost per visit in the FAMC catchment area has steadily decreased since FY 1990, we believe our estimate, which excludes an inflation factor, is more accurate than FAMC's.

Comparison of IG, DoD, and FAMC's analysis. Both analyses assume that 65 percent of the FAMC work load in the OB/GYN and Pediatrics specialities would be shifted to CHAMPUS if the GME programs in those specialities were discontinued. We accepted the percentage without verification. Table C.1. shows FAMC's estimates, if the work load were shifted to CHAMPUS.

Table C.1. FAMC Cost Comparison
(millions)

Specialty	CHAMPUS Estimate	FY 1992 MEPRS Costs	Estimated Savings (MTF)
OB/GYN	$13.1	$7.8	$5.3
Pediatrics	16.8	7.1	9.7
Total	$29.9	$14.9	$15.0

Based on our analysis, it appeared that FAMC overstated the estimated savings for keeping the OB/GYN and Pediatrics GME programs by $7.2 million and $10 million, respectively. Our estimates in Table C.2. show that a net savings of about $2.2 million would be realized if FAMC discontinued these GME programs and shifted the work load related to those programs to CHAMPUS.

Table C.2. IG, DoD Cost Comparison (millions)

Specialty	CHAMPUS Estimate	FAMC Cost FY 1992 MEPRS[1]	FAMC Cost Transportation	FAMC Cost Total	Estimated Savings[2] (CHAMPUS)
OB/GYN	$ 5.2	$ 6.8	$0.3	$ 7.1	$1.9
Pediatrics	7.3	7.1	0.5	7.6	0.3
Total	$12.5	$13.9	$0.8	$14.7	$2.2

[1]FAMC overstated MEPRS costs for OB/GYN by $1.0 million.

[2]Our estimate included $0.3 million and $0.5 million in medical airlift transportation cost for OB/GYN and Pediatrics, respectively. FAMC's estimate did not include transportation cost.

Appendix D. Prior Audits and Other Reviews

General Accounting Office Report No. HRD-90-131 (OSD case no. 8418), "Potential for Savings by Treating CHAMPUS Patients in Military Hospitals," September 1990, concluded that DoD can potentially save money by adding staff and equipment at military hospitals to treat more patients, rather than paying for their care under CHAMPUS. One of the facilities that the General Accounting Office reviewed was the Evans MTF. According to the report, the Evans MTF was staffing only 108 of its 195 beds in FY 1988, with an average daily patient load of 88 (45.1 percent). The report stated that the unused capacity was primarily due to staffing shortages, especially nurses and ancillary staff. However, the report pointed out that potential savings vary significantly by medical specialty and hospital and recommended that DoD identify facilities and specialties in which expansion of treatment capability is most likely to be cost-effective. DoD agreed with the recommendation.

IG, DoD, Report No. 93-160, "Medical Facility Requirements-Portsmouth Naval Hospital," September 2, 1993, showed that DoD planned to construct an acute care facility that exceeded valid needs. The report recommended reducing the size of the planned facility and renovating existing facilities for outpatient services. The OASD(HA) nonconcurred with the recommendation and the issue was sent for resolution. In Program and Budget Decision Number 377, December 1993, the Deputy Secretary of Defense decided to construct the acute care facility as planned.

IG, DoD, Report No. 93-047, "Medical Facility Requirements-Stockton Fleet Hospital Prepositioning Facility," January 28, 1993, showed that internal controls to ensure the use of existing warehouse assets and adequate project validation were not followed. The report concluded that the Deployable Medical Systems warehouse and support facilities were not needed. The OASD(HA) concurred with the reported conclusion, and agreed not to award the construction project pending revalidation of Deployable Medical Systems storage requirements.

IG, DoD, Report No. 92-039, "Quick-Reaction Report on Construction of Nellis Air Force Base, Nevada, Hospital," January 30, 1992, showed that DMFO had not revalidated the project's requirements before construction. The report concluded that the Nellis MILCON project was not economically justified. The OASD(HA) nonconcurred with the reported conclusion, but agreed to establish procedures to revalidate the requirements and the economic analysis for future medical MILCON projects.

OASD(HA) Report, "Fitzsimons Army Medical Center, Aurora, Colorado: Revalidation of Requirement," November 1992, concluded that the work load did not support the planned facility. The study focused on the inpatient work load at FAMC and the complexity of those cases. The study used diagnostic

related group codes to identify episodes of care that should not have been admitted or could have been treated on an outpatient basis. The key points of the study were that:

o Of the 62,433 eligible beneficiaries in the FAMC catchment area in FY 1991, 12 percent were active duty, 21 percent were dependents of active duty, and 67 percent were retirees and their dependents. Approximately 24 percent of the retirees were age 65 or older.

o With the upcoming LAFB closure, the beneficiary population was expected to drop to 54,378. Of that number, 20 percent will be active duty and their dependents and 80 percent will be retirees and others.

o Inpatient dispositions for active duty and their dependents were declining. However, their average length of stay are exceptionally longer than the national norms.

o Increasing resources were being expended to support the health care needs of beneficiaries age 65 or older.

o Within DoD Region III, FAMC received the largest number of all referrals. In FY 1991, ASMRO scheduled transportation for 24 percent of all patients admitted to FAMC.

o Although the number of patients being referred to FAMC was dropping, referrals as a percentage of FAMC's total work load were increasing.

o In FY 1991, direct care ambulatory costs were $73 per visit. CHAMPUS cost averaged $53 per visit.

o The Denver area had a medical and surgical inpatient capability of 5,311 beds with an average occupancy of 63 percent on a daily basis.

o Since 1975, the Army constructed seven hospitals with 2,889 beds. Those hospitals maintained an average daily patient load of 1,546 (54 percent).

Based on its study, OASD(HA) recommended that FAMC not be replaced and that all design efforts stop immediately. Part II of this audit report contains additional information on the OASD(HA) study.

Congressional Research Service report, "Military Retiree Health Care: Base Closures and Realignments," September 21, 1992, reported that retirees and their dependents were provided with the equivalent of health insurance through CHAMPUS. The report stated:

Appendix D. Prior Audits and Other Studies

The primary mission of the military medical care system is to maintain the health of military personnel so they can carry out their missions and be prepared to deliver health care during time of war. Under current law, active duty are entitled to receive health care at military medical facilities. Likewise, the eligible dependents of active duty personnel are entitled to receive health care at these facilities on a space available basis. Conversely, military retirees and their dependents are not entitled to receive health services at military medical facilities. Instead, retirees and their dependents may receive health care on a space or service-available basis.

U.S. Army Audit Agency Report No. SW 91-3, "Renovation and Repair Projects Fitzsimons Army Medical Center, Aurora, Colorado," March 14, 1991, showed that internal controls over major repair projects were inadequate. The report stated that 32 projects totaling $35 million were misclassified as operations and maintenance funded instead of MILCON funded. As a result, FAMC did not have congressional approval and may have incurred a funding violation of U.S.C., title 10, section 2805. The Army Audit Agency also questioned the need to renovate the existing MTF, and at the same time plan for the construction of a replacement MTF. The report stated that life and safety problems would be corrected by the major repair projects. The Army Audit Agency recommended that additional guidance be provided on classifying major repair projects, and that FAMC and HSC reconsider and study the requirements for a replacement MTF. The Army nonconcurred with the recommendations.

Appendix E. Referral Cases Reviewed

Case Number	Patient Status[1]	DRG[2]	LOS[3]	RWP[4] Cost	Third Party Cost	Travel Cost	Civilian Health Care Cost	RWP Variance[5]	Third Party Variance[5]
H- 1	RET	106	99	75,789	69,399	1,424	95,287	(18,074)	(24,464)
H- 2	RET	401	10	8,629	7,010	5,696	10,397	3,928	2,309
H- 3	ADD	22	32	2,969	22,432	6,659	4,781	4,847	24,311
H- 5	AD	425	10	8,396	7,010	1,759	3,380	6,776	5,389
H- 6	RET	82	14	5,984	10,276	2,848	4,334	4,498	8,790
H- 7	AD	112	7	8,435	4,907	6,076	9,508	5,003	1,475
H- 8	RET	1	27	17,571	20,390	4,759	12,367	9,964	12,782
H- 9	ADD	75	22	12,463	15,422	1,424	10,811	3,077	6,035
H- 10	RETD	249	5	4,283	3,582	1,424	0	5,707	5,006
H- 11	AD	125	3	3,190	2,103	2,874	4,426	1,637	550
H- 12	RETD	112	8	8,435	5,608	1,424	8,977	882	(1,945)
H- 13	AD	332	14	1,371	9,891	2,882	3,061	1,192	9,712
H- 14	RETD	202	7	5,050	4,907	2,848	5,436	2,462	2,319
H- 15	ADD	130	4	3,815	2,804	1,424	3,435	1,803	793
H- 16	AD	427	4	5,264	2,804	3,146	2,312	6,097	3,638
H- 17	RET	64	17	6,607	11,917	2,848	4,086	5,369	10,679
H- 18	RET	465	3	1,780	2,103	2,848	875	3,754	4,076
H- 19	AD	139	3	2,265	2,180	2,191	2,009	2,447	2,362
H- 20	AD	112	5	8,435	3,505	1,850	8,608	1,677	(3,253)
H- 22	AD	395	34	2,960	23,834	2,874	3,610	2,224	23,098
H- 23	RET	205	15	5,150	10,515	2,848	4,534	3,464	8,829
H- 24	RET	150	25	12,404	17,525	5,696	0	18,100	23,221
H- 25	AD	395	4	2,159	2,804	1,833	3,610	382	1,027
H- 27	ADD	75	31	6,043	21,731	8,544	0	14,587	30,275
H- 28	RETD	241	8	2,153	5,608	2,848	0	5,001	8,456
H- 29	ADD	395	3	2,159	2,103	1,424	2,961	622	566
H- 30	ADD	4	21	9,071	14,721	8,544	26,034	(8,419)	(2,769)
H- 31	RET	110	63	44,277	44,240	2,848	32,619	14,506	14,469
H- 33	RET	82	3	4,880	2,103	2,848	0	7,728	4,951
H- 34	AD	356	7	2,764	4,907	2,865	3,908	1,721	3,864
H- 35	RETD	90	10	3,007	7,010	0	0	3,007	7,010
H- 36	AD	428	18	6,802	12,618	1,424	17,304	(9,078)	(3,262)
H- 37	RET	10	7	7,864	4,907	2,848	0	10,712	7,755
H- 38	ADD	468	17	6,667	11,917	5,696	8,718	3,644	8,895

See footnotes at end of Appendix

Case Number	Patient Status[1]	DRG[2]	LOS[3]	RWP[4] Cost	Third Party Cost	Travel Cost	Civilian Health Care Cost	RWP Variance[5]	Third Party Variance[5]
H- 39	RETD	404	10	2,921	7,087	1,424	2,285	2,060	6,226
H- 41	ADD	85	14	1,426	9,814	5,696	6,484	638	9,026
H- 42	ADD	243	15	2,736	10,515	2,848	3,259	2,326	10,104
H- 43	RET	106	21	24,404	14,875	0	19,158	5,245	(4,283)
H- 45	ADD	468	50	30,787	35,204	3,253	22,802	11,238	15,655
H- 46	ADD	332	7	1,444	5,061	1,424	2,535	333	3,950
H- 47	AD	395	7	2,159	4,907	2,882	3,586	1,455	4,203
H- 48	RET	198	21	4,048	14,798	2,848	0	6,896	17,646
H- 49	RET	418	45	4,261	31,622	0	6,298	(2,037)	25,324
H- 50	AD	445	23	1,853	16,123	2,175	12,596	(8,568)	5,702
H- 51	RETD	125	2	3,379	1,402	2,848	3,050	3,177	1,200
H- 52	RET	36	5	3,079	3,505	1,424	0	4,503	4,929
H- 53	ADD	24	14	6,000	9,814	2,848	4,110	4,737	8,552
H- 54	ADD	295	8	2,731	5,608	8,544	1,943	9,332	12,209
H- 55	ADD	356	11	3,587	7,711	2,848	4,271	2,163	6,288
H- 56	AD	112	5	8,435	3,505	4,045	10,402	2,078	(2,852)
H- 57	RET	413	3	5,559	2,103	0	0	5,559	2,103
H- 58	RET	76	34	4,518	23,834	0	9,198	(4,680)	14,636
H- 59	AD	426	7	6,549	4,907	2,882	4,316	5,115	3,473
H- 60	RETD	203	17	1,469	11,994	2,848	0	4,317	14,842
H- 61	AD	145	2	3,429	1,402	1,696	4,232	893	(1,134)
H- 62	RET	489	11	8,279	7,711	5,696	7,565	6,410	5,842
H- 64	RETD	275	2	2,601	1,402	0	1,633	968	(231)
H- 65	RET	203	28	1,443	19,628	4,272	0	5,715	23,900
H- 68	AD	53	19	2,783	13,319	4,567	5,736	1,614	12,150
H- 69	AD	25	14	4,673	9,891	4,751	2,259	7,165	12,383
H- 70	AD	243	7	2,736	4,907	2,882	2,511	3,108	5,278
H- 71	RETD	112	6	8,435	4,206	4,272	0	12,707	8,478
H- 72	RET	319	10	1,033	7,010	5,696	0	6,729	12,706
H- 73	AD	112	14	8,435	9,814	2,899	9,949	1,385	2,764
H- 75	RETD	125	2	3,190	1,402	2,848	3,392	2,646	858
H- 76	RETD	466	3	2,299	2,103	0	0	2,299	2,103
H- 78	AD	125	4	3,190	2,804	2,982	3,727	2,444	2,058
H- 79	RET	106	63	40,664	44,163	5,696	62,375	(16,015)	(12,516)
H- 81	AD	359	10	3,989	7,010	1,418	6,012	(606)	2,415
H- 82	AD	466	3	2,490	2,103	1,529	2,223	1,795	1,408
H- 83	AD	425	10	8,396	7,010	8,536	3,779	13,153	11,767
H- 84	RET	130	13	4,041	9,113	2,848	3,146	3,743	8,815
H- 85	ADD	73	11	3,097	7,711	5,696	2,867	5,926	10,540
H- 88	RET	49	39	9,315	27,339	5,696	0	15,011	33,035

See footnotes at end of Appendix

Case Number	Patient Status[1]	DRG[2]	LOS[3]	RWP[4] Cost	Third Party Cost	Travel Cost	Civilian Health Care Cost	RWP Variance[5]	Third Party Variance[5]
H- 90	RET	112	11	8,435	7,711	2,848	6,456	4,827	4,103
I- 1	AD	0	0	113	77	343	319	136	101
I- 2	ADD	41	1	1,556	701	8,544	1,916	8,184	7,329
I- 3	AD	0	0	75	77	3,762	127	3,710	3,712
I- 4	AD	215	7	4,525	4,907	1,746	8,001	(1,730)	(1,348)
I- 5	AD	0	0	38	77	2,973	48	2,963	3,002
I- 6	RETD	248	7	2,568	4,907	2,848	1,522	3,894	6,233
I- 7	RETD	0	0	204	154	2,848	485	2,568	2,517
I- 8	RETD	0	0	122	154	5,696	90	5,727	5,760
I- 9	AD	0	0	102	77	2,153	79	2,176	2,151
I- 10	RET	303	32	10,407	22,432	1,424	0	11,831	23,856
I- 11	ADD	0	0	38	77	5,696	43	5,691	5,730
I- 12	AD	0	0	262	231	1,350	419	1,192	1,161
I- 13	AD	0	0	97	77	3,053	74	3,076	3,056
I- 14	AD	0	0	97	77	3,189	74	3,212	3,192
I- 15	AD	0	0	47	77	1,865	366	1,546	1,576
I- 16	RETD	228	8	3,205	5,685	5,696	4,162	4,740	7,219
I- 17	RET	122	3	5,014	2,103	1,424	5,730	708	(2,203)
I- 18	RETD	0	0	110	77	5,696	107	5,699	5,666
I- 19	AD	0	0	94	77	3,194	129	3,158	3,142
I- 20	AD	0	0	94	77	3,621	129	3,585	3,569
I- 21	RET	189	14	1,939	9,814	2,848	1,682	3,105	10,980
I- 22	RETD	0	0	47	77	1,424	366	1,105	1,135
I- 23	AD	332	1	819	855	3,241	2,399	1,661	1,697
I- 24	RETD	468	3	15,599	2,103	5,696	8,031	13,264	(232)
I- 25	RET	466	7	3,732	4,907	2,848	1,912	4,668	5,843
I- 26	AD	276	1	3,235	855	1,867	2,130	2,971	592
I- 27	ADD	73	3	3,388	2,334	5,696	2,828	6,256	5,202
I- 28	ADD	0	0	97	77	5,696	101	5,692	5,672
I- 29	ADD	310	3	3,434	2,103	1,424	5,557	(699)	(2,030)
I- 30	AD	35	1	746	778	2,297	1,944	1,099	1,131
I- 31	AD	0	0	101	154	702	141	661	714
I- 32	AD	243	2	2,811	1,479	1,843	3,118	1,536	204
I- 33	RET	0	0	239	154	5,696	197	5,739	5,653
I- 34	RET	183	1	638	701	1,424	0	2,062	2,125
I- 35	RET	0	0	167	77	2,848	166	2,849	2,759
I- 36	AD	206	1	5,237	701	1,138	1,813	4,562	26
I- 38	ADD	0	0	97	77	5,696	121	5,671	5,652
I- 39	ADD	0	0	113	77	5,696	103	5,706	5,670
I- 40	AD	0	0	282	154	4,534	316	4,501	4,372

See footnotes at end of Appendix

Case Number	Patient Status[1]	DRG[2]	LOS[3]	RWP[4] Cost	Third Party Cost	Travel Cost	Civilian Health Care Cost	RWP Variance[5]	Third Party Variance[5]
I- 41	AD	0	0	113	77	4,133	433	3,812	3,777
I- 42	AD	0	0	94	154	2,691	254	2,531	2,591
I- 43	AD	36	11	3,079	7,711	2,051	7,101	(1,971)	2,661
I- 44	AD	243	7	657	4,984	2,882	2,843	696	5,023
I- 45	RETD	261	11	3,600	7,711	2,848	7,836	(1,387)	2,723
I- 46	RETD	0	0	75	77	2,848	169	2,754	2,756
I- 47	ADD	183	1	638	701	0	1,664	(1,026)	(963)
I- 48	RET	249	10	4,208	7,010	2,848	0	7,056	9,858
I- 49	ADD	48	1	1,465	701	5,696	1,737	5,424	4,660
I- 50	RETD	0	0	75	77	2,848	169	2,754	2,756
I- 51	RETD	42	1	2,935	701	5,696	4,630	4,001	1,767
I- 52	AD	0	0	94	77	681	146	628	612
I- 53	ADD	125	6	3,190	4,206	5,696	4,028	4,858	5,874
I- 54	AD	0	0	668	308	4,053	166	4,554	4,195
I- 55	AD	0	0	38	77	534	288	284	324
I- 56	RET	0	0	75	77	2,848	80	2,843	2,845
I- 57	ADD	0	0	47	77	5,696	568	5,175	5,205
I- 58	ADD	0	0	76	154	416	86	405	484
I- 59	AD	240	14	4,742	9,814	2,882	5,327	2,298	7,369
I- 60	AD	0	0	142	154	3,837	174	3,804	3,817
I- 62	RET	110	11	20,577	7,711	2,848	15,041	8,384	(4,482)
I- 63	ADD	333	10	2,356	7,164	5,696	1,838	6,214	11,022
I- 64	AD	0	0	75	77	4,053	127	4,001	4,003
I- 65	RETD	424	24	10,034	16,824	5,696	7,174	8,556	15,346
I- 66	RET	245	7	2,468	4,907	2,848	0	5,316	7,755
I- 67	RET	243	17	4,442	11,917	1,424	1,990	3,877	11,351
I- 68	ADD	0	0	47	77	2,848	294	2,600	2,631
I- 69	AD	56	2	2,539	1,556	4,485	4,234	2,790	1,807
I- 70	ADD	41	1	1,653	778	5,696	2,253	5,096	4,221
I- 71	AD	0	0	75	77	3,564	109	3,530	3,532
I- 72	AD	0	0	113	77	2,105	401	1,816	1,781
I- 73	AD	215	14	7,347	9,814	2,882	11,722	(1,493)	974
I- 74	RETD	125	10	3,190	7,010	2,848	0	6,038	9,858
I- 75	RETD	0	0	38	77	2,848	66	2,820	2,859
I- 76	AD	240	3	4,335	2,103	2,874	7,540	(332)	(2,564)
I- 78	AD	0	0	60	77	3,405	130	3,335	3,352
I- 79	AD	0	0	181	231	3,120	139	3,161	3,212
I- 80	ADD	0	0	177	154	5,696	116	5,757	5,734
I- 81	AD	0	0	97	77	835	135	797	777
I- 83	AD	0	0	75	77	4,019	169	3,925	3,927

See footnotes at end of Appendix

Case Number	Patient Status[1]	DRG[2]	LOS[3]	RWP[4] Cost	Third Party Cost	Travel Cost	Civilian Health Care Cost	RWP Variance[5]	Third Party Variance[5]
I- 84	AD	0	0	75	77	2,043	127	1,991	1,993
I- 85	ADD	98	7	3,168	4,984	5,696	1,887	6,978	8,793
I- 86	AD	0	0	415	693	2,695	471	2,639	2,917
I- 87	AD	0	0	256	231	1,973	131	2,099	2,073
I- 88	RET	19	10	4,076	7,241	1,424	0	5,500	8,665
I- 89	RET	47	1	1,661	701	2,848	0	4,509	3,549
I- 90	AD	0	0	74	77	3,194	920	2,348	2,351
I- 91	RET	5	11	7,239	7,865	5,696	8,311	4,624	5,250
I- 92	AD	0	0	75	77	3,143	169	3,049	3,051
I- 93	AD	0	0	113	231	3,729	162	3,681	3,798
I- 94	AD	262	1	2,191	701	2,916	3,200	1,907	417
I- 95	ADD	323	7	2,899	4,907	2,848	0	5,747	7,755
I- 96	RET	112	17	8,435	11,917	5,696	0	14,131	17,613
I- 97	AD	0	0	150	154	4,053	159	4,044	4,048
I- 98	AD	0	0	113	77	3,945	103	3,955	3,919
I- 99	RET	0	0	338	231	2,848	0	3,186	3,079
I-100	AD	0	0	113	77	1,850	401	1,561	1,526
I-101	AD	0	0	38	77	357	107	288	327
I-102	RETD	61	11	3,091	7,711	2,848	0	5,939	10,559
I-103	AD	0	0	113	77	3,297	120	3,289	3,254
I-104	ADD	247	10	3,837	7,010	5,696	2,346	7,186	10,360
I-105	RET	0	0	113	77	2,848	147	2,813	2,778
I-106	ADD	0	0	80	77	5,696	15	5,761	5,758
I-107	AD	0	0	75	77	1,850	98	1,827	1,829
I-108	AD	0	0	121	77	3,241	60	3,302	3,258
I-109	AD	313	10	3,435	7,087	3,504	2,811	4,128	7,780
I-110	RET	0	0	110	77	5,696	107	5,699	5,666
I-111	AD	38	1	1,496	701	3,267	1,895	2,868	2,073
I-112	AD	0	0	121	77	1,832	77	1,876	1,832
I-113	RETD	200	24	10,815	16,824	2,848	0	13,663	19,672
I-114	AD	0	0	76	154	3,488	111	3,452	3,530
I-115	RET	209	39	11,341	27,339	1,424	0	12,765	28,763
I-116	AD	241	17	3,773	11,917	1,129	3,935	967	9,111
I-117	ADD	0	0	80	77	2,848	21	2,906	2,904
I-118	ADD	0	0	401	385	3,056	483	2,974	2,958
I-119	ADD	105	17	19,177	11,994	2,848	28,899	(6,874)	(14,057)
I-121	AD	0	0	47	77	3,080	219	2,908	2,938
I-122	AD	234	1	4,307	932	2,453	4,215	2,545	(830)
I-123	RET	0	0	95	77	1,424	0	1,519	1,501
I-124	RETD	0	0	95	77	2,848	59	2,884	2,866

See footnotes at end of Appendix

Case Number	Patient Status[1]	DRG[2]	LOS[3]	RWP[4] Cost	Third Party Cost	Travel Cost	Civilian Health Care Cost	RWP Variance[5]	Third Party Variance[5]
I-125	RETD	0	0	47	77	5,696	191	5,552	5,582
I-126	AD	0	0	47	77	3,621	299	3,369	3,399
I-128	RETD	0	0	97	77	2,848	0	2,945	2,925
I-129	AD	278	7	2,650	4,984	2,891	2,315	3,225	5,560
I-130	AD	243	10	2,736	7,010	1,588	2,082	2,242	6,516
I-131	RETD	143	5	1,592	3,505	2,848	1,732	2,707	4,621
I-132	AD	4	4	15,059	2,804	1,214	10,784	5,489	(6,766)
I-133	AD	0	0	47	77	3,547	299	3,295	3,325
I-134	RETD	47	4	1,661	2,804	2,848	0	4,509	5,652
I-135	RET	131	9	2,656	6,309	2,848	2,179	3,325	6,978
I-136	AD	0	0	97	77	1,722	129	1,690	1,670
I-137	RETD	0	0	75	77	2,848	169	2,754	2,756
I-138	AD	0	0	75	77	2,078	169	1,984	1,986
I-139	ADD	359	7	3,989	4,907	2,848	4,707	2,131	3,048
I-140	RETD	183	1	1,041	932	4,272	2,478	2,835	2,726
I-142	RET	47	1	1,661	701	2,848	0	4,509	3,549
I-143	ADD	0	0	47	77	2,848	366	2,529	2,559
I-144	RET	410	10	2,124	7,010	2,848	2,041	2,930	7,817
I-145	AD	0	0	119	77	3,405	30	3,494	3,452
I-146	AD	0	0	609	616	4,377	749	4,236	4,244
I-147	AD	0	0	178	231	2,081	289	1,970	2,023
I-148	RET	315	36	8,480	25,313	2,848	7,066	4,262	21,095
I-149	ADD	467	1	1,991	1,163	5,696	3,210	4,477	3,649
I-150	AD	490	10	5,755	7,010	2,882	6,611	2,025	3,281
I-151	AD	131	6	2,656	4,206	2,982	3,112	2,526	4,076
I-152	AD	0	0	110	77	3,297	60	3,348	3,314
I-153	AD	0	0	80	77	6,724	15	6,789	6,786
I-154	AD	229	6	2,056	4,206	2,874	3,459	1,470	3,621
I-155	AD	215	10	7,347	7,010	1,980	8,736	591	254
I-156	ADD	247	2	5,740	1,479	2,848	2,477	6,111	1,850
I-157	AD	240	9	7,682	6,386	2,874	5,977	4,578	3,282
I-158	AD	243	3	2,736	2,103	461	2,482	715	82
I-160	RET	0	0	189	385	2,848	270	2,767	2,964
I-161	RETD	0	0	102	77	1,424	79	1,447	1,422
I-162	AD	0	0	80	77	255	18	317	314
I-163	AD	0	0	102	77	1,784	10	1,876	1,851
I-164	RET	0	0	113	77	1,424	0	1,537	1,501
I-166	RET	0	0	113	77	0	0	113	77
I-167	RET	189	1	730	778	2,848	1,605	1,972	2,021

See footnotes at end of Appendix

Case Number	Patient Status[1]	DRG[2]	LOS[3]	RWP[4] Cost	Third Party Cost	Travel Cost	Civilian Health Care Cost	RWP Variance[5]	Third Party Variance[5]
I-168	AD	0	0	97	77	3,763	53	3,807	3,787
I-169	RETD	42	9	2,880	6,848	2,848	6,222	(494)	3,474
I-170	RETD	64	10	6,196	7,010	2,848	0	9,044	9,858
I-171	RET	404	6	2,086	4,206	1,424	2,836	674	2,794
I-172	AD	0	0	97	77	1,773	140	1,730	1,710
I-173	AD	219	2	3,443	1,479	1,736	4,895	284	(1,680)
I-174	RET	82	3	5,256	2,103	1,424	3,978	2,702	(451)
I-175	AD	0	0	129	77	2,205	218	2,116	2,064
I-176	RETD	0	0	235	231	2,848	392	2,690	2,687
I-177	RET	0	0	334	154	2,848	337	2,845	2,665
I-178	RET	132	7	3,059	4,907	2,848	3,861	2,046	3,894
I-179	RET	82	3	3,559	2,103	5,696	5,275	3,980	2,524
I-180	AD	125	2	3,190	1,402	3,414	4,081	2,522	734
I-181	ADD	125	1	2,814	701	3,053	4,687	1,180	(933)
I-182	AD	0	0	113	77	3,189	401	2,900	2,865
I-183	AD	489	10	8,171	7,010	1,741	9,245	667	(494)
I-184	AD	0	0	94	77	3,729	57	3,766	3,749
I-185	ADD	41	1	1,556	701	5,696	2,079	5,173	4,318
I-186	AD	0	0	204	154	1,844	492	1,557	1,506
I-187	ADD	298	1	2,053	778	2,848	1,371	3,530	2,255
I-188	ADD	184	12	2,011	8,489	5,696	1,418	6,289	12,767
I-190	AD	0	0	47	77	1,787	219	1,615	1,645
I-191	ADD	131	19	2,475	13,319	2,848	2,817	2,506	13,350
I-192	RET	0	0	0	231	5,696	0	5,696	5,927
I-193	RET	4	14	15,105	9,891	2,848	0	17,953	12,739
I-194	AD	0	0	47	77	3,189	568	2,668	2,698
I-195	RET	189	1	635	778	2,848	0	3,483	3,626

[1]Patient Status:
AD=Active duty
RET=Retiree
ADD=Active duty dependent
RETD=Retiree dependent
[2]DRG=Diagnostic Related Group Code.
[3]LOS=Length of Stay.
[4]RWP=Relative Weighted Product (DoD cost formula) or MEPRS outpatient cost.
[5]FAMC estimated health care cost plus DoD travel cost for the patient less DoD cost estimate for civilian health care provider.

Appendix F. Examples of Uneconomical Referrals

A 2-year old active duty dependent was flown from Beaumont Army Medical Center, Texas, to FAMC for same day surgery in pediatric ophthalmology to correct crossed eyes. Both parents accompanied the child on the trip from Texas to Denver. The patient and attendants traveled on ASMRO flights at a cost of $8,544, arriving at FAMC on March 6, 1992, and departing on March 14, 1992. The patient was airlifted to FAMC as an outpatient but was admitted as an inpatient by FAMC for same day surgery on March 10, 1992, at 0636 hours without any preexamination at FAMC. The patient underwent surgery and was discharged on March 10, 1992 at 1417 hours. No other visits to FAMC were made after surgery or before departure from FAMC on March 14, 1992. Neither patient nor attendants received reimbursement for per diem or lodging during their stay. DoD could have saved between $7,329 and $8,184 if the patient had been treated locally (see Appendix E, case no. I-2).

A 33-year old active duty patient was flown from McConnell Air Force Base, Kansas, via ASMRO to FAMC on March 18, 1992, and back to McConnell Air Force Base on March 27, 1992, at a round trip cost of $2,848. The patient received treatment in the outpatient dermatology clinic on two separate occasions for a total care time of 30 minutes. The patient received transportation, per diem, and lodging costs for the temporary duty period. If the patient had been treated in a local hospital, DoD could have saved $3,804 (see Appendix E, case no. I-60).

A 29-year old active duty patient was flown on ASMRO from Fort Leonardwood, Missouri, to FAMC for one outpatient visit. The patient arrived at FAMC on March 27, 1992. An outpatient visit to the orthopedic clinic was scheduled for March 30, 1992. No other visits were made to FAMC. The patient returned via ASMRO to Fort Leonardwood on April 7, 1992, at a round trip cost of $2,848. The patient received transportation, per diem, and lodging costs for the temporary duty period. If the patient had been treated in a local hospital, DoD could have saved $3,925 (see Appendix E, case no. I-83).

A 62-year old active duty dependent and attendant were flown via ASMRO from Mountain Home Air Force Base, Idaho, to FAMC at a round-trip cost of $5,696. The patient and attendant are father-in-law and spouse of the sponsor. The patient and attendant arrived at FAMC on July 24, 1992. The patient was airlifted to FAMC as an outpatient but was admitted to FAMC on July 27, 1992, and treated for chronic sinusitis and nasal polyps without any prior examinations at FAMC. The patient was discharged on July 29, 1992. The patient visited the ears, nose, throat clinic as an outpatient on July 30 and August 6 for observation. The patient was then airlifted back to Mountain Home on August 8, 1992. Neither the patient nor the attendant received per diem or lodging during the episode of care at FAMC. If the patient had been treated in a local hospital, DoD could have saved between $5,202 and $6,256 (see Appendix E, case no. I-27).

A 64-year old active duty dependent and attendant were flown via ASMRO from Hill Air Force Base, Utah, at a round-trip cost of $5,696. The patient and attendant are dependents-in-law of the sponsor. The patient was airlifted to FAMC as an outpatient and admitted without a preexamination at FAMC. The patient was admitted on May 27, 1992, and underwent observation and a cardiac catheterization. The patient was discharged and returned home via ASMRO on June 2, 1992, with instructions to return to FAMC via ASMRO on June 11, 1992, for an artery bypass graft. The patient and attendant were entitled to ASMRO transportation only. Neither the patient nor the attendant received per diem and lodging costs. If the patient had been treated in a local hospital, DoD could have saved $4,858 (see Appendix E, case no. I-53).

A 4-year old active duty dependent and a parent flew round-trip at a cost of $5,696 from Fort Campbell, Kentucky, to FAMC for a one-day admission. The patient received treatment for a drooping eyelid. The patient arrived on April 3, 1992, received care on April 7, 1992, and did not return home until April 15, 1992. No other visits or treatments were recorded during this 13-day period. The patient and attendant received ASMRO transportation. Neither the patient nor the attendant received per diem or lodging costs. If the patient had been treated in a local hospital, DoD could have saved between $4,318 and $5,173 (see Appendix E, case no. I-185).

A 12-year old active duty dependent and her two nonmedical attendants were flown from Mountain Home Air Force Base, Idaho, via ASMRO to FAMC for diabetes education at a round-trip cost of $8,544. The patient and attendants arrived at FAMC on January 31, 1992, and returned home on February 8, 1992. The patient and attendants received ASMRO transportation. Neither the patient nor the attendants received per diem and lodging costs. If the patient had visited a local hospital, DoD could have saved $9,332 (see Appendix E, case no. H-54).

Appendix G. School Year 1992-1993 Graduate Medical Education Programs

Medical Specialty[1]	FAMC Trainees	Total DoD Trainees[2]	Total Army Programs	Total DoD Programs
Allergy	7	19	2	3
Angiography	1	1	1	1
Cardiology	6	61	4	7
Dermatology	7	65	3	6
Radiology-Diagnostic	17	188	4	9
Endocrinology	2	18	3	5
Gastroenterology	4	18	2	5
General Surgery	20	297	7	13
Internal Medicine	24	404	7	14
Nuclear Medicine	2	10	3	5
Obstetrics/Gynecology	13	217	6	12
Ophthalmology	6	72	4	8
Orthopedic Surgery	12	173	7	12
Otolaryngology	4	82	5	10
Pediatrics[3]	13	203	6	12
Plastic Surgery	2	11	3	4
Pulmonary Disease	2	28	4	8
Rheumatology	4	11	2	3
Urology	3	52	5	10
Transitional Year	14	292	7	14
Total	163	2,222	85	161

[1]Only specialties conducted at FAMC are listed.
[2]Source: Report prepared by Flag Officer Committee on GME in 1992.
[3]Includes adolescent medicine residents. Number of physician trainees is as of beginning of school year.

Appendix H. Summary of Potential Benefits Resulting from Audit

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit
1.	Economy and efficiency. Cancel the project.	Funds put to better use. Medical military construction (97X0500) and procurement (97X0300) appropriations would be reduced $225 million and $46.4 million, respectively.*
2.	Economy and efficiency. Reprogram funds for other construction and design requirements.	Funds put to better use. FY 1993 medical military construction appropriation (97X0500) of $30 million, less any amount already expended. (The $2 million for site preparation is included in the $225 million MILCON appropriation in Recommendation 1.)

Appendix H. Summary of Potential Benefits Resulting from Audit

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit
3.a.	Economy and efficiency and internal control. The decision to refer patients to other MTFs would be more cost-effective.	Funds put to better use. Total annual potential monetary benefit of $14.9 million ($89.4 million for FYs 1994 through 1999). This includes operations and maintenance appropriation (97X100) annual potential monetary benefit of $9.28 million ($55.7 million for FYs 1994 through 1999); Army military pay appropriation (21X2010) annual potential monetary benefit of $2.66 million ($15.9 million for FYs 1994 through 1999); and Air Force military pay appropriation (57X3500) annual potential monetary benefit of $2.97 million ($17.8 million for FYs 1994 through 1999). There would be additional potential monetary benefit by reducing referrals to other medical centers but those amounts could not be determined.

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit
3.b.	Economy and efficiency. Reduce GME costs at FAMC.	Funds put to better use. Operation and maintenance appropriation (97X0100) annual potential monetary benefit of $2.2 million ($13.2 million for FYs 1994 through 1999).
3.c.	Economy and efficiency. Ensure that GME resources are used economically and efficiently.	Funds put to better use. Amount of potential monetary benefit cannot be determined; however, the operations and maintenance and military personnel appropriations would be reduced.

*Although Congress had authorized $390 million for the MILCON project and DoD had programmed $97.5 million for collateral equipment, we claimed only $225 million and $46.4 million as potential monetary benefits, respectively. The limitation on estimated monetary benefits resulted because the Under Secretary of Defense for Acquisition and Technology recently directed that the military construction project be reduced from $390 million to $225 million and that collateral equipment be reduced from $97.5 million to $46.4 million.

Appendix I. Organizations Visited Or Contacted

Office of the Secretary of Defense

Assistant Secretary of Defense (Health Affairs), Washington, DC
- Defense Medical Facilities Office, Falls Church, VA
- Defense Medical Support Activity, Falls Church, VA
- Defense Medical Systems Support Center, Falls Church, VA

Assistant Secretary of Defense (Production and Logistics), Washington, DC
Assistant Secretary of Defense (Program Analysis and Evaluation), Washington, DC
Comptroller of the Department of Defense, Washington, DC

Department of the Army

Office of the Surgeon General, Falls Church, VA
- Army Health Care Facilities Planning Agency, Falls Church, VA

Army Health Services Command, Fort Sam Houston, TX
Army Corps of Engineers, Denver, CO
Evans Army Community Hospital, Fort Carson, CO
Fitzsimons Army Medical Center, Denver, CO
Buckley Army National Guard Base, Aurora, CO

Department of the Air Force

Air Mobility Command, Scott Air Force Base, IL
- Aeromedical Evacuation Coordination Center, Scott Air Force Base, IL
- Armed Services Medical Regulating Office, Scott Air Force Base, IL

United States Air Force Academy Hospital, Colorado Springs, CO

Other Defense Agencies

Office of the Civilian Health and Medical Programs of the Uniformed Services, Aurora, CO

Non-Defense Agencies

Veterans Administration Medical Center, Denver, CO

Non-Government Agencies

American Hospital Association, Chicago, IL
Colorado Department of Health, Denver, CO
Colorado Health Data Commission, Denver, CO
Colorado Hospital Association, Denver, CO

Appendix J. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition and Technology
Assistant Secretary of Defense (Health Affairs)
Assistant to the Secretary of Defense for Public Affairs
Comptroller of the Department of Defense

Department of the Army

Secretary of the Army
Auditor General

Department of the Navy

Naval Audit Service

Department of the Air Force

Air Force Audit Agency

Defense Agencies

Director, Defense Contract Audit Agency
Director, Defense Finance and Accounting Service
Director, Defense Logistics Agency
Director, Defense Logistics Studies Information Exchange
Director, National Security Agency
Inspector General, Defense Intelligence Agency

Non-Defense Federal Organizations

Office of Management and Budget
U.S. General Accounting Office
  National Security and International Affairs Division, Technical Information Center
  National Security and International Affairs Division, Defense and National Aeronautics and Space Administration Management Issues
  National Security and International Affairs Division, Military Operations and Capabilities Issues

Chairman and Ranking Minority Member of each of the following Congressional Committees and Subcommittees:

  Senate Committee on Appropriations
  Senate Subcommittee on Defense, Committee on Appropriations
  Senate Committee on Armed Services
  Senate Committee on Governmental Affairs
  House Committee on Appropriations

House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Committee on Government Operations
House Subcommittee on Legislation and National Security, Committee on Government Operations

Senator Hank Brown, U.S. Senate
Senator Ben Nighthorse Campbell, U.S. Senate
Congresswoman Patricia Schroeder, U.S. House of Representatives

Part IV - Management Comments

Office of the Under Secretary of Defense for Acquisition and Technology Comments

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON DC 20301-3000

ACQUISITION AND TECHNOLOGY

DUSD(ES)/CI

11 JAN 1994

MEMORANDUM FOR DEPUTY ASSISTANT INSPECTOR GENERAL

SUBJECT: Response to Draft Audit Report on Medical Treatment Facility Requirements - Fitzsimons Army Medical Center (Project No. 3LF-0004)

On October 26, 1993, the Under Secretary of Defense (Acquisition and Technology) authorized the start of the design of a replacement facility at Fitzsimons Army Medical Center. The total cost of this facility is limited to $225 million, including the dial center, heat plant, site preparation, installed equipment, demolition and other related construction costs. A copy of this authorization is attached.

The facility is designated to serve as a referral hospital for the beneficiary population of the Fitzsimons health service region. Hospital capacity will not exceed 200 beds, of which 13 may be used for obstetrics patient care. The goal is to begin construction in Fiscal Year 1996.

Sherri Wasserman Goodman
Deputy Under Secretary of Defense
(Environmental Security)

Attachment

Environmental Security *Defending Our Future*

THE UNDER SECRETARY OF DEFENSE

WASHINGTON, DC 20301-3000

ACQUISITION

26 OCT 1993

MEMORANDUM FOR ACTING SECRETARY OF THE ARMY
ACTING ASSISTANT SECRETARY OF DEFENSE
(HEALTH AFFAIRS)
PRINCIPAL DEPUTY COMPTROLLER

SUBJECT: Fitzsimons Army Medical Center

Design of a replacement facility at Fitzsimons Army Medical Center is authorized, using funds available for that purpose. The design effort is to be constrained to a total facility cost not to exceed $225 million, including collateral equipment, heating plant, Dial office, demolition, and any other related costs.

John M. Deutch

cc:
Acting Inspector General, DoD

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON DC 20301-3000

ACQUISITION AND TECHNOLOGY

27 JAN 1994

ODUSD(ES/CI)

MEMORANDUM FOR DEPUTY ASSISTANT INSPECTOR GENERAL

SUBJECT: Draft Audit Report on Medical Treatment Facility Requirements-Fitzsimons Army Medical Center (Project No. 3LF-0004)

On January 11, 1994, DUSD(ES) forwarded a memorandum in response to the Fitzsimons Army Medical Center Audit (Project No. 3LF-0004). To further clarify the questions of January 14 raised by Mr. Armstrong of your office, the following information is provided:

a. The USD(A&T) memo of January 3, 1994 (attachment 1), clarified details in the October 26, 1993 memo (attachment 2).

b. Design and collateral equipment costs are not included in the $225 million construction costs.

This information should answer questions regarding the audit response. Any further questions should be directed to Ms. Jean Holmes who can be reached at (703) 693-8708.

Russel Milnes
Assistant Deputy Under Secretary of Defense
(Conservation and Installations)

Attachments

Environmental Security *Defending Our Future*

THE UNDER SECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

ACQUISITION AND TECHNOLOGY

3 JAN 1994

MEMORANDUM FOR THE SECRETARY OF THE ARMY
COMPTROLLER, DEPARTMENT OF DEFENSE
ACTING ASSISTANT SECRETARY OF DEFENSE
(HEALTH AFFAIRS)

SUBJECT: Fitzsimons Army Medical Center

The following clarifies my 26 October 1993 memorandum and should be used for the design for the replacement facility at Fitzsimons Army Medical Center:

a. The $225 million design cost goal does not include collateral equipment ($40M) or design costs ($30M). The $225 million design cost goal does include the Medical Center's share of both the dial center and heat plant, site preparation, installed equipment, demolition and other related construction costs.

b. The facility will serve as a referral hospital for the roughly 730,000 beneficiary population in the 12 states in the Fitzsimons health service region.

c. Fiscal Year 1996 is the goal to begin construction.

d. The hospital will contain no more than 200 beds, thirteen of which may be used for obstetrics patient care.

John M. Deutch

THE UNDER SECRETARY OF DEFENSE

WASHINGTON, DC 20301-3000

ACQUISITION

26 OCT 1995

MEMORANDUM FOR ACTING SECRETARY OF THE ARMY
ACTING ASSISTANT SECRETARY OF DEFENSE
(HEALTH AFFAIRS)
PRINCIPAL DEPUTY COMPTROLLER

SUBJECT: Fitzsimons Army Medical Center

Design of a replacement facility at Fitzsimons Army Medical Center is authorized, using funds available for that purpose. The design effort is to be constrained to a total facility cost not to exceed $225 million, including collateral equipment, heating plant, Dial office, demolition, and any other related costs.

John M. Deutch

cc:
Acting Inspector General, DoD

Acting Assistant Secretary of Defense (Health Affairs) Comments

HEALTH AFFAIRS

THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON D C 20301-1200

DEC 2 7 1993

MEMORANDUM FOR INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

SUBJECT: Draft Audit Report on Medical Treatment Facility Requirements-Fitzsimons Army Medical Center (Project No. 3LF-0004)

Thank you for the opportunity to review your analysis of the proposed medical construction project at Fitzsimons Army Medical Center (FAMC). Overall, I concur with the findings of your report. Your efforts to examine referrals transported via the Aeromedical Evacuation System and the costs of transporting non-acute patients long distances will require further detailed scrutiny.

Per your request, concurrence or nonconcurrence with specific points are highlighted in the attached document. Should you have questions regarding our comments, they may be directed to the Director, Defense Medical Facilities Office (703-756-0900) or Director, Resource Analysis and Management Systems (703-756-2081).

I believe your staff has been thorough and extremely diligent in assessing the requirement for this military construction project.

The Army's comments on the Draft Audit Report were received in my office on 23 December 1993. A copy of the Army's comments are attached.

Edward D. Martin

Edward D. Martin, M.D.
Acting Assistant Secretary of Defense

Attachment:
As Stated

FITZSIMONS ARMY MEDICAL CENTER
DEPARTMENT OF DEFENSE INSPECTOR GENERALS REPORT

COMMENTS AND RECOMMENDATIONS

Page 3, first paragraph. Non concur with "All retirees can receive care at the Veterans Affairs MC." Technically, this may be correct, however, in reality, a complex priority system exists which would prevent access of care to many retirees. Recommend revision of this statement.

Page 3, fourth paragraph. Non concur with "$60 million for collateral" equipment. The amount should read "$46.4 million for non-MILCON funded collateral equipment." The design parameters that were identified when the total project construction cost was deemed to be $225 million, established the collateral equipment (non-MILCON funded) was $46.4 million. This change will confirm the USD(A) established amount and identify the source of funds as outside of MILCON.

Page 11, last paragraph. Non concur with "$9 million" in the first line. The amount should read "$10.5 million". This will reflect the correct amount spent on the concept design by the Defense Medical Facilities Office (DMFO).

Page 11, last paragraph. Non concur with "DMFO" in the second to the last line. Recommend changing to "OASD(HA)". DMFO does not have responsibility for programming collateral equipment. This is accomplished by the Health, Budgets and Programs Office within OASD(HA).

Pages 14 - 16. Concur with population, workload, and referral findings. They were found to be consistent with the previous November 1992 OASD(HA) study, though they varied slightly.

Page 18, first paragraph. Non concur with beddays from Colorado Springs area. The report stated that in CY 92, 22,692 beddays at FAMC came from Colorado Springs. This represented a total of 39.3% of all referrals to FAMC from outside the catchment area. In FY 92, however, DMIS reported that Evans Army Community Hospital and the USAF Academy Hospital referred 17,126 beddays for 28.0% of all outside referrals. This is a fairly substantial difference in beddays. Recommend that Colorado Springs be more clearly defined and that beddays be reexamined for accuracy.

Page 20, third paragraph. Concur that there is some duplication of Graduate Medical Education (GME) programs throughout the Medical Health Service System. Health Affairs is currently addressing those areas of duplication by basing the types and numbers of GME programs on the military departments' need for specialists and subspecialists (phasing out redundant programs), eliminating all duplicate programs in close geographical proximity by closure or merger of such programs, and disallowing civilian GME trainees unless explicitly approved by the ASD(HA).

Page 22, second line, first paragraph. Non concur with FY 92, earlier accounts indicated CY as the unit of time.

Page 51, under recommendation 1, last column. Non concur with "$60 million". As stated earlier, recommend changing to "$46.4 million".

Page 51, footnote. Non-concur with "$60 million". Change to "$46.4 million".

Comptroller of the Department of Defense Comments

COMPTROLLER OF THE DEPARTMENT OF DEFENSE

WASHINGTON DC 20301-1100

JAN 26 1994

MEMORANDUM FOR THE INSPECTOR GENERAL

SUBJECT: Draft Audit Report on Medical Treatment Facility Requirements-Fitzsimons Army Medical Center (Project No.3LF-0004)

This responds to your request for comments concerning your findings and recommendations included in the subject draft report. A determination has been made that construction of the subject replacement facility is in the best interests of the Department. Therefore, we cannot support your recommendation that the $32 million appropriated by Congress for design and site preparation of this facility be reprogrammed or rescinded.

John J. Hamre

Acting Assistant Secretary of the Army (Manpower and Reserve Affairs) Comments

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, DC 20310-0110

December 13, 1993

REPLY TO ATTENTION OF

MEMORANDUM FOR ACTING ASSISTANT SECRETARY OF DEFENSE (HEALTH AFFAIRS)

SUBJECT: DOD(IG) Draft Audit Report on Medical Treatment Facility Requirements-Fitzsimons Army Medical Center--ACTION MEMORANDUM

Thank you for the opportunity to provide comments on the subject audit. This audit, in its draft form, appears to be flawed. Unless corrected, this audit has the potential to adversely impact on the readiness, beneficiary care and costs of providing care to the Department's beneficiaries.

Among the flaws contained in the draft audit, it:

- omits important references, to include statutory authority for sizing military health facilities.
- builds economic savings by quoting costs from an incomplete audit of the aeromedical system which has not been provided for review.
- incorrectly attributes responsibility for internal control to the Army.

The Army agrees with the conclusion of the Under Secretary of Defense, Acquisition, that a replacement tertiary care, teaching hospital should be constructed at FAMC. My position is based upon your Lead Agency policies, the Health Services Regions which you have identified, the missions of FAMC (including education/ training), and the conclusions of the numerous past economic analysis/modeling efforts which have been accomplished.

A one page summary of our review, as well as a more detailed series of comments, is provided (Encl 1)

William D. Clark
Acting Assistant Secretary of the Army
(Manpower and Reserve Affairs)

Enclosure

HA -326

Acting Assistant Secretary of the Army (Manpower and Reserve Affairs) Comments

Summary of Army Comments
on
DoD Draft Audit Report,
Medical Treatment Facility Requirements-
Fitzsimons Army Medical Center
(FAMC)

The draft report is flawed for the following reasons:

1. DoD health facilities are planned and sized under the authority of Title 10, section 1087. The Draft Audit fails to note this law This statute states that space may be programmed for the larger of the amount needed for medical education/training, or the amount needed based on the most cost-effective method of providing health care to DoD beneficiaries. The replacement project for FAMC is necessary for education/training and is also economically justified as the most cost-effective means of providing health care to DoD beneficiaries in a 12 state region. A review of all past economic analyses supports this position. See the review of economic analyses on pages 1-5

2 The cost study of the DoD aeromedical referrals within the FAMC Health Services Region is not correct. It attributes all costs for the fleet of C-9 aircraft to the costs of peacetime transportation uses. These planes must be procured and flown to meet readiness and training requirements, despite the FAMC region referrals. See page 3 and 4

3 The Draft Audit asserts that Army hospitals are underutilized. This is incorrect. In fact, an analysis of this situation shows that the Army is reducing its inventory of hospital beds, and that construction additions have been approved and developed by DoD for four of the seven hospitals which the audit cites as underutilized See pages 6-9.

4 The Draft Audit does not recognize all of the FAMC missions, especially education/ training The Draft Audit contends that the Army failed to justify the requirement for a replacement facility FAMC is housed in the oldest buildings in the DoD health system and all contracted economic analyses (three) support construction of a replacement facility The Army agrees with the recent judgement and direction of the Under Secretary of Defense - Acquisition, that the hospital should be replaced See pages 10-13

5 It appears that because the Army supports a replacement project for FAMC, the Draft Audit is critical of Army Internal Controls The Army stands by its support for a replacement hospital This position is based upon: public law on DoD hospital planning, three economic analyses, the value and need for education/training missions at FAMC, the ASD-HA designation of the FAMC as a Lead Agent for the largest DoD Health Services Region, and the conditions of the facilities. See pages 14 and 15

6 The savings stated to result from the recommendation of the report are not correct The recommendations of the report will result in no savings The Army's recommendations, however, supported by three economic analyses, will result in savings. See page 15

Review of Economic Analyses

1987 Army Economic Analysis -- Contractor: CRS Sirrine, Inc.

Based on this economic analysis, the Assistant Secretary of Defense, Health Affairs, announced that a new FAMC would be constructed. See attached memorandum (ENCL. 1).

This economic analysis was completed 31 August 1987 and was accomplished in accordance with the "Tri-Service Economic Analysis Methodology Procedures Manual of the Office of the Assistant Secretary of Defense, Health Affairs, in compliance with Public Law 97-337.

The Executive Summary of this EA states that:

> *"There is no mechanism in the methodology to account for the value of the GME function or the quality of care provided in a medical center. If the lowest cost solution is to close FAMC, it is likely that a substantial portion of its GME function will be eliminated."*

The least cost alternative presented a $196.3 million annualized costs The next two alternatives compared at $204.4 and $210.8 million of cost annually. The least cost alternative included the construction of a 210 bed hospital at Lowry AFB and the addition of 75 beds to Evans Army Hospital at Fort Carson.
The next alternative, STATUS QUO, continued the operation of a 469 bed hospital at FAMC. This alternative proposed to accomplish only "life safety upgrade" in the existing facility and would leave health care in buildings constructed between 1918 and 1945. This alternative was never seriously considered as a longterm solution, but necessary as the STATUS QUO representation required by EA methodology.

The third alternative was the construction of a replacement FAMC. This was the alternative recommended by the Army and it was the alternative selected by the Assistant Secretary of Defense, Health Affairs. This is documented in the attached memorandum dated 19 Nov. 1987.

March 1991 DMFO Economic Analysis -- Contractor: Vector Research, Inc. (This EA was not cited by the DoD IG)

The start of this economic analysis was announced in November 1990 The Army participated in the review of this EA up until March 1991, when the contractor presented the draft results The draft results stated that a scenario which would provide current levels of direct care inhouse and recapture all CHAMPUS care (All Care Scenario) generates enough costs savings to justify hospital replacement construction. The report further stated that the All Care Scenario appears to maximize the overall benefit to the beneficiary, while still generating a very significant cost saving This economic analysis was stopped at this point and further Army participation was not requested

In a memorandum to DMFO dated 29 March 1991, the EA contractor stated:

> *"Since it [*cost analysis*] is the primary focus of the EA, we would like to reintegrate the following major cost findings of this study:*
>
> *· Overall, it is cheaper to provide for a given amount of workload at FAMC than it is to purchase it from the civilian sector through the CHAMPUS program. This is true even though dependents and retirees pay a portion of their costs under CHAMPUS.*
>
> *· The total savings generated by providing care at FAMC, as compared to not operating FAMC, are enough to pay back the costs of constructing a new facility."*

Later the October/November 1991, EA stated that the March 1991, EA justified a 342 bed facility for the regional referral care.

October/November 1991 Quick-response Update to Economic Analysis of Fitzsimons Army Medical Center, Contractor Vector Research, Inc.

The November 1991 Economic Analysis which is referenced by the DoD IG, was never provided to the Army for review or comment. After receipt of the DoD IG draft audit, the Army requested and received, from the Defense Medical Facilities Office (DMFO), a copy of a "Quick-Response Update to Economic Analysis of Fitzsimons Army Medical Center" dated October 1991 It is assumed that this is the same EA

This economic analysis considered three alternative size catchment areas for FAMC: (a) a 40 mile catchment area, (b) a 100 mile catchment area, and (c) the 12 state regional catchment area (historical referral area) The best economic operating solutions were provided for each catchment area alternative and for the regional mission a 299 bed hospital was recommended For the 40 mile catchment alternative a 95 bed hospital was recommended. Under no alternative was the closure of FAMC economically justified In each alternative, a replacement hospital was justified

The EA which restricted patients to within 40 miles of FAMC acknowledged that a major assumption was that capacity exists within other military hospitals to absorb FAMC referral care This assumption was not tested and can be shown to be unsound. Further this alternative does not consider requirements for Graduate Medical Education (GME) programs and the costs of providing necessary education and training elsewhere As a result of the closure of Letterman Army Medical Center, DMFO certified the need for three additions to other Army hospitals to absorb shifts in workload and programs The EA assumes excess capacity which does not exist

2

1993, Revalidation Analysis -- Resource Analysis Methodology Systems Office of ASD-HA: No external contractor.
This analysis was accomplished without Army participation or review. Although data charts from the analysis were provided to the Army, no justification or written conclusions have been provided to the Army. It is assumed that this EA, accomplished internal to ASD-HA, assumed away most costs associated with referral of patients to MTF's other than FAMC and all costs associated with the relocation of any education and training programs.

Other Economic Reviews of FAMC
In early 1993, the ASD-HA formed a Joint Service Working Group on Base Realignment and Closure (BRAC) 93. This group specifically reviewed FAMC as a closure candidate The group did not recommend that FAMC be closed or subjected to a reduction in services None the less, ASD-HA recommended that the Army consider FAMC for closure, stating in a February 19, 1993, memorandum that "... there is no basis for FAMC to continue operating as a MTF." The Army did review FAMC and subjected it to the COBRA computer model cost analysis. This analysis also found economic merit to retention of FAMC even when the $390 million replacement project was considered.

Cost of Airlift Referrals
The DoD IG Audit cites a cost of $2,848 for each round trip to transport a patient via the DoD aeromedical evacuation system. The audit applies this round trip cost to each passenger and concludes that it would be more cost effective to buy civilian provided care where the patient is located rather than evacuate a patient The audit notes that this subject will be addressed in the "ongoing joint OIG, DoD, and Air Force Audit Agency audit of the aeromedical evacuation system.

The audit of the aeromedical evacuation system was not made available Contact with the Air Force, Air Mobility Command, Office of Air Evacuation Operations, the unit responsible for aeromedical evacuation system, revealed that the audit had not been distributed for review or comment in any known form The Air Force was aware of the DoD IG audit and had heard of the $2,848 round trip costs attributed to the DoD IG It was stated that the only way such a high cost could be developed was to expense all costs to include: airplanes, maintenance, landing fees, fuel, etc. and then dividing by the number of flights The Air Force stated that the air planes, crews (both flight and maintenance) were justified for readiness (contingency) needs Further it was stated that there are no known plans to reduce the number of planes, currently twelve C-9s

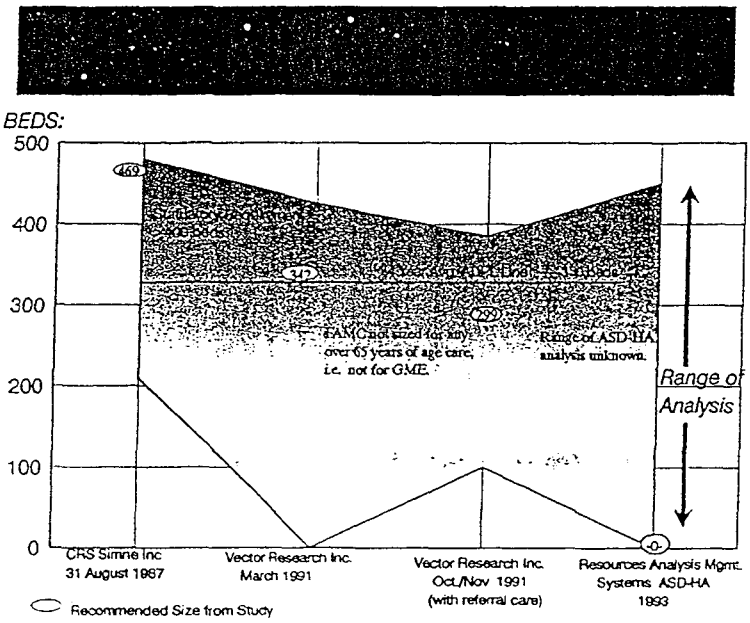
It is incorrect to expense the total costs of aeromedical assets, necessary for national defense readiness, against the peacetime use of these assets Correct expensing of these costs should demonstrate that the aeromedical system would cost almost as much not to use for peace time evacuations and that the marginal increased costs of using these assets is very reasonable

Finally, the audit should not use the stated round trip costs until the ongoing audit of the aeromedical system is complete and the Air Force has had the opportunity to comment on these costs

3

Summary of Economic Analysis and Reviews

A total of three contractor economic analyses have been accomplished. The results of these EAs support a new hospital as cost effective Even when the regional mission is assumed away at no cost, a new hospital is justified The construction of a new regional hospital was also economically justified when studied by the COBRA model. Note chart below.



ADPL - average daily patient load (the average number of beds occupied daily)

The only analysis which claims to demonstrate that an MTF is not justified is an internal EA done by the Office of the Assistant Secretary of Defense for Health Affairs The Army did not participate in this analysis and was not provided with conclusions from the analysis

4

Other than Economic Considerations -- Public Law for Sizing Military Hospitals

The audit fails to cite appropriate public law which directs the methodology for sizing military hospitals. Title 10, Section 1087 is provided at enclosures 2. This law states that the maximum amount of hospital space that may be programmed is the greater of-

> (1) the amount of space that would be so programmed for the facility in order to meet the requirements to be placed on the facility for support of the teaching and training of health-care professionals; and,
>
> (2) the amount of space that would be so programmed for the facility based upon the most cost-effective provision of inpatient and outpatient care to beneficiaries

The Army contends that the replacement of FAMC meets both of the above conditions. See the description of the FAMC mission for more details on education and training which occurs at FAMC.

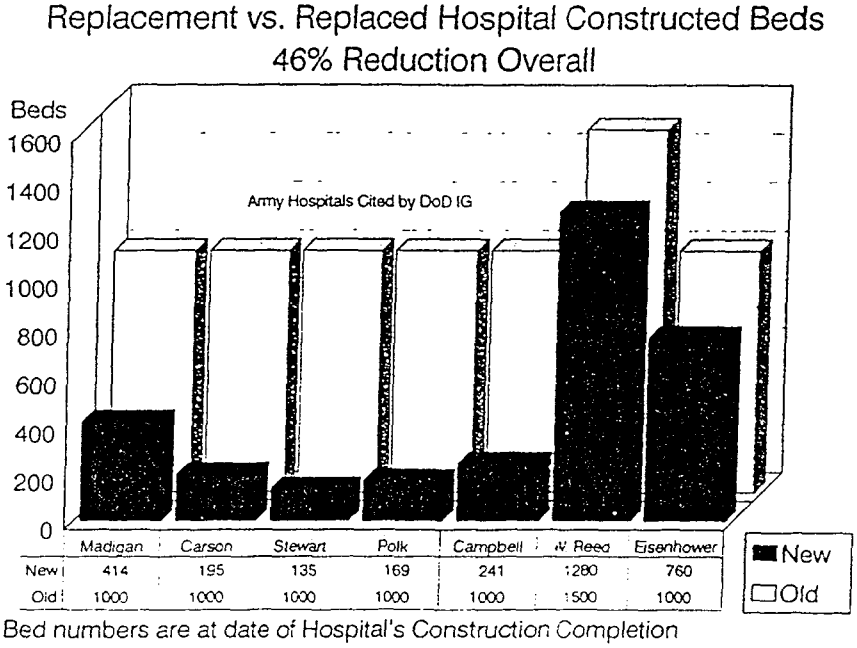
5

Underutilized Health Care Facilities

The audit states that Medical Treatment Facilities are underutilized in the Army The audit compares the constructed bed capacity of seven Army hospital to the current average number of beds occupied in the same hospitals These seven hospitals were planned and constructed over the past twenty years:

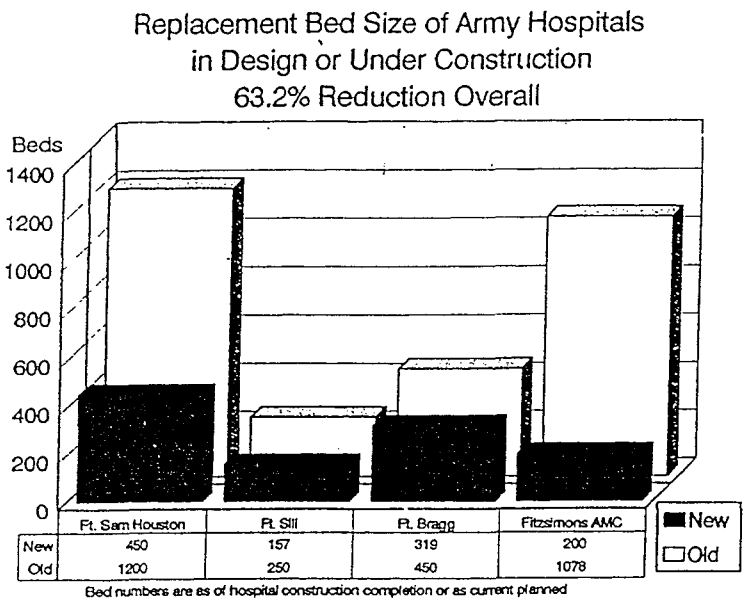
The contention that Army hospitals are underutilized is misleading because it inappropriately focuses on beds as an indicator of hospital capacity. It should be further noted, that the Army has complied with appropriate statute and DoD instructions and regulations at the time each of these Army hospitals were proposed and constructed.

The replacement of the seven hospitals selected as examples represented a significant and appropriate reduction in the hospital bed capacity of the Army at the time of construction. The following chart clearly demonstrates the reduction in beds which occurred upon completion of each of these hospitals.



Bed numbers are at date of Hospital's Construction Completion

The hospital projects currently under construction or in design also portray a pattern of reducing constructed hospital beds as shown in the graph below



The Army agrees that with changes in the delivery of healthcare, bed occupancy has decreased over the past two decades. This has been true both in the civilian and the military health care systems. The Army hospitals constructed over the past twenty five years were sized to accommodate the health care requirements at the time each of these hospitals were planned If the planning factors established by the Department of Defense, and used by all the Services the time, were applied today, an excess of beds would result. This does not mean, however, that these hospitals were oversized when planned and opened years ago The hospital sizing policies of the DoD have changed numerous times over the period which the Audit considers At the time the hospitals were planned, policies in place reflected the best available projection of bed requirements

For example, Dwight David Eisenhower Army Medical Center was planned in the mid 1960's, authorized by Congress in 1968, and construction was completed in 1972 There were 670 beds constructed using beds sizing criteria established by the Bureau of the Budget This criteria allowed four beds per 1,000 population supported The new Dwight David Eisenhower AMC hospital, replaced a 1,000 bed hospital at Fort Gordon As a result of the construction of this new medical center, the Army closed both the old 1,000 bed hospital at Fort Gordon and the 1,000 bed Army Medical Center at Valley Forge The construction of

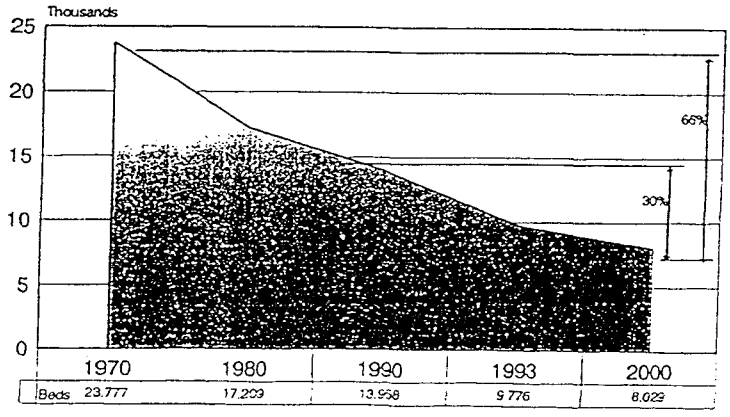
7

DDEAMC constituted a 1,330 bed reduction in Army hospital beds. When planned and constructed, the number of beds in this hospital were appropriate for the population which it supported. It would have been wrong in the mid-1960's (over 30 years ago) to plan a 287 bed hospital at Fort Gordon, which would only meet the current number of operating beds. Further, this hospital as constructed has more than amortized the cost of construction ($31,447,000) in the 16 years it has been operated. The perceived excess ward space at this hospital was long ago diverted to use as clinic and support function space. This diversion is common in older Army hospitals and has provided critically needed space which has allowed hospital commanders to respond to changing patterns in how health care is provided Had this ward space not been available, either additions would have had to be constructed or beneficiaries would have had to be referred to more expensive CHAMPUS sources of care.

Rather than being underutilized, Army health facilities are more frequently utilized in excess of their designed capacity. The Audit mistakenly focuses on numbers of beds as the single indicator of productive capacity, when far more health care is rendered in overcrowded clinics and ancillary support activities. An analysis of a recent Army hospital project demonstrates that beds occupy less than 11.6 % of the hospital area. The proposed FAMC replacement will further reduce the percentage of space provided for beds Theoretically, if a hospital is underutilized, construction of additions would not be required. In fact, at four of the seven Army hospitals which the Audit cites as underutilized, addition projects are currently under construction, recently completed or planned . It should also be noted that each of these addition projects was developed and validated by the Office of the Assistant Secretary of Defense for Health Affairs

The Army has taken significant steps, more than any other service, to reduce its number of hospital beds. These actions are reflected in the reductions which occur as a result of MILCON projects and closure actions. Note the graph below.

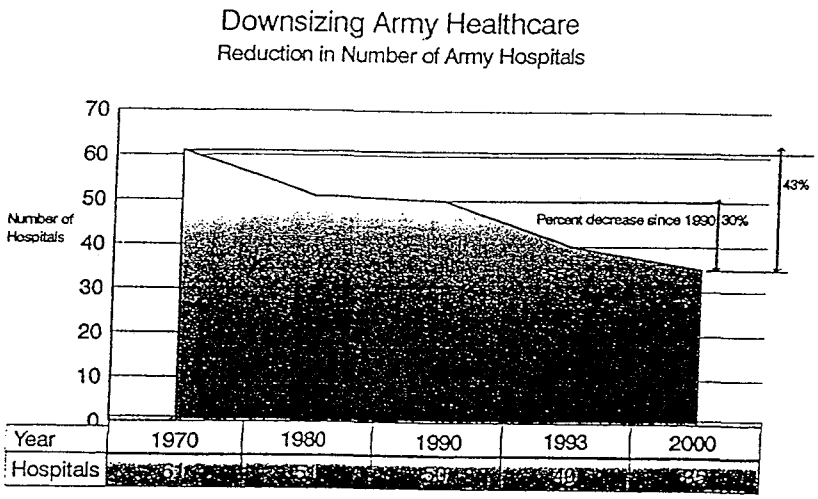
Downsizing Army Healthcare
Reduction in Number of Army Hospital Beds



Beds calculation based on announced closures and smaller replacements

8

In addition, it should be noted that between 1970 (oldest hospital project in audit) and the year 2000 the Army will have closed 26 hospitals Between 1990 and the year 2000 alone, the Army will close 15 hospitals The combined actions of Army hospital closures and smaller replacement hospitals will result in 62% decrease in total Army hospital beds between 1970 and 2000.



There is increasing concern that this combination of bed reductions may be approaching a point where the ability of the Army Medical Department to respond to wartime needs is compromised

9

Basis of FAMC Hospital Replacement Requirement

FAMC provides health care from the oldest buildings of any military hospital in the United States. Care is provided from 27 buildings. Most clinic and much of the diagnostic care is provided from temporary buildings constructed in 1914. The building which houses the inpatient beds was constructed in 1945.

This chart shows that FAMC facilities are more than twice as old as any other Medical Center in the DoD, and far older than typical facilities in the civilian sector.

Medical Center	Actual or Projected Date of Construction	Facility Age	
Walter Reed AMC	1977	16	years
Bethesda NMC	1983	10	years
Malcolm Grove AFMC	1958/76	35/17	years
Portsmith NMC	1999	na	years
DD Eisenhower AMC	1972	21	years
Keesler AFMC	1957/88	35/5	years
Wright Paterson AFMC	1956/89	36/4	years
Scott AFMC	1991	2	years
Wilford Hall AFMC	1980/89	13/4	years
Brooke AMC	1995	na	years
William Beaumont AMC	1972	21	years
Fitzsimons AMC	1919/41	74/52	years
San Diego NMC	1987	6	years
David Grant AFMC	1988	5	years
Madigan AMC	1992	1	years
Tripler AMC	1991	2	years

Note: The age of some hospitals show both the old and newer buildings in instances where the hospital is a multi-building complex.

The combination of age of the facilities, the inappropriate layout of the facilities which causes dysfunctional, inefficient care, three economic analyses and the COBRA model analysis which each supported replacement have influenced the Army to support replacement of FAMC.

Additionally, the medical education/training performed at FAMC is among the best in the DoD. This education/training would be enhanced by more efficient-hospital facilities

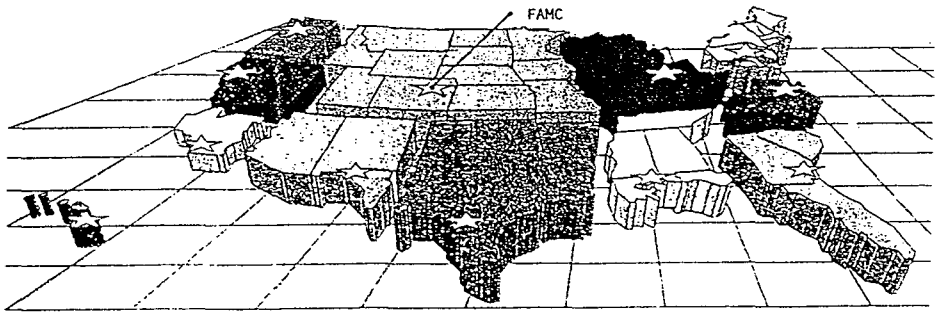
The FAMC Mission:
FAMC provides regional health care to twelve states, the largest geographic region in the United States; and educates/trains significant numbers of health care personnel for the Department of Defense Both of these missions support the overriding mission of readiness FAMC preserves the health of the DoD fighting force in its region and it prepares medical personnel for their military assignments Additionally, FAMC provides health treatment capacity in support of DoD health care readiness, both for regional disaster relief as well as DoD deployment operations

10

Concerning the regional mission, the Assistant Secretary of Defense for Health Affairs, in a memorandum dated 23 July 1993, subject: Regionalization of the Lead Agency Concept. This document shows that FAMC has been designated as a Lead Agent for the provision of health care for the 12 state, central region of the United States. The same document stated:

> *"Lead Agents will be responsible for maximizing the use of all direct care assets in the region, then supplementing that health care through competitive contracts developed in coordination with Health Affairs. The size of these regions will provide a beneficiary population of sufficient magnitude to develop a referral base for regional specialized treatment services."*

The Lead Agents regional map below was provided at the ASD-HA Lead Agents conference held 23-24 September 1993



The map show that the DoD Health Service Region for which FAMC is the ASD-HA designated lead agent, is the largest geographical region in DoD

Also in September 1993, the ASD-HA admonished the Army for limiting care based on the 40 mile catchment area The Army was told that, *"The law does not provide for limiting care to active duty members or non-active duty beneficiaries based on where the beneficiaries live."* Further the Army was told, *"Please ensure that access to medical care for active duty members and space-available medical care for non-active duty beneficiaries in the MTF's under your jurisdiction is not limited based on the residence of the beneficiary."*

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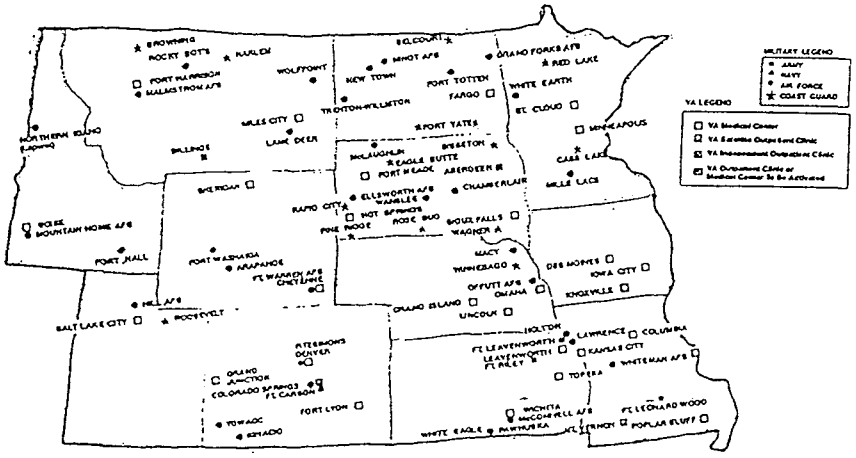
On 26 August 1993, the Under Secretary of Defense - Acquisition stated that the Department needs to build a new tertiary care facility in Aurora, Colorado He further stated in the same memorandum that, "This will replace our oldest operating hospital and serve as a referral hospital for the roughly 800,000 beneficiary population in the 12 states in the Fitzsimons health services region "

The twelve state region, for which ASD-HA has appointed FAMC the Lead Agent, has numerous federal health care facilities and DoD beneficiaries.

DoD Health Services Region 8:



The direction of the Under Secretary of Defense - Acquisition, concerning Fitzsimons tertiary care and regional mission is consistent with the most recent mission direction of the Assistant Secretary of Defense for Health Affairs and frames the basis for the type and size of replacement hospital needed for FAMC.

A comparison of the population and beds for medical center hospitals and their Lead Agent regions is provided on the following page

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CHART OF LEAD AGENTS FOR DoD'S TWELVE HEALTH SERVICE REGIONS

Region	Lead Agent	Population	Rank	DoD Hospitals	with GME	Total Beds	Hospital Beds	Beds /1000	/1000
1	Tnserve	1,161,604	1	16	3	1597	1289	1.37	1.11
2	Portsmith NMC	867,083	4	8	1	1136	446	1.31	.51
3	DD Eisenhower AMC	1,132,418	2	14	1	1375	366	1.21	.32
4	Keesler AFMC	503,632	8	10	1	698	240	1.39	.48
5	Wright Paterson AFMC	699,354	7	7	2	663	325	.95	.46
6	Wilford Hall AFMC	1,031,513	3	17	2	1964	1450	1.90	1.41
7	William Beaumont AM	338,907	10	8	1	499	317	1.47	.94
8	Fitzsimons AMC	738,539	6	16	1	710	200	.96	0.27
9	San Diego NMC	818,692	5	10	1	702	393	.86	.48
10	David Grant AFMC	439,934	9	7	1	307	225	.70**	.51**
11	Madigan AMC	355,065	11	4	1	560	299	1.29	.84
12	Tripler AMC	164,334	12	1	1	458	458	2.78	2.78

** Beds and population adjustments for results of BRAC '93 create false picture, i e population understated

This chart shows that the FAMC region is sixth of twelve DoD regions in population served and if constructed as currently planned will have the fewest referral, tertiary care beds of any DoD region The audit focuses on the cost of providing health care to the community within a 40 mile radius of FAMC and fails to acknowledge the 12 state region mission or the medical education and training mission of FAMC.

Medical Education and Training

The following table shows the education/training programs at FAMC and the relative numbers of personnel produced from training annually:

General Surgeons	2	Radiologist	3
Internists	4	Ophthalmologists	2
Orthopedic Surgeons	3	Pediatricians	4
OB/GYN Specialists	4	Allergist	3
Cardiologist	2	Gastroenterologists	2
Adolescent Medicine Spec	2	Rheumatologist	1
Urologist	1	ENT Specialist	1
Plastic Surgeon	1	Angiographer	1
Endocrinologist	1	Pulmonologist	1
Finishing Interns	34	Critical care nurses	35
Nurse Anesthetists	10	O R Nurses	11
O R Technicians, enlisted (91Ds	25	Medical Corpsman enlisted (91Cs)	63
Enlisted Basic med equip Repair	288	Enlisted Adv med equip Repair	96
Optical Lab Specialist	60		

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Acting Assistant Secretary of the Army (Manpower and Reserve Affairs) Comments

Internal Controls

The audit states that internal controls within the Army were not adequate to ensure that the construction project and collateral equipment were properly justified and needed

The responsibility for hospital sizing, economic analysis, criteria, and construction funding, project prioritization and Department of Defense program management belongs to the Assistant Secretary of Defense for Health Affairs.

In June 1985, the Secretary of Defense's Blue Ribbon Panel on Sizing Department of Defense Medical Treatment Facilities provided recommendations which resulted in PBD 305C signed 2 January 1985. This PBD created the Defense Medical Facilites Office (DMFO) as a subordinate activity of ASD-HA. Personnel, functions, and resources were moved from the Services and centralized in DMFO. DoDI 6015.16 dated April 15, 1986, list ASD-HA responsibilities which include:

a. Administer the medical military construction program by serving as program manager for all military health facility construction.
b Establish priorities for the construction, major alteration or acquisition of military health facilities.
c. Plan, program, and budget for all military health facility construction projects.

The responsibilities of ASD-HA for hospital program management are also stated in DoDI 5136.11, dated October 26,1992. This document states that the Defense Medical Programs Activity shall:

"Develop, maintain, and provide guidance for the integrated system for planning, programming, and budgeting for medical facilities military construction projects throughout the Department of Defense and manage the allocation of the financial resources approved for such projects."

The Army is not the responsible party for programming, or sizing hospital projects.

ASD-HA has developed analyses of Army health facility projects, and the FAMC replacement project specifically, without the participation of the Army Considering the results of the three contracted Economic Analyses of FAMC, the statuatory directions for sizing hospitals and the condition/age of the FAMC hospital, the Army would have been absolutely wrong not to propose the replacement of the oldest hospital in the Department of Defense This is not a failure of Army internal controls. All documentation reviewed shows that decisions on the size and costs of the replacement FAMC project were made at organization levels above the Department of the Army.

The size (site adapt of Brook Army Medical Center, 450 beds) for the FAMC replacement project was directed in design instructions from the DMFO to the Army Corps of Engineers on 10 January 1992. DMFO later approved the concept design of the replacement and the estimated cost

Concerning collateral equipment, the Office of the Assistant Secretary of Defense for Health Affairs, during the FY 95-99 mini-POM review, directed that the Army place $97 5 million into its submission for FAMC equipment The ASD-HA directed $97.5 million was in excess of the Army's desired funding for equipment and overstates the costs.

DoD IG Savings

Army Claims Saving in Excess of $243 million with Replacement FAMC

The audit claims that the DoD can save $417.6 million ($315 M. one time costs and $17 1 annual costs) by not constructing FAMC.

The savings claimed by the DoD IG appear to be possible only if: 1) the aeromedical evacuation system is fully expensed against referral care, 2) no health care work is shifted to other DoD medical treatment facilities, and 3) there are no costs to relocate education/training programs.

If aeromedical referrals were not to occur, as recommended in the audit, then the twelve C-9 aircraft will fly empty, with significantly less training/care opportunities for the crews using real patients. The Department will still bear the cost of the planes and crews. While there is possibly a marginal cost for the aeromedical referrals, it is not $2,800 per passenger.

The past economic analyses accomplished by contractors external to the Department of Defense indicate that there is a growing cost difference between in-house MTF costs and purchased costs. The cost of purchased care is growing faster than the cost of in-house care within DoD. The first EA in 1987 showed little difference between buy versus make at FAMC. Four years later two economic analyses show the "make," with construction to be the best economic alternative. Most importantly, none of these EA's explored the costs of impacts on education/training needs of the Department.

The construction of a replacement facility and continued operation of FAMC as a hospital will provide the Department with more than the $243 million in present value savings based on the October 1991 economic analysis Additional cost savings could be anticipated with the new construction because: the costs of buying health care has grown faster that costs of providing the care at FAMC since the last contract EA, education/training programs will not have to move, and the hospital size has been reduced to 200 beds (less one time costs)

Implementation of the Audit's recommendations will result in higher costs for DoD healthcare, while replacement of FAMC is the most cost-effective manner of providing healthcare to the largest DoD health service region and the best way to provide continued quality medical education and training to DoD medical personnel

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WASHINGTON, D. C. 20301-1200

HEALTH AFFAIRS

19 NOV 1987

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY
(INSTALLATIONS & LOGISTICS)

SUBJECT: Fitzsimons Army Medical Center

Following a review of the Economic Analysis of Health Care Requirements in the Denver Colorado Area and the recommendations contained in your 9 November 1987 memorandum, I have determined that the interests of the Department of Defense and the Military Health Services System can be best served by the retention of Fitzsimons Army Medical Center and its Graduate Medical Education Programs.

Projected funding levels and the presence of major phased funded projects at Madigan Army Medical Center; Brooke Army Medical Center; Ft. Dix; Ft. Bragg; the San Francisco Bay Area; and Portsmouth, Virginia in our current FY 1990-1994 Military Construction Program make early insertion of any Fitzsimons project very unlikely.

I will notify Congressman Dan Schaefer (R-CO) and other appropriate Members of Congress of my decision. The efforts of the Army to investigate thoroughly the potential realignment of Fitzsimons Army Medical Center are greatly appreciated. Please pass my thanks for a job well done to all involved.

William Mayer, M.D.

ENCLOSURE 1

16

ARMED FORCES

Title 10: Section 1087:

Programming facilities for certain members, former members, and their dependents in construction projects of the uniformed services

(a) Space for inpatient and outpatient care may be programmed in facilities of the uniformed services for persons covered by sections 1074(b) and 1076(b) of this title. The maximum amount of space that may be so programmed for a facility is the greater of-

(1) the amount of space that would be so programmed for the facility in order to meet the requirements to be placed on the facility for support of the teaching and training of health-care professionals; and

(2) the amount of space that would be so programmed for the facility based upon the most cost-effective provision of inpatient and outpatient care to persons covered by sections 1074(b) and 1076(b) of this title.

(b) (1) In making determinations for the purpose of clauses (1) and (2) of subsection (a), the Secretary concerned shall take into consideration-

(A) the amount of space that would be so programmed for the facility based upon projected inpatient and outpatient workloads at the facility for persons covered by sections 1074(b) and 1076(b) of this title; and

(B) the anticipated capability of the medical and dental staff of the facility, determined in accordance with regulations prescribed by the Secretary of Defense and based upon realistic projections of the number of physicians and other health-care providers that it can reasonably be expected will be assigned to or will otherwise be available to the facility.

(2) In addition, a determination made for the purpose of clause (2) of subsection (a) shall be made in accordance with an economic analysis (including a life-cycle cost analysis) of the facility and consideration of all reasonable and available medical care treatment (including treatment provided under a contract under section 1086 of this title or under part A of title XVIII of the Social Security Act or under part A of title XVIII of the Social Security Act (42 U S C. 1395c et seq.)).

ENCLOSURE 2

17

Audit Response to the Army's Comments

This section provides audit responses to the Acting Assistant Secretary of the Army (Manpower and Reserve Affairs) comments regarding the finding. The Army's comments consisted of a summary followed by a detailed discussion. Our response follows the order of the Army's detailed discussion.

Reference: Review of Economic Analyses, pages 67-69

Management Comments. The Army commented on the results of the economic analyses and other reviews performed on this project during 1987, 1991, and 1993. The Acting Assistant Secretary stated that the first two analyses were performed by a contractor and replacement of the FAMC facility was not the first or the second most cost-effective alternative in the 1987 analysis. The Acting Assistant Secretary further stated that status quo with life safety upgrades, the second most cost-effective alternative, was never seriously considered. Instead, the second alternative was included as part of the analysis to meet the economic analysis methodology requirements.

The Acting Assistant Secretary was critical of the November 1991 analysis and stated the audit report did not address a draft March 1991 economic analysis which justified the project. According to the Acting Assistant Secretary, the March 1991 analysis stated that FAMC would capture all CHAMPUS care and generate enough savings to justify the replacement project. The Acting Assistant Secretary stated that the 95-bed alternative in the November 1991 analysis incorrectly assumed excess capacity existed at other military hospitals to handle work load from outside the FAMC 40-mile catchment area. He further stated that the November 1991 analysis did not consider GME requirements.

The Acting Assistant Secretary stated that the Army did not participate in the OASD(HA) 1993 revalidation analysis, and claimed that OASD(HA) assumed away costs associated with referring patients to MTFs and relocating FAMC education and training programs. The Acting Assistant Secretary also contended that in 1993 ASD(HA) stated, "...there is no basis for FAMC to continue operating as a MTF," and recommended that the Army consider FAMC for submission to the BRAC committee for closure. The Army supported the retention of FAMC with a $390-million replacement facility based on a COBRA computer model cost analysis.

Audit Response. The Acting Assistant Secretary's statement that replacement of the FAMC facility was neither the first nor the second most cost-effective alternative in the 1987 analysis is in agreement with our report and supports our position that the most economic alternatives were not properly considered. The fact that the Army never seriously considered the second most cost-effective alternative (status quo) and merely presented that alternative in the analysis to meet the required economic analysis methodology supports the audit finding.

Our audit addressed the November 1991 analysis rather than the March 1991 analysis because the November 1991 analysis was an update of the March 1991 analysis. DMFO personnel informed us that some of the assumptions used in the March analysis were incorrect and did not reflect planned personnel and budget reductions.

The Acting Assistant Secretary's criticism that the November 1991 economic analysis incorrectly assumed that there was sufficient capacity at other MTFs to handle the work load outside the FAMC 40-mile catchment area is invalid. As shown in the Underutilized Hospitals section of this report, the Army and DoD MTFs were only about 50 percent occupied and the 21 civilian hospitals in the Denver area were only about 60 percent occupied. Additionally, it was not cost-effective to treat many of the referral patients at FAMC (see Referrals section), because those patients could receive care from CHAMPUS and local providers at less cost.

The Acting Assistant Secretary's statement that the 1991 economic analysis did not consider GME is incorrect. The 95-bed alternative in the analysis assumed that four FAMC GME programs (pediatrics, obstetrics, pulmonary and adolescent medicine) would close. That assumption has proven to be accurate and consistent with an ongoing GME Flag Committee study, which is considering major reductions and consolidations within the DoD's GME program. In August 1993, the Army Surgeon General issued a message stating that in FY 1994, eight of FAMC's GME programs would no longer receive Army residents. Those eight programs are in addition to the Army Surgeon General's earlier announcement that no residents would be provided to support FAMC's OB/GYN and pediatric GME programs. The combined actions will reduce FAMC's GME program significantly and its ability to handle much of the current work load. The need for only 95 beds, as projected in the 1991 analysis, has proven to be very accurate.

The Acting Assistant Secretary's statement that the OASD(HA) did not let the Army participate in the revalidation is true; however, it does not show that the study was flawed or invalid. We recommended in an earlier audit that internal controls be improved; and to accomplish that recommendation OASD(HA) had to independently revalidate the need for each DoD medical MILCON project. On the four DoD medical MILCON project audits we have completed, the Military Departments did not focus on DoD's overall needs and limited health care budget. An accurate overview of DoD's overall health care program and its needs and budget is best obtained at the OASD(HA) level. Participation of the Military Departments in the OASD(HA) project revalidation would impair that process and weaken internal controls.

At the request of the ASD(HA), the Army performed a BRAC cost analysis on FAMC using the COBRA model. The Acting Assistant Secretary stated that construction of a replacement facility at FAMC was justified based on a COBRA model study. However, the COBRA model was developed to make BRAC decisions, not to justify medical MILCON projects based on economic work load. The COBRA model is not in conformance with procedures in OASD(HA), "DoD Economic Analysis Procedures Manual," April 14, 1989, for performing an economic analysis for medical MILCON projects.

Further, the FAMC COBRA analysis was based on faulty assumptions and cost data. The analysis was based on relocating the total FAMC work load and staff to Fort Carson. The COBRA analysis did not adequately consider the costs of alternative providers or the excess capacity at other MTFs. As a result, we see no validity in using the results of the COBRA model for evaluating whether a replacement MC at FAMC should be built.

Reference: Cost of Airlift Referrals, page 69

Management Comments. The Acting Assistant Secretary asserts that the IG, DoD, cost study of DoD aeromedical evacuation referrals to FAMC is not correct. The Acting Assistant Secretary stated that the audit of the aeromedical evacuation system was not made available and distributed to the U.S. Air Force, Air Mobility Command, Office of Air Evacuation Operations for review or comment. The Acting Assistant Secretary further stated that the Air Force informed the Army that the only way such a high round trip cost ($2,848) could be generated was to expense all costs including airplanes, maintenance, landing fees, fuel, etc., and divide them by the number of flights. According to the Army, the Air Force contended that the airplanes and crews (both flight and maintenance) were necessary for readiness needs, and the audit incorrectly expensed the total costs of aeromedical assets necessary for readiness against the peacetime use of those assets. The Acting Assistant Secretary contends that it would cost almost as much to operate the assets if they were not used for peacetime evacuation.

Audit Response. The Acting Assistant Secretary's statement that the aeromedical evacuation system audit results were not made available for comment is correct. The audit of the aeromedical evacuation system is ongoing and the draft report will not be available until August 1994. However, the $2,848 round trip cost estimate was not developed as part of that audit. The estimate was developed by the Air Mobility Command for use in this audit. We discussed the development of the cost with the Army Surgeon General staff on October 21, 1993, 8 days before the issuance of the draft report. At that time, the Army staff claimed that our round trip costs included the procurement cost of the 12 C-9 aircraft. We explained that the Air Mobility Command developed the cost, and that we verified the cost data and method. The $2,848 round trip cost consisted only of fuel, maintenance, and personnel costs. There were no procurement funds or capital investment included in the flight cost. We strongly disagree with the Army's contention that the aeromedical evacuation system cost would remain basically the same if the planes were not used for peacetime evacuations because as flying hours are reduced, operations and maintenance costs would decrease.

We agree that some aeromedical evacuation capability is necessary for readiness. However, a November 1, 1993, U.S. Transportation Command study stated that stopping at DoD installations to pick up one or two referral patients was not cost-effective. The study also stated that although readiness requirements were not defined, aeromedical flights were in excess of valid needs. In this report, we point out that the flight crews flew more flights than required to maintain proficiency, and that the medical crews obtained little experience on the flights because the majority of the passengers were

ambulatory and required little in-flight care. Additionally, the number of hours flown exceeded training requirements. The audit of the aeromedical evacuation system, referenced by the Acting Assistant Secretary, will evaluate the level of flying hours necessary to support the readiness requirement.

Reference: Other than Economic Considerations-Public Law for Sizing Military Hospitals, page 71

Management Comments. The Acting Assistant Secretary stated that the report failed to note that DoD health facilities are planned and sized under the authority of U.S.C., title 10, section 1087. The law states that the maximum amount of space that may be programmed is the greater of:

- the amount of space that would be so programmed for the facility in order to meet the requirements to be placed on the facility for support of the teaching and training of health-care professionals, and

- the amount of space that would be so programmed for the facility based upon the most cost-effective provision of inpatient and outpatient care to beneficiaries.

The Army contended that the replacement of FAMC would meet both conditions.

Audit Response. Although the report did not directly quote the above section of the law, it did address both criteria in the discussion of GME (see Graduate Medical Education) at FAMC and the economics of the proposed replacement project (see Audit Results). The detailed analysis performed during our audit, as discussed in this report, showed that a replacement MC at FAMC was not justified on a cost-effective basis.

According to U.S.C., title 10, section 1087, with the planned decrease in GME programs, FAMC would require less space than originally planned. Our report discusses the GME reduction planned by DoD, and the Army's plans to eliminate FAMC's military residents for 10 of its 20 GME programs. The Chairman of the Flag Officer Executive Committee on GME disclosed that FAMC is a candidate for further GME reductions. Additionally, the Flag Officer Executive Committee recommended maintaining GME programs at sites with service area populations of 100,000 or more. We estimate that by the end of FY 1994 the FAMC catchment area population will be approximately 54,378.

An MTF does not have to be sized for certain categories of beneficiaries, regardless of GME requirements. The Acting Assistant Secretary has ignored two critical aspects of the public law. Not only is the size of the beneficiary population within an MTF's catchment area a key factor, but so is the category of beneficiary. After LAFB closes, 80.1 percent of the FAMC catchment area beneficiaries will be retirees and retiree dependents. U.S.C., title 10, section 1076, referenced by section 1087, states that retirees and retiree

dependents are allowed to receive care in an MTF but they are not entitled to that care. Therefore, we do not believe that MTFs should be sized based on retiree and retiree dependent population unless it is cost-effective.

The Acting Assistant Secretary did not cite the remaining portion of section 1087. That section requires that when medical MILCON projects are planned, realistic projections must be made of the number of physicians and other health care providers that can reasonably be expected to be assigned to the facility or available to the facility. The Army is projecting major reductions in medical personnel and budget by FY 1996. The impact of those staffing and service level reductions at other Army MTFs would be reduced if a replacement MC is not built at FAMC and if FAMC operations were reduced to meet catchment area requirements.

Reference: Underutilized Health Care Facilities, pages 72-76

Management Comments. The Acting Assistant Secretary stated that the audit contention that Army hospitals are underutilzed is misleading because it focuses on patient beds as an indicator of hospital capacity. The Acting Assistant Secretary also stated that the number of beds in the Army's seven replacement hospitals discussed in this report and four replacement hospitals in design or under construction was significantly less than the number of beds in the hospitals that were replaced. He further provided that, due to changes in health care delivery, bed occupancy decreased at military and civilian hospitals. The Acting Assistant Secretary stated that Army hospitals are frequently utilized in excess of their capacity and inferred that bed occupancy is not a good indicator of utilization because recent Army analyses showed that beds represent only 11.6 percent of the hospital area. The Acting Assistant Secretary theorized that because additions are being made to four of the seven Army hospitals cited in our report as being underutilized, those hospitals cannot possibly be underutilized.

The Acting Assistant Secretary noted that between 1970 and 2000 the Army will have closed 26 hospitals and reduced hospital beds by 62 percent. He pointed out that based on the criteria in effect when those hospitals were planned, the hospitals were not oversized and OASD(HA) validated the project requirements. The Acting Assistant Secretary further stated that the buildings used at FAMC for providing health care are the oldest of any military hospital in the United States. The Acting Assistant Secretary also stated that the education and training performed at FAMC is among the best in DoD.

Audit Response. Although the Acting Assistant Secretary criticized the audit for focusing on the excessive number of underutilized patient beds at FAMC and other recently constructed Army hospitals, he did not dispute the fact that those facilities had an average occupancy rate of about 50 percent. Our primary purpose in presenting the low occupancy rates was to show that the Army and DoD have consistently failed to accurately identify their future MTF needs before construction. We recognize that bed occupancy is not the sole indicator of facility utilization and that changing trends in health care have reduced bed occupancy nation-wide. However, there is a relationship between the number of patient beds and the size of support areas and clinics.

The size of a MTF varies directly with the number of patient beds. The support areas occupy much of an MTF's space and include labs, operating rooms, mechanical rooms, administration and doctor offices, and cafeterias. According to DoD planning criteria, those spaces can account for over 60 percent of a MC's size. Further, clinics may be configured to support outpatient care and inpatient care. The study, referenced by the Acting Assistant Secretary, did not include support space and included only the medical wards with patient beds in the 11.6 percent calculation.

We did not question the design criteria or initial sizing of other Army MTFs; however, the excess capacity that exists in those MTFs indicates that the Army has not accurately forecasted its needs. As a result of our audits of other MILCON projects, OASD(HA) has aggressively pursued the revalidation of MILCON requirements as exemplified by its revalidation of the FAMC replacement facility project.

The Acting Assistant Secretary's statement that buildings used at FAMC are the oldest in the military's health care system is inaccurate. The oldest building at FAMC was constructed in 1914; while, Building 1 at the Naval Hospital Portsmouth was constructed in 1827. Building 500 is the primary health care facility at FAMC and was constructed in 1941. Building 500 is in sound condition and is adequate to meet FAMC catchment area needs. About $39 million has been spent or is planned for major renovations to building 500, including correcting life and safety deficiencies.

The Acting Assistant Secretary's statement that FAMC is among the best at education and training is noted. However, DoD has a number of MC's that DoD officials believe provide the best GME training. Being a good educating and training facility does not justify building a facility that will not provide the most cost-effective health care possible, particularly in the current DoD budget and downsizing environment. There is much duplication in DoD's GME programs and a reduction in FAMC GME programs would have little affect on readiness (see Graduate Medical Education). According to the OASD(HA), DoD's operating capacity (doctors, nurses, and facilities) exceeds its readiness requirements.

Reference: The FAMC Mission, pages 76-78

Management Comments. The Acting Assistant Secretary stated that FAMC provides regional health care to 12 states, educates and trains significant numbers of health care personnel, and is important to readiness. The Acting Assistant Secretary also stated that FAMC was selected as the regional lead agent for the 12 states; and in September 1993, the ASD(HA) admonished the Army for limiting health care based on the 40-mile catchment area. He also stated that on August 26, 1993, the Under Secretary of Defense for Acquisition and Technology stated that the DoD needed to build a new tertiary care facility in Aurora, Colorado.

The Acting Assistant Secretary provided data showing that the FAMC region ranks 6th among the 12 lead agents in population served and, if the FAMC is constructed as planned, will have the fewest tertiary care beds of any DoD

region. He also provided a schedule showing the number of education and training programs at FAMC and the number of personnel completing those programs annually.

Audit Response. The Acting Assistant Secretary's comments on FAMC's role in regional health care, training, and readiness are noted. However, the audit showed that over 86 percent of the referrals to FAMC from outside the catchment area could have been treated for less cost at local civilian health care facilities. The Acting Assistant Secretary did not acknowledge that significant reductions and consolidations are being planned for the Army and the DoD's GME programs as discussed in the audit response to Reference: Review of Economic Analyses. During an April 5, 1993, BRAC commission hearing, the Deputy Assistant Secretary of Defense (Health Services Operations) stated that military hospitals were operating at only one-half of normal inpatient capacity and that sufficient capacity existed to meet any readiness requirement, as defined in the Defense Planning Guidance.

We recognize that FAMC was selected as the regional lead agent; however, the lead agent's role is to determine where health care can most economically and effectively be provided, not to provide that care. In short, the lead agent duties are not intended to justify new facilities. We believe sufficient space is and will continue to be available in the current FAMC facilities to perform its mission.

We were not at the September 1993 meeting in which the Acting Assistant Secretary stated that the Army was admonished by the Acting ASD(HA) for limiting health care to the 40-mile catchment area. Therefore, we cannot determine the intent of the Acting ASD(HA) comments. However, it is clear that the OASD(HA) does not believe that a replacement facility at FAMC is economically justified, as indicated in its agreement to the finding in this report and its revalidation study results.

Because of funding limitations, DoD should pursue the lowest cost option in meeting its health care requirements. Flying patients to FAMC when they can be treated at less cost at civilian facilities near their homes is not a good business decision. The Army's concern that FAMC will loose many or all of its GME programs if the aeromedical referral work load stops is valid. However, if good business practices dictate that DoD should not be flying patients to FAMC, the associated GME programs at FAMC should be reduced accordingly.

Reference: Internal Controls, page 80

Management Comments. The Acting Assistant Secretary disagreed with the statement that internal controls within the Army were not adequate to ensure that the construction project and collateral equipment were properly justified and needed. The Acting Assistant Secretary contended that responsibility for hospital sizing, economic analysis, criteria, construction funding, project prioritization, and DoD program management belongs to the OASD(HA). The Acting Assistant Secretary stated that the DMFO was created as a subordinate

activity of OASD(HA) to administer the medical MILCON program. To accomplish its duties, DMFO must establish priorities for construction projects along with planning, programming, and budgeting for those projects.

The Acting Assistant Secretary pointed out that OASD(HA) responsibilities for hospital program management are stated in DoD Instruction 5136.11, October 26, 1992. The Acting Assistant Secretary stated that based on the results of the three contracted economic analyses, the statutory directions for sizing hospitals, and the condition and age of the FAMC hospital, the Army would have been wrong not to propose the replacement of the oldest hospital in DoD. He also stated that all documentation showed that decisions on the size and costs of the replacement FAMC project were made at organization levels above the Department of the Army.

Audit Response. The Acting Assistant Secretary failed to acknowledge the responsibility and significant impact the Army has in the MILCON project requirements determination and in the submission process up to the OASD(HA) level. The Army was responsible for determining the initial requirements for the replacement facility project at FAMC. The Army should establish internal controls to ensure the accuracy of work load, cost, and need. In each of these areas the Army overstated its justification for the replacement MC. Such action represented a breakdown of internal controls because Army controls did not ensure the best use of scarce construction dollars and medical resources, or delivery of health care services in a cost-effective manner.

We do not understand why the Acting Assistant Secretary stated that the Army had no responsibility for internal controls, yet criticized OASD(HA) for not allowing the Army to participate in the revalidation study. If the Army had no responsibility to size and program the FAMC replacement facility, then the Army should accept the OASD(HA) determination that no new facility is needed.

We believe that the Army has internal control responsibility at the Surgeon General's Office. The criteria that dictates the Army's responsibility for internal controls is contained in U.S.C., title 31, section 3512; Office of Management and Budget Circular A-123, "Internal Control Systems"; and DoD Directive 5010.38, "Internal Management Control Program." The criteria do not relieve the Army of maintaining internal controls to ensure the accuracy and reliability of information it provides on MILCON projects.

Reference: DoD IG Savings, page 81

Management Comments. The Acting Assistant Secretary stated that the audit savings appear to be based on fully expensing the aeromedical evacuation system against referral care, shifting no health care work load to other DoD MTF's, and omitting the cost to relocate the education and training programs. He also contended that the $2,848 cost per passenger on aeromedical flights was overstated because those flights will continue to operate with or without passengers. The Acting Assistant Secretary also stated that an analysis performed by a contractor showed that the cost to purchase civilian provider care is growing faster than the cost of DoD in-house health care. The Acting

Assistant Secretary further stated that the October 1991 economic analysis projected a $243 million present value savings if a replacement FAMC is constructed. In his summary remarks on savings, the Acting Assistant Secretary stated that construction of a new FAMC is more cost-effective than implementing the audit recommendations.

Audit Response. The Acting Assistant Secretary's assumptions that the audit fully expenses the aeromedical evacuation system costs against referral care is incorrect. The aeromedical evacuation cost used in the audit included fuel, maintenance, and personnel costs; but it did not include aircraft acquisition cost (see Cost of Airlift Referrals).

We did not consider shifting health care to other MTFs because in most instances it would not be cost-effective to transport patients by aeromedical evacuation. We did not consider any cost for relocating education and training programs because we did not recommend the transfer of any GME programs. We recommended that an economic analysis be performed to determine whether FAMC GME programs should be transferred. Any cost or potential monetary benefit associated with transferring GME programs should be part of that analysis. As previously discussed, recent decisions at the Army and OASD(HA) levels, may result in many of the FAMC GME programs being eliminated or reduced.

The Acting Assistant Secretary's statement that many of the aeromedical flights would continue without patients in order to meet readiness requirements is not accurate. Our detailed discussion on aeromedical evacuation readiness is in Reference: Cost of Airlift Referrals.

The Acting Assistant Secretary's statement that the cost of purchased care is growing faster than the cost of in-house DoD health care in the FAMC catchment area is misleading. As discussed in both the OASD(HA) revalidation study and our audit report, outpatient costs are generally less costly through CHAMPUS. Given the excess health care capacity in the Denver area, the potential exists for negotiating favorable managed care contracts. FAMC performs most of the work load and sends only complex and psychiatric cases to CHAMPUS. Therefore, FAMC and CHAMPUS inpatient costs in the catchment area are not comparable. That issue was discussed in our evaluation of the FAMC economic analysis of OB/GYN GME programs (Appendix C). A cost comparison would have to be performed on a DRG basis similar to the one we performed on the referral patient work load. Additionally, the Acting Assistant Secretary ignored changes in health care costs after the 1987 and 1991 economic analyses were prepared. A number of CHAMPUS cost containment initiatives have been undertaken since that time.

The Acting Assistant Secretary's reference to the October 1991 economic analysis $243 million in present value savings is misleading. The savings is based solely on operating costs and does not consider the $225 million to $517 million construction cost (depending on the size facility constructed). It also compares the second and third alternatives, 131 patient beds and 299 patient beds, respectively, with a no-MTF scenario to arrive at the $243 million savings. Comparing the alternatives with a no-MTF scenario is

dependents are allowed to receive care in an MTF but they are not entitled to that care. Therefore, we do not believe that MTFs should be sized based on retiree and retiree dependent population unless it is cost-effective.

The Acting Assistant Secretary did not cite the remaining portion of section 1087. That section requires that when medical MILCON projects are planned, realistic projections must be made of the number of physicians and other health care providers that can reasonably be expected to be assigned to the facility or available to the facility. The Army is projecting major reductions in medical personnel and budget by FY 1996. The impact of those staffing and service level reductions at other Army MTFs would be reduced if a replacement MC is not built at FAMC and if FAMC operations were reduced to meet catchment area requirements.

Reference: Underutilized Health Care Facilities, pages 72-76

Management Comments. The Acting Assistant Secretary stated that the audit contention that Army hospitals are underutilzed is misleading because it focuses on patient beds as an indicator of hospital capacity. The Acting Assistant Secretary also stated that the number of beds in the Army's seven replacement hospitals discussed in this report and four replacement hospitals in design or under construction was significantly less than the number of beds in the hospitals that were replaced. He further provided that, due to changes in health care delivery, bed occupancy decreased at military and civilian hospitals. The Acting Assistant Secretary stated that Army hospitals are frequently utilized in excess of their capacity and inferred that bed occupancy is not a good indicator of utilization because recent Army analyses showed that beds represent only 11.6 percent of the hospital area. The Acting Assistant Secretary theorized that because additions are being made to four of the seven Army hospitals cited in our report as being underutilized, those hospitals cannot possibly be underutilized.

The Acting Assistant Secretary noted that between 1970 and 2000 the Army will have closed 26 hospitals and reduced hospital beds by 62 percent. He pointed out that based on the criteria in effect when those hospitals were planned, the hospitals were not oversized and OASD(HA) validated the project requirements. The Acting Assistant Secretary further stated that the buildings used at FAMC for providing health care are the oldest of any military hospital in the United States. The Acting Assistant Secretary also stated that the education and training performed at FAMC is among the best in DoD.

Audit Response. Although the Acting Assistant Secretary criticized the audit for focusing on the excessive number of underutilized patient beds at FAMC and other recently constructed Army hospitals, he did not dispute the fact that those facilities had an average occupancy rate of about 50 percent. Our primary purpose in presenting the low occupancy rates was to show that the Army and DoD have consistently failed to accurately identify their future MTF needs before construction. We recognize that bed occupancy is not the sole indicator of facility utilization and that changing trends in health care have reduced bed occupancy nation-wide. However, there is a relationship between the number of patient beds and the size of support areas and clinics.

invalid because a 434-bed operating medical center with complete outpatient facilities exists at FAMC. The comparison should be whether to continue to operate the current facility or build a new one. The Acting Assistant Secretary does not acknowledge that the October 1991 economic analysis states that the first alternative (95 beds) appears to offer the best potential return on a construction investment.

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