DCN 52

Economic Analysis of Fitzsimons Army Medical Center

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FITZSIMONS ARMY MEDICAL CENTER

AURORA, COLORADO

REVALIDATION OF REQUIREMENT

VOLUME I

Prepared By

Resource Analysis and Management Systems

Health Services Operations

Office of the Assistant Secretary of Defense (Health Affairs)

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o One-third of FAMC's direct care dispositions are generated from referrals primarily from DoD Region III. These referrals, generated primarily by active duty and their dependents, are shrinking. Further downsizing of active duty troop strength throughout the region will erode this referral base even more.

o FAMC relies heavily on the Armed Services Medical Regulating Office (ASMRO) to transport referrals. A 40% cutback in TDY funds for MEDEVAC flight personnel in FY 93 will result in fewer flights and less space for outpatients, who travel on a space available basis. ASMRO constraints will further decrease the number of referrals to FAMC.

o Madigan Army Medical Center and Wright-Patterson Regional Hospital support the lowest numbers of referrals, yet have significant excess bed capacity. MHSS Medical Centers are capable of handling all present FAMC referral workload given appropriate staff and resource additions.

o Inpatient direct care appears to be less costly in the FAMC catchment area than CHAMPUS. However, use of CHAMPUS has been minimal. As such, the civilian system has not been challenged to provide competitive prices. Numerous reports indicate that Denver has excess capacity, is highly competitive and strongly favors managed care arrangements.

o Chronic staffing shortages have prevented the Army from fully utilizing inpatient capability in facilities built during the last 15 years. Force drawdown is not expected to reverse chronic staffing shortages, nor change the underutilization of facilities.

o Of the 2,889 beds constructed in US Army facilities since 1975, on the average 1,343 beds are not utilized on a daily basis. From a MHSS perspective, the high numbers of underutilized constructed beds are extremely costly to maintain. Consolidation of resources, rather than expansion with new construction, would be prudent in light of force drawdown and budget cuts.

o There is no requirement for a replacement construction project for FAMC.

KEY POINTS

FACILITY/DEMOGRAPHICS

o Fitzsimons Army Medical Center (FAMC) is located in Aurora, Colorado, a suburb of metropolitan Denver.

o FAMC operates a 424 bed tertiary care facility with an average annual daily patient load of 310 (FY 91).

o FAMC provides a wide variety of inpatient and outpatient services to beneficiaries primarily located in DoD Region III (Colorado, Utah, Wyoming, North Dakota, South Dakota, Nebraska and Kansas) and Missouri.

o The Fitzsimons Health Service Region, as defined by the US Army Health Services Command (HSC), extends beyond DoD Region III to include the states of Minnesota, Wisconsin, Iowa, Missouri and Illinois.

o FAMC currently supports 19 Graduate Medical Education (GME) Programs and 17 nursing/paraprofessional courses. Two GME programs, Adolescent Medicine and Pediatrics, are scheduled to close in July 1993. The Obstetrics/Gynecology and Pulmonary Medicine Programs were closed in July 1992.

o Regional responsibilities include serving as the "parent" facility for the satellite clinics at Dugway Proving Ground, Tooele Army Depot and Ogden, all located in Utah, and providing veterinary support throughout the upper/central mid-west.

o Official HSC manpower documents project an increase in staff authorizations at FAMC from 2,653 (February 1992) to 2,794 (February 1993).

o Over 60 partnership agreements exist at FAMC and are utilized extensively to augment FAMC staff.

o The Evans Army Community Hospital, USAF Academy Hospital and FAMC Catchment Areas overlap.

o 62,433 eligible beneficiaries resided in the FAMC Catchment Area (to include Lowry AFB) in FY 91. Of these, 12% (7,280) were active duty, 21% (13,064) dependents of active duty and 67% (42,089) retirees and others. Approximately 24% of retirees were age 65 or older.

o With the closure of Lowry AFB in FY 94, the beneficiary population is expected to drop to 54,378. Of these, 7% (3,904) will be active duty, 13% (6,891) dependents of active duty and 80% (43,583) retirees/others.

o If FAMC were to close, the active duty population in the FAMC catchment area would drop to 5% or less of the total population.

o As a result of downsizing, the number of active duty/active duty dependents in DoD Region III is declining.

HEALTH CARE DELIVERY

o Based on total dispositions generated from catchment area beneficiaries in FY 91, FAMC met 91% of the health care demand.

o The most frequent types of dispositions for local beneficiaries and referrals were for Digestive, Circulatory and Muscle/Tissue Disorders.

o Although the local population base has decreased slightly, dispositions for local beneficiaries (CAT I) are increasing.

o Dispositions for active duty and their dependents are declining. However, there lengths of stay (LOS) are exceptionally longer than national norms. For example 19% of Normal Vaginal Deliveries without complications and 13% of Normal Newborns were hospitalized for longer than two standard deviations above the mean.

o Retiree and retiree dependent dispositions grew from 55% (FY 89) to 61% (FY 91), however lengths of stay were usually found to be less than expected.

BENEFICIARIES 65 YEARS AND OLDER

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

o In FY 91, 21% of all direct care dispositions and 23% of all direct care bed days were attributed to this age group.

o The services of Internal Medicine, Cardiology, General Surgery and Orthopedics were utilized the most.

REFERRALS TO OTHER MEDICAL TREATMENT FACILITIES FROM FAMC (CAT II)

o Referrals to other MHSS facilities have been consistently minimal from FY 89 to FY 91.

o Muscle/Tissue and Chemical/Substance Abuse Disorders were the two conditions most frequently referred to other MHSS facilities.

REFERRALS FROM OTHER MEDICAL TREATMENT FACILITIES TO FAMC (CAT III)

o Of all direct care dispositions, those generated from referrals to FAMC have decreased from 41% (FY 89) to 37% (FY 91). This decrease was most notable in active duty and active duty dependent populations, probably reflecting the effect of personnel drawdowns in the region.

o Within DoD Region III, FAMC received the largest number (47%) of all referrals.

o Referrals to FAMC from within Colorado and FE Warren, Wyoming (just across the Colorado border) are increasing.

o Evans Army Hospital, the USAF Academy Hospital, Irwin Army Hospital, Wood Army Hospital and FE Warren AFB provided 60% of all referrals to FAMC from FY 89 to FY 91.

o As with CAT I workload, Digestive, Circulatory and Orthopedic Disorders consumed the most resources in this category.

o CAT III referrals tended to be more complex and generated the longest lengths of stay.

ARMED SERVICES MEDICAL REGULATING OFFICE (ASMRO)

o ASMRO regulates only inpatients. Outpatients fly to destination of patient/physician choice on a space available basis.

o FAMC heavily relies on ASMRO for transportation of referrals. Ground transportation is primarily used by patients referred from Fort Carson, the AF Academy and FE Warren AFB.

o Inpatients regulated to FAMC account for nearly 20% of all CONUS air evacuations.

o In FY 91, 24% of all patients admitted to FAMC were brought there by ASMRO.

o ASMRO will have a 40% budget cut to pay medical flight attendants per diem in FY 93. The impact will likely decrease the number of MEDEVAC flights and consolidation of some routes. This will further decrease the number of patients transported to FAMC.

o Nearly 70% of all patients regulated to FAMC are active duty and active duty dependents.

o Inpatients with Orthopedic conditions are the most frequently regulated.

o Kansas, North Dakota and Missouri are the states from which the greatest number of patients are regulated to FAMC.

o LOS for dispositions generated from referrals were on the average greater than two times national norms. For example, the LOS for knee procedures without complications for patients from CAT III were 12.4 days, whereas the national norm is 2.2 days.

o Distance traveled appears to also be a factor in excessive lengths of stay. The greater the distance traveled the longer the LOS. Referrals originating within Colorado tended to have LOS of 6.8 days, whereas referrals from Fort Leonardwood, Missouri were 13.58 days in FY 91.

o The C-9 aircraft reimbursement rate for DoD eligible beneficiaries is $2,558 per flying hour for the aircraft. This cost has not been calculated into the costs to provide care to patients in the past.

MILITARY HEALTH SERVICES SYSTEM (MHSS)

o The numbers of patients being referred to FAMC are dropping. Findings indicate that of the eight most frequently regulated Major Diagnostic Categories (MDC), dispositions were declining in all Groups.

o Fitzsimons AMC, Brook AMC and Dwight David Eisenhower AMC report comparable daily patient loads of CAT III referrals.

o CAT III LOS at FAMC were reported to be longer than comparable Medical Centers. However, case complexity was slightly higher at FAMC.

o Madigan Army Medical Center and Wright-Patterson AFB Hospital supported the lowest numbers of CAT III referrals and exhibited the lowest lengths of stay and case complexities.

NURSING ACUITY

o 85% of all FAMC inpatients on a daily basis were reported as self-care/minimal care, moderate care, or acute care patients.

o FAMC tended to have more intensively ill patients than comparable Medical Centers.

DIAGNOSES NOT NORMALLY HOSPITALIZED (DXNNH) AND POTENTIAL AMBULATORY SURGERIES (PAS)

o In FY 91, 27% of all direct care dispositions were attributed to DXNNH (6%) and PAS (21%) conditions; an increase from previous years. Increases were most apparent in the top 25 CAT I DRG's.

o DXNNH/PAS workload represents 5.4% of total direct care beds days (or 16 hospital beds each day) at FAMC.

o PAS dispositions exceeded DXNNH by 70 to 80% in both CAT I and CAT III categories.

o CAT I DXNNH/PAS workload was four times that produced by CAT III referrals.

o The most frequently identified PAS dispositions were for Nephrology (Renal Dialysis), Gastroenterology, Otolaryngology and Ophthalmology procedures.

DIRECT CARE/CHAMPUS COSTS

o Dispositions at FAMC increased by 8.9% from FY 89 to FY 91. However, direct care costs per admission overall declined 14.0%. This decline in cost could be attributable to the increase in numbers of less resource intensive DXNNH and PAS cases.

o CHAMPUS costs increased 22% although admissions decreased. Mental Health costs rose in FY 90 and FY 91 probably as a result of Desert Storm/Desert Shield. This phenomenon was noted system-wide.

AMBULATORY CARE WORKLOAD/EXPENSES

o Ambulatory care workload is increasing in both the direct care and CHAMPUS systems, despite a stable beneficiary population.

o The number of direct care ambulatory visits per beneficiary in the catchment area rose from 9.9 per person (FY 87) to 11.0 (FY 91). Over the same period of time, the CHAMPUS ratio rose from .57 to 2.4.

o In FY 91, direct care ambulatory costs were $73 per visit. CHAMPUS was $53 per visit.

o The demand for Ophthalmology, Dermatology, Orthopedics, Endocrine, Rheumatology, Gastroenterology, Pulmonary, Cardiology and Internal Medicine services are increasing. This fact is consistent with expected health care demands from an aging population.

CIVILIAN HEALTH CARE RESOURCES

o Denver area medical/surgical inpatient capability has 5,311 beds of which 63% are occupied on a daily basis. Specialty facilities maintained 1,919 beds at an occupancy rate of 61%. The transfer of all CAT I inpatient workload to area hospitals would have little impact on overall bed occupancy in the area.

o 45% of all CHAMPUS dollars spent for medical/surgical care were expended at three facilities located within 12 miles of FAMC.

o Denver area has one physician for every 617 people. An underserved area is defined as having one physician to every 1,800 people.

o Health care delivery in Denver is reported to be highly competitive with managed care arrangements capturing 50% of the market.

BED ANALYSIS

o Since 1975, the Army has built seven hospitals. Collectively, these facilities were constructed for 2,889 beds. Currently, they maintain an average daily patient load (ADPL) of 1,546 for an ADPL to built bed ratio of 54%.

CONGRESSIONAL LANGUAGE/STATUS OF DESIGN

o The FY 92-93 Defense Authorization Act required that the Department of Defense design a 400-bed replacement facility for FAMC by 30 September 1992.

o A site adapt of the Brooke Army Medical Center design was utilized. The design concept was attained by 30 September 1992 at a cost of $9 million.

o The new replacement facility was designed for 450 beds (2[illegible] surgical, 132 medical, 28 obstetrics, 47 psychiatry, and 26 pediatric beds) and the capability to provide services to approximately 1 million outpatients per year.

o In FY 93, Congress authorized and appropriated $30 million to carry the design through to 100% and $2 million to begin site preparations.

o The total authorized amount to construct FAMC is $390 million with an additional $97.5 million for collateral equipment.

FITZSIMONS AMC BED REQUIREMENT METHODOLOGY

1. A multiple Scenario approach was used in this bed requirement analysis. Each Scenario reflects the closure of Lowry AFB and various combinations of other specific assumptions. The number of bed days used to determine the appropriate bed requirement for each Scenario was obtained from the Retrospective Case Mix Analysis System -Government (RCMAS-G) using FY 91, FY 90 and FY 89 data. Major Diagnostic Category (MDC) discharges and bed days as reported through RCMAS-G are the units of analysis for this report. The Fitzsimons' health care delivery, for this analysis, has been defined in terms of three distinct categories:

   - Category I. Inpatient care provided to Fitzsimons beneficiaries through Fitzsimons;

   - Category III. Inpatient care provided to beneficiaries outside of the Fitzsimons catchment area by Fitzsimons; and

   - Category IV. Inpatient care provided to Fitzsimons CHAMPUS eligible beneficiaries through civilian medical facilities.

   The Direct Care (MTF) Perspective (Category I. & Category III.) is a point of view considering all dispositions at a particular MTF, regardless of a patient's assigned catchment area.

2. To accommodate the closure of Lowry AFB, bed days derived from Air Force active duty and dependents of active duty were deleted from the Fitzsimons Category I. Workload count and Air Force dependents of active duty were deleted from the CHAMPUS bed count.

3. Bed days generated at Fitzsimons AMC (Direct Care) were further subdivided into three categories:

   - bed days attributable to diagnosis not normally hospitalized (DXNNH);

- bed days attributable to patients currently receiving inpatient care who are strong candidates for ambulatory surgery (PAS); and

- "Adjusted" bed days which are those remaining after factoring out diagnosis not normally hospitalized bed days and potential ambulatory surgery bed days.

a. The sum of the three subdivided categories equals the total number of bed days consumed at Fitzsimons AMC.

b. DXNNH bed days are defined as hospital stays which have "dubious" diagnoses that are not normally sufficient as a sole reason for admitting a patient to a hospital. All DXNNH cases must have a length of stay less than five days. The assumption is that length of stay is an indicator of existing comorbid condition that justifies the patient's admission.

c. PAS bed days are based on a list of surgical procedures which are now commonly performed on an outpatient basis where not medically contraindicated. Hospital length of stay has to be less than three days to be included in this category. If the stay is longer, it is assumed that there are other complicating factors to justify the longer stay.

4. 100% CHAMPUS recapture is planned only for Adult Psychiatry. This determination to recapture Adult Psychiatry was set forth by the Army Health Care Planners in their FAMC Gateway to Care Business Plan.

5. Bed days generated at Fitzsimons AMC and the bed days of that workload defined as CHAMPUS recapturable were analyzed in three groups: Obstetrics/Newborn, Mental Health and all others which we define as Acute Care.

6. Average daily patients classified as Self-care\Minimal care by the Workload Management System for Nurses (WMSN) were not deducted

BED SIZING CONFIDENCE CRITERIA

The following occupancy rates shall be used in planning numbers of beds in DoD hospitals:

(1) MEDICAL, SURGICAL, PEDIATRICS, PSYCHIATRIC, AND LIGHT CARE UNITS

ADPL	Occupancy Rates
less than 26	70%
26-50	80%
51-100	85%
101-250	90%
greater than 250	95%

(2) OBSTETRICAL UNITS

ADPL	Occupancy Rates
less than 26	60%
26-50	75%
greater than 50	80%

SCENARIO I.
DIRECT CARE WITH CHAMPUS RECAPTURE

	FY 91		FY 90		FY 89	
SERVICE	BEDDAYS	ADPL	BEDDAYS	ADPL	BEDDAYS	ADPL
ACUTE CARE	86,236	236.3	110,745	303.4	96,325	263.9
MENTAL HEALTH	8,214	22.5	7,404	20.3	9,646	26.4
OB/NEWBORN	10,295	28.2	10,046	27.5	8,573	23.5
	=====	=====	=====	=====	=====	=====
TOTAL DEMAND	104,745	287.0	128,195	351.2	114,544	313.8
BED REQUIREMENT BASED ON DOD CRITERIA	332		385		350	

SOURCE: RCMAS-G

CHAMPUS RECAPTURE IS PLANNED ONLY FOR ADULT PSYCHIATRY. THIS SCENARIO IS BASED ON SIMILAR ASSUMPTIONS SET FORTH BY THE ARMY HEALTH PLANNERS IN THEIR FAMC BED REQUIREMENTS METHODOLOGY.

ADULT PSYCHIATRY IS DEFINED AS CARE PROVIDED TO BENEFICIARIES OVER 18 YEARS OF AGE FOR DRGs 424-430 AND 432.

SCENARIO II.
DIRECT CARE WITH NO PATIENTS > 64
(CHAMPUS RECAPTURE)

	FY 91		FY 90		FY 89	
SERVICE	BEDDAYS	ADPL	BEDDAYS	ADPL	BEDDAYS	ADPL
ACUTE CARE	61,446	168.3	82,213	225.2	72,744	199.3
MENTAL HEALTH	7,899	21.6	7,068	19.4	9,418	25.8
OB/NEWBORN	10,295	28.2	10,046	27.5	8,573	23.5
	=====	=====	=====	=====	=====	=====
TOTAL DEMAND	79,640	218.2	99,327	272.1	90,735	248.6
BED REQUIREMENT BASED ON DOD CRITERIA	256		315		297	

SOURCE: RCMAS-G
NOTE 1: SEE METHODOLOGY FOR EXPLANATION OF DOD CRITERIA FOR BED REQUIREMENTS BASED ON ADPL.
NOTE 2: BASSINETT DAYS ARE INCLUDED IN THE NEWBORN BEDDAY COUNT.

SCENARIO III.
DIRECT CARE WITH NO PATIENTS > 64
AND NO NONLOCAL REFERRALS
(CHAMPUS RECAPTURE)

	FY 91		FY 90		FY 89	
SERVICE	BEDDAYS	ADPL	BEDDAYS	ADPL	BEDDAYS	ADPL
ACUTE CARE	19,848	54.4	24,883	68.2	21,648	59.3
MENTAL HEALTH	3,184	8.7	2,026	5.6	2,533	6.9
OB/NEWBORN	5,324	14.6	4,838	13.3	4,446	12.2
	======	=====	======	=====	======	=====
TOTAL DEMAND	28,356	77.7	31,747	87.0	28,627	78.4
BED REQUIREMENT BASED ON DOD CRITERIA	101		110		100	

SOURCE: RCMAS-G

SCENARIO IV
DIRECT CARE WITH REFERRALS ONLY FROM
DOD REGION 3
(CHAMPUS RECAPTURE)

	FY 91		FY 90		FY 89	
SERVICE	BEDDAYS	ADPL	BEDDAYS	ADPL	BEDDAYS	ADPL
ACUTE CARE	69,061	189.2	89,569	245.4	76,138	208.6
MENTAL HEALTH	6,828	18.7	5,335	14.6	7,316	20.0
OB/NEWBORN	9,875	27.1	9,477	26.0	8,041	22.0
	======	=====	======	=====	======	=====
TOTAL DEMAND	85,764	235.0	104,381	286.0	91,495	250.7
BED REQUIREMENT BASED ON DOD CRITERIA	273		328		297	

SOURCE: RCMAS-G
NOTE 1: SEE METHODOLOGY FOR EXPLANATION OF DOD CRITERIA FOR BED REQUIREMENTS BASED ON ADPL
NOTE 2: BASSINETT DAYS ARE INCLUDED IN THE NEWBORN BEDDAY COUNT.

SCENARIO V.
DIRECT CARE WITH REFERRALS ONLY FROM
THE FITZSIMONS HEALTH SERVICE REGION
(CHAMPUS RECAPTURE)

	FY 91		FY 90		FY 89	
SERVICE	BEDDAYS	ADPL	BEDDAYS	ADPL	BEDDAYS	ADPL
ACUTE CARE	63,415	173.7	82,683	226.5	70,726	193.8
MENTAL HEALTH	5,767	15.8	4,496	12.3	6,451	17.7
OB/NEWBORN	8,382	23.0	7,668	21.0	6,618	18.1
	======	=====	======	=====	======	=====
TOTAL DEMAND	77,564	212.5	94,847	259.9	83,795	229.6
BED REQUIREMENT BASED ON DOD CRITERIA	254		304		271	

SOURCE: RCMAS-G

SCENARIO VI.
DIRECT CARE EXCLUDING DXNNH & PAS
BED DAYS FROM THE LOCAL BENEFICIARY COUNT
(CHAMPUS RECAPTURE)

	FY 91		FY 90		FY 89	
SERVICE	BEDDAYS	ADPL	BEDDAYS	ADPL	BEDDAYS	ADPL
ACUTE CARE	82,533	226.1	107,548	294.7	94,068	257.7
MENTAL HEALTH	8,165	22.4	7,370	20.2	9,622	26.4
OB/NEWBORN	10,259	28.1	10,036	27.5	8,563	23.5
	======	=====	======	=====	======	=====
TOTAL DEMAND	100,957	276.6	124,954	342.3	112,253	307.5
BED REQUIREMENT BASED ON DOD CRITERIA	321		376		343	

SOURCE: RCMAS-G
NOTE 1: SEE METHODOLOGY FOR EXPLANATION OF DOD CRITERIA FOR BED REQUIREMENTS BASED ON ADPL
NOTE 2: BASSINETT DAYS ARE INCLUDED IN THE NEWBORN BEDDAY COUNT.

DXNNH = DIAGNOSES NOT NORMALLY HOSPITALIZED
PAS = POTENTIAL AMBULATORY SURGERY

SCENARIO VII.
DIRECT CARE EXCLUDING DXNNH & PAS
BED DAYS FROM THE LOCAL BENEFICIARY COUNT
AND NO NONLOCAL CARE
(CHAMPUS RECAPTURE)

	FY 91		FY 90		FY 89	
SERVICE	BEDDAYS	ADPL	BEDDAYS	ADPL	BEDDAYS	ADPL
ACUTE CARE	30,775	84.3	37,582	103.0	33,373	91.4
MENTAL HEALTH	3,387	9.3	2,291	6.3	2,710	7.4
OB/NEWBORN	5,288	14.5	4,828	13.2	4,436	12.2
	======	=====	======	=====	======	=====
TOTAL DEMAND	39,450	108.1	44,701	122.5	40,519	111.0
BED REQUIREMENT BASED ON DOD CRITERIA	137		145		138	

SOURCE: RCMAS-G

NOTE 1: SEE METHODOLOGY FOR EXPLANATION OF DoD CRITERIA FOR BED REQUIREMENTS BASED ON ADPL
NOTE 2: BASSINETT DAYS ARE INCLUDED IN THE NEWBORN BEDDAY COUNT.

DXNNH=DIAGNOSES NOT NORMALLY HOSPITALIZED
PAS=POTENTIAL AMBULATORY SURGERY

2

ECONOMIC ANALYSES OF FITZSIMONS ARMY MEDICAL CENTER

BRIEFING ON DRAFT RESULTS

13 MARCH 1991

VECTOR RESEARCH, INCORPORATED

DRAFT RESULTS BRIEFING AGENDA

REVIEW PURPOSE OF EA

SUMMARIZE ASSUMPTIONS AND APPROACH

DISCUSS DRAFT EA RESULTS

REVIEW PURPOSE OF EA

TITLE 10, SECTION 1087 OF THE US CODE REQUIRES COST-JUSTIFIED SIZING OF MILITARY MEDICAL FACILITIES

INDEPENDENT, QUANTITATIVE REVIEW OF SIZING OPTIONS GENERALLY REQUIRED FOR APPROVAL (WITHIN AND OUTSIDE DoD) OF MILITARY MEDICAL CONSTRUCTION PROJECTS

CURRENT EA UPDATES PREVIOUS STUDY OF DENVER/COLORADO SPRINGS, USING MORE RECENT DATA AND METHODS

REVIEW PURPOSE OF EA

-- LANGUAGE OF LEGISLATION --

SECTION 1087 STATES THAT FACILITIES MAY BE PROGRAMMED FOR THE GREATER OF:

(1) SPACE REQUIRED TO SUPPORT TEACHING AND TRAINING OF HEALTH CARE PROFESSIONALS; AND

(2) SPACE REQUIRED TO SUPPORT COST-EFFECTIVE LEVEL OF INPATIENT AND OUTPATIENT CARE

REVIEW PURPOSE OF EA

-- INTERPRETATION OF LEGISLATION --

- THE ECONOMIC ANALYSIS DEFINES CLAUSE (2) -- COST-EFFECTIVE WORKLOAD
- IF COST-EFFECTIVE WORKLOAD > WORKLOAD NEEDED TO SUPPORT GME, EA PROVIDES COST-JUSTIFICATION TO SIZE FOR ADDITIONAL WORKLOAD
- IF COST-EFFECTIVE WORKLOAD < WORKLOAD NEEDED TO SUPPORT GME, EA PROVIDES INFORMATION ON COST OF POLICY DECISION TO SIZE FOR GME

REVIEW PURPOSE OF EA

-- DIFFERENCES BETWEEN CURRENT EA AND PREVIOUS EA --

CURRENT EA:

- USES FY89 VS. FY85 DATA
- UPDATES EA METHODOLOGY
- FOCUSES ON SCOPE OF FAMC, ANALYZING ONLY REFERRAL CENTER OPTIONS
- DOES NOT ANALYZE CHANGES IN SCOPE OR MISSION OF COLORADO SPRINGS MTFs
- DOES NOT REDO ARCHITECTURAL/ENGINEERING ASSESSMENT OF FAMC
- DOES NOT DEVELOP DETAILED CONSTRUCTION OPTIONS AND COSTS

DRAFT RESULTS BRIEFING AGENDA

REVIEW PURPOSE OF EA

SUMMARIZE ASSUMPTIONS AND APPROACH

DISCUSS DRAFT EA RESULTS

SUMMARIZE ASSUMPTIONS AND APPROACH

-- MAJOR TASKS COMPLETED --

- ASSESSED AREA FEDERAL AND CIVILIAN HEALTH CARE RESOURCES
- PROJECTED TOTAL HEALTH CARE DEMAND @ FAMC
- ESTIMATED HEALTH CARE COSTS @ FAMC
- DEVELOPED A RANGE OF SCENARIOS FOR THE SCOPE OF FAMC
- DEFINED THE MOST COST-EFFECTIVE WORKLOAD LEVEL FOR FAMC
- COMPUTED TOTAL GOVERNMENT COST UNDER EACH SCENARIO, AND ANALYZED DIFFERENCES

SUMMARIZE ASSUMPTIONS AND APPROACH

-- FEDERAL AND CIVILIAN ALTERNATIVES TO FAMC --

LOCAL CATCHMENT AREA ALTERNATIVES

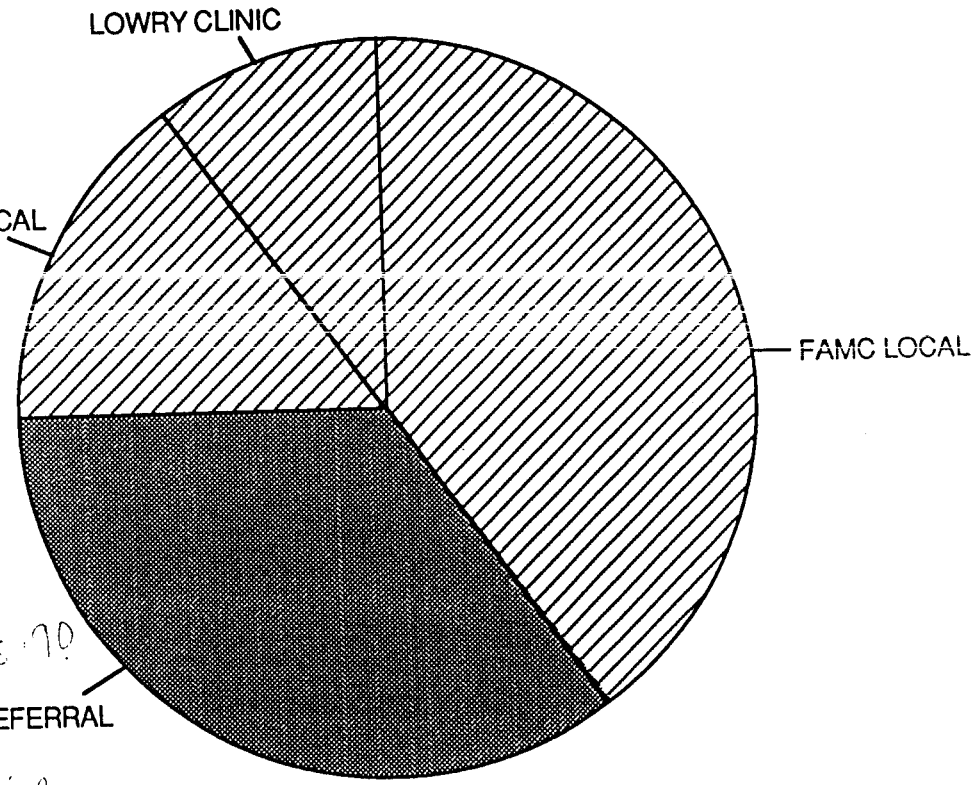
- VA FACILITIES
- CIVILIAN SECTOR

REFERRAL CARE ALTERNATIVES

- CIVILIAN SECTOR
- OTHER REFERRAL MTFs

SUMMARIZE ASSUMPTIONS AND APPROACH

-- COMPONENTS OF TOTAL FAMC DEMAND --



LOCAL CATCHMENT AREA DEMAND

CARE PROVIDED TO REFERRALS FROM OUTSIDE CATCHMENT AREA

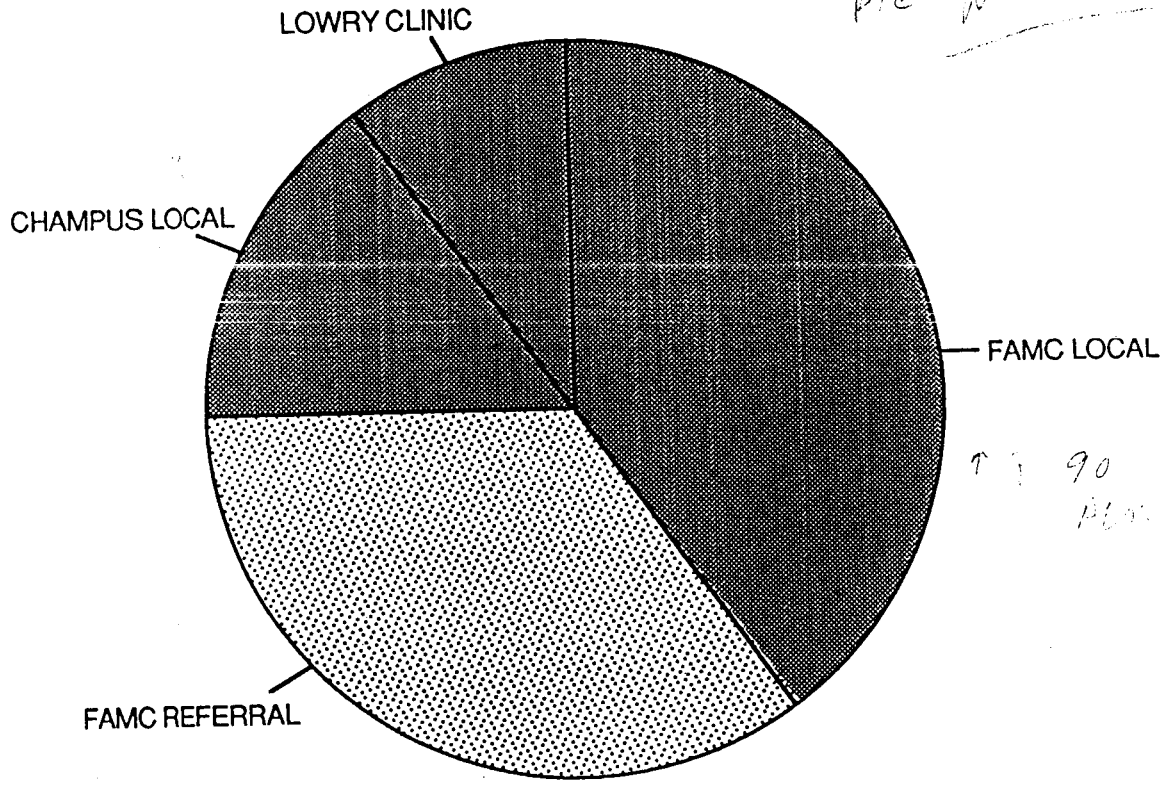
VARIOUS PIECES - but not to scale

(BOD)

SUMMARIZE ASSUMPTIONS AND APPROACH

-- PROJECTION OF TOTAL DEMAND --

PIE NOT TO SCALE



90

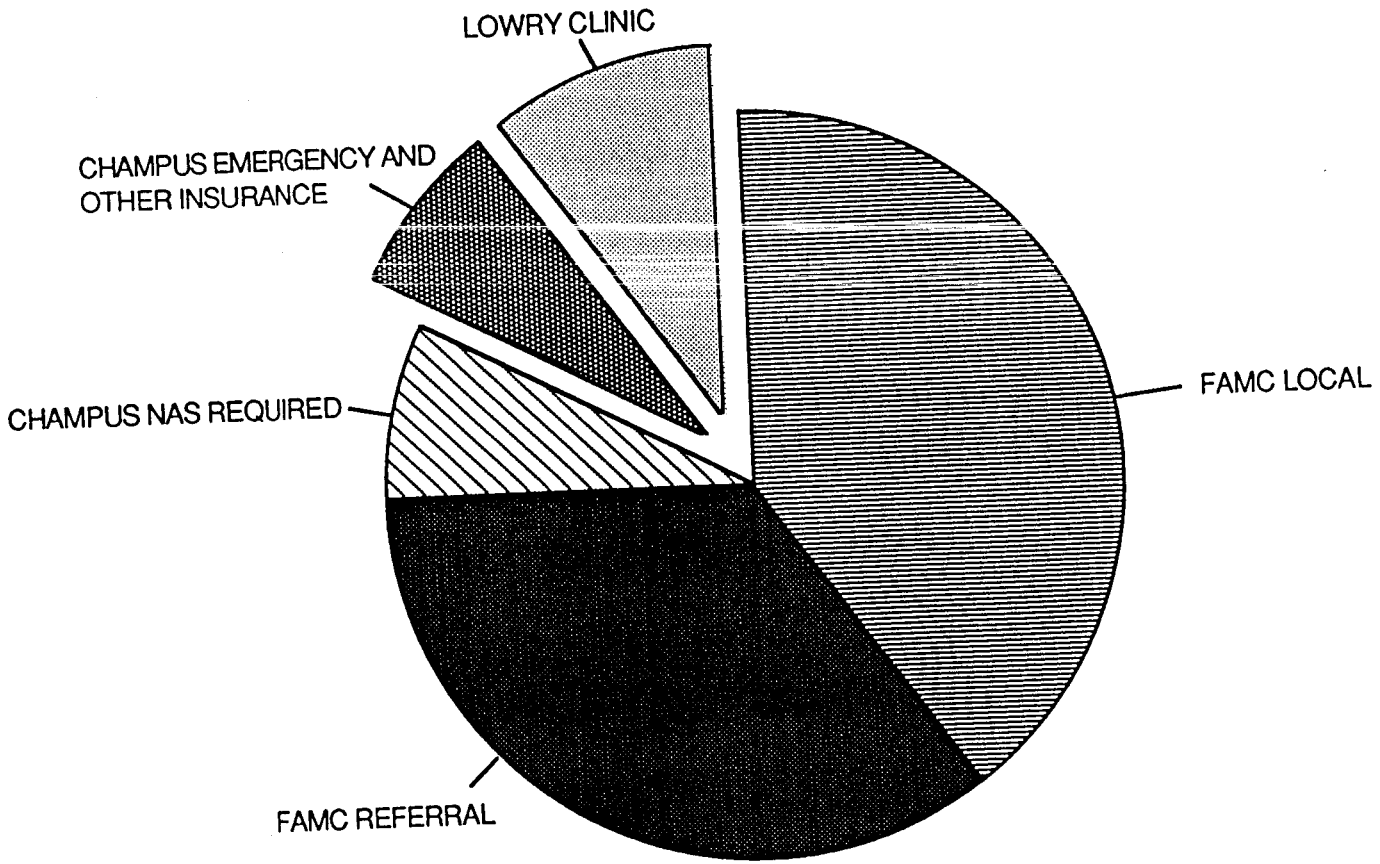
PROJECTED BASED ON CHANGE IN LOCAL POPULATION

Don't expect it to Δ much.

PROJECTED TO REMAIN AT HISTORICAL LEVEL

SUMMARIZE ASSUMPTIONS AND APPROACH

-- POTENTIAL RECAPTURABLE CARE --



SUMMARIZE ASSUMPTIONS AND APPROACH

-- SCENARIOS ANALYZED FOR FAMC --

- STATUS QUO
- ALL CARE
- BEST ECONOMIC SOLUTION (BES)
- NO MTF

SUMMARIZE ASSUMPTIONS AND APPROACH

-- COSTS ESTIMATED IN $FY98 --

- FAMC OPERATING COSTS
- COSTS FOR OTHER DIRECT CARE ALTERNATIVES TO FAMC
- GOVERNMENT COSTS FOR CIVILIAN SECTOR ALTERNATIVES

SUMMARIZE ASSUMPTIONS AND APPROACH

-- ESTIMATION OF FAMC OPERATING COSTS --

- BASED ON FY89 OPERATING COSTS FOR ALL REFERRAL MTFs
- LINEAR REGRESSION ON FY89 MEPRS COSTS
  - INCLUDES PERSONNEL AND NONPERSONNEL COSTS
  - ADJUSTED TO REFLECT PHYSICIAN SPECIALTY PAY

    Used for comparison only
- COST ESTIMATES SPECIFIC TO CLINICAL AREA

Remember [illegible] costs

SUMMARIZE ASSUMPTIONS AND APPROACH

-- ESTIMATION OF OTHER REFERRAL MTF COSTS --

- OTHER MTF COSTS ASSUMED COMPARABLE TO FAMC OPERATING COSTS
- PROVISION OF REFERRAL CARE AT FAMC CONSIDERED COST-NEUTRAL, ASSUMING:
  - CAPACITY WILL EXIST IN MILITARY REFERRAL SYSTEM
  - COST TO MODIFY/BUILD TO PROVIDE CARE AT OTHER MTFs COMPARABLE TO SUCH COSTS AT FAMC

SUMMARIZE ASSUMPTIONS AND APPROACH

-- ESTIMATION OF CIVILIAN SECTOR COSTS --

- BASED ON OBSERVED CHAMPUS GOVERNMENT COSTS
- BLEND OF FAMC, FT CARSON, AND AF ACADEMY CATCHMENT AREA COSTS
- FAMC OUTPATIENT CHAMPUS COSTS ADJUSTED FOR PARTNERSHIP PROGRAM EFFECTS
- COST ESTIMATES SPECIFIC TO CLINICAL AREA AND BENEFICIARY TYPE
- CHAMPUS RETIREE/OTHER COSTS USED TO APPROXIMATE MEDICARE COSTS

DRAFT RESULTS BRIEFING AGENDA

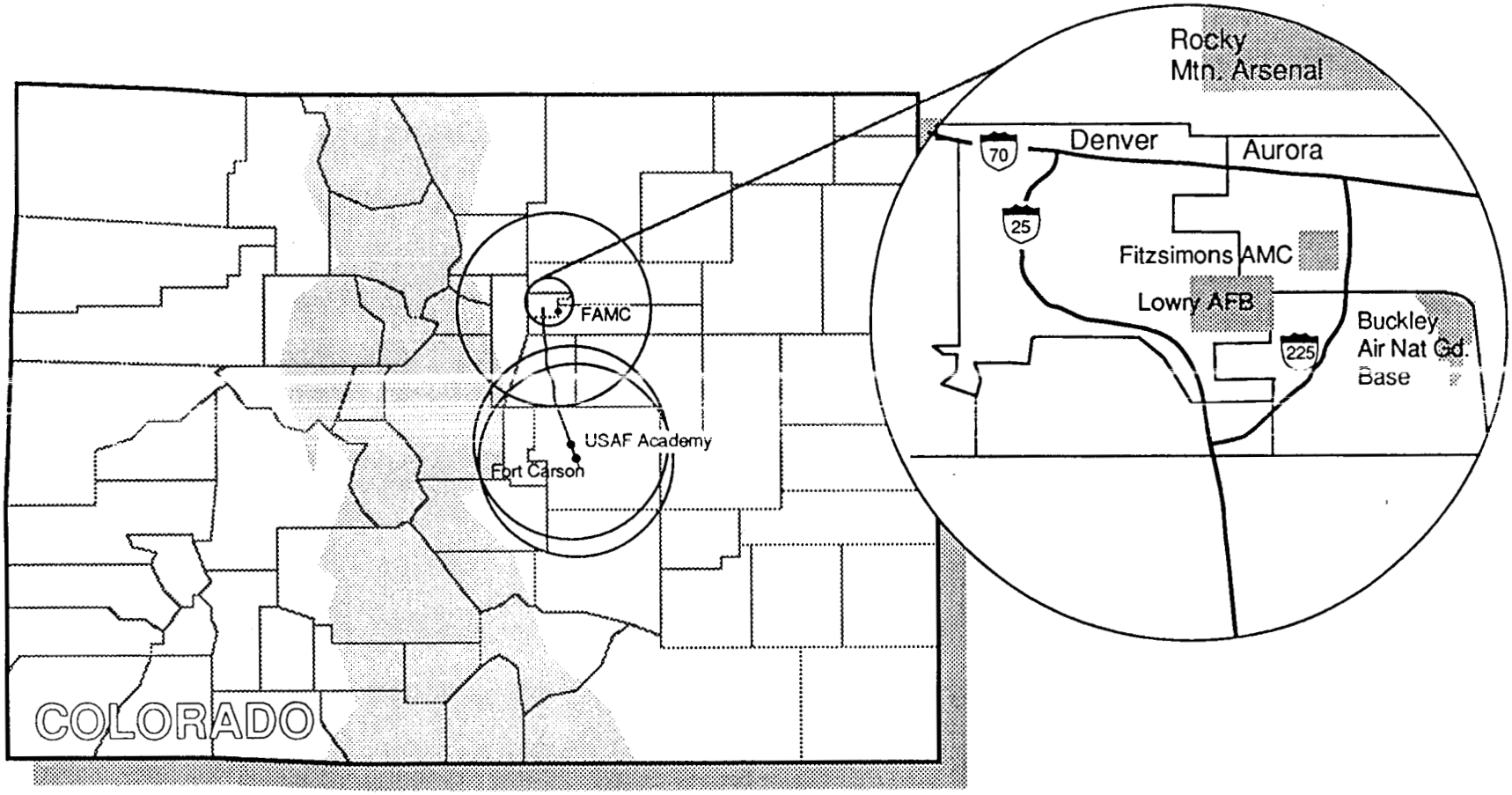
REVIEW PURPOSE OF EA

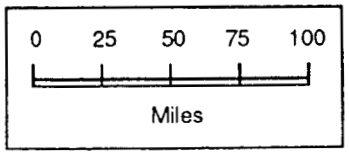
SUMMARIZE ASSUMPTIONS AND APPROACH

DISCUSS DRAFT EA RESULTS

DISCUSS EA RESULTS

--OVERVIEW OF FAMC AREA --





DISCUSS EA RESULTS

-- OVERVIEW OF FAMC OPERATION --

- CURRENTLY OPERATING ABOUT 400 BEDS
- CURRENTLY PROVIDING OVER 600,000 VISITS
- FAMC PROVIDES FOR NEARLY ALL HEALTH CARE NEEDS OF LOCAL BENEFICIARY POPULATION
- FAMC SUPPORTS MILITARY REFERRALS FROM 15-STATE AREA AND BEYOND
- FAMC SUPPORTS EXTENSIVE GME PROGRAM

-- CONTINUED --

DISCUSS EA RESULTS

-- OVERVIEW OF FAMC OPERATION -- (CONCLUDED)

FAMC RESIDENCY PROGRAMS

DERMATOLOGY
GENERAL SURGERY
INTERNAL MEDICINE
OB/GYN
OPHTHALMOLOGY
ORTHOPEDIC SURGERY
ENT
PEDIATRICS
RADIOLOGY
UROLOGY

FAMC FELLOWSHIPS

ADOLESCENT MEDICINE
ALLERGY/IMMUNOLOGY
ANGIOGRAPHY
CARDIOLOGY
ENDOCRINOLOGY
GASTROENTEROLOGY
PLASTIC SURGERY
PULMONARY DISEASE
RHEUMATOLOGY

DISCUSS EA RESULTS

-- OVERVIEW OF LOWRY AFB CLINIC --

- SERVES PRIMARILY ACTIVE DUTY AIR FORCE
- PROVIDES ABOUT 40,000 VISITS/YEAR
- REFERS ALL OTHER CARE TO FAMC

DISCUSS EA RESULTS

-- OTHER FEDERAL RESOURCES --

DENVER VA MEDICAL CENTER

- LOCATED ABOUT 3 MILES FROM FAMC
- OPERATING ABOUT 300 BEDS AT 83% OCCUPANCY
- NO EXCESS CAPACITY AND NO PLANS FOR MAJOR EXPANSION

DISCUSS EA RESULTS

-- DENVER CIVILIAN HEALTH CARE RESOURCES --

- HIGHLY COMPETITIVE HEALTH CARE COMMUNITY
- ABUNDANCE OF SOPHISTICATED MEDICAL CARE AVAILABLE (5,000 BEDS)
- CAPACITY AVAILABLE TO ABSORB HEALTH CARE NEEDS OF LOCAL BENEFICIARY POPULATION (1,000 EXCESS BEDS)
- ABUNDANCE OF PHYSICIANS, PARTICULARLY SPECIALISTS
- SIGNIFICANT MARKET PENETRATION OF MANAGED CARE

DISCUSS EA RESULTS

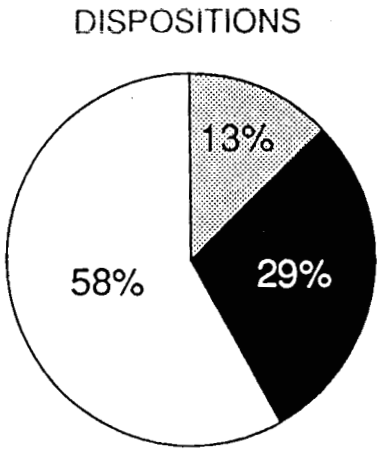
-- COMPONENTS OF TOTAL FAMC DEMAND --

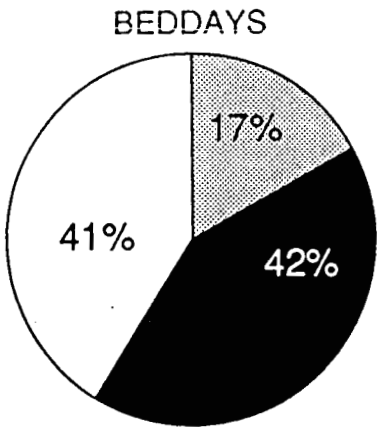
- CARE PROVIDED BY FAMC TO LOCAL POPULATION
- CARE PROVIDED BY FAMC TO REFERRAL PATIENTS
  - COLORADO SPRINGS
  - OVER 150 OTHER CATCHMENT AREAS
- CARE PROVIDED BY LOWRY CLINIC
- CARE PROVIDED TO LOCAL POPULATION THROUGH CHAMPUS

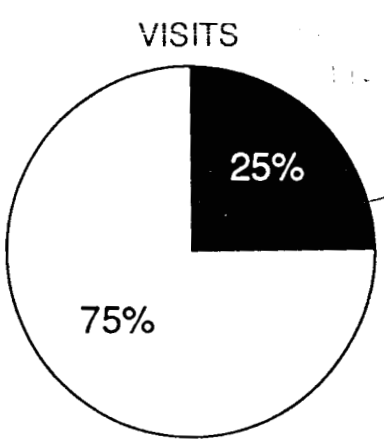
DISCUSS EA RESULTS

-- ORIGIN OF FY89 FAMC WORKLOAD --

COLORADO SPRINGS | NON-LOCAL | FAMC CATCHMENT AREA







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Pr el. Colo Spg
Referral

DISCUSS EA RESULTS

-- FAMC CATCHMENT AREA POPULATION PROJECTIONS --

Beneficiary Type	FY89	FY98	% Δ	Annual % Δ
Active Duty	8,871	8,343	-6.0%	-0.6%
Dependent of Active Duty	14,896	14,006	-6.0%	-0.6%
Retirees/Others >65	30,152	32,916	9.2%	1.1%
Over 64	9,022	9,843	9.1%	1.1%
TOTAL	62,941	65,108	3.4%	0.4%

- Pop and strength projections from 91 Pres budget
- Overall trend decrease
- force reductions
- Not geographical people
-

from Office of DoD Actuary

DISCUSS EA RESULTS

-- FORECAST OF TOTAL DEMAND --

- LOCAL FAMC AND COLORADO SPRINGS REFERRALS PROJECTED TO GENERATE 77,000 BED DAYS AND 535,000 VISITS IN FY98

- REFERRALS FROM OUTSIDE COLORADO AREA PROJECTED TO GENERATE ADDITIONAL 66,000 BED DAYS AND 125,000 VISITS IN FY98

DISCUSS EA RESULTS

-- COMPARISON OF WORKLOADS UNDER ALTERNATIVE SCENARIOS --

CHARACTERISTICS OF EACH SCENARIO	SCENARIOS			
	NO MTF	STATUS QUO	ALL CARE	BEST ECONOMIC SOLUTION
FAMC WORKLOADS				
DISPOSITIONS	0	14,080	16,713	12,843
BED DAYS	0	121,983	142,594	114,390
ADPL	N/A	334	391	313
VISITS	0	608,316	660,547	409,457
FAMC BEDS				
MEDICAL/SURGICAL	0	306	361	289
OBSTETRICAL	0	31	37	34
PSYCHIATRIC	0	27	27	19
TOTAL	0	364	425	342
OTHER MTFs				
BEDS	206	0	0	0
VISITS	116,007	0	0	0
CHAMPUS				
BEDS	180	63	0	49
VISITS	330,547	37,273	0	114,905

AD/Dep + >65
<65: CHAMPUS

<65 = [illegible]
>65 [illegible]

DISCUSS EA RESULTS

--COMPARISON OF COSTS UNDER ALTERNATIVE SCENARIOS --

COSTS UNDER EACH SCENARIO[1]	NO MTF	STATUS QUO	ALL CARE	BEST ECONOMIC SOLUTION
	(000)	(000)	(000)	(000)
ANNUAL FAMC OPERATING COSTS	$0	$171,641	$208,021	$152,854
INPATIENT COSTS	$0	$94,448	$110,186	$88,437
OUTPATIENT COSTS	$0	$77,193	$97,835	$64,417
ANNUAL OTHER MTF OPERATING COSTS	$67,819	$0	$0	$0
INPATIENT COSTS	$49,597	$0	$0	$0
OUTPATIENT COSTS	$18,222	$0	$0	$0
ANNUAL CIVILIAN CARE COSTS	$171,986	$43,688	$0	$47,345
INPATIENT COSTS	$109,793	$36,435	$0	$20,117
OUTPATIENT COSTS	$62,193	$7,253	$0	$27,228
TOTAL ANNUAL GOVERNMENT COST	$239,805	$215,329	$208,021	$200,199
COMPARISON TO NO MTF				
ANNUAL SAVINGS	$0	$24,476	$31,784	$39,606
PRESENT VALUE SAVINGS[2]	$0	$222,242	$288,599	$359,622

425
42
467

.425
.04
17.00

425
.02
8.50

17.19.25

include [illegible]

[1] All costs in thousands of FY98 dollars

[2] Assumes 10% discount rate over 25-year life cycle of a new facility.

DISCUSS EA RESULTS

-- COMPARISON OF HEALTH CARE COST BURDEN UNDER EACH SCENARIO --

GOVERNMENT AND BENEFICIARY COST BURDENS	SCENARIOS			
	NO MTF	BEST ECONOMIC SOLUTION	STATUS QUO	ALL CARE
TOTAL CARE PROVIDED OR PURCHASED BY GOVERNMENT				
BEDS	390	390	430	430
VISITS	447,000	524,000	646,000	661,000
CARE FOR WHICH BENEFICIARY IS RESPONSIBLE				
BEDS	40	40	0	0
VISITS	214,000	137,000	15,000	0

3

QUICK-RESPONSE UPDATE TO ECONOMIC ANALYSIS OF FITZSIMONS ARMY MEDICAL CENTER

NOVEMBER 1991

PREPARED BY
VECTOR RESEARCH, INCORPORATED
FOR
OASD(HA) DEFENSE MEDICAL FACILITIES OFFICE

OUTLINE OF PRESENTATION

- BACKGROUND OF PROBLEM
- ANALYSIS APPROACH
- SUMMARY OF FINDINGS
- ANALYSIS RESULTS SUPPORTING FINDINGS

BACKGROUND OF PROBLEM

-- PURPOSE OF ANALYSIS --

TITLE 10, SECTION 1087 OF THE US CODE REQUIRES COST-JUSTIFIED SIZING OF MILITARY MEDICAL FACILITIES, TO BE EXAMINED THROUGH AN ECONOMIC ANALYSIS (EA)

EA OF FITZSIMONS ARMY MEDICAL CENTER (FAMC) WAS SUBMITTED FOR REVIEW MARCH 1991. ASSUMING CONTINUED REFERRAL CARE, EA RECOMMENDED 342-BED MTF

SUBSEQUENT APPROVAL OF LOWRY AFB CLOSURE UNDER BRAC '91 REQUIRED REEXAMINATION OF EA RESULTS

REVISED ANALYSIS ALSO EXAMINED:

- POSSIBLE VARIATIONS IN DoD POLICIES RELATED TO MEDICARE-ELIGIBLES AND REFERRAL PATTERNS;
- CLOSURE OF FAMC GME PROGRAMS IN PEDS, OB/GYN, PULMONARY, AND ADOLESCENT MED;
- GREATER DoD EMPHASIS ON UTILIZATION MANAGEMENT; AND
- CHANGE IN ASSUMPTIONS ABOUT WORKLOAD TRADEOFFS BETWEEN MTF AND CHAMPUS

- FAMC IS LOCATED ON ITS OWN INSTALLATION IN AURORA, OUTSIDE DENVER

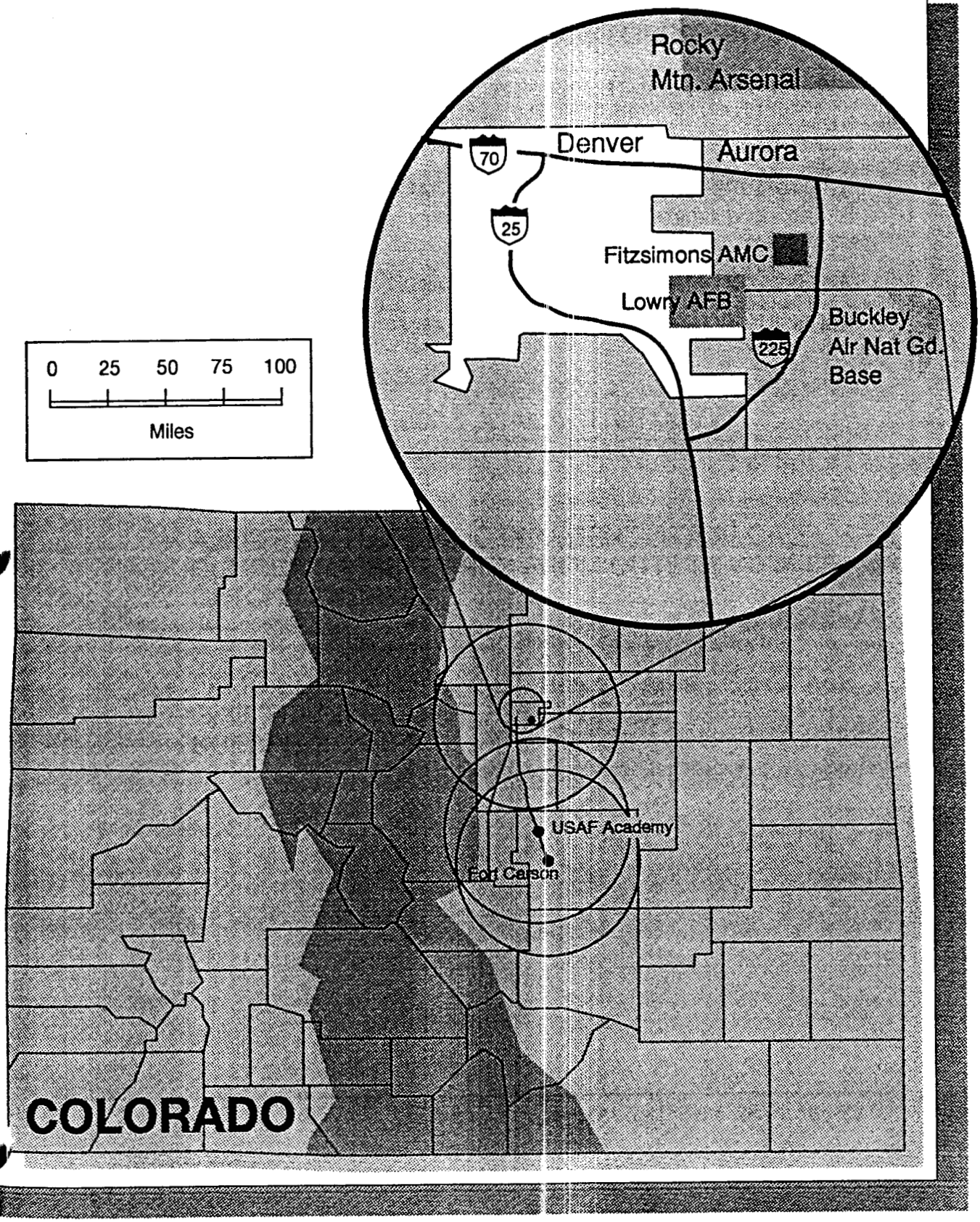
- AS SHOWN IN THE ENLARGED LOCAL CIRCLE, FAMC, LOWRY AFB, AND BUCKLEY A ARE WITHIN 4 MILES OF EACH OTHER

- AF ACADEMY AND FORT CARSON IN COLORADO SPRINGS ARE WITHIN DRIVING DISTANCE OF FAMC (ABOUT 70 MILES)

- CIRCLES ON THE COLORADO MAP REPRESENT 40-MILE INPATIENT CATCHMENT AREA OF THE 3 MTFs -- COLORADO SPRINGS CATCHMENTS OVERLAP WITH FAMC, BUT ON 3% OF POPULATION LIVES IN OVERLAP

BACKGROUND OF PROBLEM

– LOCATION OF FAMC AND NEARBY MILITARY INSTALLATIONS –



- FAMC SUPPORTS 15-STATE ARMY REFERRAL REGION, AND CURRENTLY PROVIDES CARE TO BENEFICIARIES FROM OVER 150 WORLDWIDE CATCHMENT AREAS.

- ABOUT 15% OF FAMC INPATIENT CARE COMES FROM COLORADO SPRINGS CATCHMENTS. LARGE NON-COLORADO CONTRIBUTORS INCLUDE FT LEONARD WOOD, MO; FT RILEY, KS; FT LEAVENWORTH, KS; AND F.E. WARREN AFB, WY

- FAMC GME PROGRAM CURRENTLY SUPPORTS ABOUT 170 TRAINEES IN 10 RESIDENCY SPECIALTIES (INCLUDING IM, OB/GYN, SURG, ORTHO, PEDS) AND 9 SUBSPECIALTY FELLOWSHIPS (INCLUDING ALLERGY, ADOLESCENT MED, CARDIOLOGY)

BACKGROUND OF PROBLEM

-- OVERVIEW OF CURRENT FAMC OPERATION --

- FAMC CURRENTLY OPERATES ABOUT 400 BEDS
- FAMC CURRENTLY PROVIDES OVER 600,000 VISITS ANNUALLY
- FAMC PROVIDES FOR NEARLY ALL HEALTH CARE NEEDS OF > 60,000 LOCAL ACTIVE DUTY, DEPENDENT, AND RETIREE BENEFICIARIES
- ABOUT HALF OF FAMC INPATIENT WORKLOAD CURRENTLY REFERRED FROM OUTSIDE 40-MILE CATCHMENT AREA
- FAMC SUPPORTS ABOUT 10% OF ARMY'S TOTAL GME TRAINING (UP TO 60% IN SOME SUBSPECIALTIES)

- THERE ARE CURRENTLY ABOUT 63,000 BENEFICIARIES IN THE FAMC CATCHMENT AREA

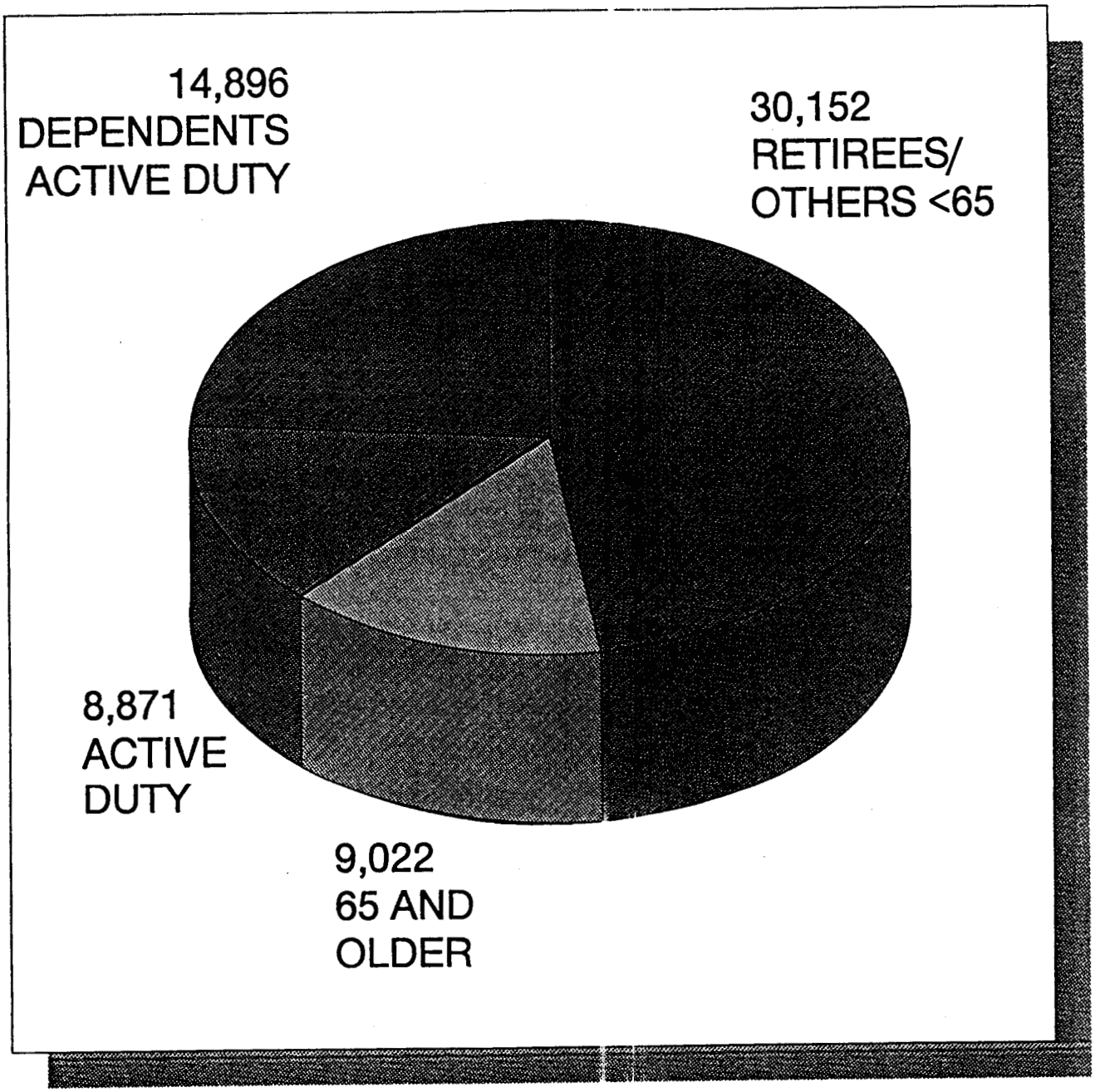
- TWO-THIRDS OF THE CURRENT POPULATION ARE RETIREE/OTHER BENEFICIARIES

- THESE POPULATION DATA WERE TAKEN FROM THE FY89 DEFENSE MEDICAL INFORMATION SYSTEM (DMIS), BASED ON COUNTS OF ELIGIBLE BENEFICIARIES IN THE DEFENSE ELIGIBILITY ENROLLMENT REPORTING SYSTEM (DEERS) AS OF 30 SEPTEMBER 1989, REPORTED THROUGH THE RESOURCE ANALYSIS AND PLANNING SYSTEM (RAPS) MODEL

- AFTER LOWRY CLOSES, WE ESTIMATE THE POPULATION WILL DECREASE TO ABOUT 53,000, 80% OF WHICH WILL BE RETIREE/OTHER

BACKGROUND OF PROBLEM

– CURRENT FAMC CATCHMENT AREA POPULATION (WITH LOWRY) –



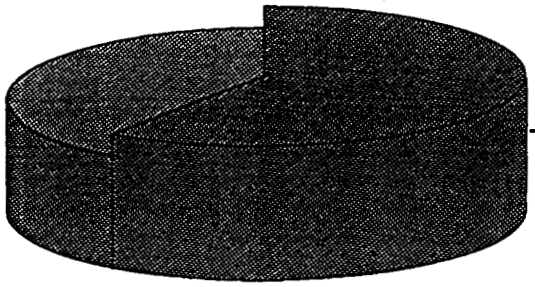
- ABOUT HALF OF THE INPATIENT WORKLOAD AND 25% OF THE OUTPATIENT WORKLOAD IS CURRENTLY COMING FROM OUTSIDE THE FAMC CATCHMENT AREA

- THE INPATIENT PERCENTAGES WERE CALCULATED USING FY89 SERVICES' BIOMETRICS DATA

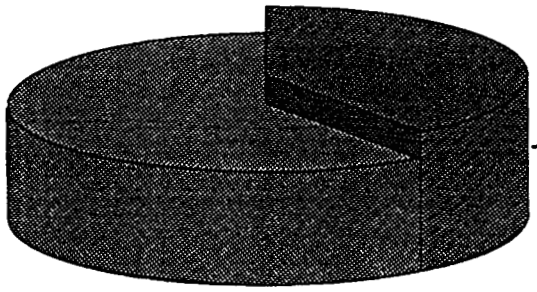
- THE OUTPATIENT PERCENTAGE WAS CALCULATED USING DATA PROVIDED THROUGH A SPECIAL REQUEST TO THE FAMC PATIENT ADMINISTRATION OFFICE

BACKGROUND OF PROBLEM

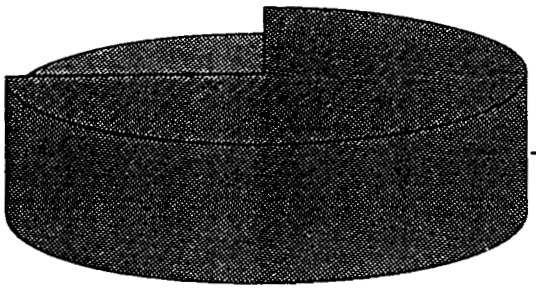
-- ORIGIN OF CARE CURRENTLY SEEN AT FAMC --



60% OF DISPOSITIONS FROM WITHIN 40 MILES



40% OF BED DAYS FROM WITHIN 40 MILES



75% OF VISITS FROM WITHIN 40 MILES

- THE DENVER VAMC DOES NOT APPEAR TO OFFER A CONSTRUCTION SHARING OPPORTUNITY

- ABUNDANT CIVILIAN RESOURCES ARE AVAILABLE IN DENVER, ALTHOUGH CHAMPUS COSTS ARE RELATIVELY HIGH

- THIS ASSESSMENT OF ALTERNATIVE LOCAL RESOURCES WAS MADE THROUGH EXAMINATION OF PUBLISHED DATA AND INTERVIEWS CONDUCTED DURING A 3-DAY SITE VISIT TO THE DENVER AREA

BACKGROUND OF PROBLEM

-- OTHER HEALTH CARE RESOURCES NEAR FAMC --

- DENVER VA MEDICAL CENTER
  - 3 MILES FROM FAMC
  - 300 BEDS AT 83% OCCUPANCY
  - NO EXCESS CAPACITY PROJECTED
- DENVER CIVILIAN SECTOR
  - ABUNDANCE OF SOPHISTICATED FACILITIES (5,000 BEDS)
  - ABUNDANCE OF PHYSICIANS
  - CAPACITY TO ABSORB LOCAL CARE
  - RELATIVELY HIGH CHAMPUS COSTS (MANY TEACHING FACILITIES)

OUTLINE OF PRESENTATION

- BACKGROUND OF PROBLEM
- ANALYSIS APPROACH
- SUMMARY OF FINDINGS
- ANALYSIS RESULTS SUPPORTING FINDINGS

LOWRY CLOSURE

- THE IMPACT OF LOWRY CLOSURE ON THE FAMC ACTIVE DUTY POPULATION WAS ESTIMATED BY REMOVING THE NEARLY 5,000 PEOPLE CURRENTLY MAPPED TO THE LOWRY AFB ZIP CODE WORK STATION

- ABOUT 350 ACTIVE DUTY AIR FORCE WERE ASSUMED TO REMAIN AT THE DEFENSE FINANCE AND ACCOUNTING CENTER AND THE AIR FORCE RESERVE PERSONNEL CENTER, BASED ON NUMBERS CURRENTLY MAPPED TO THOSE 2 ZIP CODE LOCATIONS. FAMC AND TENANT UNITS WERE ASSUMED TO REMAIN

- THE IMPACT OF LOWRY CLOSURE ON THE FAMC DEPENDENT OF ACTIVE DUTY POPULATION WAS ESTIMATED BY APPLYING THE HISTORICAL CATCHMENT AREA DEPENDENCY RATIO TO THE ACTIVE DUTY DECREASE

- THE NET EFFECT OF LOWRY CLOSURE WAS A PROJECTED 56% DECREASE IN THE ACTIVE DUTY POPULATION AND A 58% DECREASE IN DEPENDENTS OF ACTIVE DUTY FROM FY89 TO FY98:

	FY89 (000)	FY98 w/o LOWRY (000)
AD	9	4
DAD	15	6
RET/OTH <65	30	33
65+	9	10
TOTAL	63	53

- AS PART OF LOWRY CLOSING, VISITS HISTORICALLY SEEN AT THE LOWRY AFB CLINIC WERE COMBINED WITH FAMC VISITS, AND THE COMBINED LOCAL OUTPATIENT REQUIREMENTS WERE PROJECTED TO DECREASE ACCORDING TO THE POPULATION DECREASE

CLOSURE OF GME PROGRAMS

- CLOSURE OF 4 GME PROGRAMS WAS IMPLEMENTED BY ELIMINATING ALL REFERRAL CARE FROM OUTSIDE THE CATCHMENT AREA IN OBSTETRICS, PEDIATRICS, ADOLESCENT MEDICINE, AND PULMONARY MEDICINE.

- THE NET EFFECT OF THIS ASSUMPTION WAS A DECREASE IN TOTAL PROJECTED DEMAND OF 1,123 DISPOSITIONS, 7,652 BED DAYS, AND 13,712 VISITS

- BREAKDOWN OF 7,652 DECREASED DAYS:

	COL SPGS	OTHER REFERRAL
OB	864	2762
PEDS	734	1906
MED	285	1101

ANALYSIS APPROACH

-- REVISIONS MADE TO ORIGINAL EA REQUIREMENTS ANALYSIS --

PROJECTED HEALTH CARE REQUIREMENTS AT FAMC WERE REVISED TO REFLECT:

- LOWRY CLOSURE;
- CLOSURE OF 4 GME PROGRAMS; AND
- CHANGE IN ASSUMPTION ABOUT MTF-TO-CHAMPUS TRADEOFFS

FAMC EXAMINED UNDER 3 CASES

(1) LOCAL CATCHMENT AREA REQUIREMENTS

(2) LOCAL CATCHMENT AND HISTORICAL COLORADO SPRINGS REFERRAL REQUIREMENTS

(3) LOCAL AND ALL HISTORICAL REFERRAL REQUIREMENTS

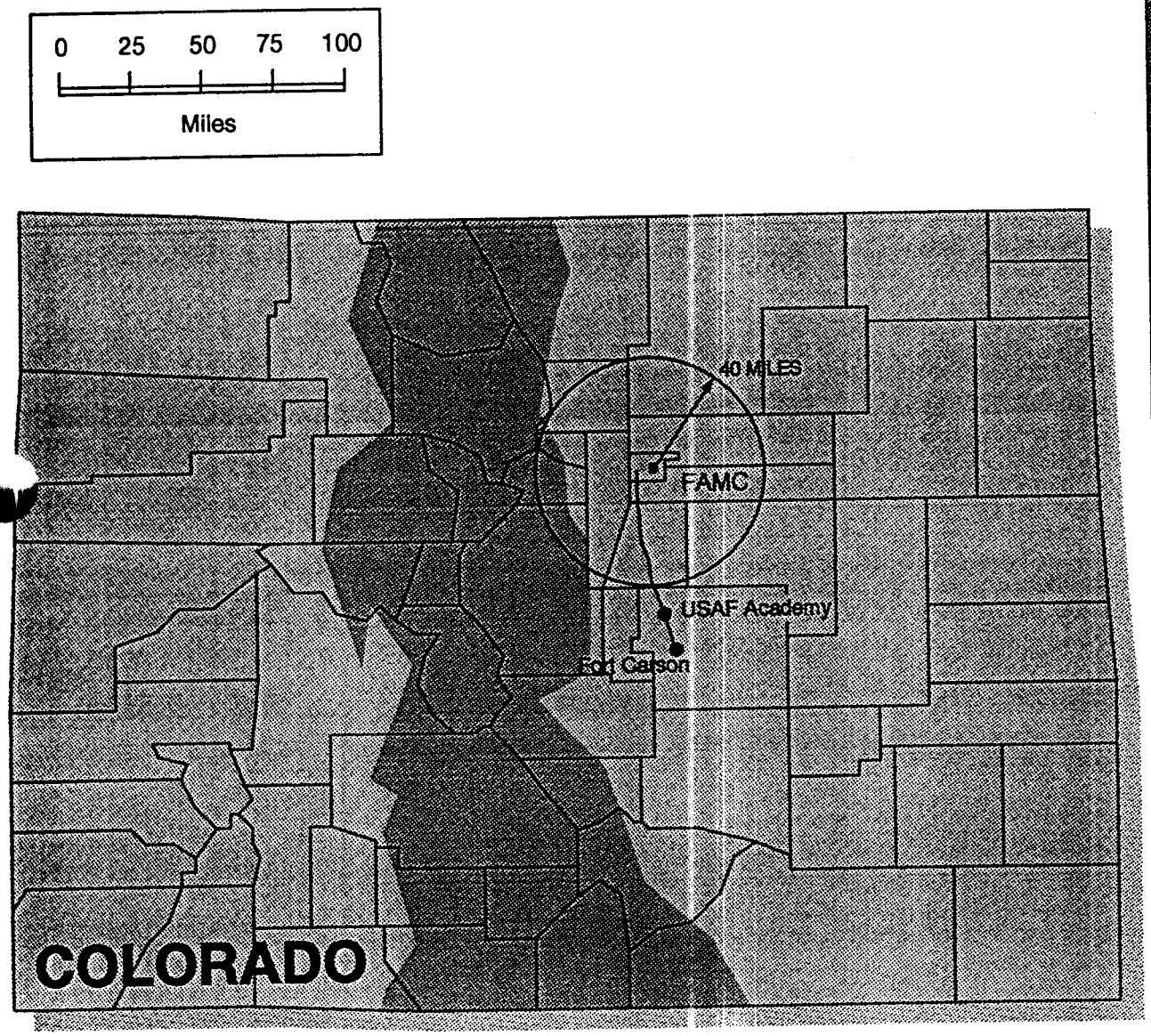
NOTE: AS IN ORIGINAL EA, DETAILED CONSTRUCTION OPTIONS AND COSTS WERE NOT ANALYZED

- UNDER CASE 1, THE EA DETERMINED THE MOST COST-EFFECTIVE LEVEL OF OPERATION (NOT CONSIDERING CONSTRUCTION COSTS) TO SERVE DoD HEALTH CARE REQUIREMENTS IN THE 40-MILE CATCHMENT AREA

ANALYSIS APPROACH

-- CASE 1:

FAMC SIZED FOR 40 MILE CATCHMENT AREA REQUIREMENTS --

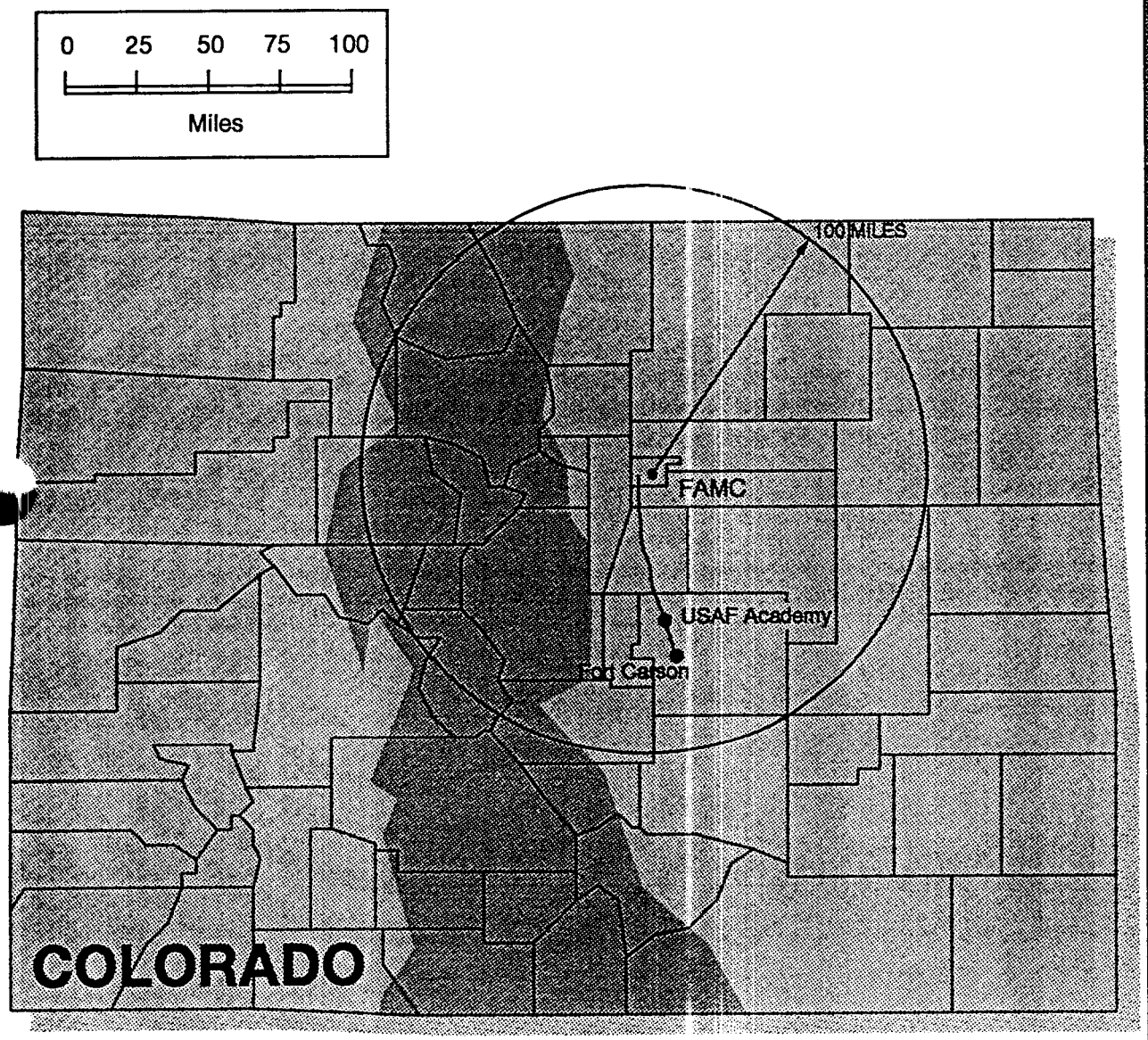


- UNDER CASE 2, THE EA DETERMINED THE MOST COST-EFFECTIVE LEVEL OF OPERATION (NOT CONSIDERING CONSTRUCTION COSTS) TO SERVE DoD HEALTH CARE REQUIREMENTS IN THE 40-MILE CATCHMENT AREA, PLUS CARE HISTORICALLY SEEN FROM THE COLORADO SPRINGS AREA

ANALYSIS APPROACH

-- CASE 2:

FAMC SIZED FOR 100 MILE "SERVICE AREA" REQUIREMENTS --



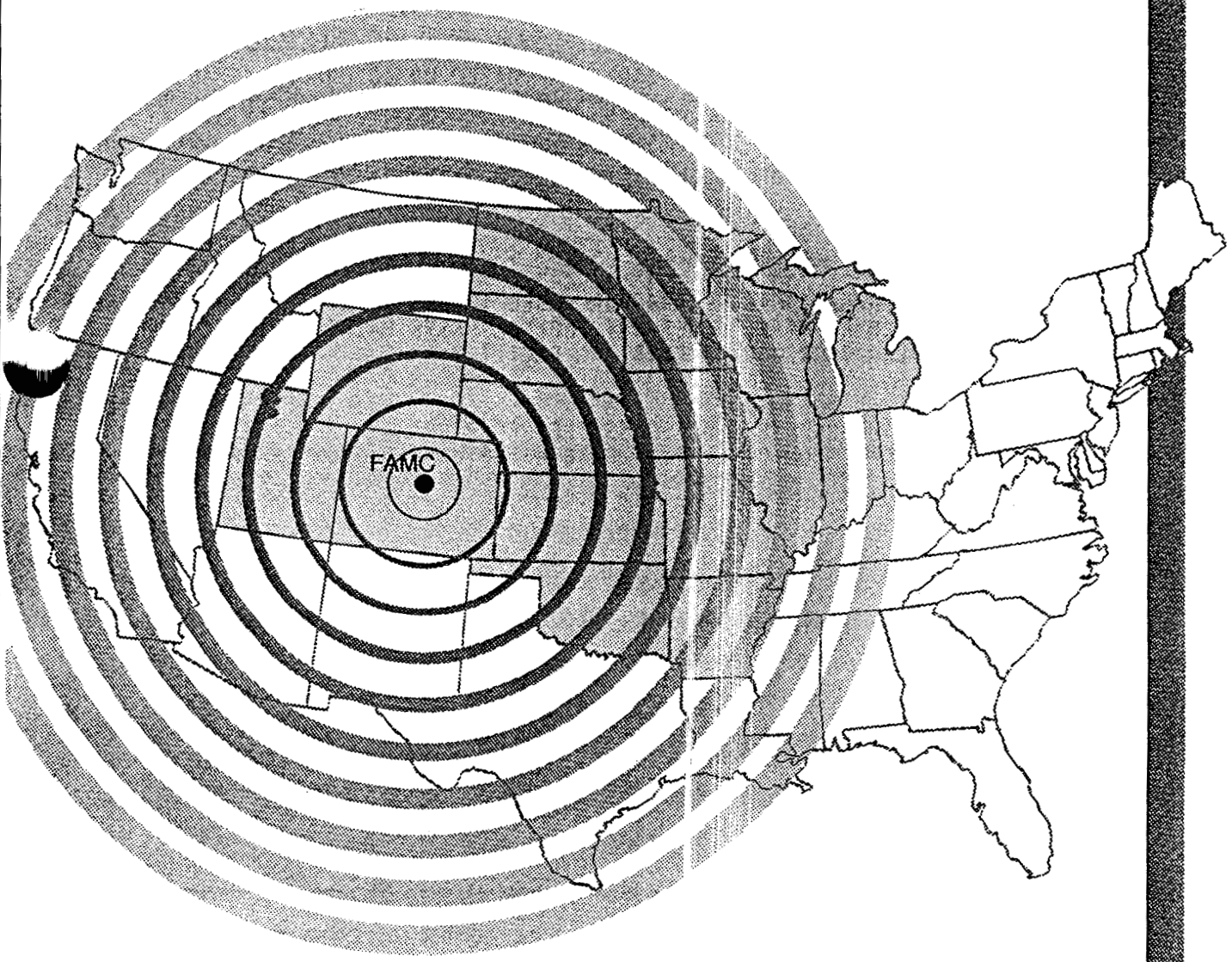
- UNDER CASE 3, THE EA DETERMINED THE MOST COST-EFFECTIVE LEVEL OF OPERATION (NOT CONSIDERING CONSTRUCTION COSTS) TO SERVE DoD HEALTH CARE REQUIREMENTS IN THE 40-MILE CATCHMENT AREA, PLUS ALL CARE HISTORICALLY REFERRED TO FAMC

ANALYSIS APPROACH

– CASE 3:

FAMC SIZED FOR HISTORICAL REFERRAL REQUIREMENTS –

WHILE FAMC RECEIVES REFERRALS FROM AROUND THE WORLD, SHADED REGION REPRESENTS 15-STATE ARMY HEALTH SERVICES REGION – PRIMARY AREA OF FAMC RESPONSIBILITY –



- BEST ECONOMIC OPERATING SOLUTION WAS DERIVED THROUGH DETAILED COMPARISON OF COSTS TO PROVIDE VS. BUY CARE IN EACH CLINICAL AREA, FOR EACH BENEFICIARY TYPE. CONSTRUCTION COSTS WERE NOT CONSIDERED, BUT CAN BE EXAMINED RELATIVE TO TOTAL LIFE-CYCLE SAVINGS IN OPERATING COSTS

- GOVERNMENT COSTS TO PROVIDE CARE AT FAMC WERE BASED ON MODELS OF MEPRS COSTS OVER ALL REFERRAL FACILITIES

- GOVERNMENT COSTS TO PURCHASE CARE WERE BASED ON COLORADO AREA HISTORICAL CHAMPUS COSTS

- GOVERNMENT COSTS TO PROVIDE CARE AT OTHER REFERRAL MTFS WERE ASSUMED COMPARABLE TO FAMC COSTS -- THE SAME MEPRS-BASED DIRECT CARE REFERRAL COST MODELS WERE USED

- NO MTF = ALL RECAPTURABLE CARE PURCHASED THROUGH CIVILIAN SECTOR OR SENT TO OTHER REFERRAL MTFS. DOES NOT INCLUDE COSTS GAINED OR LOST DUE TO CLOSURE, SALE, OR REUSE OF EXISTING FACILITY

- ALL CARE = FAMC PROVIDES ALL POSSIBLE RECAPTURABLE CARE, WHICH INCLUDES CARE PROVIDED HISTORICALLY PLUS CARE RECAPTURABLE FROM CHAMPUS

ANALYSIS APPROACH

-- REVISIONS MADE TO ORIGINAL EA COST ANALYSIS --

UNDER EACH CASE:

- ORIGINAL EA COST ESTIMATES WERE USED TO DETERMINE THE BEST ECONOMIC OPERATING SOLUTION (BEOS)
- TOTAL COSTS TO PROVIDE OR PURCHASE HEALTH CARE WERE SUMMED UNDER THREE SCENARIOS: BEOS, NO MTF, AND ALL CARE
- ANNUAL SAVINGS AND PRESENT VALUE SAVINGS RELATIVE TO NO MTF WERE CALCULATED

NOTE: AS IN ORIGINAL EA, DETAILED CONSTRUCTION OPTIONS AND COSTS WERE NOT ANALYZED

ANALYSIS APPROACH

-- MAJOR ASSUMPTIONS --

- LOWRY AFB WILL BE CLOSED BY THE FY98 EA TARGET PROJECTON DATE
- FOUR FAMC GME PROGRAMS WILL CLOSE: PEDIATRICS, OBSTETRICS, PULMONARY, ADOLESCENT MEDICINE
- REFERRAL CARE FROM > 100 MILES AWAY WOULD GO TO ANOTHER REFERRAL MTF IF NOT TO FAMC
- REFERRAL CARE FROM WITHIN 100 MILES (COLORADO SPRINGS) WOULD GO TO ANOTHER REFERRAL MTF IF ACTIVE DUTY, AND TO CHAMPUS IF NON-ACTIVE DUTY
- CAPACITY WILL EXIST WITHIN MILITARY REFERRAL SYSTEM TO ABSORB CURRENT FAMC REFERRAL CARE AT COMPARABLE COST

ANALYSIS APPROACH

-- ADDITIONAL ASSUMPTIONS TESTED --

- AS CARE SHIFTS BETWEEN THE MTF AND CHAMPUS, EQUAL NUMBERS OF DAYS AND VISITS ARE SEEN AND PAID FOR BY DoD (1:1 TRADEOFF)

- DETERMINATION OF THE BEST ECONOMIC OPERATING SOLUTION AND CALCULATION OF SAVINGS IS BASED ON COSTS TO DoD

OUTLINE OF PRESENTATION

- BACKGROUND OF PROBLEM
- ANALYSIS APPROACH
- SUMMARY OF FINDINGS
- ANALYSIS RESULTS SUPPORTING FINDINGS

- ASSUMING TRADEOFF FACTORS = 1, AND MINIMIZING COST TO DOD:
  - UNDER CASE 1, FAMC OPERATES 95 BEDS AND PROVIDES 292,373 ANNUAL VISITS
  - UNDER CASE 2, FAMC OPERATES 131 BEDS AND PROVIDES 334,865 ANNUAL VISITS
  - UNDER CASE 3, FAMC OPERATES 299 BEDS AND PROVIDES 378,084 ANNUAL VISITS

- <u>INCLUDING MEDICARE COSTS,</u> FAMC SHOULD BE SIZED FOR ALL CARE TO 65 AND OLDER EXCEPT ALLERGY, DERMATOLOGY, NEUROLOGY, AND PSYCH. THIS ADDS 46 BEDS AND 53,000 VISITS TO THE BEOS UNDER CASE 1, AND 56 BEDS AND 57,000 VISITS TO THE BEOS UNDER CASES 2 AND 3

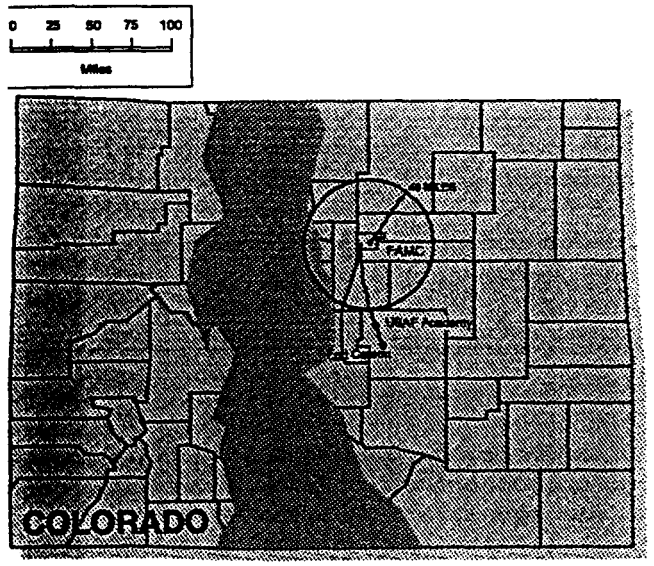
- <u>ASSUMING TRADEOFF FACTORS>1</u> [CONSISTENT WITH THE SEPT 1989 OASD(HA) MEMORANDUM], THE FOLLOWING TYPES OF CARE ARE NO LONGER COST-EFFECTIVE:
  - ALL CARE TO RETIREES/OTHERS UNDER AGE 65 EXCEPT OB; AND
  - GENERAL MEDICAL CARE, DERM, AND NEURO TO DEPENDENTS OF ACTIVE DUTY

  WHILE THE WORKLOAD RECAPTURED BY FAMC FOR CARE THAT IS COST-EFFECTIVE INCREASES UNDER TRADEOFF FACTORS > 1, THE NET EFFECT IS A DECREASE OF 65 BEDS AND 232,000 VISITS FROM THE BEOS UNDER CASE 1, AND A DECREASE OF 62 BEDS AND 261,000 VISITS FROM THE BEOS UNDER CASES 2 AND 3. (NOTE THAT DIFFERENT OCCUPANCY RATES USED IN CALCULATING BEDS AT DIFFERENT ADPL LEVELS CAUSES A GREATER IMPACT ON CASE 1 BEDS THAN ON CASE 2 AND 3 BEDS)

- THE COMBINATION OF <u>ASSUMING TRADEOFF FACTORS > 1</u> AND <u>INCLUDING MEDICARE COSTS</u> RESULTS IN SOLUTIONS SLIGHTLY SMALLER THAN THOSE SHOWN IN THE SLIDE: 82 BEDS AND 113,667 VISITS UNDER CASE 1, 119 BEDS AND 130,899 VISITS UNDER CASE 2, AND 281 BEDS AND 174,118 VISITS UNDER CASE 3

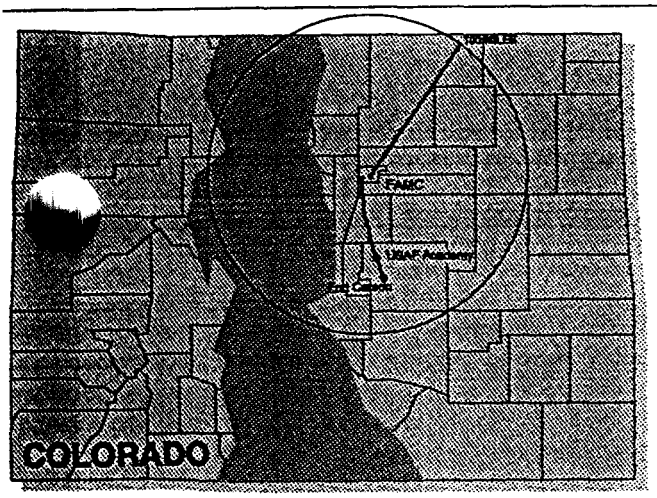
SUMMARY OF FINDINGS

– BEST ECONOMIC OPERATING SOLUTIONS –



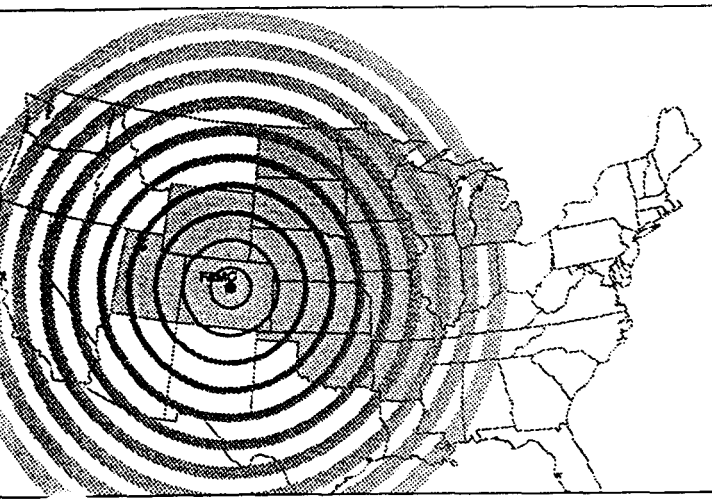
CASE 1: 95 BEDS

- FAMC PROVIDES ALL TYPES OF CARE TO CATCHMENT AREA ACTIVE DUTY AND THEIR DEPENDENTS, AND ALL BUT DERMATOLOGY AND PSYCH TO RETIREES/OTHERS < 65
- FAMC NOT SIZED FOR LOCAL 65 AND OLDER (SEEN ON SPACE AVAILABLE BASIS)



CASE 2: 131 BEDS

- FAMC PROVIDES ALL TYPES OF CARE TO CATCHMENT AREA AND HISTORICAL COLORADO SPRINGS REFERRAL ACTIVE DUTY AND THEIR DEPENDENTS, AND ALL BUT DERMATOLOGY AND PSYCH TO RETIREES/OTHERS < 65
- FAMC NOT SIZED FOR 65 AND OLDER



CASE 3: 299 BEDS

- FAMC PROVIDES ALL TYPES OF CARE TO CATCHMENT AREA AND ALL HISTORICAL REFERRAL ACTIVE DUTY AND THEIR DEPENDENTS, AND ALL BUT DERMATOLOGY AND PSYCH TO RETIREES/OTHERS < 65
- FAMC NOT SIZED FOR 65 AND OLDER

L SOLUTIONS MINIMIZE COST TO DoD UNDER CASE CONSIDERED
L SOLUTIONS ASSUME 1 :1 MTF - TO - CHAMPUS TRADEOFFS

- DEPENDING ON THE RELATIVE COSTS OF CONSTRUCTION, CASE 1 (AT 95 BEDS AND $185 MILLION IN FY98 PRESENT VALUE SAVINGS) APPEARS TO OFFER THE BEST POTENTIAL RETURN ON A CONSTRUCTION INVESTMENT OF THE THREE CASES

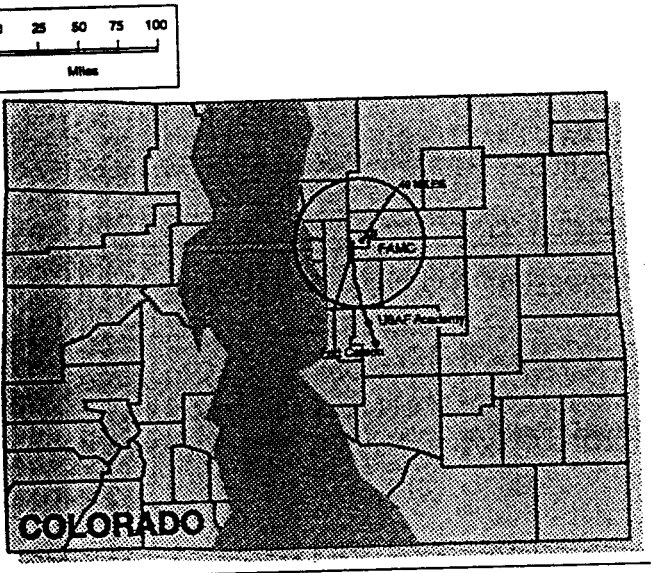
- CASES 2 AND 3 GENERATE EQUAL SAVINGS BECAUSE REFERRALS FROM OUTSIDE 100 MILES ARE ASSUMED TO BE COST-NEUTRAL -- SIZING FAMC TO PROVIDE THE ADDITIONAL 168 BEDS DOES NOT GENERATE ADDITIONAL SAVINGS IF THE CARE WOULD OTHERWISE GO TO ANOTHER REFERRAL MTF

- <u>INCLUDING MEDICARE COSTS</u> IN THE ANALYSIS INCREASES THE COST SAVINGS TO THE GOVERNMENT. THE BEOS INCLUDING MEDICARE COSTS (ASSUMING TRADEOFF FACTORS = 1) FOR CASE 1 SAVES $29 MILLION ANNUALLY OVER NO MTF, FOR A PRESENT VALUE SAVINGS OF $263 MILLION, AND FOR CASES 2 AND 3 SAVES $37 MILLION ANNUALLY, FOR A PRESENT VALUE SAVINGS OF $339 MILLION

- <u>ASSUMING TRADEOFF FACTORS > 1</u> DECREASES THE OVERALL COST SAVINGS OF THE BEOS RELATIVE TO NO MTF. THE BEOS ASSUMING TRADEOFF FACTORS > 1 (AND DoD COSTS ONLY) UNDER ALL CASES SAVES ABOUT $10 MILLION PER YEAR, FOR A TOTAL PRESENT VALUE SAVINGS OF $92 MILLION. IN OTHER WORDS, WHEN TRADEOFF FACTORS CONSISTENT WITH THE SEPT 1989 OASD(HA) MEMORANDUM ARE USED, THE ANALYSIS SHOWS THAT SAVINGS TO DoD WOULD NOT OFFSET MORE THAN $92 MILLION IN CONSTRUCTION COSTS

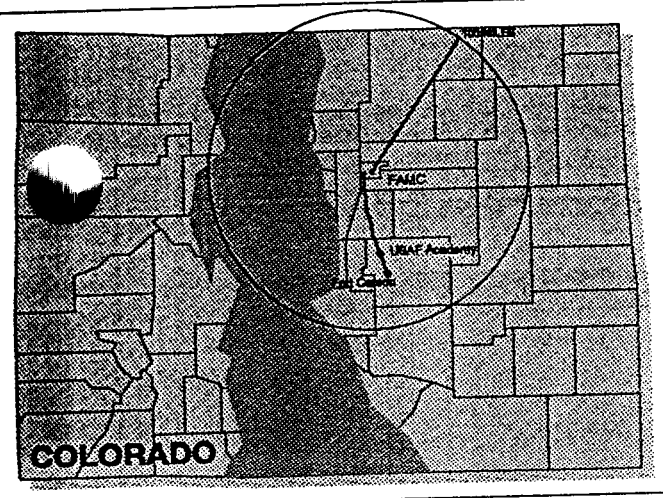
- THE COMBINATION OF <u>ASSUMING TRADEOFF FACTORS > 1</u> AND <u>INCLUDING MEDICARE COSTS</u> RESULTS IN THE BEOS UNDER CASE 1 SAVING ABOUT $19 MILLION PER YEAR FOR A PRESENT VALUE SAVINGS OF $170 MILLION, AND UNDER CASES 2 AND 3 SAVING $21 MILLION PER YEAR FOR A PRESENT VALUE SAVINGS OF $188 MILLION

SUMMARY OF FINDINGS
– COST SAVINGS UNDER BEST ECONOMIC OPERATING SOLUTION (BEOS)[1] –



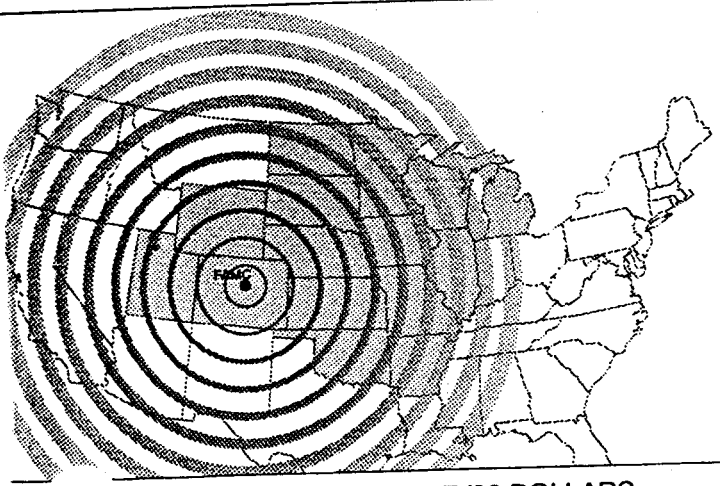
CASE 1: 95 BEDS

ANNUAL $ NO MTF	ANNUAL $ BEOS	ANNUAL SAVINGS	PRESENT VALUE SAVINGS [2]
86	66	20	185



CASE 2: 131 BEDS

ANNUAL $ NO MTF	ANNUAL $ BEOS	ANNUAL SAVINGS	PRESENT VALUE SAVINGS [2]
108	81	27	243



CASE 3: 299 BEDS

ANNUAL $ NO MTF	ANNUAL $ BEOS	ANNUAL SAVINGS	PRESENT VALUE SAVINGS [2]
156	129	27	243

1 COSTS IN MILLIONS OF FY98 DOLLARS
2 PRESENT VALUE SAVINGS CALCULATED OVER 25 - YEAR LIFESPAN AT 10% DISCOUNT RATE, AND REPRESENTS ESTIMATED LEVEL OF COST - JUSTIFIED CONSTRUCTION

- AS A FIRST LOOK AT EXAMINING THE POTENTIAL IMPACT OF CHANGES IN THE WAY DoD PROVIDES HEALTH CARE, ONE MEASURE WAS EXAMINED -- INPATIENT CARE PROVIDED AT FAMC THAT IS "NOT NORMALLY HOSPITALIZED" ACCORDING TO DoD-ESTABLISHED NORMS

- DIAGNOSES NOT NORMALLY HOSPITALIZED REPRESENTED A VERY SMALL PART OF FAMC INPATIENT WORKLOAD, AS SHOWN

- THE FIGURES SHOWN WERE DERIVED FROM FY89 RETROSPECTIVE CASE MIX ANALYSIS SYSTEM (RCMAS) DATA FOR CARE PROVIDED AT FAMC

SUMMARY OF FINDINGS

-- INITIAL EXAMINATION OF UTILIZATION MANAGEMENT --

DIAGNOSES NOT NORMALLY HOSPITALIZED IN FY89 REPRESENTED:

- 10% OF FAMC DISPOSITIONS
- 2% OF FAMC BED DAYS

ESTIMATED IMPACT ON BEOS OF ELIMINATING THIS CARE WOULD BE:

- CASE 1: 2 LESS BEDS
- CASE 2: 3 LESS BEDS
- CASE 3: 6 LESS BEDS

OUTLINE OF PRESENTATION

- BACKGROUND OF PROBLEM
- ANALYSIS APPROACH
- SUMMARY OF FINDINGS
- ANALYSIS RESULTS SUPPORTING FINDINGS

- WORKLOADS SHOWN REFLECT TOTAL WORKLOAD POTENTIALLY PROVIDED AT FAMC, INCLUDING:
  - CARE HISTORICALLY PROVIDED BY FAMC TO CATCHMENT POPULATION;
  - CARE POTENTIALLY RECAPTURABLE FROM CATCHMENT CHAMPUS; AND
  - REFERRAL CARE HISTORICALLY PROVIDED BY FAMC (FROM COLORADO SPRINGS OR ELSEWHERE)

- WORKLOADS SHOWN IN THIS EXHIBIT AND THE PAGES THAT FOLLOW <u>DO NOT INCLUDE</u> CARE THAT WOULD NOT POTENTIALLY BE PROVIDED AT FAMC, INCLUDING:
  - CHAMPUS CARE NOT RECAPTURABLE BY FAMC;
  - CARE BEING PROVIDED AT OTHER MTFs, INCLUDING AF ACADEMY AND FT CARSON; AND
  - REFERRAL CARE IN PEDS, OB, ADOLESCENT MED, AND PULMONARY THAT WILL NO LONGER BE SENT TO FAMC UNDER CLOSURE OF GME PROGRAMS.

ANALYSIS RESULTS SUPPORTING FINDINGS

-- COMPONENTS OF FY98 TOTAL FAMC REQUIREMENTS --

ORIGIN OF REQUIREMENTS	POTENTIAL ADPL			POTENTIAL VISITS		
	< 65	65+	TOTAL	< 65	65+	TOTAL
FAMC CATCHMENT AREA (WITHIN 40 MILES)	85	45	130	316,897	62,217	379,114
COLORADO SPRINGS REFERRALS (WITHIN 100 MILES)	37	8	45	45,314	4,563	49,877
ALL OTHER REFERRALS (OUTSIDE 100 MILES)	139	26	165	37,803	5,416	43,219
TOTAL	261	79	340	400,014	72,196	472,210

NOTE: DATA REPRESENT TOTAL POTENTIAL WORKLOADS PRIOR TO ANALYSIS OF COST-EFFECTIVENESS UNDER THE VARIOUS COMBINATIONS EXAMINED

COMPARISON OF WORKLOADS
ACROSS SCENARIOS
CASE 1:
FAMC SERVING 40-MILE CATCHMENT AREA

CHARACTERISTICS OF EACH SCENARIO	SCENARIOS		
	NO MTF	BEST ECONOMIC OPERATING SOLUTION	ALL CARE
FAMC WORKLOADS			
DISPOSITIONS/YEAR	0	4,714	6,952
BED DAYS/YEAR	0	28,404	47,451
ADPL	0	78	130
VISITS/YEAR	0	292,373	379,114
FAMC BEDS			
MEDICAL/SURGICAL	0	79	125
OBSTETRICAL	0	11	11
PSYCHIATRIC	0	5	12
TOTAL	0	95	148
OTHER MTFs			
ADPL	0	0	0
VISITS/YEAR	0	0	0
CIVILIAN CARE			
ADPL	130	52	0
VISITS/YEAR	379,114	86,741	0

DOD COSTS ONLY
TRADEOFF FACTORS = 1

NOTE: OUTSIDE THE FAMC CATCHMENT AREA, ANOTHER 185 ADPL AND 54,851 VISITS HISTORICALLY SEEN AT FAMC WOULD BE SEEN AT OTHER REFERRAL MTFs, AND ANOTHER 25 ADPL AND 38,245 VISITS WOULD BE SEEN IN THE COLORADO SPRINGS AREA.

COMPARISON OF COSTS
ACROSS SCENARIOS
CASE 1:
FAMC SERVING 40-MILE CATCHMENT AREA

COSTS IN EACH SCENARIO IN MILLIONS OF FY98 DOLLARS	SCENARIOS		
	NO MTF	BEST ECONOMIC OPERATING SOLUTION 95 BEDS	ALL CARE 148 BEDS
ANNUAL FAMC OPERATING COSTS	0	62	87
INPATIENT COSTS	0	25	39
OUTPATIENT COSTS	0	37	48
ANNUAL OTHER MTF OPERATING COSTS	0	0	0
INPATIENT COSTS	0	0	0
OUTPATIENT COSTS	0	0	0
ANNUAL CIVILIAN CARE COSTS	86	4	0
INPATIENT COSTS	46	1	0
OUTPATIENT COSTS	40	3	0
TOTAL ANNUAL DOD COST	86	66	87
OPERATING SAVINGS OVER NO MTF			
ANNUAL SAVINGS		20	(1)
"PRESENT" VALUE OF OPERATING SAVINGS		185	(9)

DOD COSTS ONLY
TRADEOFF FACTORS = 1

COMPARISON OF WORKLOADS
ACROSS SCENARIOS
CASE 2:
FAMC SIZED FOR 100-MILE SERVICE AREA REQUIREMENTS

CHARACTERISTICS OF EACH SCENARIO	SCENARIOS		
	NO MTF	BEST ECONOMIC OPERATING SOLUTION	ALL CARE
FAMC WORKLOADS			
DISPOSITIONS/YEAR	0	6,041	8,543
BED DAYS/YEAR	0	41,947	64,013
ADPL	0	115	175
VISITS/YEAR	0	334,865	428,991
FAMC BEDS			
MEDICAL/SURGICAL	0	111	170
OBSTETRICAL	0	11	11
PSYCHIATRIC	0	10	17
TOTAL	0	131	198
OTHER MTFs			
ADPL	20	0	0
VISITS/YEAR	11,632	0	0
CIVILIAN CARE			
ADPL	155	60	0
VISITS/YEAR	417,359	94,126	0

DOD COSTS ONLY
TRADEOFF FACTORS = 1

NOTE: OUTSIDE THE 100-MILE "SERVICE AREA", ANOTHER 165 ADPL AND 43,219 VISITS HISTORICALLY SEEN AT FAMC WOULD BE SEEN AT OTHER REFERRAL MTFs.

COMPARISON OF COSTS
ACROSS SCENARIOS
CASE 2:
FAMC SIZED FOR 100-MILE SERVICE AREA REQUIREMENTS

COSTS IN EACH SCENARIO IN MILLIONS OF FY98 DOLLARS	SCENARIOS		
	NO MTF	BEST ECONOMIC OPERATING SOLUTION 131 BEDS	ALL CARE 198 BEDS
ANNUAL FAMC OPERATING COSTS	0	77	105
INPATIENT COSTS	0	34	51
OUTPATIENT COSTS	0	43	55
ANNUAL OTHER MTF OPERATING COSTS	6	0	0
INPATIENT COSTS	4	0	0
OUTPATIENT COSTS	2	0	0
ANNUAL CIVILIAN CARE COSTS	102	4	0
INPATIENT COSTS	57	1	0
OUTPATIENT COSTS	45	3	0
TOTAL ANNUAL DOD COST	108	81	105
OPERATING SAVINGS OVER NO MTF			
ANNUAL SAVINGS		27	3
"PRESENT" VALUE OF OPERATING SAVINGS		243	23

DOD COSTS ONLY
TRADEOFF FACTORS = 1

COMPARISON OF WORKLOADS
ACROSS SCENARIOS
CASE 3:
FAMC SIZED FOR HISTORICAL REFERRAL REQUIREMENTS

CHARACTERISTICS OF EACH SCENARIO	SCENARIOS		
	NO MTF	BEST ECONOMIC OPERATING SOLUTION	ALL CARE
FAMC WORKLOADS			
DISPOSITIONS/YEAR	0	11,221	13,723
BED DAYS/YEAR	0	102,171	124,236
ADPL	0	280	340
VISITS/YEAR	0	378,084	472,210
FAMC BEDS			
MEDICAL/SURGICAL	0	273	329
OBSTETRICAL	0	11	11
PSYCHIATRIC	0	15	22
TOTAL	0	299	362
OTHER MTFs			
ADPL	185	0	0
VISITS/YEAR	54,851	0	0
CIVILIAN CARE			
ADPL	155	60	0
VISITS/YEAR	417,359	94,126	0

DOD COSTS ONLY
TRADEOFF FACTORS = 1

COMPARISON OF COSTS
ACROSS SCENARIOS
CASE 3:
FAMC SIZED FOR HISTORICAL REFERRAL REQUIREMENTS

COSTS IN EACH SCENARIO IN MILLIONS OF FY98 DOLLARS	SCENARIOS		
	NO MTF	BEST ECONOMIC OPERATING SOLUTION 299 BEDS	ALL CARE 362 BEDS
ANNUAL FAMC OPERATING COSTS	0	125	154
INPATIENT COSTS	0	77	93
OUTPATIENT COSTS	0	48	60
ANNUAL OTHER MTF OPERATING COSTS	54	0	0
INPATIENT COSTS	47	0	0
OUTPATIENT COSTS	7	0	0
ANNUAL CIVILIAN CARE COSTS	102	4	0
INPATIENT COSTS	57	1	0
OUTPATIENT COSTS	45	3	0
TOTAL ANNUAL DOD COST	156	129	154
OPERATING SAVINGS OVER NO MTF			
ANNUAL SAVINGS		27	2
"PRESENT" VALUE OF OPERATING SAVINGS		243	23

DOD COSTS ONLY
TRADEOFF FACTORS = 1

VRI-DMFO-1 FR91-1

DRAFT

ECONOMIC ANALYSIS OF FITZSIMONS ARMY MEDICAL CENTER

Volume 1: Executive Summary

The views, opinions, and findings contained in this report are those of the author(s) and should not be construed as an official Department of Defense position, policy, or decision, unless so designated by other official documentation.

VECTOR RESEARCH, INCORPORATED

8 March 1991

VRI-DMFO-1 FR91-1
A. Turner
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8 March 1991

DRAFT

ECONOMIC ANALYSIS OF FITZSIMONS ARMY MEDICAL CENTER

Volume I: Executive Summary

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LIST OF EXHIBITS

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2	Origin of FY89 FAMC Workload	8
3	Graduate Medical Education at FAMC, 1 July 1990	10
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7	Comparison of Health Care Cost Burden Under Each Scenario	20

EXECUTIVE SUMMARY

Vector Research, Incorporated, (VRI) has performed an economic analysis of health care requirements and alternatives for the Fitzsimons Army Medical Center (FAMC) in Aurora, Colorado. The analysis was performed for the United States government under contract number MDA903-90-C-0207, and in accordance with Title 10, Section 1087 of the United States code.

As a quantitative examination of the health care requirements and costs for a particular military medical treatment facility (MTF), the economic analysis (EA) provides one input to the DoD medical facility planning process. Section 1087 specifies that the maximum amount of space that may be programmed for military medical facilities construction is the greater of:

(1) the amount of space required at the facility to support the teaching and training of health-care professionals; and

(2) the amount of space required at the facility to provide the most cost-effective level of inpatient and outpatient care to eligible beneficiaries.

The economic analysis focuses on defining the level described in clause (2) -- the most cost-effective level of inpatient and outpatient care to eligible beneficiaries.

Since FAMC supports Army Graduate Medical Education (GME) and other training programs, the amount of space required to support this continued teaching and training function would be the minimum amount of space which the legislation allows under clause (1). Should the cost-effective levels be greater than the levels to support teaching and training, the economic analysis provides cost-justification for programming the additional space. Should the cost-effective levels be less than the levels to support teaching and training, the economic analysis

FAMC would *not provide care* to local Denver and Colorado Springs area retirees under 65 years old. For the under 65 retiree and dependent, it was found to be cheaper for the government to purchase the care through CHAMPUS than to provide it at FAMC.

Although it is cheaper for the government to provide a unit of workload at FAMC than to purchase it through CHAMPUS, studies have shown that fewer units of health care are purchased by the government when retirees receive care through civilian sources. It is this decrease in total workload seen by the government that makes retiree care cheaper to send out-of-house. Thus, the additional cost savings generated by the Best Economic Solution are due to the fact that the government is paying for less health care. Stated another way the retiree and dependent of retiree beneficiary must bear a larger portion of their health care costs under the BES.

Under the BES, FAMC would operate about 342 beds, and provide 409,000 annual visits. These levels represent over 90% of the inpatient care provided at FAMC in FY89, and nearly 70% of the ambulatory care. Operating the BES facility would save $39 million dollars per year over not operating a facility at FAMC.

The next lowest cost configuration of referral hospital was the provision of all possible care to all beneficiary types. Under this scenario, termed the All Care scenario, FAMC would operate about 425 beds, and provide 661,000 clinic visits. Providing all possible care, while not quite as cost-effective as eliminating some of the retiree care, would still save $32 million dollars per year over not operating a facility at FAMC. This represents a present value savings over the 25-year life cycle of a new facility of nearly $288 million, well over

the $50 to $100 million dollars it would take to construct a new facility.[1]

The sections that follow highlight the major assumptions of the study and summarize the analysis results which support the stated conclusions.

MAJOR ASSUMPTIONS

(1) The analysis determined the most cost-effective level of workload, under the assumption that FAMC would be operating under no space or staff constraints. It was assumed that issues such as manpower availability relative to recommended workload levels would be examined outside the bounds of this study.

(2) Total health care demand at FAMC was defined as all demand from local catchment area beneficiaries and the portion of demand from referral beneficiaries historically provided by FAMC. No attempt was made to quantify or capture additional care from other MTFs or from CHAMPUS outside the local catchment area.

(3) Projection of local catchment area demand was based on forecast local populations, historical workloads, and adjustments for expected changes in the delivery of psychiatric care at the MTF and under CHAMPUS.

(4) Referral demand, which is driven by a variety of policies, conditions, and behavior patterns, was assumed to remain at historical levels.

(5) Care shifted between direct care and CHAMPUS required workload conversions to account for differences in the amount of workload for which the government must pay under each source. The conversion factors used were those dictated in a 12 September 1989 memorandum from the Office of the Assistant Secretary of Defense (Health Affairs). Conversion factors were applied only to medical and surgical care, and were not applied to care provided to active duty beneficiaries or inpatient care provided to active duty dependents.

(6) Since no research was available on Medicare-to-MTF workload conversion factors, no conversion was made when care to older beneficiaries was shifted between Medicare and the MTF.

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[1]The previous EA found that construction costs for the best economic configuration of a referral center at FAMC would be about $75 million.

(7) It was assumed that the Lowry AFB clinic would continue to provide the proportion of care, primarily to US Air Force active duty beneficiaries, that it had in the base year.

(8) Based on government guidance, only referral center options were considered for FAMC. Cost-effective workload levels for local clinic or community hospital configurations were not examined.

(9) All costs were compared in FY98 dollars, the beneficial occupancy date (BOD) for a new or renovated FAMC. Cost savings were calculated over a 25-year facility life cycle, assuming a 10% real discount rate, starting at the BOD.

SUMMARY OF ANALYSIS RESULTS

Overview of the FAMC Area

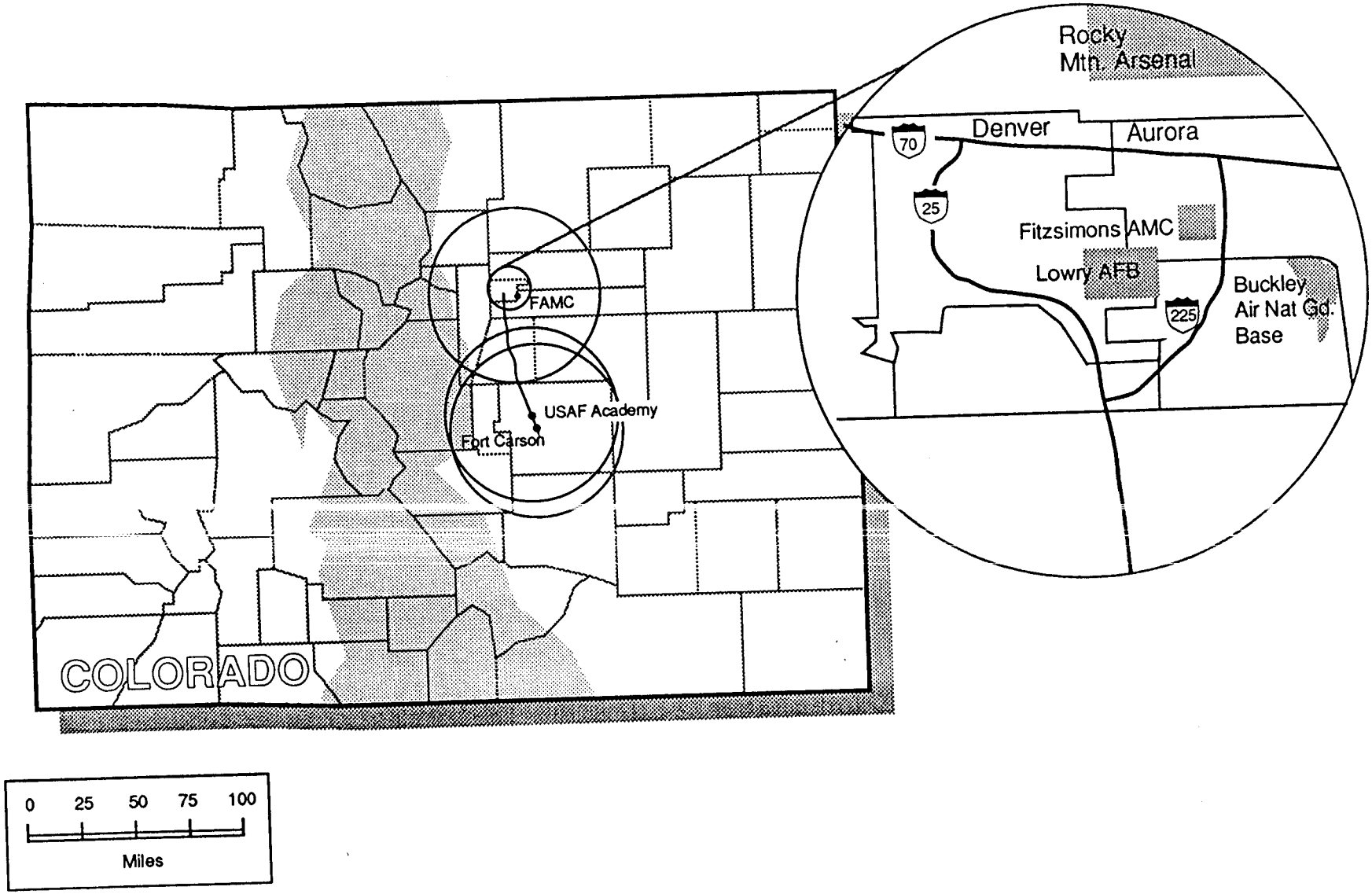
FAMC is located in Aurora, Colorado, just outside of metropolitan Denver. Exhibit 1 displays a map of major military installations in Colorado and an enlarged view of the area surrounding FAMC.

There are two other major military installations in Colorado within driving distance of FAMC: Fort Carson and the Air Force Academy, both in the Colorado Springs area. The circles around these locations on the map represent roughly 40-mile catchment areas around the MTFs at each site. Although Colorado Springs is over an hour's drive (70 miles) from FAMC, the catchment areas of the three facilities do overlap slightly. However, since only 2.5% of the FAMC population resides in the overlap area, the analysis considered Colorado Springs populations and workloads only as they had historically impacted on FAMC referral care.

The enlarged view of the Aurora area on the map shows the proximity of the FAMC installation to Lowry Air Force Base (AFB) and Buckley Air National Guard Base (ANGB); all of these installations are within 10 miles of each other.

Buckley ANGB is primarily a reserve base, and has only a small active duty component. However, as the only active flying base in the

EXHIBIT 1: MAP OF AREA SURROUNDING FITZSIMONS AMC



area, it plays a key role in the area's military medical system as the transport and receiving site for aeromedical evacuation (aerovac) system aircraft.

Lowry AFB is a major technical training center and home to the Air Force Accounting and Finance Center and Air Reserve Personnel Center. Air Force personnel associated with Lowry AFB constitute the majority of the active duty population in the FAMC catchment area. The basic outpatient health care needs of the active duty Air Force population at Lowry are served by the Lowry AFB clinic. The Lowry clinic provides primary care and urgent care such as treatment required for minor accidents or a sudden cold or flu. All other active duty care is referred to FAMC. Air Force active duty dependents and retirees also receive the majority of their health care at FAMC.

Current Operation of FAMC

FAMC today is a major military referral center, providing virtually all types of inpatient and outpatient care. Its mission includes:

(1) Health Care Delivery;

(2) Graduate Medical Education;

(3) Mobilization Readiness;

(4) Tenant Unit Support;

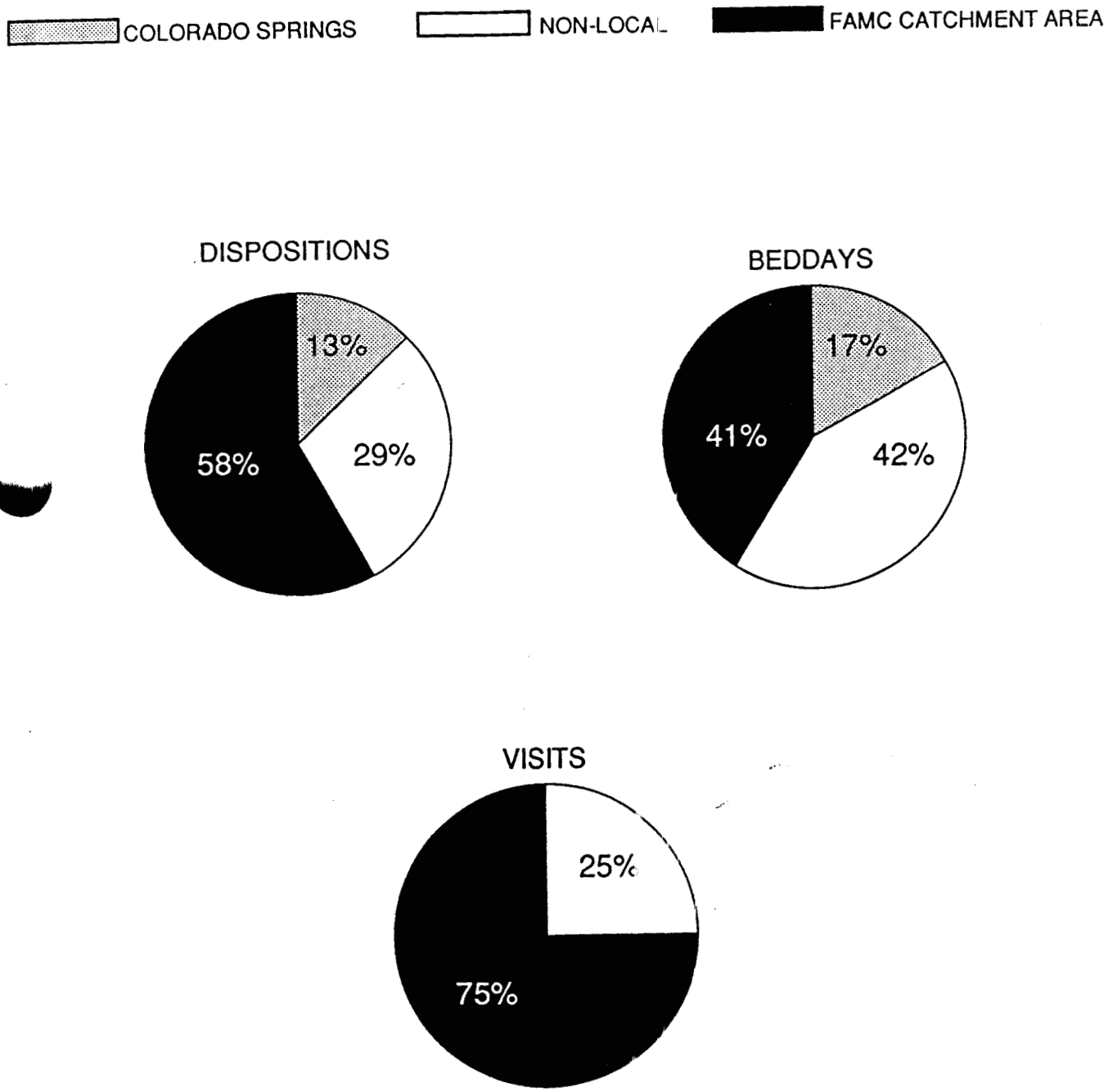
(5) Regional Veterinary Support;

(6) Regional Dental Support; and

(7) Regional Preventative Medicine Support.

FAMC supports the majority of the health care needs of the over 60,000 beneficiaries who live within its 40-mile radius inpatient catchment area. FAMC also provides care annually to over 6,000 inpatients and 125,000 outpatients arriving from outside the local catchment area. Exhibit 2 displays the proportion of care provided to beneficiaries from

EXHIBIT 2: ORIGIN OF FY89 FAMC WORKLOAD



the local catchment area, from the Colorado Springs area, and from the over 150 other locations that sent care to FAMC in FY89. In total, FAMC currently operates about 400 beds, and provides for over 600,000 clinic visits annually.

In addition to delivering health care to local and nonlocal beneficiaries, FAMC supports Army graduate medical education (GME) and the teaching and training of nursing, ancillary, and other health care professionals. Exhibit 3 summarizes GME training currently provided at FAMC, and the proportion of total Army GME it represents.

Assessment of Alternatives to FAMC

For the local catchment area population, both civilian and other federal alternatives to FAMC were assessed. There is an abundance of sophisticated medical care available through the Denver civilian sector, with 5,000 short-term beds operating in the immediate Denver area, and an estimated excess capacity of about 1,000 beds. Physicians, particularly specialists, are also in large supply.

The other federal health care facility in the area is operated by the Department of Veterans Affairs (VA). The Denver VA Medical Center currently operates about 300 beds, at an average occupancy rate of 83%. The Denver VAMC reports no substantial excess capacity, and no plans for significant expansion in the near future, so this does not appear to be a likely option for local FAMC beneficiaries.

The high cost and competitive nature of health care in the Denver area appears to have created a favorable market for managed care. Both Health Maintenance Organizations (HMO's) and Preferred Provider Organization (PPO's) are numerous in the area, and these forms of managed care collectively provide for over a million people in metropolitan Denver. Enrollment in a federally-qualified managed care program would therefore

EXHIBIT 3: GRADUATE MEDICAL EDUCATION AT FAMC, 1 JULY 1990

	ARMY TOTAL	FAMC TOTAL	FAMC PERCENT OF ARMY TOTAL
INTERNS	401	43	11%
RESIDENTS	1,153	91	8%
FELLOWS	314	36	11%
TOTAL	1,868	170	9%
BREAKDOWN BY TYPE AND SPECIALTY			
RESIDENT SPECIALTY			
DERMATOLOGY	30	7	23%
GENERAL SURGERY	103	8	8%
INTERNAL MEDICINE	140	15	11%
OBSTETRICS-GYNECOLOGY	82	12	15%
OPHTHALMOLOGY	33	6	18%
ORTHOPEDIC SURGERY	112	12	11%
OTOLARYNGOLOGY	40	3	8%
PEDIATRICS*	48	8	17%
RADIOLOGY	105	15	14%
UROLOGY	29	4	14%
FELLOWS			
ADOLESCENT MEDICINE*	5	3	60%
ALLERGY-IMMUNOLOGY*	12	7	58%
ANGIOGRAPHY	3	1	33%
CARDIOLOGY	39	7	18%
ENDOCRINOLOGY	9	2	22%
GASTROENTEROLOGY	18	4	22%
PLASTIC SURGERY	7	2	29%
PULMONARY DISEASE	23	5	22%
RHEUMATOLOGY*	7	2	29%

* Does not include Air Force or Navy trainees, one trainee per specialty.

Source: Fitzsimons Army Medical Center Command Brief, 1[illegible] December 1990.

be another option for providing for the health care needs of local beneficiaries.

For beneficiaries from outside the local catchment area, since this care is currently being seen within the military health care referral system, it is unlikely that the capability exists to perform it at the local MTFs. Therefore, the alternatives to FAMC for referral care are the civilian sector at each location or other military referral facilities. The use of these two alternatives would depend on:

- capacity at other referral MTFs;
- capacity and capabilities in the civilian sector of each catchment area; and
- likely behavior patterns or choices of dependents and retirees, who are generally given the choice of an NAS or military referral.

For referrals from the Colorado Springs area, the most likely alternative to FAMC is local CHAMPUS. Colorado Springs beneficiaries represent about 15% of all inpatient care provided at FAMC (one-third of all inpatient referral care), a significantly larger percentage than any other catchment or noncatchment area. Clearly, Colorado Springs referrals are much more tied to the proximate geographic location of the current FAMC referral center. Since Colorado Springs is within driving distance of FAMC, these beneficiaries arrive there through shuttle or private ground transportation -- it is less likely that the majority of these beneficiaries would be equally willing to travel on a plane to another referral center. Finally, Colorado Springs and the Denver area have an abundance of civilian capacity and capability, so that care would not be forced into the military referral system due to lack of civilian access.

For referrals from outside Colorado Springs, the more likely alternative to FAMC is other referral MTFs. Since these beneficiaries reside

at least 100 miles away from FAMC, the particular geographic location of FAMC would not have as significant an impact on the decision to receive military referral care.

Estimated Costs for Alternatives to FAMC

Once the alternatives to FAMC were identified, government costs associated with each were estimated. As the predominant form of government payment for civilian sector health care, and the most likely civilian alternative for most beneficiaries, our estimates of civilian sector costs were based on standard CHAMPUS government costs observed for the FAMC, Fort Carson, and Air Force Academy catchment areas. Note that non-standard alternatives to CHAMPUS reimbursement for civilian sector care can be evaluated as part of a sensitivity analysis, on the basis of the expected relationship between those alternatives and standard CHAMPUS costs.

Other referral MTF costs were assumed to be comparable to FAMC operating costs. Thus, the comparison between FAMC and other referral MTFs was essentially cost-neutral in this analysis. We note that if the physical capacity currently exists to absorb this workload in the military referral system <u>without</u> a requirement for any additional construction, it would clearly be cheaper for the government to redistribute this referral care to fill existing physical capacity, rather than to build for it at FAMC. Given impending closures of some referral facilities (e.g., Letterman AMC), and potential expansions of other MTFs, it appears that the capacity of the military referral system is currently undergoing some change. In assuming cost-neutrality for direct care alternatives to FAMC, we have assumed that

- the level of referral care currently seen at FAMC could, in FY98 and beyond, be referred to other MTFs;

- there would eventually be an associated cost to modify, build, or renovate those other referral MTFs to accommodate the additional care; and
- the associated modification cost would not be significantly different from the cost of building to provide the care at FAMC.

Forecast of Future Health Care Requirements

The eligible beneficiaries whose health care needs were considered in this study include active duty personnel, active duty dependents, retired personnel, retiree dependents, and dependents of deceased sponsors. The total health care requirements of local catchment area beneficiaries were examined, as well as the portion of the health care demand historically provided by FAMC to beneficiaries from outside the catchment area.

Specifically, total health care demand at FAMC was divided into the following components:

(1) Care historically provided by FAMC to local beneficiaries;

(2) Care historically provided by FAMC to beneficiaries from outside the local catchment area (referral care);

(3) Care historically provided at the Lowry AFB clinic; and

(4) Care historically provided to local beneficiaries through CHAMPUS.

Exhibit 4 displays these components, and summarizes how each was projected to FY98. Components (1), (3), and (4) together represent the total health care demand generated by local catchment area beneficiaries. This workload was projected to FY98 according to an expected decrease of about 6% in the active duty and dependent population, and an expected increase of about 9% in the retiree population.[1] Component

[1]Active duty and dependent projections based on POM endstrengths from FY91 President's Budget. Retiree/other projections based on Office of the DoD Actuary retiree projections.

- there would eventually be an associated cost to modify, build, or renovate those other referral MTFs to accommodate the additional care; and
- the associated modification cost would not be significantly different from the cost of building to provide the care at FAMC.

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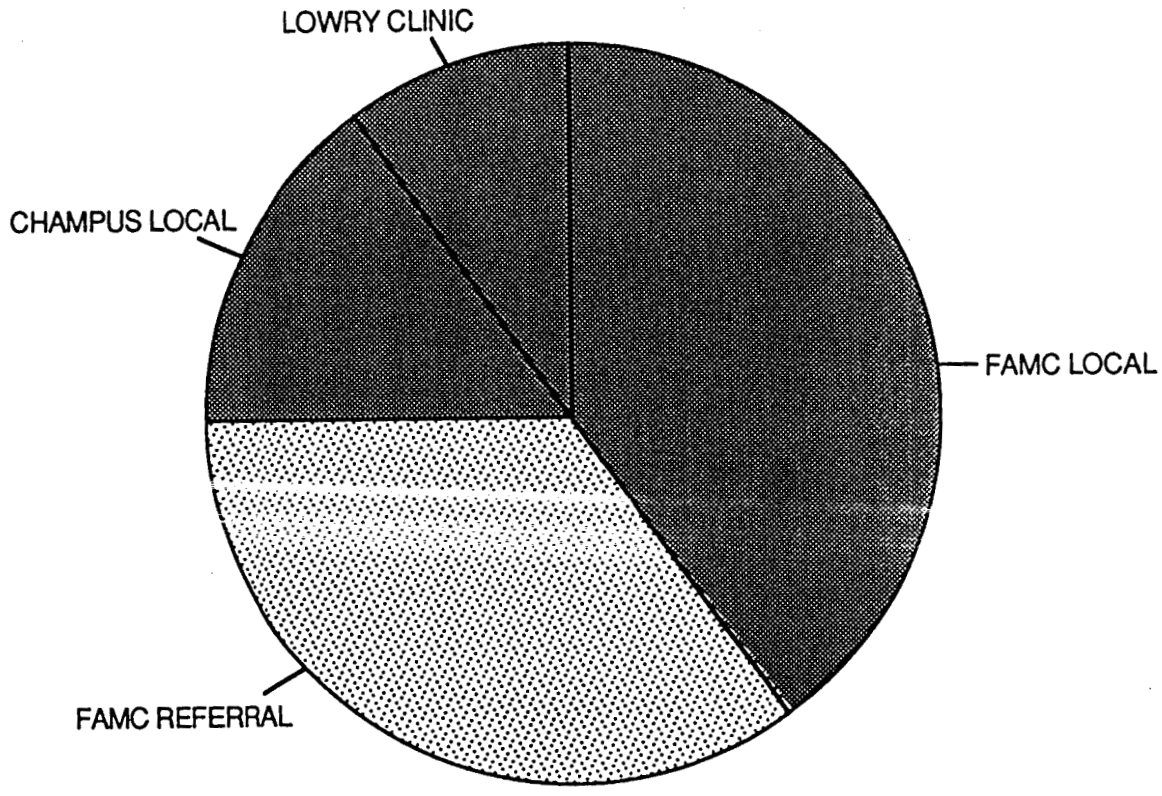
EXHIBIT 4: PROJECTION OF TOTAL DEMAND



PROJECTED BASED ON CHANGE IN LOCAL POPULATION

PROJECTED TO REMAIN AT HISTORICAL LEVEL

(2), referral demand from outside the catchment area, was held constant at historical levels.

Total health care demand faced by FAMC from both local and referral beneficiaries is projected to approach over 150,000 bed days, and nearly 740,000 clinic visits by 1998.

Comparison of Alterative Scenarios

While the Best Economic Solution for satisfying the projected health care demand was described earlier, the study also required other scenarios be examined as points of reference. Based on government guidance, only referral hospital options were considered at FAMC. The scenarios examined were:

No MTF. FAMC provides none of the projected health care demand; all health care is provided through the civilian sector or the military referral system.

Status Quo. FAMC provides the same level of workload as the facility provided in the base year (FY89).

All Care. FAMC provides all potential health care demand, including all workload provided historically, plus all workload considered recapturable from local CHAMPUS.

Best Economic Solution. FAMC provides the most cost-effective level and mix of care, determined by a detailed clinical area and beneficiary type-specific comparison of operating costs at FAMC and government costs of alternatives to FAMC.

The Status Quo and All Care scenarios support the existing missions of FAMC, including the teaching and training mission. The No MTF scenario clearly does not support the existing missions, but this scenario was analyzed as a point of comparison at the opposite extreme from the All Care scenario.

The BES is defined to be the level of workload the government would provide at FAMC if the goal were to minimize total government cost. The solution could have ranged from zero to all possible care. The BES solution may or may not support the GME mission --- levels to support GME are not taken as a minimum level of workload, but are expected to be compared to the BES levels outside this analysis.

Exhibit 5 summarizes the workload provided at FAMC, the workload provided through other MTFs, and the workload provided through the civilian sector under each of the alternative scenarios described above. As shown, the BES represents a slight decrease from the Status Quo level of operation, due to the exclusion of care to retirees under 65 years old. The All Care scenario represents the largest facility, at 425 beds and 661,000 visits, while the BES represents the smallest facility (other than No MTF), at 342 beds and 409,500 visits.

Exhibit 6 displays the bottom-line cost comparison across all scenarios. The scope of this EA does not include estimation of construction alternatives or construction costs associated with the FAMC workload under each scenario. However, since the issue of cost-effective provision of care at FAMC is being explored in the context of a future construction project, relative cost savings between scenarios will be discussed in terms of the level of construction that could be cost-justified over a 25-year facility life cycle.

An examination of the row labeled "Total Annual Government $" shows that the scenarios rank as follows, from lowest to highest annual cost:

EXHIBIT 5: COMPARISON OF WORKLOADS ACROSS SCENARIOS

CHARACTERISTICS OF EACH SCENARIO	SCENARIOS			
	NO MTF	STATUS QUO	ALL CARE	BEST ECONOMIC SOLUTION
FAMC WORKLOADS				
DISPOSITIONS	0	14,080	16,713	12,843
BED DAYS	0	121,983	142,594	114,390
ADPL	N/A	334	391	313
VISITS	0	608,316	660,547	409,457
FAMC BEDS				
MEDICAL/SURGICAL	0	306	361	289
OBSTETRICAL	0	31	37	34
PSYCHIATRIC	0	27	27	19
TOTAL	0	364	425	342
OTHER MTFs				
BEDS	206	0	0	0
VISITS	116,007	0	0	0
CHAMPUS				
BEDS	180	63	0	49
VISITS	330,547	37,273	0	114,905

EXHIBIT 6: COMPARISON OF TOTAL ANNUAL COSTS ACROSS FAMC SCENARIOS

COSTS UNDER EACH SCENARIO[1]	NO MTF	STATUS QUO	ALL CARE	BEST ECONOMIC SOLUTION
	(000)	(000)	(000)	(000)
ANNUAL FAMC OPERATING COSTS	$0	$171,641	$208,021	$152,854
INPATIENT COSTS	$0	$94,448	$110,186	$88,437
OUTPATIENT COSTS	$0	$77,193	$97,835	$64,417
ANNUAL OTHER MTF OPERATING COSTS	$67,819	$0	$0	$0
INPATIENT COSTS	$49,597	$0	$0	$0
OUTPATIENT COSTS	$18,222	$0	$0	$0
ANNUAL CIVILIAN CARE COSTS	$171,986	$43,688	$0	$47,345
INPATIENT COSTS	$109,793	$36,435	$0	$20,117
OUTPATIENT COSTS	$62,193	$7,253	$0	$27,228
TOTAL ANNUAL GOVERNMENT COST	$239,805	$215,329	$208,021	$200,199
COMPARISON TO NO MTF				
ANNUAL SAVINGS	$0	$24,476	$31,784	$39,606
PRESENT VALUE SAVINGS[2]	$0	$222,242	$288,599	$359,622

[1] All costs in thousands of FY98 dollars

[2] Assumes 10% discount rate over 25-year life cycle of a new facility.

(1) Best Economic Solution;

(2) All Care;

(3) Status Quo; and

(4) No MTF.

The comparisons to the No MTF scenario represent savings to the government of operating FAMC at the level defined under each scenario, relative to not operating a facility at FAMC. All three levels of workload -- the Status Quo, All Care, and BES -- offer savings relative to not operating the facility. In fact, all three scenarios offer significant enough savings to recoup the cost of new construction within a few years.

The present value savings represents the total savings offered by each scenario over the 25-year life cycle of a potential new facility (assuming a 10% discount rate). The BES scenario generates enough savings over 25 years to cost-justify a $360 million construction expenditure. Operating FAMC to provide all possible care (the All Care Scenario) generates enough savings to cost-justify a $230 million construction project.

The additional savings generated under the BES over the All Care scenario was due to the fact retiree/other beneficiaries under 65 must absorb a portion of their health care costs under the BES. Exhibit 7 compares the total health care provided or purchased by the government to the health care for which the beneficiary is responsible, for each scenario. Although the BES represents the most cost-effective level of care to provide at FAMC, the All Care scenario appears to maximize the overall benefit to the beneficiary, while still generating a very significant cost savings.

EXHIBIT 7: COMPARISON OF HEALTH CARE COST BURDEN UNDER EACH SCENARIO

GOVERNMENT AND BENEFICIARY COST BURDENS	SCENARIOS			
	NO MTF	BEST ECONOMIC SOLUTION	STATUS QUO	ALL CARE
Total Care Provided or Purchased By Government				
Beds	390	390	430	430
Visits	447,000	524,000	646,000	661,000
Care for Which Beneficiary is Responsible				
Beds	40	40	0	0
Visits	214,000	137,000	15,000	0

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DRAFT

ECONOMIC ANALYSIS
OF
FITZSIMONS ARMY MEDICAL CENTER

Volume II: Requirements Analysis

The views, opinions, and findings contained in this report are those of the author(s) and should not be construed as an official Department of Defense position, policy, or decision, unless so designated by other official documentation.

VECTOR RESEARCH, INCORPORATED

8 March 1991

VRI-DMFO-1 FR91-1
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8 March 1991

DRAFT

ECONOMIC ANALYSIS OF FITZSIMONS ARMY MEDICAL CENTER

Volume II: Requirements Analysis

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-- Continued --

1.0 INTRODUCTION

Vector Research, Incorporated (VRI), has performed an economic analysis of health care requirements and alternatives for the Fitzsimons Army Medical Center (FAMC) in Aurora, Colorado. The analysis was performed for the United States government under contract number MDA903-90-C-0207, and in accordance with Title 10 Section 1087 of the United States code.

As a quantitative examination of the health care requirements and costs for a particular military medical treatment facility (MTF), the economic analysis (EA) provides one input to the DoD medical facility planning process. Section 1087 specifies that the maximum amount of space that may be programmed for military medical facilities construction is the greater of:

(1) the amount of space required at the facility to support the teaching and training of health-care professionals; and

(2) the amount of space required at the facility to provide the most cost-effective level of inpatient and outpatient care to eligible beneficiaries.

The economic analysis focuses on defining the level described in clause (2) -- the most cost-effective level of inpatient and outpatient care to eligible beneficiaries.

Since FAMC supports Army Graduate Medical Education (GME) and other training programs, the amount of space required to support this continued teaching and training function would be the minimum amount of space which the legislation allows under clause (1). Should the cost-effective levels be greater than the levels to support teaching and training, the economic analysis provides cost-justification for programming the additional space. Should the cost-effective levels be less than the levels to support teaching and training, the economic analysis

provides the government with information on the cost of the policy decision to size for GME.

In order to examine cost-effective health care delivery at FAMC, the project team performed the following tasks:

- identified and quantified the various components of health care demand at FAMC;
- projected the inpatient and outpatient workloads associated with each component of demand;
- assessed the availability of other federal and civilian health care resources in the Aurora/Denver area, as alternatives to the FAMC facility for local beneficiaries;
- analyzed the costs of providing health care at FAMC;
- analyzed the government costs associated with providing health care through the civilian sector and other alternatives outside FAMC;
- defined the level of workload to be performed at FAMC under a range of scenarios; and
- combined FAMC operating costs and government costs for care not seen at FAMC under each scenario to compare and rank their relative cost-effectiveness.

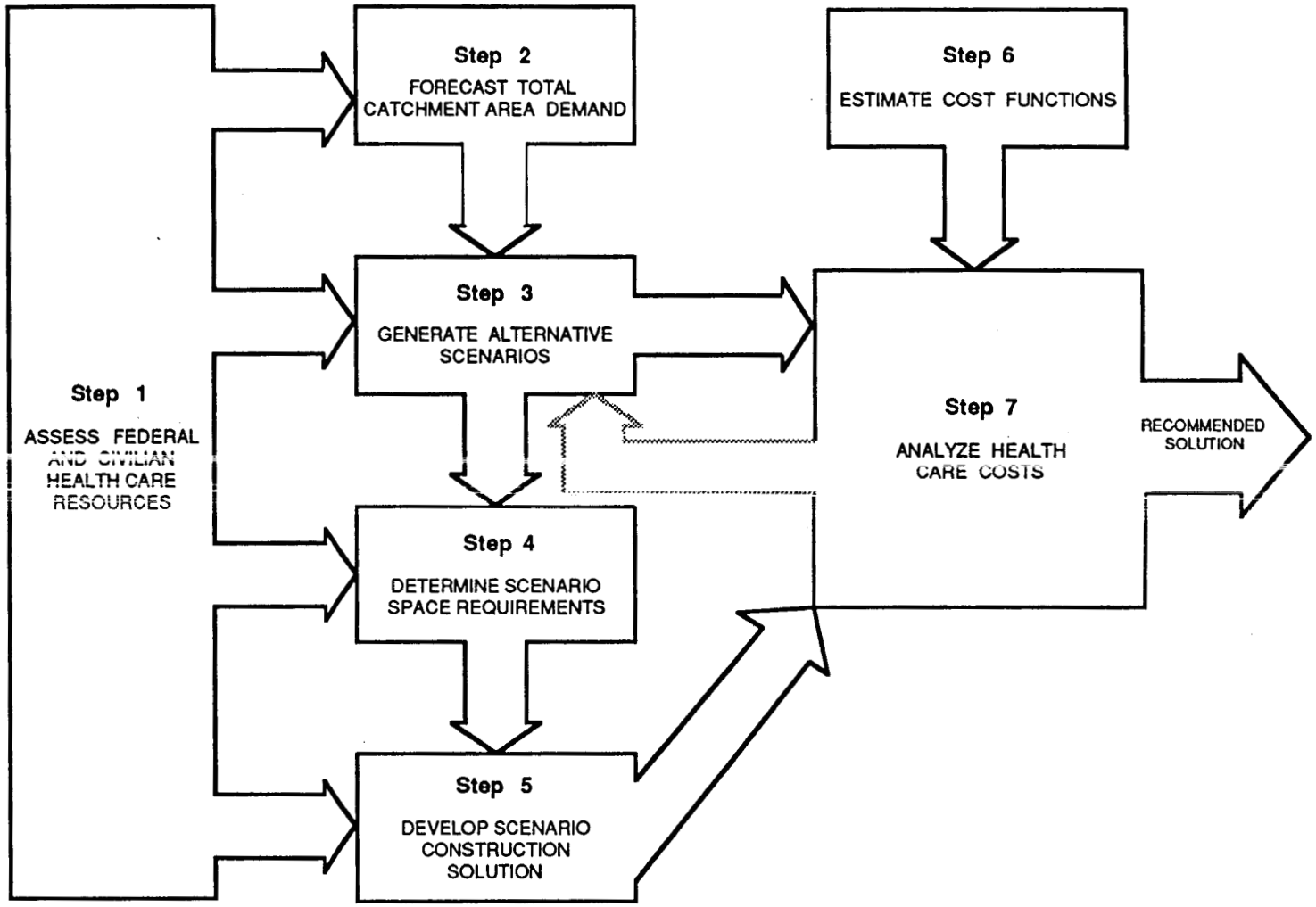
These tasks were performed in accordance with the seven-step methodology documented in the government's EA Procedures Manual.[1] Exhibit 1-1 displays a schematic overview of the seven steps in an EA.

An EA comprises two types of activities: the requirements analysis and the construction analysis. This EA of FAMC is an update to the requirements analysis portion (steps 1, 2, 3, 6, and 7) of a previous FAMC EA. Steps 4 and 5 in the EA methodology, along with the architectural and engineering assessment of existing physical facilities at FAMC (part of step 1), constitute the construction analysis portion of the EA, and were not redone.

---

[1]Procedures Manual for Economic Analysis of Military Treatment Facilities, VRI-AFSG-6 FR87-1(R), Vector Research, Incorporated, Ann Arbor, Michigan, 5 April 1989.

EXHIBIT 1-1: OVERVIEW OF THE SEVEN STEPS IN AN ECONOMIC ANALYSIS



The current EA updates the requirements analysis by reexamining the projected health care requirements, estimated costs, and assumptions of the previous study, using more recent data and methods. It also differs from the previous study in that it focuses on options for the scope of FAMC, and does not analyze changes to the capacity or mission of facilities in the Colorado Springs area.

The remainder of this volume describes the data, methodologies, and conclusions for each step in the analysis. Chapter 2.0 describes the assessment of alternative health care resources in the FAMC area. Chapter 3.0 documents the projection of future health care demand at FAMC. Chapter 4.0 describes the overall approach to the scenarios examined for FAMC, and presents the level of workload to be provided by FAMC under each scenario. Chapter 5.0 documents the estimation of costs used in this analysis. Finally, chapter 6.0 describes the comparison of costs performed to develop the most cost-effective level of care to provide at FAMC (the "best economic solution") and the bottom-line cost comparison across all scenarios examined. The major assumptions and findings of the study are also summarized in a separately bound Executive Summary.

2.0 ASSESSMENT OF FEDERAL AND CIVILIAN HEALTH CARE RESOURCES

This chapter documents the first step of the Fitzsimons Army Medical Center (FAMC) economic analysis: assessing the health care resources available to uniformed services beneficiaries in the FAMC catchment area.[1] Our assessment was based primarily on the following sources of information:

- central or system-wide data obtained from the information systems of the military health services system (MHSS);
- quantitative and qualitative data gathered during a three-day site visit to the study area; and
- published data from state and national sources on federal and civilian health care resources.

The body of this chapter is divided into three sections. Section 2.1 provides an overview of the FAMC area and highlights features of the area which are most relevant to this economic analysis. Section 2.2 describes the DoD health care facilities operating in the area. Finally, section 2.3 describes alternatives to the DoD health care facilities -- the other federal and civilian health care resources available to beneficiaries in Denver and the surrounding area.

2.1 OVERVIEW OF THE FAMC AREA

FAMC is located in Aurora, Colorado, just outside of metropolitan Denver. Exhibit 2-1 is a map showing the location of FAMC and other major military installations in Colorado, as well as an enlarged view of the immediate area around FAMC.

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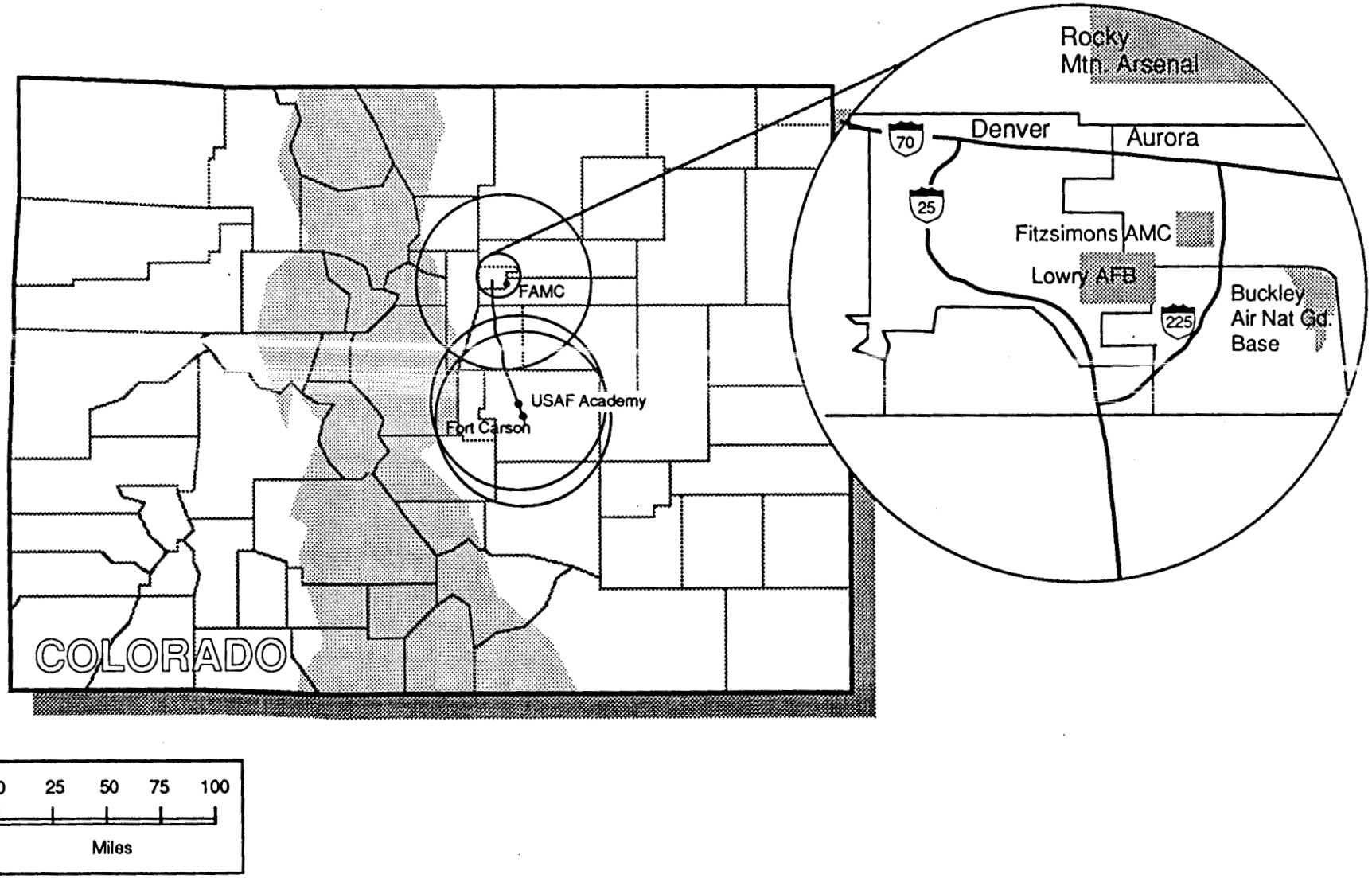
[1]The inpatient catchment area around a military medical treatment facility is roughly defined as the zip codes whose centroids are within 40 miles of the facility. Appendix A contains a complete listing of the zip codes that form the FAMC catchment area.

EXHIBIT 2-1: MAP OF AREA SURROUNDING FITZSIMONS AMC



Taking a broad view of the area, there are two other major military installations in Colorado within driving distance of FAMC: Fort Carson and the Air Force Academy, both in the Colorado Springs area. The circles around these locations on the map represent roughly 40-mile catchment areas around the MTFs at each site. Although Colorado Springs is over an hour's drive from FAMC (70 miles), the catchment areas of the three facilities do overlap somewhat. Since the health care needs of beneficiaries located in more than one MTF catchment area can theoretically be planned for at either facility, the presence of overlapping catchment areas led to further examination of the population living in the overlap area (see chapter 3.0, section 3.1 of this document).

FAMC's catchment area encompasses eleven counties in the Denver-Boulder metropolitan area: Adams, Arapahoe, Boulder, Clear Creek, Denver, Douglas, Elbert, Gilpin, Jefferson, Park and Weld. Although the western part of the catchment area lies in the Rocky Mountains, the area as a whole is mostly urban and suburban, and is well served by a variety of roads. During the winter, weather can slow traffic, but there are no significant transportation barriers.

Taking a closer look at the Denver/Aurora area, there are three active military installations: the FAMC installation, Lowry Air Force Base (AFB), and Buckley Air National Guard Base (ANGB). All of these installations are within 10 miles of each other.

Buckley Air National Guard Base is one of the few Air National Guard installations in the nation. Its primary mission is providing combat readiness training to the tactical units of the Colorado Air National Guard. It is also a refueling and service stop for military cross country flights. Buckley ANGB is primarily a reserve base, and has only a small active duty component. However, as the only active flying base in the area, it plays a key role in the area's military

medical system as the transport and receiving site for aeromedical evacuation (aerovac) system aircraft.

When aerovac patients arrive at Buckley ANGB, they are met by a team of Air Force personnel stationed there, who then transport them to FAMC. If the patients are ambulatory or do not require special attention, they are transported on a bus; otherwise they are transported via military ambulance.

Lowry AFB is a major technical training center and home to the Air Force Accounting and Finance Center and Air Reserve Personnel Center. The primary mission at the base is to provide technical skill training in over five career areas. Each year, about 25,000 students receive training in over 370 courses at Lowry, including space training, logistics training, avionics, visual information training, and electronics.

Air Force personnel associated with Lowry AFB constitute the majority of the active duty population in the FAMC catchment area. The basic outpatient health care needs of the active duty Air Force population at Lowry are served by the Lowry AFB clinic. Air Force active duty dependents and retirees receive the majority of their health care at FAMC. Current operations at the Lowry AFB clinic and at FAMC are summarized in the next section.

2.2 DOD HEALTH CARE RESOURCES IN THE AREA

The two DoD health care facilities in the area are FAMC and the Lowry AFB clinic. An overview of each is presented below.

2.2.1 OVERVIEW OF OPERATIONS AT FITZSIMONS ARMY MEDICAL CENTER

The cool, dry climate of the Denver area provided an ideal environment for treating respiratory diseases in 1918, when Fitzsimons Army Medical Center began as US Army Hospital No. 21. Operations grew to

require a new 608-bed hospital building, completed just four days prior to the start of World War II. This structure (building 500) is still the main inpatient facility at FAMC.

During WWII, several semi-permanent buildings were constructed at Fitzsimons to handle the requirements of the war. Of the 282 buildings now on the FAMC installation, most were constructed either around 1918 or during WWII. Except for psychiatric patients, all inpatients are currently treated in the main hospital building. The FAMC outpatient clinics, laboratories, pharmacy, medical library, administrative offices and the psychiatric ward are located in other buildings on the installation.

While still structurally sound, the inpatient hospital building suffers from a number of design inefficiencies, such as lack of storage space and lack of air conditioning in some wards, due to its age.[1] Other structures on the installation suffer from similar problems also due to age. A life safety upgrade to correct some of these deficiencies is proceeding on building 500; renovations to other buildings are ongoing as funds permit.

FAMC today is a large military referral center providing virtually all medical specialties. Its mission includes:

(1) Health Care Delivery;

(2) Graduate Medical Education;

(3) Mobilization Readiness;

(4) Tenant Unit Support;

(5) Regional Veterinary Support;

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[1]For a complete architectural and engineering assessment of the existing FAMC building, see Analysis of Medical Alternatives: Denver and Colorado Springs, Volume III: Construction Cost Estimate, CRS Sirrine, Inc., 31 August 1987.

(6) Regional Dental Support; and

(7) Regional Preventative Medicine Support.

In addition to serving the health care needs of the catchment area population, FAMC is a referral center for DoD region III and the Army's 15-state FAMC Health Services Region. These referral regions are shown in exhibit 2-2.

To serve the health care needs of both local and referral beneficiaries, FAMC operates about 400 beds with an additional 80 beds immediately available. The average daily census is about 380, and ranges from 360 to 460 beds occupied. FAMC employes a staff of 1,200 military personnel and 1,400 civilians in providing this care.

As a major military referral center, FAMC provides a comprehensive array of inpatient and outpatient services, as detailed in exhibit 2-3. This wide array of services provides the variety and volume of workload necessary to support the Graduate Medical Education (GME) mission at FAMC. Exhibit 2-4 shows the number of GME trainees at FAMC and the percent of total Army trainees they represent in each specialty. As shown, about 10% of all Army GME trainees are receiving at least a portion of their skills at FAMC.

In addition to providing GME to Army trainees, FAMC has several agreements to provide training to civilian interns and residents in the Denver area, and also for FAMC trainees to receive training in other teaching hospitals in the Denver area. The following is a brief listing of the affiliation agreements with local hospitals.

Hospitals sending trainees to FAMC:

- Denver VA Medical Center;
- Mercy Family Medical Program/St. Anthony's Hospital Systems;
- National Jewish Center for Immunology & Respiratory Medicine;

EXHIBIT 2-2: DoD MILITARY MEDICAL REGION III AND FAMC HEALTH SERVICES REGION

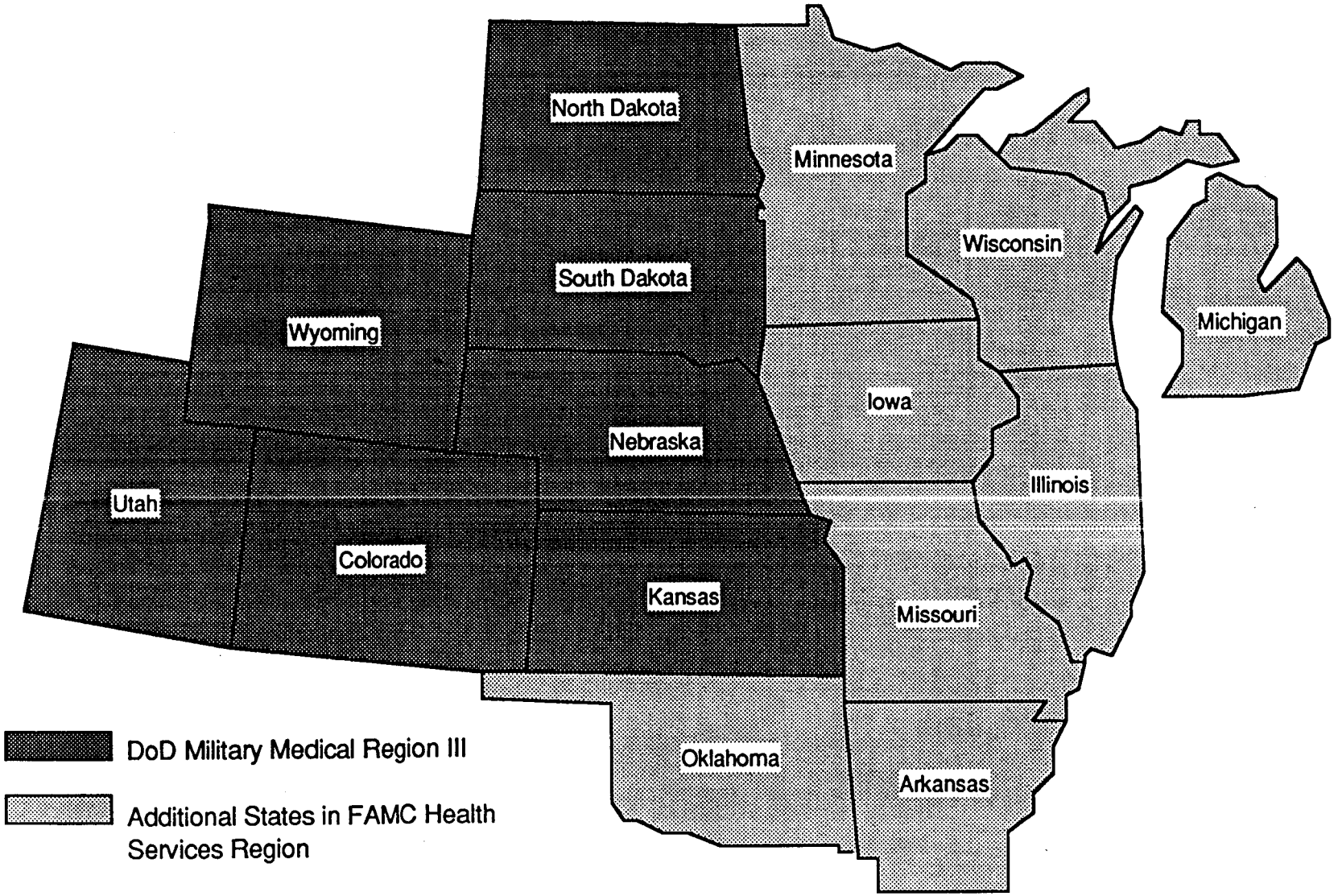


EXHIBIT 2-3: SERVICES AVAILABLE AT FAMC

ALCOHOL/CHEMICAL DEPENDENCY OUTPATIENT SERVICES
BIRTHING/LDR ROOM
BLOOD BANK
CARDIAC CATHETERIZATION LAB
CT SCANNER
DIAGNOSTIC RADIOISOTOPE FACILITY
EMERGENCY ROOM
GENETIC COUNSELING/SCREENING
HEALTH PROMOTION SERVICES
HEMODIALYSIS
HISTOPATHOLOGY LAB
INTENSIVE CARE UNIT
MAGNETIC RESONANCE IMAGING
MEGAVOLTAGE RADIATION THERAPY
NEONATAL ICU
OBSTETRICS
OCCUPATIONAL THERAPY
OPEN-HEART SURGERY
ORGANIZED OUTPATIENT DEPARTMENT
OUTPATIENT REHABILITATION UNIT
OUTPATIENT SURGICAL SERVICES
PATIENT REPRESENTATIVE SERVICES
PEDIATRIC INPATIENT UNIT
PHYSICAL THERAPY
PSYCHIATRIC CONSULTATION-LIAISON SERVICES
PSYCHIATRIC EDUCATION SERVICES
PSYCHIATRIC EMERGENCY SERVICES
PSYCHIATRIC INPATIENT UNIT
PSYCHIATRIC OUTPATIENT UNIT
RADIOACTIVE IMPLANTS
RECREATIONAL THERAPY
REPRODUCTIVE HEALTH SERVICES
RESPIRATORY THERAPY SERVICES
SPEECH PATHOLOGY SERVICES
THERAPEUTIC RADIOISOTOPE FACILITY
TRAUMA CENTER
ULTRASOUND
VOLUNTEER SERVICES DEPARTMENT
X-RAY RADIATION THERAPY

Sources: 1989 AHA Guide to the Health Care Field, and
Fitzsimons site visit, December 11-13, 1990.

EXHIBIT 2-4: GRADUATE MEDICAL EDUCATION AT FAMC, 1 JULY 1990

	ARMY TOTAL	FAMC TOTAL	FAMC PERCENT OF ARMY TOTAL
INTERNS	401	43	11%
RESIDENTS	1,153	91	8%
FELLOWS	314	36	11%
TOTAL	1,868	170	9%
BREAKDOWN BY TYPE AND SPECIALTY			
RESIDENT SPECIALTY			
DERMATOLOGY	30	7	23%
GENERAL SURGERY	103	8	8%
INTERNAL MEDICINE	140	15	11%
OBSTETRICS-GYNECOLOGY	82	12	15%
OPHTHALMOLOGY	33	6	18%
ORTHOPEDIC SURGERY	112	12	11%
OTOLARYNGOLOGY	40	3	8%
PEDIATRICS*	48	8	17%
RADIOLOGY	105	15	14%
UROLOGY	29	4	14%
FELLOWS			
ADOLESCENT MEDICINE*	5	3	60%
ALLERGY-IMMUNOLOGY*	12	7	58%
ANGIOGRAPHY	3	1	33%
CARDIOLOGY	39	7	18%
ENDOCRINOLOGY	9	2	22%
GASTROENTEROLOGY	18	4	22%
PLASTIC SURGERY	7	2	29%
PULMONARY DISEASE	23	5	22%
RHEUMATOLOGY*	7	2	29%

* Does not include Air Force or Navy trainees, one trainee per specialty.

Source: Fitzsimons Army Medical Center Command Brief, 11 December 1990.

- Presbyterian/St. Luke's center for Health Sciences Education;
- St. Joseph's Hospital; and
- University of Colorado Health Sciences Center.

Hospitals receiving FAMC trainees:

- Children's Hospital;
- Denver General Hospital;
- Denver VA Medical Center;
- St. Anthony's Hospital;
- National Jewish Center for Immunology & Respiratory Medicine;
- Presbyterian/St. Luke's center for Health Sciences Education;
- Rose Medical Center; and
- St. Joseph's Hospital;
- University of Colorado Health Sciences Center; and
- University Hospital.

FAMC is currently involved in a number of initiatives aimed at reducing costs or improving service. A few of these initiatives are discussed below.

Partnership Program

The Partnership Program allows FAMC to contract with civilian health care professionals to provide their services at FAMC, at a negotiated discount from full CHAMPUS rates. This arrangement, known as an internal Partnership agreement, allows FAMC to augment its staff and provide better access to its beneficiaries. The civilian health care professionals have a ready supply of patients and support services, and may bill CHAMPUS for their professional services. In exchange for operating out of the FAMC facility, civilian providers have agreed to charge a discounted rate, generally negotiated to be 70% or lower of total

CHAMPUS allowable charges. Partnership agreements are currently in place for about 25 FTE physicians, representing about 80 partners.

Third Party Collection Program

Third party collection allows FAMC to receive payment from a beneficiary's other insurance plans for care received at FAMC. FAMC has steadily intensified its efforts in this area in recent years. Information is now requested at the time of admission about a patient's third party insurance.

In FY90, FAMC billed insurance companies for $3.5 million dollars. So far, about $3 million dollars have been collected. Currently, the program is implemented for inpatient care only. Applying this concept to outpatient care is being discussed, but the large number of visits and differences in record-keeping present logistical difficulties which have not yet been solved.

2.2.2 OVERVIEW OF OPERATIONS AT LOWRY AFB CLINIC

The Lowry AFB clinic provides outpatient medical care for active duty base personnel. In FY89, approximately 40,000 visits were recorded at the clinic, most of which were for primary or urgent care, although the clinic does provide some outpatient psychiatric care. Air Force dependents of active duty and other beneficiaries receive virtually all their care at FAMC, as do active duty beneficiaries requiring specialized or inpatient treatment. FAMC also provices laboratory and pharmacy services to Lowry clinic. The clinic is physically spacious and easily sustains its current workload.

2.3 DEPARTMENT OF VETERANS AFFAIRS (VA) HEALTH CARE RESOURCES

There is one VA health care facility located in the FAMC catchment area; the Denver VA medical center (VAMC). The Denver VAMC operates 291 beds: 111 medical, 99 surgical, and 80 psychiatric. In 1989, the facility had an average occupancy rate of 82.5 percent. In addition, the Denver VAMC provided 208,000 annual outpatient visits.

Although there are no plans to significantly expand the Denver VAMC's capacity at this time, discussions with administrators at the facility indicate that demand from veterans in the area currently exceeds their capacity. Potential additions to their current operation include approval to install Magnetic Resonance Imaging (MRI) within two years. The facility is also short of research space, and ways to solve this problem are currently under consideration, but no expansion is currently planned. The facility underwent an extensive updating project in 1986, including complete replacement of its medical equipment.

FAMC currently has several VA/DoD resource sharing agreements in place with the Denver VAMC, including the following:

- FAMC provides MRI services to the VA at cost (this may not continue once the VA installs its approved MRI capability);
- FAMC provides radiation therapy to the VA at cost;
- the VA provides hemodialysis, sleep studies, and lab work to FAMC at cost;
- under a tentative agreement, the VA may provide psychological testing to FAMC at cost; and
- under a tentative agreement, the VA may provide laundry services to FAMC, although this action must wait until FAMC's current contract with a private firm for laundry services expires.

2.4 CIVILIAN HEALTH CARE RESOURCES

This section provides an overview of the civilian health care resources available in the FAMC catchment area.

2.4.1 PHYSICIAN SUPPLY

There is an abundant supply of physicians in the FAMC catchment area, particularly in the Denver metropolitan area. As shown in exhibit 2-5, physicians practicing in the primary care specialties are in abundant supply. There is 1 FTE primary care physician for every 1272 people, roughly three times the 1:3500 ratio accepted as a criterion of a Health Manpower Shortage Area by the Department of Health and Human Services. During the site visit, civilian health care administrators also indicated that specialists and sub-specialists were in even greater supply than primary care physicians.

2.4.2 CIVILIAN HOSPITALS AND MEDICAL CENTERS

In addition to an abundance of physicians, there is a wide variety of sophisticated hospital care available in the FAMC catchment area. Located mostly in the Denver metropolitan area, there are nineteen general care hospitals in the catchment area, possessing an inpatient capacity of more than 5,000 beds. In addition, there are five psychiatric hospitals with a total capacity in excess of 500 beds, and four specialized hospitals.

Exhibit 2-6 summarizes the capacity of the inpatient facilities in the FAMC catchment area. The calculated occupancy rate for the civilian general care hospitals was 64.4%. Using 85% as a target occupancy rate, there are more than 1000 available beds in Denver area civilian hospitals.

A preliminary examination of civilian health care costs in the Denver metropolitan area showed that hospital care is expensive relative to both the state of Colorado and national averages. Exhibit 2-7 shows the Adjusted Expense per Bed Day, a measure that takes both inpatient

EXHIBIT 2-5: FTE PRIMARY CARE PHYSICIANS IN THE FAMC CATCHMENT AREA

COUNTY	1990 POPULATION SERVED	FTE PRIM CARE PHYSICIANS	POPULATION PER PHYSICIAN
ADAMS	282,396	193	1,463
ARAPAHOE	400,086	187	2,139
BOULDER	219,369	174	1,261
CLEAR CREEK	7,126	1	7,126
DENVER	492,296	739	666
DOUGLAS	46,612	22	2,119
ELBERT	6,817	2	3,409
GILPIN	2,937	0	---
JEFFERSON	441,052	211	2,090
PARK	7,470	1	7,470
WELD	136,047	75	1,814
ALL COUNTIES	2,042,208	1,605	1,272

Source: Area Resource File of the Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions Area Resource File.

EXHIBIT 2-6: DENVER AREA CIVILIAN HOSPITALS

HOSPITAL NAME	ZIP CODE	DISTANCE TO FAMC	BEDS	CENSUS	OCC RATE
AMI PRESBYTERIAN-AURORA	80011	2	124	79	63.7
AMI PRESBYTERIAN-DENVER*	80218	7	232	141	---
AMI PRESBYTERIAN-ST LUKE'S	80203	8	327	209	72.1
BOULDER COMMUNITY HOSPITAL	80301	28	147	88	59.9
CHILDREN'S HOSPITAL	80218	7	210	154	73.3
DENVER HEALTH AND HOSPITALS	80204	8	326	229	70.2
HIGHLAND CENTER HOSPITALS	80218	7	26	---	---
HUMANA HOSPITAL-AURORA	80012	3	200	78	40.4
HUMANA HOSPITAL-MTN VIEW	80229	10	200	86	45.0
LONGMONT UNITED HOSPITAL	80501	31	128	66	51.6
LUTHERAN MEDICAL CENTER	80033	12	303	218	67.5
MERCY MEDICAL CENTER	80206	6	243	138	56.8
PLATTE VALLEY MEDICAL CENTER	80601	16	58	20	34.5
PORTER MEMORIAL HOSPITAL	80210	8	352	241	68.5
ROSE MEDICAL CENTER	80220	3	310	244	78.7
ST ANTHONY HOSPITAL SYSTEMS*	80204	8	611	398	---
ST JOESEPH HOSPITAL	80218	7	529	362	68.4
SWEDISH MEDICAL CENTER	80150	9	305	197	64.6
UNIVERSITY HOSPITAL	80262	5	370	211	61.0
VA MEDICAL CENTER*	80220	3	290	234	---
TOTAL			5,265	3,393	64.4

* These hospitals contain a total of 259 nursing home type beds not included in the exhibit.

-- Continued --

EXHIBIT 2-6: DENVER AREA CIVILIAN HOSPITALS (Concluded)

DENVER AREA PSYCHIATRIC HOSPITALS

HOSPITAL NAME	ZIP CODE	DISTANCE TO FAMC	BEDS	CENSUS	OCC RATE
BETHESDA PSYCHEALTH SYSTEM	80222	6	86	69	80.2
CENTENNIAL PEAKS HOSPITAL	80027	22	64	---	---
CLEO WALLACE HOSPITAL*	80020	16	35	30	---
FORT LOGAN MENTAL HEALTH CENTER	80236	12	357	305	85.4
HCA COLUMBINE PSYCH CENTER	80126	16	72	37	51.4
TOTAL			550	441	80.2

* This hospital contains 63 nursing home type beds not included in this exhibit.

DENVER AREA SPECIALIZED HEALTH FACILITIES

HOSPITAL NAME	ZIP CODE	DISTANCE TO FAMC	BEDS	CENSUS	OCC RATE
CRAIG HOSPITAL	80110	9	80	72	90.0
NATIONAL JEWISH HOSPITAL	80206	6	105	77	73.3
OAKVIEW HOSPITAL	80218	7	50	15	30.0
SPAULDING REHABILITATION HOSPITAL	80218	7	80	64	80.0
TOTAL			315	228	72.4

Sources: 1989 AHA Guide to the Health Care Field, and
DMIS Catchment Area Directory, 1 January 1990.

All distances are from centroid of zip code area to FAMC.

EXHIBIT 2-7: ADJUSTED EXPENSE PER BED DAY

AREA/CENSUS DIVISION (CD)	ADJUSTED EXPENSE PER BED DAY
United States	$586.33
New England (CD #1)	$629.92
Middle Atlantic (CD #2)	$542.49
South Atlantic (CD #3)	$564.69
East North Central (CD #4)	$605.15
East South Central (CD #5)	$481.92
West North Central (CD #6)	$472.90
West South Central (CD #7)	$596.39
Mountain (CD #8)	$632.14
State of Colorado	
Metropolitan	$774.20
Non-Metropolitan	$376.28
Boulder-Longmont MSA	$760.46
Denver MSA	$770.74
Pacific (CD #9)	$777.56

Source: AHA Hospital Statistics, 1989 Edition.

and outpatient costs into consideration, for national, state of Colorado, and local areas of interest. Combining the Denver and Boulder-Longmont Statistical Metropolitan Area (SMA) gives an area which roughly corresponds to the FAMC catchment area. This area has the highest hospital costs in the state, about 22% higher than the Colorado average and about 30% higher than the national average.

One potential reason for the high cost observed in the Denver area is the abundance of teaching hospitals. These facilities provide high quality, advanced medical care, but also have high costs. The University of Colorado Medical School, Rose Medical Center, St. Anthony's Hospital Systems, National Jewish Center for Immunology and Respiratory Medicine, Presbyterian/St. Luke's, and St. Joseph's all provide some type of GME.

During the site visit, administrators from St. Anthony's Hospital Systems, Children's Hospital, and Rose Medical Center, all described the health care market in the Denver area as highly competitive. It was also generally felt that due to the market conditions, one or two area hospitals could close in the next few years. It was generally believed that, even with potential closures, the health care provided to local beneficiaries by FAMC could be easily absorbed by area civilian hospitals.

Both the University of Colorado Health Sciences Center and Children's Hospital (as well as the Denver VAMC) indicated that FAMC was a valuable addition to the health care community. If for some reason the GME mission at the facility was reduced or discontinued, both hospitals felt this would be a loss for the Denver area medical education programs, and a loss for the medical community in general.

2.4.3 MANAGED CARE PROGRAMS IN THE AREA

The cost and competitive nature of health care in the Denver area appears to have created a favorable market for managed care. Both Health Maintenance Organizations (HMO's) and Preferred Provider Organization (PPO's) are numerous in the area, as shown in exhibits 2-8 and 2-9. Collectively, HMO's and PPO's provide care to over a million people in the Denver Metro area. The amount of care provided by civilian hospitals to managed care program members averages 30% of the hospital's total workload. Some sources feel that the market for managed care is reaching maturity and leveling off, while others indicate that managed care will continue to grow. In any event, the health care market in Denver is large, and the mechanisms for hospitals to handle it are already in place. The possibility exists then for the government to either join an existing managed care organization or form their own, potentially offsetting the high cost of health care in the area.

EXHIBIT 2-8: HEALTH MAINTENANCE ORGANIZATIONS (HMO's) OPERATING IN THE FAMC CATCHMENT AREA

Federally Qualified HMO's[1]	Enrollment
Kaiser Foundation HP of Colorado	227,674
HMO Colorado INC	67,719
Prudential Health Care Plan, Inc	980

Non Federally Qualified HMO's[2]

Cigna Healthplan of Colorado Inc
Comprecare Health Care Services Inc
Equicor Health Plan of Colorado Inc
Exclusive Healthcare of Colorado Inc
Humana Health Plan Inc
Metlife Healthcare Network of Colorado Inc
Partners Health Plan of Colorado Inc

[1] Department of Health and Human Services Health Care Financing Administration, Office of Prepaid Health Care.

[2] Colorado Division of Local Government, Department of Local Affairs.

EXHIBIT 2-9: PPO's OPERATING IN THE FAMC CATCHMENT AREA

NAME	ENROLLMENT
Arapahoe IPA Co	19,011
BC/BS-Prime Health Plan	132,260
Boulder Valley Ind Prac	18,000
Cherry Creek Assoc Phys	60,000
Colo Preferred Phys Org	129,000
Equicor- Denver Preferred	14,472
Front Range Medical Group	75,000
Humana Health Care Plans	---
Key Health Care	150,000
Mountain Medical Affiliates	120,462
Sloans Lake Medical Group	150,000
Travelers-Colorado	16,513
University Park Hlth Care Ntwk	10,000
All Organizations	894,718

Source: American Association of PPO'S,
1989 Preferred Provider Organizations Directory.

3.0 FORECAST OF TOTAL HEALTH CARE DEMAND

Step two of this economic analysis requires projecting the total health care demand of military beneficiaries served by FAMC at the beneficial occupancy date (BOD) of a new or renovated facility. FAMC currently provides for the health care needs of both its local catchment area beneficiary population and a large population of referrals originating outside the catchment area. Both the local and the nonlocal components of FAMC's workload are considered as part of this analysis.

In projecting the health care demand generated by local catchment area beneficiaries, the analysis identified the eligible beneficiary population in the area, and the total amount of health care received by this population from all sources in the base year. The health care requirements of the catchment area population at the BOD were then based on the projected growth in this beneficiary population, with adjustments for any expected changes in utilization patterns between the base year and BOD.

In addition to the local catchment area population, FAMC has historically been responsible for meeting a portion of the health care requirements of beneficiaries originating outside the catchment area. This component of the health care demand faced by FAMC will be loosely termed "referral care", since it primarily represents care unavailable at the beneficiary's MTF which is referred to FAMC.

The level of referral care seen at FAMC is determined by a variety of conditions, policies, and behavior patterns. Beneficiaries living outside the catchment area, but still within driving distance, may choose to transport themselves to FAMC to receive care, rather than incur costs shared under the CHAMPUS program. The level of referral care received by FAMC through other avenues such as the aeromedical

evacuation system is influenced by factors including DoD and Army policies and the direct care and nondirect care resources available in locations across at least a 15-state region of the country. Given the variety of quantitative and qualitative factors affecting the amount of referral care seen, projection of this component of demand was driven to a large degree by assumptions and government guidance concerning the policies and behaviors described above.

The data and methodology used in each step of the demand projection process are documented in the four sections of this chapter. Section 3.1 presents estimates of the base year local beneficiary population and the projection of this population to the BOD. Section 3.2 documents the total health care demand observed in the base year, including care seen at FAMC from both local and referral beneficiaries. Section 3.3 examines historical utilization rates to identify any trends or adjustments to incorporate into the demand projections. Finally, section 3.4 combines the projected populations, adjusted health care utilization, and assumptions regarding referral care, to forecast the total health care demand at the BOD.

3.1 FAMC CATCHMENT AREA POPULATION ESTIMATES

This study considered the health care requirements of the following types of beneficiaries: active duty personnel, dependents of active duty personnel, retired military personnel, dependents of retired personnel, and survivors. During the course of the analysis, these beneficiary types were collapsed into four categories -- active duty, dependent of active duty, "others" under 65 years of age, and over 64 -- based on differing cost implications of the health care benefit defined for each category.

Since fiscal year 1989 (FY89) was the most recent year for which complete and reliable population, workload, and cost data were available, this year was chosen as the base year for study. Fiscal year 1998 (FY98) was selected by the government as the BOD, the approximate year in which a new or renovated FAMC facility would be completed. Throughout this report, base year and FY89 are used interchangeably, as are BOD and FY98.

Base year and BOD population estimates for the FAMC catchment area were obtained from the Resource Analysis and Planning System (RAPS) model, version 4.20. Developed for the Office of the Assistant Secretary of Defense for Health Affairs (OASD(HA)), the RAPS model projects the size and composition of MHCS beneficiaries by various geographic areas based on:

- counts of eligible beneficiaries enrolled in the Defense Enrollment Eligibility Reporting System (DEERS);
- total Service active duty endstrength projections; and
- Service-specific growth rates of paid retirees reported by the Office of the DoD Actuary.

The baseline population data used in the current generation RAPS reflect counts of eligible beneficiaries enrolled in DEERS as of 30 September 1989. Exhibit 3-1 presents RAPS FY89 beneficiary population estimates by age, sex, and sponsor Service branch for the FAMC inpatient catchment area.

The exhibit shows approximately 63,000 beneficiaries residing in the catchment area, most of whom are associated with retired personnel. Air Force and Army personnel make up the majority of catchment area beneficiaries, with the Air Force representing over half of the population and the Army another one-third of the population.

The beneficiary type distribution of the FAMC population is somewhat atypical compared to all Army hospitals. Exhibit 3-2 illustrates

EXHIBIT 3-1: FY89 FAMC CATCHMENT AREA BENEFICIARY POPULATION

I. POPULATION BY AGE AND SEX

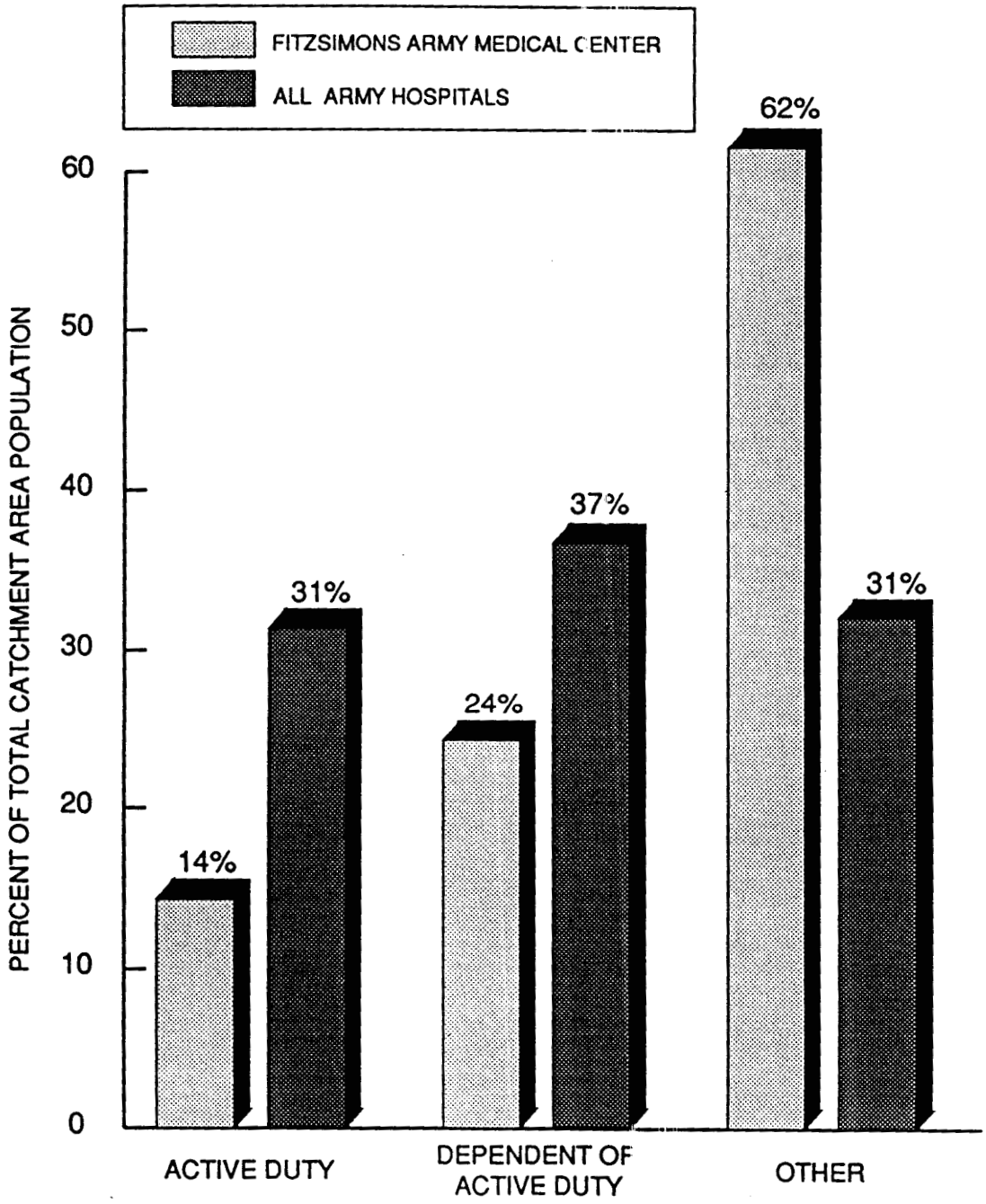
AGE/SEX	ACTIVE DUTY	MED ELG NG/RES	DEP OF ACT DUTY	DEP OF NG/RES	RETIREE	DEP OF RETIREE	SURVIVOR	TOTAL
00-04/M	—	—	1,394	78	—	120	18	1,610
05-14/M	—	—	2,343	154	—	1,075	109	3,681
15-17/M	—	—	382	44	—	843	56	1,325
18-24/M	2,305	236	331	44	48	1,214	101	4,279
25-34/M	2,781	156	191	22	224	55	9	3,438
35-44/M	1,336	176	84	10	1,542	24	9	3,181
45-64/M	213	89	27	5	9,326	11	11	9,682
65+/M	—	—	6	1	4,708	15	8	4,738
		—						
00-04/F	—	—	1,267	85	—	106	25	1,483
05-14/F	—	—	2,103	156	—	1,152	108	3,519
15-17/F	—	—	441	46	—	837	67	1,391
18-24/F	599	60	1,655	93	5	1,416	146	3,974
25-34/F	554	81	2,331	111	28	379	56	3,540
35-44/F	218	40	1,097	138	39	1,863	143	3,538
45-64/F	21	6	223	41	61	7,839	1,087	9,278
65+/F	—	—	29	1	141	2,752	1,361	4,284
TOTAL	8,027	844	13,904	1,029	16,122	19,701	3,314	62,941

II. POPULATION BY SPONSOR SERVICE

SERVICE BRANCH	ACTIVE DUTY	MED ELG NG/RES	DEP OF ACT DUTY	DEP OF NG/RES	RETIREE	DEP OF RETIREE	SURVIVOR	TOTAL
ARMY	2,228	515	4,547	572	4,779	5,733	1,379	19,753
NAVY	524	119	840	173	2,006	2,165	349	6,176
AFLOAT	—	—	325	—	—	—	—	325
USMC	238	24	420	30	507	608	127	1,954
USAF	4,957	186	7,595	254	8,725	11,075	1,418	34,210
USCG	6	0	35	0	66	76	13	196
OTHER	74	0	142	0	39	44	28	327
TOTAL	8,027	844	13,904	1,029	16,122	19,701	3,314	62,941

Source: Resource Analysis and Planning System (RAPS), based on DEERS counts as of 30 September 1989.

EXHIBIT 3-2: FY89 POPULATION DISTRIBUTIONS BY BENEFICIARY TYPE



the comparison. About 14% of FAMC beneficiaries are active duty or medically eligible National Guard/Reserve members, compared to about 31% for all Army hospitals. Conversely, the retiree, dependent of retiree, and survivor population ("other") forms about 62% of the FAMC catchment area population, while the same population constitutes about 31% of the eligible population for all Army hospitals.

Exhibits 3-3 through 3-7 display the zip code locations of the 63,000 beneficiaries in the FAMC catchment area for active duty, active duty dependents, other beneficiaries, and the total population. On these maps, each dot represents roughly one beneficiary. The circle around Fitzsimons approximates the 40-mile inpatient catchment area.

Active duty beneficiaries are mapped to zip code locations based on the zip code of their assigned work station; it is not unexpected to see a heavy concentration of these beneficiaries in the Lowry AFB area. Dependents and retirees are mapped to zip codes based on the zip code of their residence; these beneficiaries are shown to be dispersed over the catchment area, with the heaviest concentration in the metropolitan Denver area.

In addition to providing information on the overall geographic distribution of beneficiaries in the catchment area, the zip-code level population data allowed examination of the population residing in the overlap between FAMC and the two Colorado Springs MTFs. On the maps just shown, the sparse spread of dots in the lower portion of the catchment area indicated that a few beneficiaries were residing in the overlap. Exhibit 3-8 quantifies this overlap population.

As shown, only about 2,300 people live in the segment of the FAMC catchment area which overlaps with other the Colorado Springs MTF catchment areas. These beneficiaries may be associated with either the FAMC, Fort Carson, or the Air Force Academy catchment areas. By subtracting

EXHIBIT 3-3: COLORADO ZIP CODE BOUNDARIES

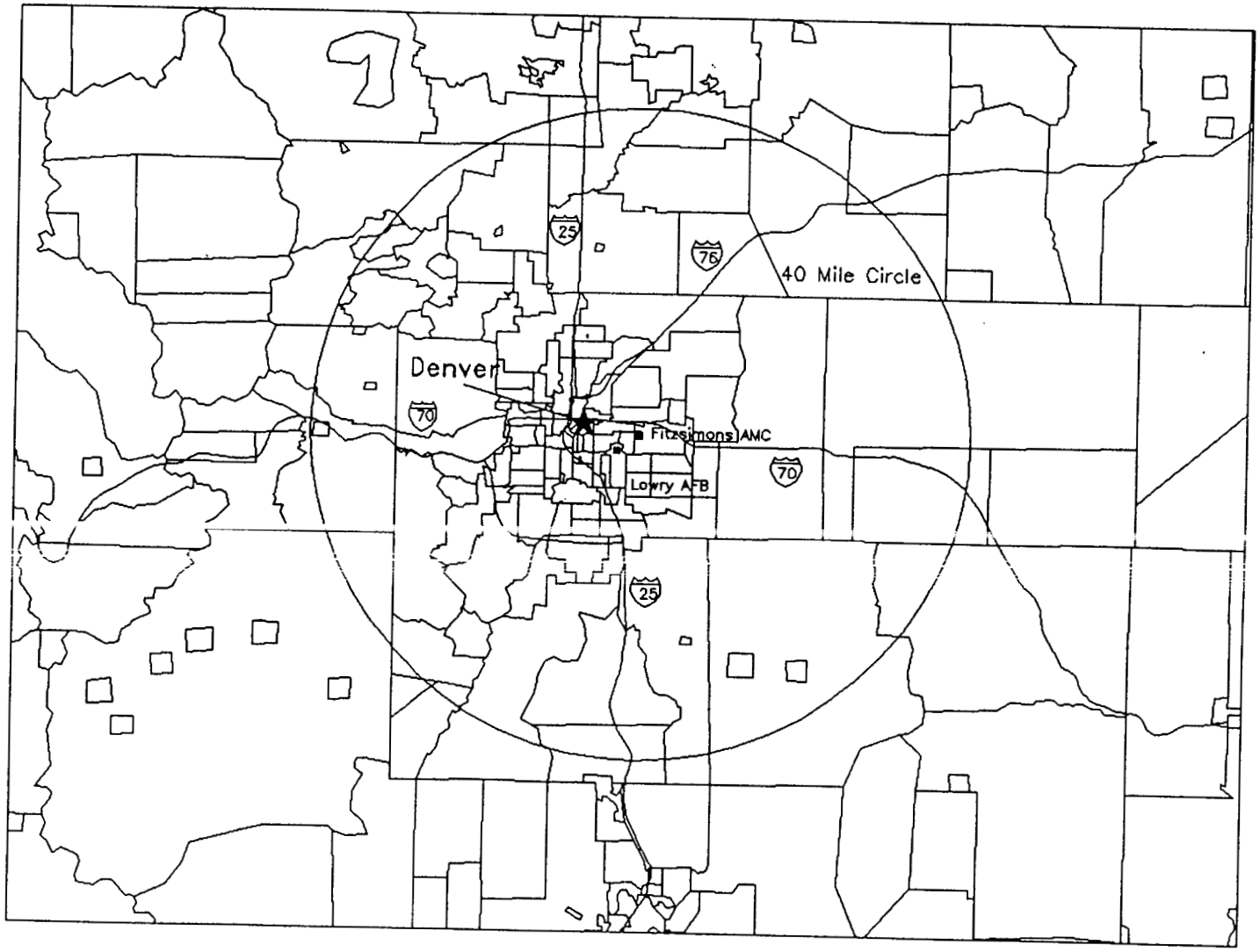


EXHIBIT 3-4: ZIP CODE LOCATION OF FAMC ACTIVE DUTY BENEFICIARIES

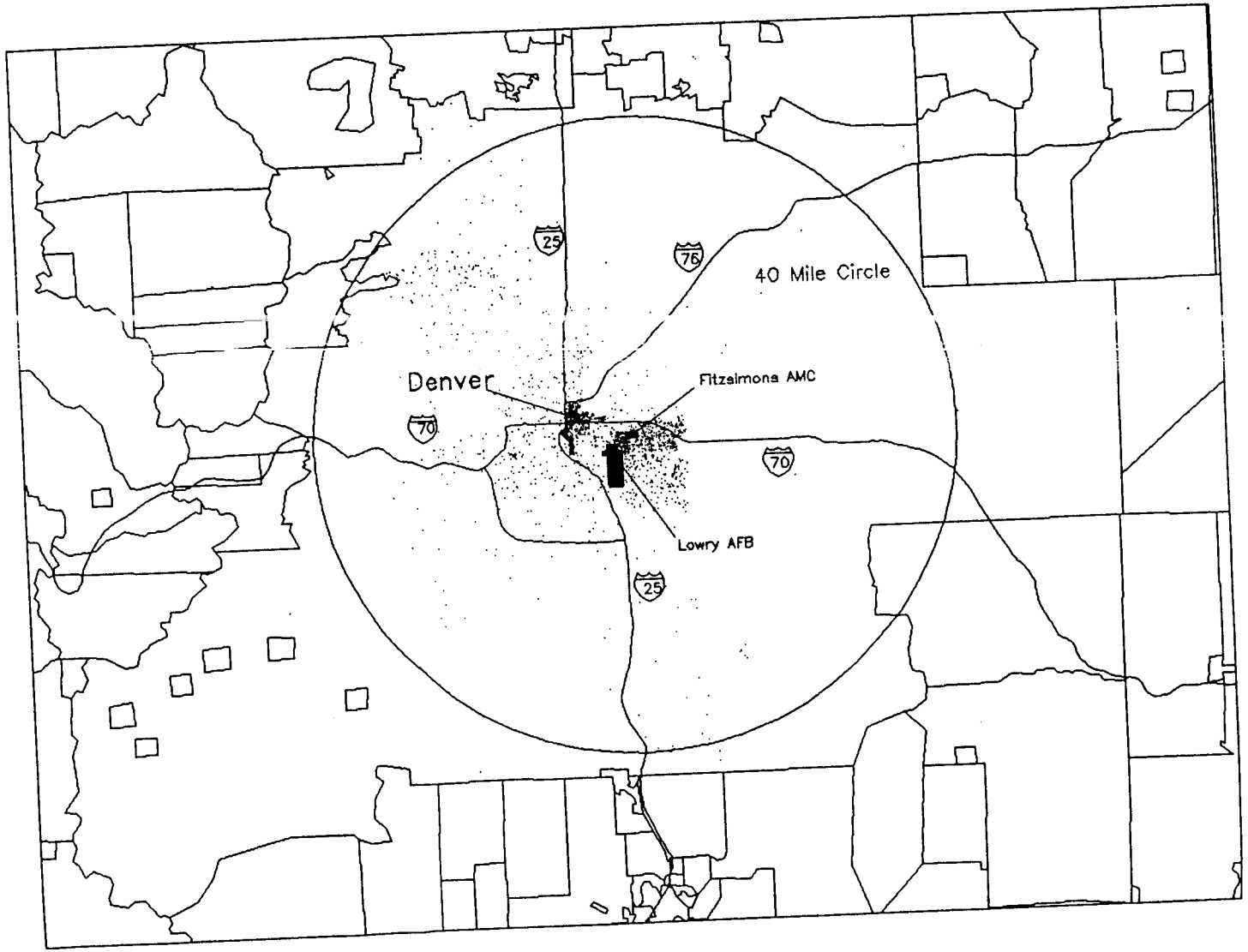
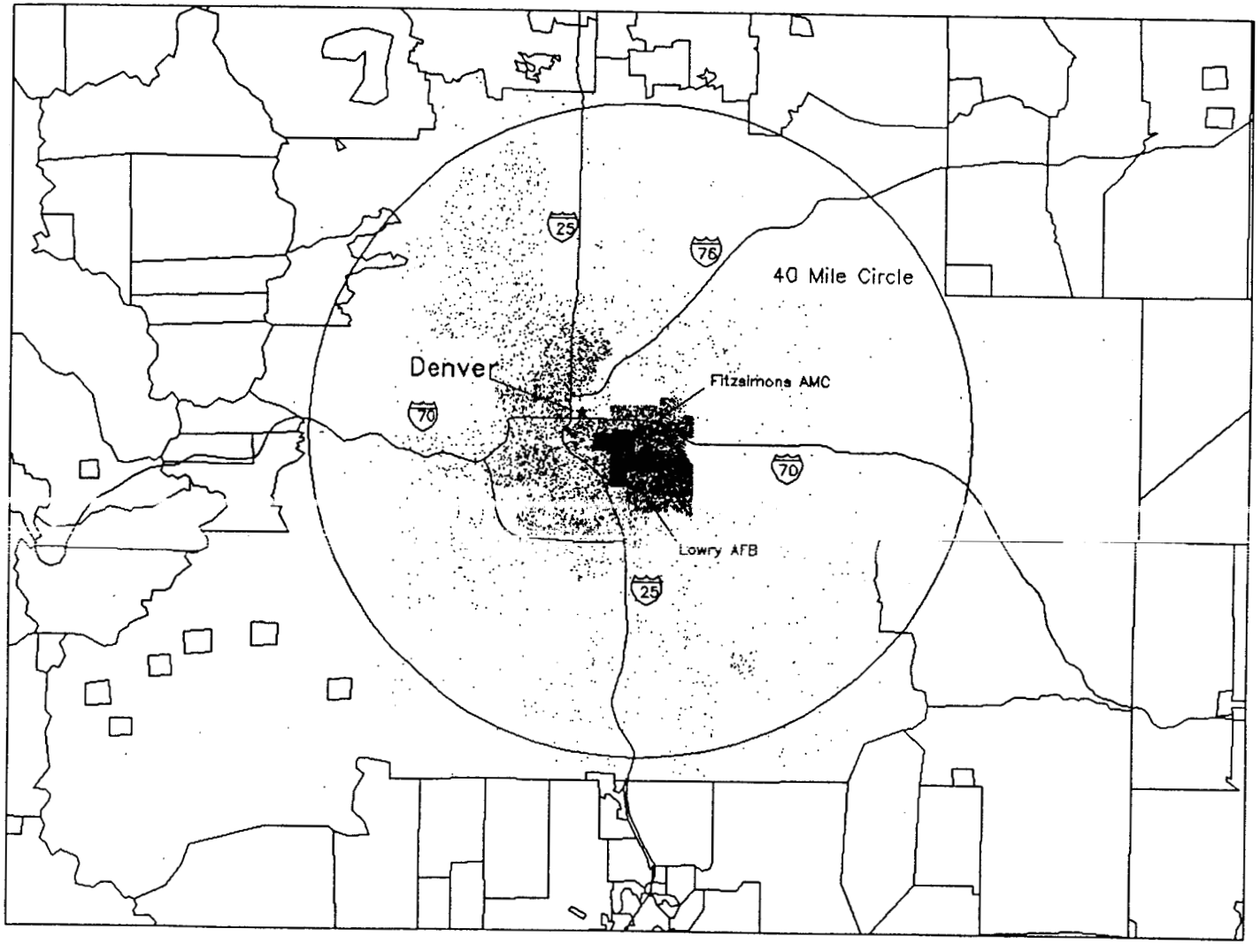


EXHIBIT 3-5: ZIP CODE LOCATION OF FAMC DEPENDENT OF ACTIVE DUTY BENEFICIARIES



Source: Zip code level FAMC catchment area population in DEERS as of September 1989.

EXHIBIT 3-6: ZIP CODE LOCATION OF FAMC OTHER BENEFICIARIES

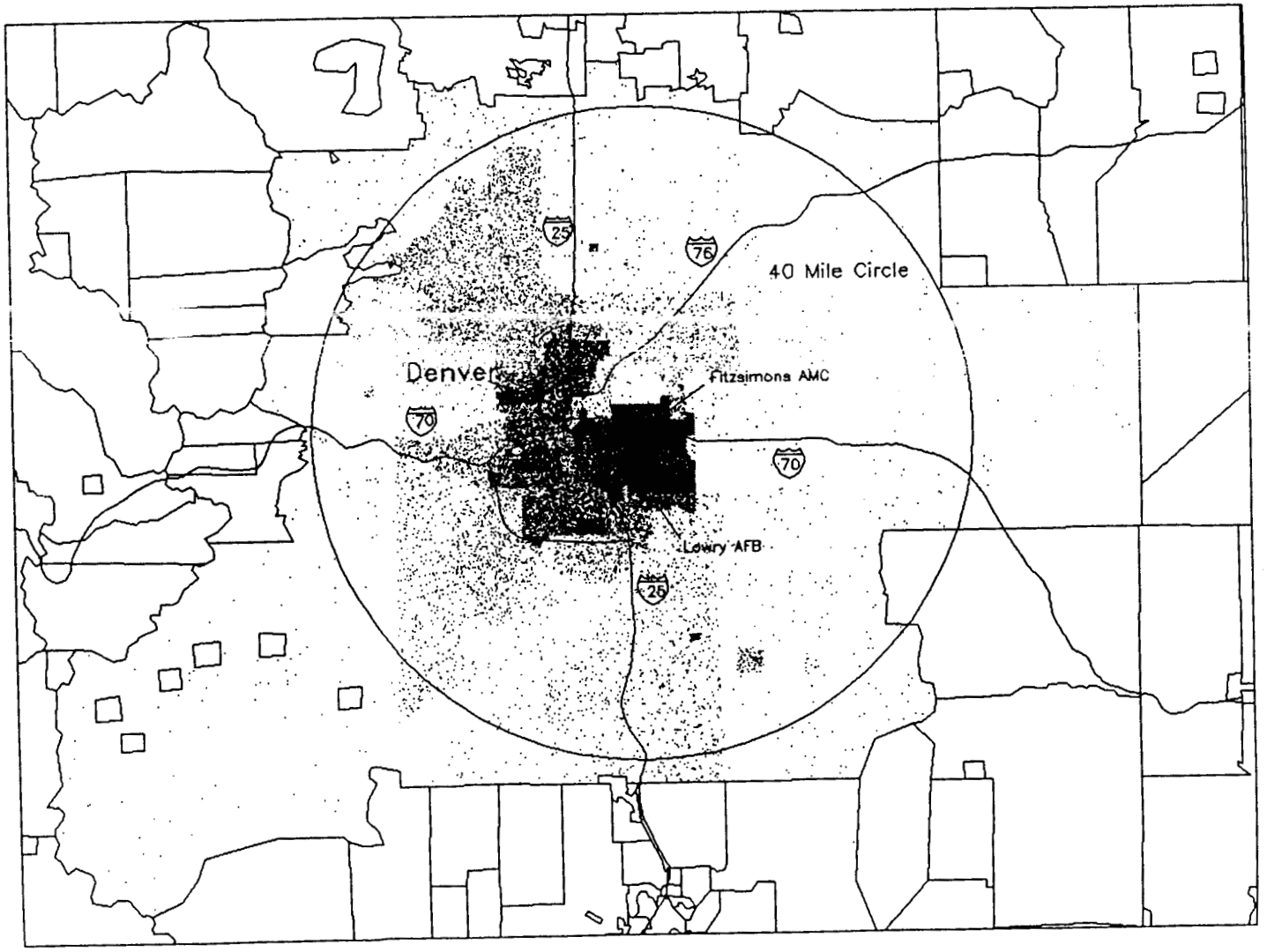
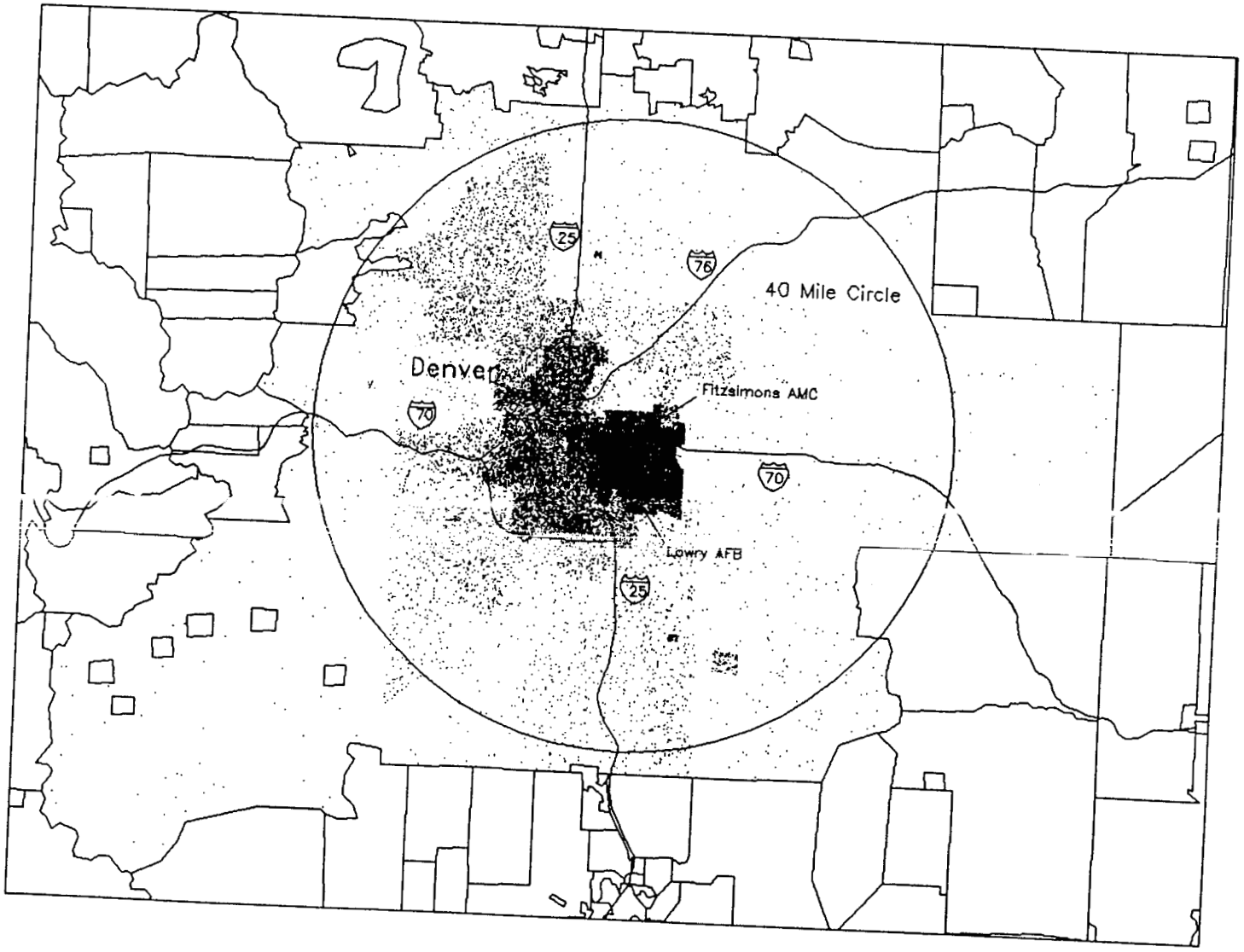


EXHIBIT 3-7: ZIP CODE LOCATION OF ALL FAMC CATCHMENT AREA BENEFICIARIES



Source: Zip code level FAMC catchment area population in DEERS as of September 1989.

EXHIBIT 3-8: FAMC POPULATION RESIDING IN OVERLAP

		OVERLAP	
Zip Code	Population	Air Force Academy	Ft. Carson
80104	296	X	X
80106	175	X	
80107	143	X	
80116	70	X	
80117	14	X	
80118	121	X	
80124	104	X	
80126	235	X	
80127	419	X	
80131	3	X	
80134	566	X	
80135	101	X	
80425	4	X	
80441	1	X	
80470	52	X	
TOTAL	2304		

Total Population Within 40 Miles of FAMC: 63,656

Total FAMC Catchment Area Population: 62,941

Number in Overlap Not Associated With FAMC: 715

Percent of FAMC Catchment Living in Overlap: 2.5%

Source: Analysis of zip-code level population data from the Defense Enrollment Eligibility Reporting Systems (DEERS) as of September 1989.

the total population living within 40 miles of FAMC from the population defined to be in the catchment area, we see that about 715 people from other catchment areas live within 40 miles of FAMC. The remaining 1,589 beneficiaries in the overlap who are a part of FAMC's catchment area represent only 2.5% of the total catchment population. Since the overlap population was so small, this analysis concentrated on quantifying the population and total demand from beneficiaries defined to be in the FAMC catchment area, and considered the Colorado Springs area only as it had historically impacted on FAMC referral care.

Exhibit 3-9 presents the projected FY98 beneficiary population in the FAMC catchment area, as taken from RAPS. To project the active duty population (ADPOP), the RAPS model uses the change in Program Objective Memorandum (POM) active duty endstrengths[1] as shown below:

$$ADPOP_{proj.} = ADPOP_{baseline} * POM_{proj.} / POM_{baseline}$$

RAPS applies the POM growth rates particular to each Service branch and category of personnel (e.g., officer, enlisted) according to the proportion of each population category present in the catchment area.

Dependent of active duty population projections (DADPOP) are computed indirectly using baseline dependency ratios and ADPOP projections as shown:

$$DADPOP_{proj.} = ADPOP_{proj.} * DADPOP_{baseline} / ADPOP_{baseline}$$

Similar methods are used to project retiree, dependents of retiree, and survivor of deceased sponsor populations; however, Office of the DoD Actuary estimates of retired personnel are used in place of POM endstrengths.

[1]Current generation RAPS uses POM endstrength projections as of the FY91 Budget.

EXHIBIT 3-9: FY98 PROJECTED FAMC CATCHMENT AREA BENEFICIARY POPULATION

I. POPULATION BY AGE AND SEX

AGE/SEX	ACTIVE DUTY	MED ELG NG/RES	DEP OF ACT DUTY	DEP OF NG/RES	RETIREE	DEP OF RETIREE	SURVIVOR	TOTAL
00-04/M	—	—	1,298	82	—	131	20	1,531
05-14/M	—	—	2,181	166	—	1,173	120	3,640
15-17/M	—	—	356	46	—	921	61	1,384
18-24/M	2,128	248	309	47	52	1,327	111	4,222
25-34/M	2,588	169	178	24	243	60	10	3,272
35-44/M	1,245	186	79	10	1,683	26	9	3,238
45-64/M	200	93	25	5	10,183	12	12	10,530
65+/M	—	—	6	1	5,139	17	9	5,172
		—						
00-04/F	—	—	1,179	91	—	115	27	1,412
05-14/F	—	—	1,959	167	—	1,258	117	3,501
15-17/F	—	—	411	48	—	915	73	1,447
18-24/F	553	61	1,544	98	5	1,546	159	3,966
25-34/F	515	86	2,167	119	31	413	60	3,391
35-44/F	203	42	1,020	146	42	2,034	155	3,642
45-64/F	20	6	208	43	67	8,559	1,186	10,089
65+/F	—	—	27	1	153	3,004	1,486	4,671
TOTAL	7,452	891	12,947	1,094	17,598	21,511	3,615	65,108

II. POPULATION BY SPONSOR SERVICE

SERVICE BRANCH	ACTIVE DUTY	MED ELG NG/RES	DEP OF ACT DUTY	DEP OF NG/RES	RETIREE	DEP OF RETIREE	SURVIVOR	TOTAL
ARMY	2,102	518	4,288	576	5,215	6,257	1,504	20,460
NAVY	521	139	834	203	2,183	2,358	379	6,617
AFLOAT	—	—	317	—	—	—	—	317
USMC	238	30	420	36	554	664	141	2,083
USAF	4,511	204	6,911	279	9,531	12,099	1,548	35,083
USCG	6	0	35	0	73	85	13	212
OTHER	74	0	142	0	42	48	30	336
TOTAL	7,452	891	12,947	1,094	17,598	21,511	3,615	65,108

Source: Resource Analysis and Planning System (RAPS), based on Program Objective Memorandum (POM) active duty endstrength projection and office of the DoD Actuary retiree projections.

Exhibit 3-10 summarizes the population growth rates projected from FY89 to FY98 by each category. As shown, the overall FAMC population is projected to increase roughly 3.4% over the nine-year span. The active duty population and dependent of active duty population is projected to decrease by about 7%, while other beneficiaries under 65 are projected to increase by about 9%. Within the active duty population, POM end-strengths applied to the FAMC catchment area resulted in an Air Force active duty decrease of about 9% and an Army active duty decrease of about 5.7%. These population growth rates were presented for review at the interim working session for this study.

3.2 BASE YEAR HEALTH CARE UTILIZATION

Base year health care utilization at FAMC was examined for both local and nonlocal beneficiaries served by FAMC. For local catchment area beneficiaries, total health care utilization from all sources of care was examined. For beneficiaries from outside the catchment area, only the portion of health care demand seen at FAMC was considered part of the total demand faced by FAMC. No attempt was made to quantify or capture additional care from other MTFs or from CHAMPUS outside the local catchment area.

Specifically, total FAMC health care demand was divided into the following components of relevance to this analysis:

(1) Care historically provided by FAMC to local beneficiaries;

(2) Care historically provided by FAMC to beneficiaries from outside the local catchment area (referral care), including:

(2a) Care to beneficiaries from the Colorado Springs area, and

(2b) Care to all other nonlocal beneficiaries,

EXHIBIT 3-10: PROJECTED CHANGE IN FAMC CATCHMENT AREA POPULATION

I. BENEFICIARY TYPE

Beneficiary Type	FY89	FY98	Percent Change	Annual Percent Change
Active Duty	8,027	7,452	-7.2%	-0.9%
Guard/Reserve	844	891	5.6%	0.7%
Dependent of Active Duty < 65	13,869	12,914	-6.9%	-0.9%
Dependent of Guard/RES < 65	1,027	1,092	6.3%	0.8%
Others < 65	30,152	32,916	9.2%	1.1%
Over 64	9,022	9,843	9.1%	1.1%
Total All Beneficiaries	62,941	65,108	3.4%	0.4%

II. ACTIVE DUTY ONLY, BY SERVICE

Service Branch	FY89	FY98	Percent Change	Annual Percent Change
Army	2,228	2,102	-5.7%	-0.7%
USAF	4,957	4,511	-9.0%	-1.2%
Other	842	839	---	---
Total All Services	8,027	7,452	-7.2%	-0.9%

Source: Resource Analysis and Planning System (RAPS) projections, based on Program Objective Memorandu (POM) active duty endstrength projections and Office of the DoD Actuary retiree projections.

(3) Care historically provided at the Lowry AFB clinic; and

(4) Care historically provided to local beneficiaries through CHAMPUS.

Another potential component of total demand -- care provided to beneficiaries assigned to the FAMC catchment area by MTFs other than FAMC -- was not identified in the list above. This potential component represented a very small amount of care; about 5% of the inpatient direct care provided to FAMC beneficiaries. Further, since FAMC is a tertiary care facility, it was reasonable to assume that this care was not actually being referred to other MTFs, but was being received elsewhere for other reasons. For example, the beneficiary might have been TDY or otherwise temporarily nearer to another MTF when care was required. With over 60,000 beneficiaries, over the course of a year it is likely that some amount of direct care will always be seen at other MTFs, so this amount of care was assumed to remain outside the catchment area in all scenarios and not impact on future FAMC requirements.

A description of the FY89 workloads associated with each of the identified components of demand follows.

Care Provided by FAMC to Local and Nonlocal Beneficiaries

Since the data sources and methodologies used to quantify inpatient and outpatient care differed, they are discussed separately below.

Inpatient Care

Exhibit 3-11 displays numbers of dispositions and bed days provided by FAMC to the local catchment area population in FY89. A total of about 8,000 dispositions and 50,000 bed days were provided to the local beneficiaries, for an average length of stay of about 6 days. These estimates were derived from RAPS FY89 FAMC workload reports, which are

EXHIBIT 3-11: FY89 FAMC INPATIENT CARE PROVIDED TO LOCAL CATCHMENT AREA BENEFICIARIES

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	161	119	433	388	1,101
CARDIOLOGY	34	24	422	341	821
NEUROLOGY	13	4	9	9	35
PEDIATRICS	0	441	80	0	521
OTHER MEDICAL	66	54	426	364	910
GENERAL SURGERY	89	97	329	235	750
ORTHOPEDICS	201	135	301	165	802
ORAL SURGERY	52	15	5	1	73
OPHTHALMOLOGY	16	27	98	152	293
OTOLARYNGOLOGY	61	176	114	31	382
UROLOGY	31	70	178	171	450
GYNECOLOGY	99	337	178	37	651
OTHER SURGERY	75	102	153	66	396
OBSTETRICS	112	695	123	0	930
PSYCHIATRY	84	7	8	1	100
ALL CLINICAL AREAS	1,094	2,303	2,857	1,961	8,215

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	740	693	3,437	3,656	8,526	7.7
CARDIOLOGY	340	86	2,036	2,184	4,646	5.7
NEUROLOGY	80	22	59	27	188	5.4
PEDIATRICS	0	1,222	262	0	1,484	2.8
OTHER MEDICAL	272	343	1,498	1,366	3,479	3.8
GENERAL SURGERY	673	511	3,679	2,850	7,713	10.3
ORTHOPEDICS	1,904	660	2,130	1,817	6,511	8.1
ORAL SURGERY	98	36	11	3	148	2.0
OPHTHALMOLOGY	68	47	411	548	1,074	3.7
OTOLARYNGOLOGY	281	350	435	313	1,379	3.6
UROLOGY	115	230	829	1,061	2,235	5.0
GYNECOLOGY	364	1,108	694	451	2,617	4.0
OTHER SURGERY	639	468	1,549	937	3,593	9.1
OBSTETRICS	702	3,284	618	0	4,604	5.0
PSYCHIATRY	1,802	33	87	33	1,955	19.6
ALL CLINICAL AREAS	8,078	9,093	17,735	15,246	50,152	6.1

Source: Resource Analysis and Planning System (RAPS), based on FY89 Medical Expense and Performance Reporting System (MEPRS) and Army biometrics data.

based on FY89 Services' biometrics inpatient records, standardized to Medical Expense and Performance Reporting System (MEPRS) clinical area totals.

Exhibit 3-12 displays the comparable inpatient workloads provided by FAMC to beneficiaries from outside the catchment area. These estimates were also derived from the RAPS model, based on biometrics and MEPRS data. FAMC provided about 6,000 dispositions and 72,000 bed days to nonlocal beneficiaries, for a longer average length of stay of about 12 days.

Exhibit 3-13 displays the proportion of inpatient care provided by FAMC to local and nonlocal beneficiaries. As shown, about 40% of total dispositions, and 60% of total bed days, were provided to beneficiaries from outside the local catchment area.

Exhibits 3-14 and 3-15 display similar pie charts for disposition and bed day origins by beneficiary type. These exhibits illustrate that the proportion of care provided to beneficiaries from outside the catchment area is much greater for active duty beneficiaries (80% of FAMC active duty bed days) than for dependents of active duty and others (roughly 50% of FAMC non-active duty bed days). This result is not surprising, considering the relatively low proportion of active duty personnel in the local population, and the fact that a larger proportion of direct care referrals are active duty.

To determine more specifically where the FAMC nonlocal inpatient workload was originating, FY89 biometrics data for care received at FAMC were examined. The biometrics data contain fields identifying the zip code of the beneficiary and the direct care facility where they received care. By mapping the beneficiary zip codes of FAMC patients into catchment areas, it was determined that FAMC received inpatient workload from over 150 catchment areas worldwide, although only a handful of

EXHIBIT 3-12: FY89 FAMC INPATIENT CARE PROVIDED TO BENEFICIARIES FROM OUTSIDE THE CATCHMENT AREA

I. DISPOSITIONS

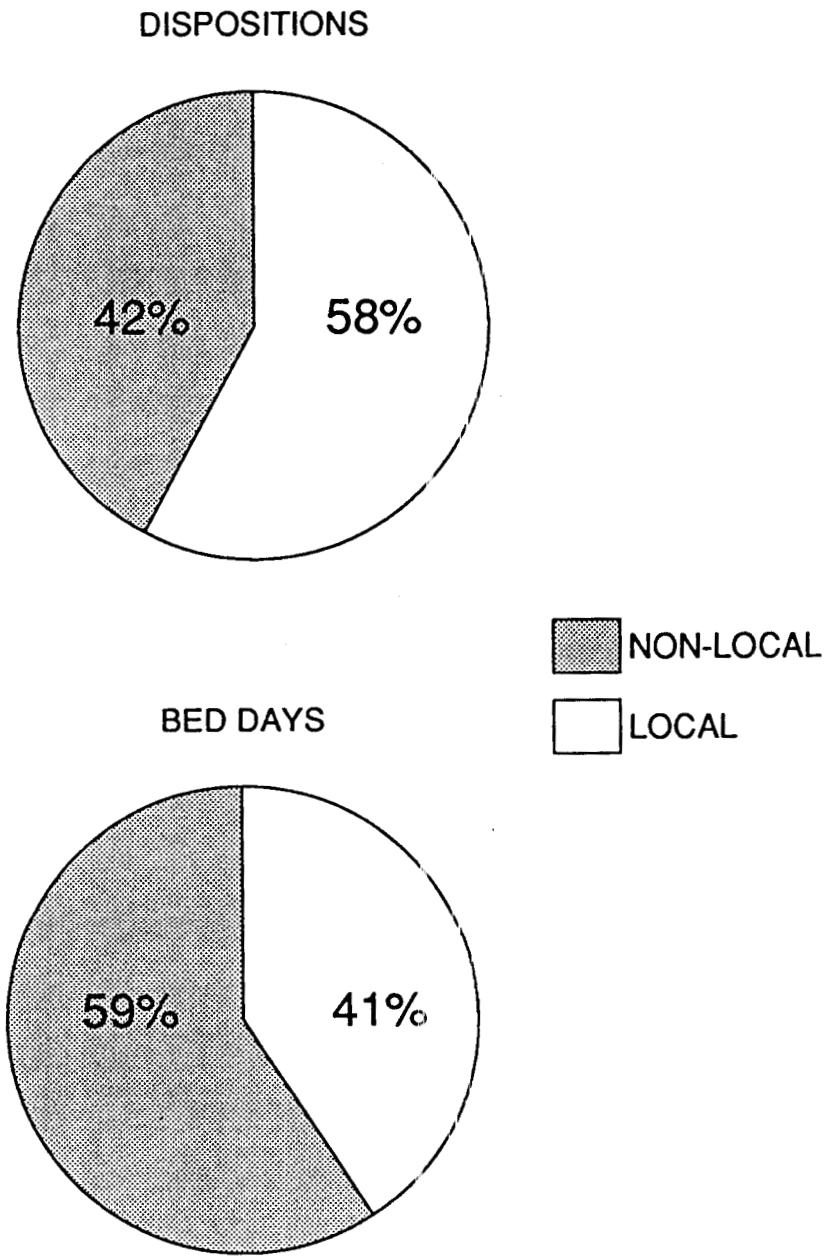
CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	244	69	256	78	647
CARDIOLOGY	144	24	240	119	527
NEUROLOGY	45	17	15	4	81
PEDIATRICS	0	289	22	0	311
OTHER MEDICAL	155	35	184	91	465
GENERAL SURGERY	86	40	172	109	407
ORTHOPEDICS	549	145	199	131	1,024
ORAL SURGERY	5	1	3	0	9
OPHTHALMOLOGY	52	53	67	62	234
OTOLARYNGOLOGY	172	54	61	16	303
UROLOGY	108	38	80	73	299
GYNECOLOGY	62	168	93	28	351
OTHER SURGERY	295	183	245	85	808
OBSTETRICS	48	119	11	1	179
PSYCHIATRY	218	1	1	0	220
ALL CLINICAL AREAS	2,183	1,236	1,649	797	5,865

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	3,614	609	3,089	1,034	8,346	12.9
CARDIOLOGY	1,110	147	1,788	948	3,993	7.6
NEUROLOGY	560	186	143	18	907	11.2
PEDIATRICS	0	1,674	171	0	1,845	5.9
OTHER MEDICAL	1,514	244	1,579	890	4,227	9.1
GENERAL SURGERY	1,299	481	2,647	2,325	6,752	16.6
ORTHOPEDICS	9,708	1,191	2,411	1,472	14,782	14.4
ORAL SURGERY	141	3	3	0	147	16.3
OPHTHALMOLOGY	481	213	477	450	1,621	6.9
OTOLARYNGOLOGY	1,707	210	999	299	3,215	10.6
UROLOGY	1,042	166	701	659	2,568	8.6
GYNECOLOGY	405	974	1,032	308	2,719	7.7
OTHER SURGERY	4,605	1,436	3,566	1,641	11,248	13.9
OBSTETRICS	805	1,154	90	16	2,065	11.5
PSYCHIATRY	7,384	6	6	0	7,396	33.6
ALL CLINICAL AREAS	34,375	8,694	18,702	10,060	71,831	12.2

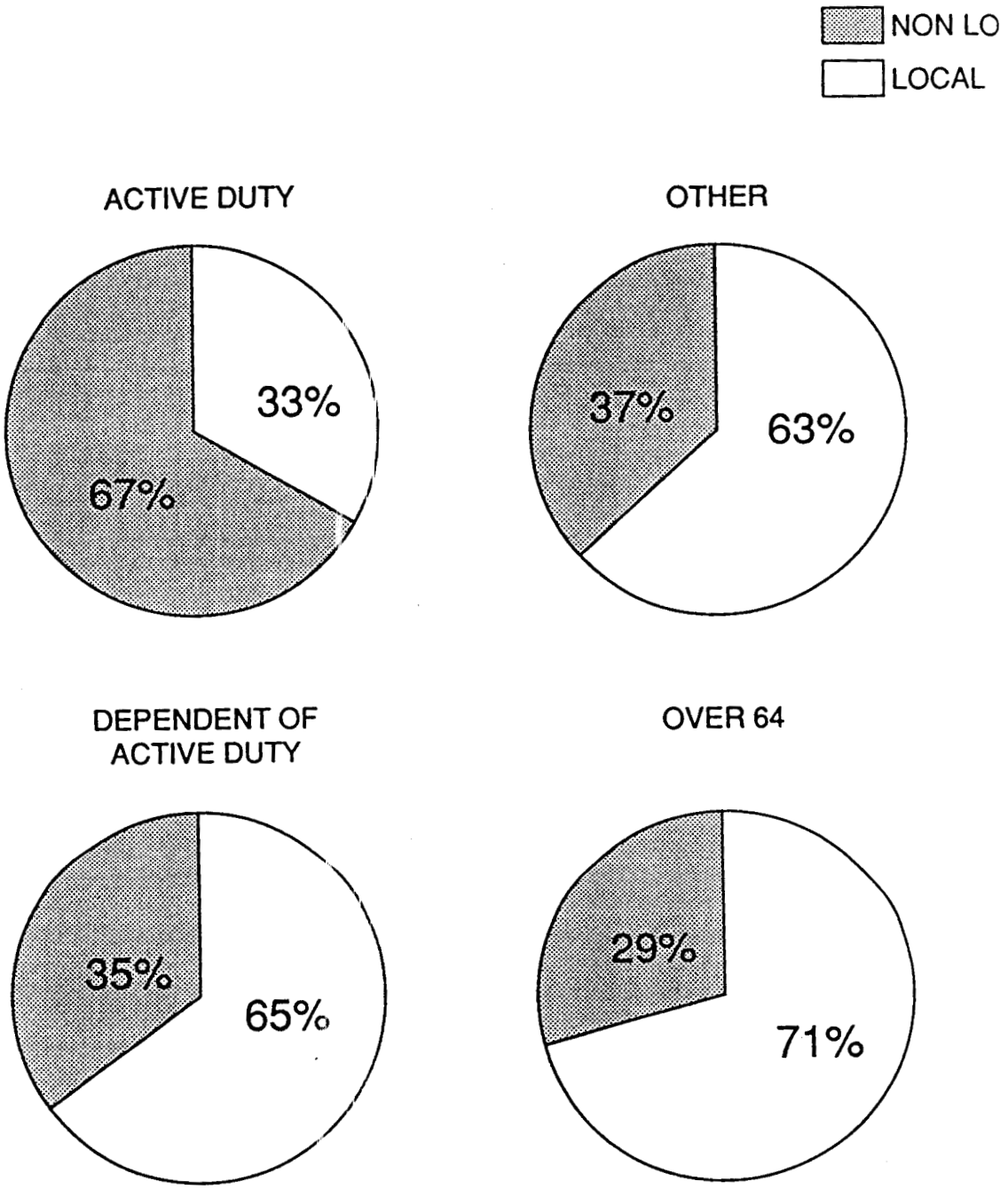
Source: Resource Analysis and Planning System (RAPS), based on FY89 Medical Expense and Performance Reporting System (MEPRS) and Army biometrics data.

EXHIBIT 3-13: ORIGIN OF FY89 FAMC INPATIENT WORKLOAD



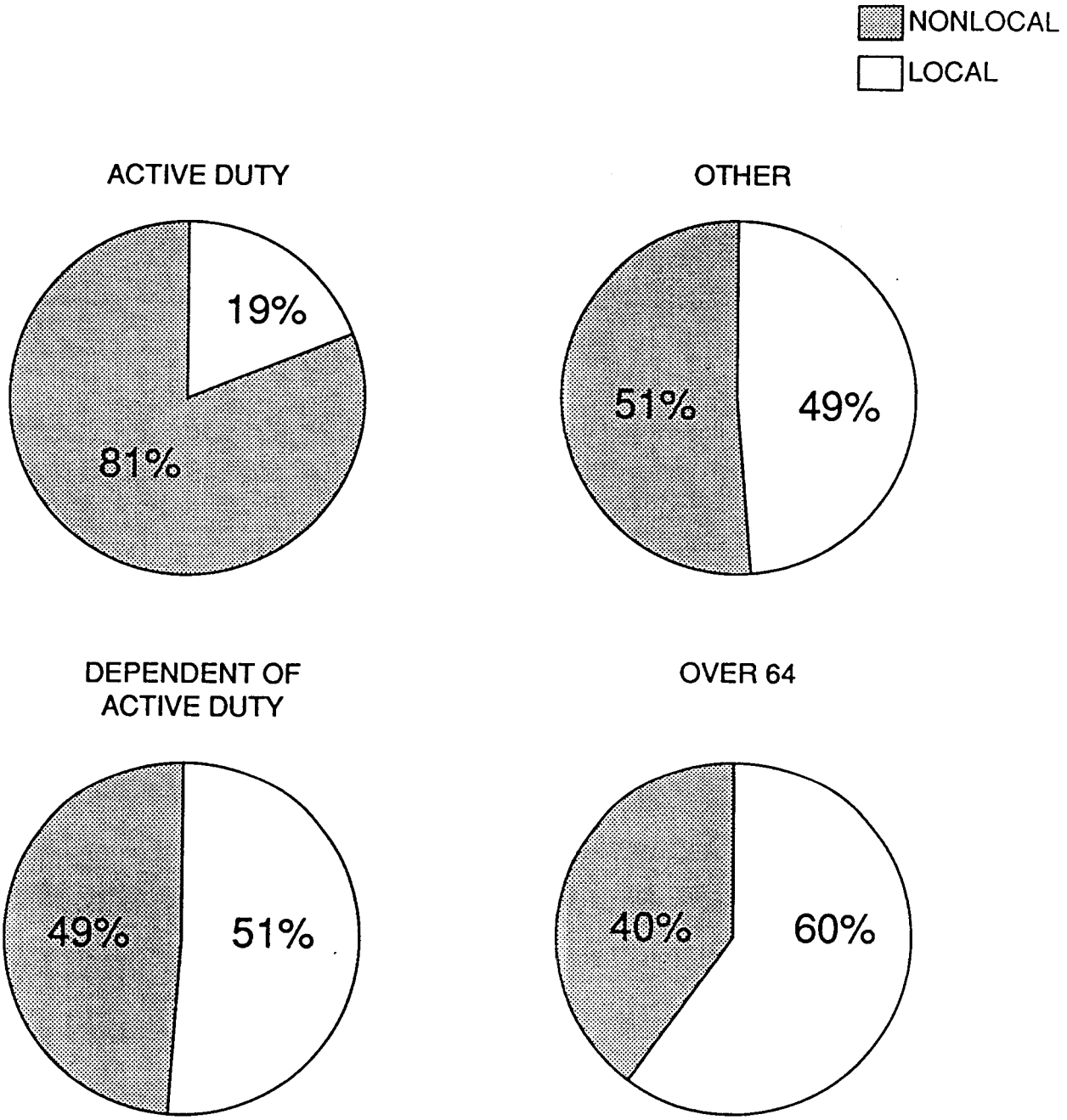
Source: Analysis of FY89 inpatient biometrics data.

EXHIBIT 3-14: ORIGIN OF FY89 FAMC DISPOSITIONS BY BENEFICIARY TYPE



Source: Analysis of FY89 inpatient biometrics data.

EXHIBIT 3-15: ORIGIN OF FY89 FAMC BED DAYS BY BENEFICIARY TYPE



Source: Analysis of FY89 biometrics data.

catchment areas represented 2% or more of the total workload. Exhibits 3-16 and 3-17 display the results of the FY89 FAMC inpatient origin analysis, for dispositions and bed days.

As shown in the exhibits, inpatient workload from Fort Carson and the Air Force Academy represents a significant portion of FAMC's workload. Catchment areas and noncatchment areas in Missouri, Kansas, Utah, Wyoming, and South Dakota also contributed somewhat to FAMCs nonlocal workload.

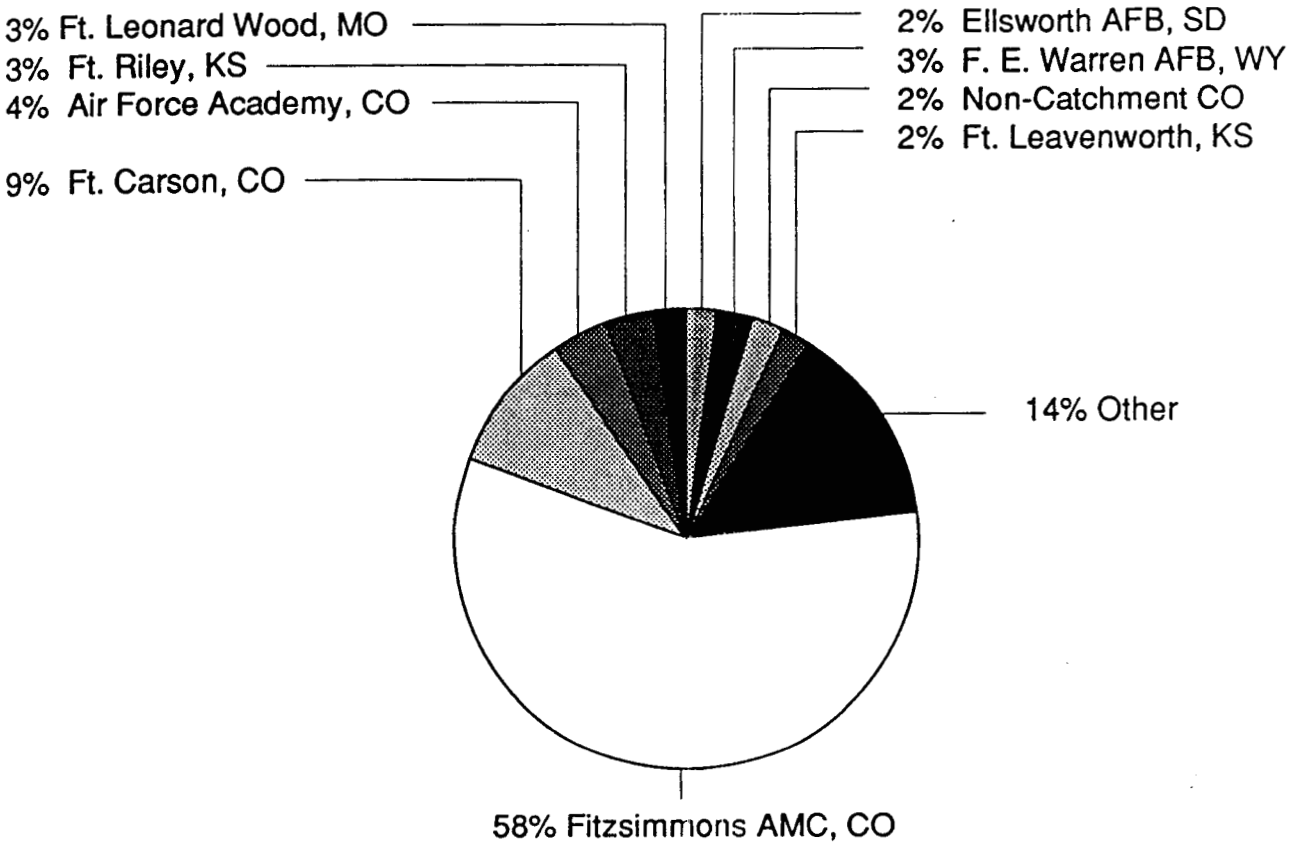
Exhibit 3-18 displays the total inpatient workload provided at FAMC in FY89, to both local and nonlocal beneficiaries. As shown, FAMC received over 14,000 dispositions and nearly 122,000 bed days, with an overall average length of stay of 8.7 days.

Outpatient Care

Exhibit 3-19 displays outpatient visits provided to all beneficiaries at FAMC in FY89. These data were derived from RAPS, based on biometrics counts of outpatient visits by clinical area and beneficiary type, with the cross product derived through use of an iterative fitting algorithm (see **RAPS Model Technical Description**, Defense Medical Information System (DMIS), VRI-DMIS-2.20 WP89-32(R), 23 May 1990, pages 3-18 through 3-21 for a detailed description of this methodology).

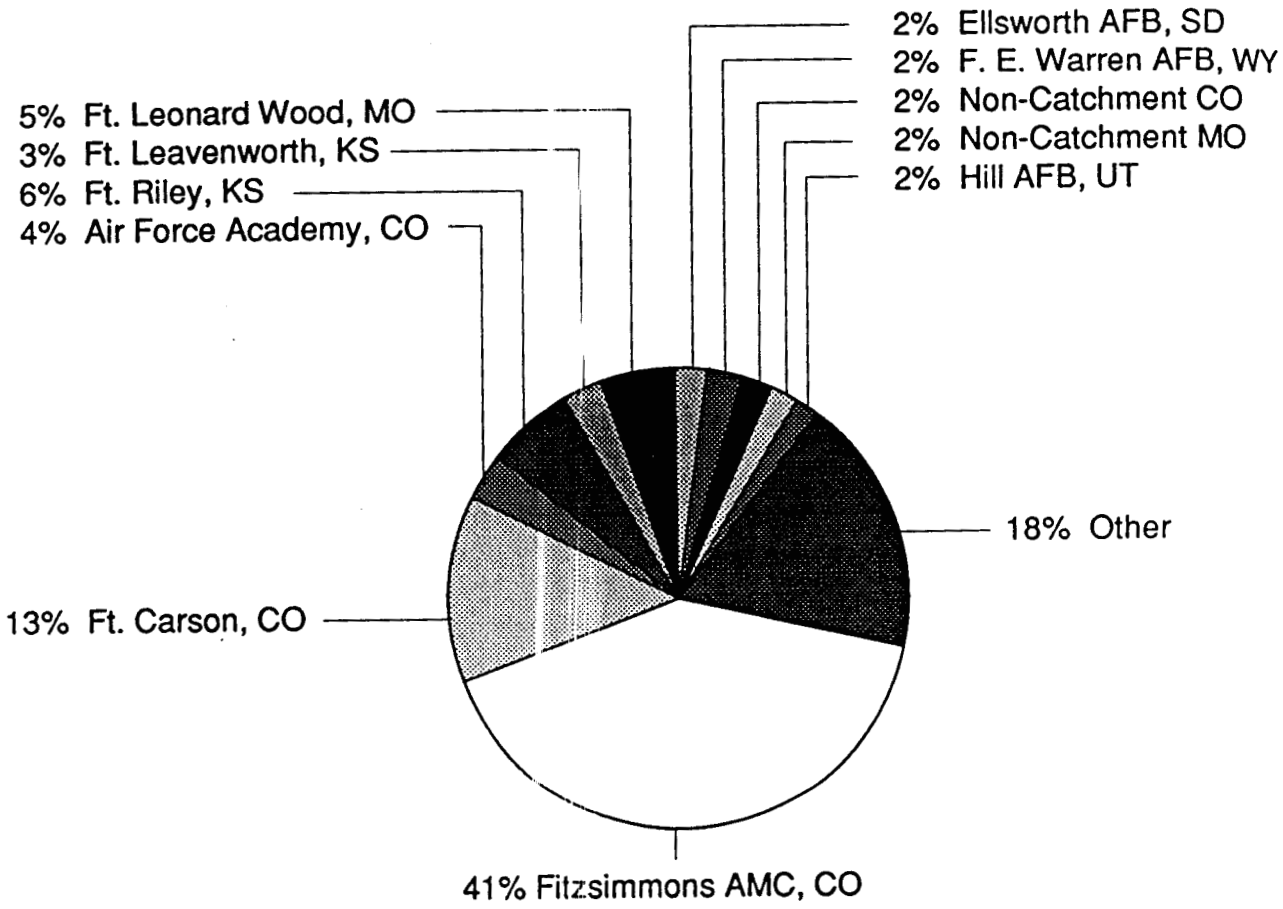
FAMC inpatient visits were estimated from FY89 MEPRS inpatient visit data by clinical area from the DMIS. The beneficiary type distribution of these visits required estimation. Since the visits were performed on FAMC inpatients, an inpatient beneficiary type distribution measure was desired. Inpatient visits represent patients receiving care in clinical areas other than the one under which they have been admitted. While they are more related to the inpatient care being provided at FAMC than to the outpatient care, the inpatient visits in a

EXHIBIT 3-16: DETAILED ORIGIN OF FY89 FAMC DISPOSITIONS



Source: Analysis of FY89 biometrics data.

EXHIBIT 3-17: DETAILED ORIGIN OF FY89 FAMC BED DAYS



Source: Analysis of FY89 biometrics data.

EXHIBIT 3-18: FY89 FAMC INPATIENT CARE PROVIDED TO ALL BENEFICIARIES

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	405	188	689	466	1,748
CARDIOLOGY	178	48	662	460	1,348
NEUROLOGY	58	21	24	13	116
PEDIATRICS	0	730	102	0	832
OTHER MEDICAL	221	89	610	455	1,375
GENERAL SURGERY	175	137	501	344	1,157
ORTHOPEDICS	750	280	500	296	1,826
ORAL SURGERY	57	16	8	1	82
OPHTHALMOLOGY	68	80	165	214	527
OTOLARYNGOLOGY	233	230	175	47	685
UROLOGY	139	108	258	244	749
GYNECOLOGY	161	505	271	65	1,002
OTHER SURGERY	370	285	398	151	1,204
OBSTETRICS	160	814	134	1	1,109
PSYCHIATRY	302	8	9	1	320
ALL CLINICAL AREAS	3,277	3,539	4,506	2,758	14,080

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	4,354	1,302	6,526	4,690	16,872	9.7
CARDIOLOGY	1,450	233	3,824	3,132	8,639	6.4
NEUROLOGY	640	208	202	45	1,095	9.4
PEDIATRICS	0	2,896	433	0	3,329	4.0
OTHER MEDICAL	1,786	587	3,077	2,256	7,706	5.6
GENERAL SURGERY	1,972	992	6,326	5,175	14,465	12.5
ORTHOPEDICS	11,612	1,851	4,541	3,289	21,293	11.7
ORAL SURGERY	239	39	14	3	295	3.6
OPHTHALMOLOGY	549	260	888	998	2,695	5.1
OTOLARYNGOLOGY	1,988	560	1,434	612	4,594	6.7
UROLOGY	1,157	396	1,530	1,720	4,803	6.4
GYNECOLOGY	769	2,082	1,726	759	5,336	5.3
OTHER SURGERY	5,244	1,904	5,115	2,578	14,841	12.3
OBSTETRICS	1,507	4,438	708	16	6,669	6.0
PSYCHIATRY	9,186	39	93	33	9,351	29.2
ALL CLINICAL AREAS	42,453	17,787	36,437	25,306	121,983	8.7

Source: Resource Analysis and Planning System (RAPS), based on FY89 Medical Expense and Performance Reporting System (MEPRS) and Army biometrics data.

EXHIBIT 3-19: FY89 FAMC OUTPATIENT VISITS

CLINICAL AREA	ACTIVE DUTY	DEP ACTIVE < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	10,127	3,144	49,626	15,178	78,075
FAM PRAC/PRIM CARE	11,361	11,330	43,968	7,740	74,399
FLT/UNDERSEAS MED	0	0	0	0	0
PEDIATRICS	0	73,335	24,222	0	97,557
ALLERGY	1,652	2,506	4,724	1,445	10,327
CARDIOLOGY	1,376	1,299	14,257	4,360	21,292
DERMATOLOGY	4,619	3,554	10,932	3,343	22,448
NEUROLOGY	1,350	868	2,336	715	5,269
EMERGENCY MEDICINE	7,246	25,544	17,588	5,379	55,757
GENERAL SURGERY	2,315	3,269	10,657	3,260	19,501
ORTHOPEDICS	14,803	7,179	12,299	3,762	38,043
OPHTHALMOLOGY	2,061	2,948	16,488	5,043	26,540
OTOLARYNGOLOGY	1,053	1,660	2,286	699	5,698
UROLOGY	1,435	893	5,706	1,746	9,780
GYNECOLOGY	2,786	13,570	5,155	1,577	23,088
OBSTETRICS	2,265	11,521	1,897	14	15,697
PSYCHIATRY	6,837	3,986	4,259	420	15,502
OPTOMETRY	1,235	1,137	3,584	1,096	7,052
ALL CLINICAL AREAS	72,521	167,743	229,984	55,777	526,025

Source: Resource Analysis and Planning System (RAPS), based on FY89 Army biometrics data.

particular clinical area do not relate to the inpatient beneficiaries in a comparable inpatient clinical area. Furthermore, the costs for these visits are no longer assessed back to the inpatient clinical area, so the origin of these inpatient visits is no longer tracked in the data. Therefore, inpatient visits reported under MEPRS for each clinical area were distributed by beneficiary type based on the total inpatient beneficiary type distribution. Exhibit 3-20 displays the resulting estimates of total inpatient and outpatient visits.

The final step in quantifying base year FAMC clinic workloads was to assess the proportions of care being provided to local catchment area beneficiaries and to nonlocal beneficiaries. This level of detail is not normally available in MHSS outpatient data. However, the FAMC Patient Administration office was able to compile data on outpatient visits for beneficiaries from local and nonlocal zip codes, by beneficiary type and clinic, for calendar year 1990. These data allowed estimation of the proportion of outpatient visits FAMC provides to the local population.

Exhibit 3-21 displays the percentage of visits provided by FAMC to local catchment area beneficiaries, calculated from the special Patient Administration office data. As shown, about 80% of the outpatient visits are provided to local beneficiaries. For active duty outpatient care, the percent provided to local beneficiaries was a somewhat lower 60%. The percentages in exhibit 3-20 were applied to the total FAMC visits to derive local and nonlocal outpatient visits. The resulting estimates of total clinic visits provided to local and nonlocal beneficiaries are displayed in exhibits 3-22 and 3-23.

EXHIBIT 3-20: FY89 FAMC OUTPATIENT AND INPATIENT VISITS

CLINICAL AREA	OPV ACTIVE DUTY	IPV ACTIVE DUTY	OPV DEP ACT < 65	IPV DEP ACT < 65	OPV OTHERS < 65	IPV OTHERS < 65	OPV OVER 64	IPV OVER 64	OPV TOTAL	IPV TOTAL	TOTAL
INTERNAL MEDICINE	10,127	14,174	3,144	5,938	49,626	12,166	15,178	8,451	78,075	40,729	118,804
FAM PRAC/PRIM CARE	11,361	1,324	11,330	555	43,968	1,137	7,740	790	74,399	3,806	78,205
FLT/UNDERSEAS MED	0	0	0	0	0	0	0	0	0	0	0
PEDIATRICS	0	0	73,335	0	24,222	0	0	0	97,557	0	97,557
ALLERGY	1,652	151	2,506	63	4,724	129	1,445	90	10,327	433	10,760
CARDIOLOGY	1,376	574	1,299	241	14,257	493	4,360	342	21,292	1,650	22,942
DERMATOLOGY	4,619	123	3,554	51	10,932	105	3,343	73	22,448	352	22,800
NEUROLOGY	1,350	163	868	68	2,336	140	715	97	5,269	468	5,737
EMERGENCY MEDICINE	7,246	0	25,544	0	17,588	0	5,379	0	55,757	0	55,757
GENERAL SURGERY	2,315	2,221	3,269	930	10,657	1,906	3,260	1,324	19,501	6,381	25,882
ORTHOPEDICS	14,803	1,116	7,179	468	12,299	958	3,762	665	38,043	3,207	41,250
OPHTHALMOLOGY	2,061	1,024	2,948	429	16,488	879	5,043	610	26,540	2,942	29,482
OTOLARYNGOLOGY	1,053	149	1,660	62	2,286	128	699	89	5,698	428	6,126
UROLOGY	1,435	437	893	183	5,706	375	1,746	261	9,780	1,256	11,036
GYNECOLOGY	2,786	134	13,570	56	5,155	115	1,577	80	23,088	385	23,473
OBSTETRICS	2,265	6	11,521	2	1,897	5	14	4	15,697	17	15,714
PSYCHIATRY	6,837	7,034	3,986	2,947	4,259	6,037	420	4,194	15,502	20,212	35,714
OPTOMETRY	1,235	9	1,137	4	3,584	7	1,096	5	7,052	25	7,077
ALL CLINICAL AREAS	72,521	28,639	167,743	11,997	229,984	24,580	55,777	17,075	526,025	82,291	608,316

Source: Outpatient visits derived from the Resource Analysis and Planning System (RAPS), based on FY89 Army biometrics data.
Inpatient visits derived from FY89 Medical Expense and Performance Reporting System (MEPRS) data.

EXHIBIT 3-21: PERCENTAGE OF FAMC OUTPATIENT VISITS PROVIDED TO LOCAL BENEFICIARIES

CLINIC	% LOCAL ACT DUT	% LOCAL DEP ACT	% LOCAL OTHER	% LOCAL TOTAL
INTERNAL MEDICINE	49%	83%	86%	82%
FAM PRAC/PRIM CARE	62%	91%	85%	83%
PEDIATRICS	78%	84%	70%	83%
ALLERGY	65%	82%	82%	80%
CARDIOLOGY	100%	100%	100%	100%
DERMATOLOGY	67%	88%	84%	84%
NEUROLOGY	40%	64%	65%	62%
EMER MEDICINE	60%	88%	79%	83%
GENERAL SURGERY	39%	72%	78%	69%
ORTHOPEDICS	53%	81%	78%	73%
OPHTHALMOLOGY	45%	79%	78%	77%
ENT	40%	81%	76%	72%
UROLOGY	57%	76%	82%	77%
GYNECOLOGY	75%	87%	69%	85%
OBSTETRICS	90%	85%	87%	85%
OPTOMETRY	74%	92%	84%	85%
TOTAL	60%	85%	82%	81%

Source: Analysis of data provided by FAMC Patient Administration office for calendar year 1990.

EXHIBIT 3-22: FY89 FAMC CLINIC VISITS PROVIDED TO LOCAL BENEFICIARIES

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	11,907	7,512	53,320	23,629	96,369
FAM PRAC/PRIM CARE	7,801	10,814	38,333	8,530	65,478
FLT/UNDERSEAS MED	0	0	0	0	0
PEDIATRICS	0	61,374	17,038	0	78,412
ALLERGY	1,173	2,101	4,001	1,535	8,809
CARDIOLOGY	1,950	1,540	14,750	4,702	22,942
DERMATOLOGY	3,176	3,169	9,309	3,416	19,070
NEUROLOGY	610	597	1,598	812	3,616
EMERGENCY MEDICINE	4,329	22,568	13,924	5,379	46,201
GENERAL SURGERY	1,768	3,008	9,793	4,584	19,153
ORTHOPEDICS	8,429	6,219	10,315	4,427	29,391
OPHTHALMOLOGY	1,382	2,684	13,631	5,653	23,350
OTOLARYNGOLOGY	484	1,389	1,836	788	4,497
UROLOGY	1,065	817	4,961	2,007	8,851
GYNECOLOGY	2,197	11,892	3,620	1,657	19,367
OBSTETRICS	2,035	9,759	1,658	18	13,470
PSYCHIATRY	8,323	5,893	8,443	4,614	27,272
OPTOMETRY	914	1,045	3,000	1,101	6,061
ALL CLINICAL AREAS	57,545	152,381	209,531	72,852	492,309

75
25 Non load

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EXHIBIT 3-23: FY89 FAMC CLINIC VISITS PROVIDED TO BENEFICIARIES FROM OUTSIDE THE CATCHMENT AREA

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	12,394	1,570	8,472	0	22,435
FAM PRAC/PRIM CARE	4,884	1,071	6,772	0	12,727
FLT/UNDERSEAS MED	0	0	0	0	0
PEDIATRICS	0	11,961	7,184	0	19,145
ALLERGY	630	468	852	0	1,951
CARDIOLOGY	0	0	0	0	0
DERMATOLOGY	1,566	436	1,728	0	3,730
NEUROLOGY	903	339	878	0	2,121
EMERGENCY MEDICINE	2,917	2,976	3,664	0	9,556
GENERAL SURGERY	2,768	1,191	2,770	0	6,729
ORTHOPEDICS	7,490	1,428	2,942	0	11,859
OPHTHALMOLOGY	1,703	693	3,736	0	6,132
OTOLARYNGOLOGY	718	333	578	0	1,629
UROLOGY	807	259	1,120	0	2,185
GYNECOLOGY	723	1,734	1,650	0	4,106
OBSTETRICS	236	1,764	244	0	2,244
PSYCHIATRY	5,548	1,040	1,853	0	8,442
OPTOMETRY	330	96	591	0	1,016
ALL CLINICAL AREAS	43,615	27,359	45,033	0	116,007

Care Provided at Lowry AFB Clinic

Exhibit 3-24 displays the visits seen in FY89 at the Lowry AFB clinic. These figures were taken from the RAPS model, based on FY89 biometrics data.

The Lowry AFB clinic provided a total of about 38,000 outpatient visits, the majority of which were family practice/primary care visits to active duty beneficiaries. The remainder of care required by the Lowry Air Force population is generally referred to FAMC.

Nondirect Care Workloads

Exhibit 3-25 displays the inpatient workloads provided by civilian sources under the CHAMPUS program to FAMC beneficiaries in FY89. These workloads were taken from the RAPS model, based on FY89 CHAMPUS individual claims data for the FAMC catchment area. These data were inflated to represent the full 24-month collection claims period and were mapped into inpatient clinical areas comparable to those reported for direct care workloads.

Given the capabilities at FAMC, the very small amount of inpatient care seen under CHAMPUS is not surprising. The majority of this CHAMPUS workload, about half of the dispositions and over 75% of the bed days, was for psychiatric care.

Exhibit 3-26 displays CHAMPUS outpatient workloads from RAPS for the FAMC catchment area. On the outpatient side, CHAMPUS data do not readily map into the same level of clinical area detail available for direct care workloads, particularly for basic medical care. The medical/primary care category into which the CHAMPUS data can be mapped is comparable to the consolidation of four of the clinical areas used in direct care workload reports: internal medicine, family practice/primary care, flight/underseas medicine, and pediatrics. Thus, the

EXHIBIT 3-24: FY89 LOWRY AFB CLINIC OUTPATIENT VISITS

CLINICAL AREA	ACTIVE DUTY	DEP ACTIVE < 65	OTHERS < 65	LOWRY OVER 64	TOTAL
INTERNAL MEDICINE	0	0	0	0	0
FAM PRAC/PRIM CARE	26,487	776	733	1,375	29,371
FLT/UNDERSEAS MED	0	0	0	0	0
PEDIATRICS	0	0	0	0	0
ALLERGY	0	0	0	0	0
CARDIOLOGY	0	0	0	0	0
DERMATOLOGY	0	0	0	0	0
NEUROLOGY	0	0	0	0	0
EMERGENCY MEDICINE	0	0	0	0	0
GENERAL SURGERY	0	0	0	0	0
ORTHOPEDICS	0	0	0	0	0
OPHTHALMOLOGY	0	0	0	0	0
OTOLARYNGOLOGY	0	0	0	0	0
UROLOGY	0	0	0	0	0
GYNECOLOGY	0	0	0	0	0
OBSTETRICS	0	0	0	0	0
PSYCHIATRY	3,543	15	26	3	3,587
OPTOMETRY	5,060	33	178	55	5,326
ALL CLINICAL AREAS	35,090	824	937	1,433	38,284

Source: Resource Analysis and Planning System (RAPS), based on FY89 biometrics data.

EXHIBIT 3-25: FY89 CHAMPUS INPATIENT CARE PROVIDED TO FAMC CATCHMENT AREA BENEFICIARIES

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	0	17	32	0	49
CARDIOLOGY	0	2	55	2	59
NEUROLOGY	0	5	21	0	26
PEDIATRICS	0	52	5	0	57
OTHER MEDICAL	0	4	29	0	33
GENERAL SURGERY	0	16	33	1	50
ORTHOPEDICS	0	2	13	3	18
ORAL SURGERY	0	0	3	0	3
OPHTHALMOLOGY	0	0	0	0	0
OTOLARYNGOLOGY	0	4	0	0	4
UROLOGY	0	1	5	2	8
GYNECOLOGY	0	4	4	0	8
OTHER SURGERY	0	4	17	0	21
OBSTETRICS	0	12	5	0	17
PSYCHIATRY	0	139	166	0	305
ALL CLINICAL AREAS	0	262	388	8	658

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	0	312	281	0	593	12.1
CARDIOLOGY	0	17	259	5	281	4.8
NEUROLOGY	0	66	448	0	514	19.8
PEDIATRICS	0	456	6	0	462	8.1
OTHER MEDICAL	0	85	204	0	289	8.8
GENERAL SURGERY	0	122	183	1	306	6.1
ORTHOPEDICS	0	7	124	48	179	9.9
ORAL SURGERY	0	0	7	0	7	2.3
OPHTHALMOLOGY	0	0	0	0	0	---
OTOLARYNGOLOGY	0	18	0	0	18	4.5
UROLOGY	0	1	13	6	20	2.5
GYNECOLOGY	0	22	15	0	37	4.6
OTHER SURGERY	0	31	200	0	231	11.0
OBSTETRICS	0	26	13	0	39	2.3
PSYCHIATRY	0	5,232	5,675	0	10,907	35.8
ALL CLINICAL AREAS	0	6,395	7,428	60	13,883	21.1

Source: Resource Analysis and Planning System (RAPS), based on FY89 CHAMPUS individual inpatient claims data.

EXHIBIT 3-26: FY89 CHAMPUS OUTPATIENT VISITS PROVIDED TO BENEFICIARIES IN THE FAMC CATCHMENT AREA

I. TOTAL OUTPATIENT VISITS INCLUDING PARTNERSHIP VISITS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
MEDICAL/PRIM CARE	0	5,474	12,621	0	18,095
ALLERGY	0	0	0	0	0
CARDIOLOGY	0	0	0	0	0
DERMATOLOGY	0	0	0	0	0
NEUROLOGY	0	0	0	0	0
EMERGENCY MEDICINE	0	0	848	0	848
GENERAL SURGERY	0	1,167	4,649	0	5,816
ORTHOPEDICS	0	0	2,300	0	2,300
OPHTHALMOLOGY	0	5	2,142	0	2,147
OTOLARYNGOLOGY	0	1,672	2,263	0	3,935
UROLOGY	0	409	3,014	0	3,423
GYNECOLOGY	0	2,010	1,386	0	3,396
OBSTETRICS	0	156	52	0	208
PSYCHIATRY	0	8,279	12,080	0	20,359
OPTOMETRY	0	0	0	0	0
ALL CLINICAL AREAS	0	19,172	41,355	0	60,527

II. ESTIMATED PARTNERSHIP VISITS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
MEDICAL/PRIM CARE	0	2,564	5,568	0	8,132
ALLERGY	0	0	0	0	0
CARDIOLOGY	0	0	0	0	0
DERMATOLOGY	0	0	0	0	0
NEUROLOGY	0	0	0	0	0
EMERGENCY MEDICINE	0	0	0	0	0
GENERAL SURGERY	0	425	1,446	0	1,871
ORTHOPEDICS	0	0	1,158	0	1,158
OPHTHALMOLOGY	0	2	1,153	0	1,155
OTOLARYNGOLOGY	0	955	1,254	0	2,209
UROLOGY	0	285	1,564	0	1,849
GYNECOLOGY	0	574	242	0	816
OBSTETRICS	0	78	52	0	130
PSYCHIATRY	0	411	521	0	932
OPTOMETRY	0	0	0	0	0
ALL CLINICAL AREAS	0	5,294	12,958	0	18,252

Source: Total visits taken from Resource Analysis and Planning System (RAPS), based on Medical Expense and Performance Reporting System (MEPRS), and FY89 Biometrics data. Partner visits estimated from OCHAMPUS reports, as detailed in text.

medical/primary care (med/pc) group reported under RAPS for service area nondirect care workloads should be compared to the sum of those four direct care categories.

Another clinical area requiring special treatment was obstetrics. Outpatient obstetrics costs under CHAMPUS are reported with the inpatient episode; nondirect care obstetrics visits that are comparable to direct care visits are not available in the CHAMPUS data. Therefore, nondirect care obstetrical visits were estimated by applying the rate of 13 visits per delivery (with deliveries estimated as obstetrical dispositions) recommended in 1983 by the Americal College of Obstetricians and Gynecologists.

Finally, an adjustment to CHAMPUS outpatient workloads was required to properly handle the workload seen under Partnership Program providers operating out of the FAMC facility. Since this workload was performed at the MTF, it was reported as direct care workload. Since the Partnership provider filed a CHAMPUS claim, this workload was also reported under FAMC catchment area CHAMPUS workloads. To eliminate this double counting, both the direct care and CHAMPUS data reporting systems were examined with respect to Partnership Program workloads. (Note that Partnership agreements at FAMC are virtually all "internal", meaning that the civilian provider works out of the MTF.)

Starting in mid-FY90, FAMC began to track Partnership Program workload separately. However, this workload was not tracked in FY89. It is believed to be included in FAMC FY89 direct care workloads. Support and administrative costs associated with Partnership workloads at the MTF are not tracked.

CHAMPUS publishes a report on Partnership Program workload and costs that is similar in format to the full Health Care Summary Report

(HCSR) for each catchment area. This report was available for FAMC for FY89.

Thus, from a practical standpoint, it was much easier to identify the portion of the CHAMPUS workload associated with Partnership than the portion of the direct care workload. Further, since the beneficiary experiences no difference in the location or the cost of care, Partnership care should be more comparable to direct care than to CHAMPUS, in terms of beneficiary utilization behavior. Therefore, it was decided to leave the Partnership Program workload as part of direct care workloads, and deduct the workload from the CHAMPUS counts.

The FY89 CHAMPUS Partnership Program report for the FAMC catchment area showed outpatient visits, outpatient professional costs, and some inpatient professional costs. Since there were no hospital services costs under Partnership, dispositions and bed days were not reported. Therefore, this analysis concentrated on eliminating the double counting of outpatient visits.

The FY89 Partnership Program visit counts by clinical area were compared to the total FY89 HCSR counts for FAMC. Since workloads are presented by clinical area, but not by beneficiary type in these reports, the distribution by beneficiary type in each clinical area was calculated by using the beneficiary distribution of the user population in that clinical area, applied to the number of visits reported. The proportion of visits that were Partnership for each clinical area and beneficiary type was then calculated by dividing the Partnership counts by the total counts from the HCSR. These percentages were applied to the RAPS estimates of CHAMPUS outpatient visits in the FAMC catchment area, to estimate visits associated with the Partnership Program. Exhibit 3-27 displays the revised FY89 FAMC CHAMPUS outpatient workloads, with estimated Partnership Program visits removed.

EXHIBIT 3-27: FY89 CHAMPUS OUTPATIENT VISITS PROVIDED TO BENEFICIARIES IN THE FAMC CATCHMENT AREA (EXCLUDING PARTNERSHIP VISITS)

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
MEDICAL/PRIM CARE	0	2,910	7,053	0	9,963
ALLERGY	0	0	0	0	0
CARDIOLOGY	0	0	0	0	0
DERMATOLOGY	0	0	0	0	0
NEUROLOGY	0	0	0	0	0
EMERGENCY MEDICINE	0	0	848	0	848
GENERAL SURGERY	0	742	3,203	0	3,945
ORTHOPEDICS	0	0	1,142	0	1,142
OPHTHALMOLOGY	0	3	989	0	992
OTOLARYNGOLOGY	0	717	1,009	0	1,726
UROLOGY	0	124	1,450	0	1,574
GYNECOLOGY	0	1,436	1,144	0	2,580
OBSTETRICS	0	78	0	0	78
PSYCHIATRY	0	7,868	11,559	0	19,427
OPTOMETRY	0	0	0	0	0
ALL CLINICAL AREAS	0	13,878	28,397	0	42,275

Source: Resource Analysis and Planning System (RAPS), based on CHAMPUS individual outpatient claims data, adjusted to remove Partnership Program visits.

Medicare Workload

FAMC provides a significant amount of health care to local beneficiaries 65 years of age and older. Since the majority of beneficiaries aged 65 and older are eligible for Medicare, these beneficiaries are not eligible for reimbursement under the CHAMPUS program. The alternative to direct care for these beneficiaries is thus civilian sector providers reimbursed under Medicare or private insurance.

This economic analysis includes Medicare costs as a part of the total government cost of providing health care to FAMC beneficiaries. In other words, the cost of providing care to Medicare-eligible beneficiaries does not become zero if they are seen outside the MTF, as it would if only DoD costs were considered. Therefore, to complete the picture of total health care received by FAMC catchment area beneficiaries, the amount of care potentially seen under the Medicare program in FY89 was examined, as follows.

Health care provided to military beneficiaries outside an MTF or CHAMPUS is not tracked in the data systems of the MHSS. Therefore, this workload can only be roughly estimated by comparing the workload seen in the MHSS with the workload one would expect to be generated by the given population.

Expected hospital discharge rates and physician visit rates for males and females 65 years of age and older were taken from Current Estimates from the National Health Interview Survey, 1988, NCHS series 10, Number 173, Tables 71 and 77, DHHS Publication No. (PHS) 89-1592, October 1989. These rates were multiplied by the estimated number of males and females over 64 in the FAMC catchment area, to produce the expected number of dispositions and visits generated by this population. The expected dispositions and visits were then compared to the

dispositions and visits provided by FAMC to this age group in FY89. These calculations are shown below.

	Male	Female
Local FAMC population aged 65 and older	4,738	4,284
National average hospital discharges per 100 for ages 65 and older	28.8	24.0
National average physician contacts per person for ages 65 and older	8.5	8.8

Expected Discharges	1,365	+	1,028	=	2,393
Reported FAMC Dispositions					- 1,961
Potential Medicare Dispositions					*432*

Expected Visits	40,273	+	37,699	=	77,972
Reported FAMC Visits					- 72,852
Potential Medicare Visits					*5,120*

Based on these estimates, FAMC is already providing 82% of the dispositions and 93% of the visits expected to be generated by the 65 and older beneficiary population in the FAMC catchment area. An estimated 400 dispositions and 5,000 visits may have been received in FY89 outside the MHSS through Medicare or other insurance. For analysis purposes, this potential additional piece of workload is assumed to remain outside the MHSS as it has historically.

3.3 HEALTH CARE UTILIZATION TRENDS AND ADJUSTMENTS

The basic formula for projecting health care demand is to grow the total health care workload provided to beneficiaries in the base year by the expected change in the beneficiary population. However, to adequately estimate future health care demand, it is also necessary to

incorporate any expected changes in historical utilization patterns before projecting into the future.

Historical patterns were examined for the care provided to the FAMC catchment area population, and for the workload that FAMC had historically provided to nonlocal beneficiaries. Exhibit 3-28 displays the historical population and workload data examined for FAMC. These data were derived from three sources: the DMIS, the RAPS model, and the CRS Sirrine report documenting the previous economic analysis of FAMC. The latter two sources were required in order to split the inpatient workload into local and nonlocal care for historical years.

As shown in the exhibit, the FAMC catchment area population has remained quite stable in recent years, so that any changes in per capita utilization rates for the local population are not being driven by population fluctuations. The proportion of local to nonlocal inpatient care has also not fluctuated dramatically over past years for which these data were available.

Exhibit 3-29 displays historical FAMC utilization rates, calculated from the data in exhibit 3-28. On the inpatient side, the utilization of FAMC by the local population appears to be relatively stable, although overall numbers of dispositions have been decreasing. FY90 data from FAMC indicate that inpatient workloads at FAMC have actually increased again over FY89 levels, so the disposition rates were not projected to decline further from FY89 levels.

On the outpatient side, the data did not allow the separation of historical local and nonlocal care (this was done in for FY89 only through a special data request to the facility, as described in section 3.2). Because we could not interpret whether the apparent rise in outpatient care was the result of increased utilization from local beneficiaries, or an increase in the number of outpatient referrals, we

EXHIBIT 3-28: DATA USED IN FAMC UTILIZATION TREND ANALYSIS

	FY84	FY85	FY86	FY87	FY88	FY89
CATCHMENT AREA POPULATION	64,593	63,285	63,088	62,970	62,096	62,941
INPATIENT DATA						
DISPOSITIONS						
FAMC LOCAL	9,515	9,314	N/A	8,414	N/A	8,215
FAMC NONLOCAL	7,067	6,681	N/A	6,883	N/A	5,865
FAMC LOC+NLOC	16,582	15,995	15,766	15,297	16,358	14,080
CHAMPUS	337	508	475	607	563	658
BED DAYS						
FAMC LOCAL	60,593	55,138	N/A	52,214	N/A	50,152
FAMC NONLOCAL	92,524	81,704	N/A	76,443	N/A	71,831
FAMC LOC+NLOC	153,117	136,842	132,048	128,657	127,487	121,983
CHAMPUS	5,185	9,112	8,891	11,846	9,786	13,883
OUTPATIENT DATA						
FAMC						
INP VISITS (IPV)	54,397	62,100	79,204	81,736	74,612	82,294
OUTP VISITS (OPV)	490,225	475,897	494,876	470,039	530,424	526,025
TOTAL VISITS	544,622	537,997	574,080	551,775	605,036	608,319
LOWRY CLINIC OPV	N/A	N/A	55,998	57,393	52,446	38,285
CHAMPUS OPV	12,041	14,169	20,194	27,703	29,315	60,319

Sources:

- All FY87 data from 87 base year RAFS
- All FY89 data from 89 base year RAFS
- FY84 and FY85 FAMC local and nonlocal inpatient workloads from previous CRS Sirrine Economic Analysis of FAMC, August 1987.
- All remaining data from the Defense Medical Information System (DMIS)

EXHIBIT 3-29: FAMC HISTORICAL UTILIZATION RATES

UTILIZATION RATES	FY84	FY85	FY86	FY87	FY88	FY89
INPATIENT						
FAMC						
LOC DISPS/100 BENF	14.7	14.7	N/A	13.4	N/A	13.1
LOC+NLOC DISPS/100 BENF	25.7	25.3	25.0	24.3	26.3	22.4
CHAMPUS DISPS/100 BENF	0.5	0.8	0.8	1.0	0.9	1.0
TOTAL DISPS/100 BENF	26.2	26.1	25.7	25.3	27.2	23.4
FAMC						
LOCAL ALOS	6.4	5.9	N/A	6.2	N/A	6.1
NONLOCAL ALOS	13.1	12.2	N/A	11.1	N/A	12.2
LOC+NLOC ALOS	9.2	8.6	8.4	8.4	7.8	8.7
CHAMPUS ALOS	15.4	17.9	18.7	19.5	17.4	21.1
TOTAL ALOS	9.4	8.8	8.7	8.8	8.1	9.2
OUTPATIENT TRENDS						
FAMC						
OPV VISITS/BENF	7.6	7.5	7.8	7.5	8.5	8.4
IPV+ OPV VISITS/BENF	8.4	8.5	9.1	8.8	9.7	9.7
LOWRY CLINIC VISITS/BENF	N/A	N/A	0.9	0.9	0.8	0.6
CHAMPUS VISITS/BENF	0.2	0.2	0.3	0.4	0.5	1.0
FAMC+CHAMPUS TOTAL VISITS/BENF	8.6	8.7	9.4	9.2	10.2	10.6
FAMC+LOWRY+CHAMPUS TOTAL VISITS/BENF	N/A	N/A	10.3	10.1	11.1	11.2

adopted a conservative approach and did not adjust outpatient utilization from the FY89 levels.

The one direct care clinical area that required a special adjustment was psychiatric care, due to expected changes in future psychiatric practice patterns. A recent DoD initiative to be adopted by FAMC calls for reducing psychiatric lengths of stay to half their historical levels by intensifying the care provided. Patients would be treated more intensively as an inpatient, discharged earlier, and treated more intensely as an outpatient. In projecting the future psychiatric care associated with FAMC, we accounted for this shift in practice patterns, as follows. We first reduced projected psychiatric bed days by half the number originally projected (the equivalent of cutting length of stay in half and multiplying by the projected dispositions). Instead of inpatient bed days, we expected this excluded care to be seen at FAMC as outpatient visits. Therefore, we multiplied the number of bed days we had removed from the facility by 2.5, to estimate the additional number of FAMC psychiatric visits. In using 2.5 visits per excluded bed day, we assumed at least 2 individual visits per day, plus a lesser number of group or other types of sessions.

Utilization rates for FAMC catchment area CHAMPUS care were also examined, revealing a rising length of stay for inpatient care in recent years. Since FAMC CHAMPUS is predominantly psychiatric care, the overall length of stay in any one year can be driven by a few very long LOS psychiatric patients. Psychiatric care was examined further to determine an appropriate length of stay to assume for forecasting into the future.

Recent changes to the CHAMPUS psychiatric benefit place new restrictions on the number of days reimbursed. For adults, the new limit is 30 days, while for children and adolescent psychiatric care, the limit is

45 days. Data from the Retrospective Case Mix Analysis System (RCMAS) were provided by the government to identify psychiatric cases in our historical data that exceeded these new limits. By eliminating bed days over the limits, our projected psychiatric length of stay was reduced by about a day, from 35.8 to 34.7 days. The still high length of stay may be a reflection of the fact that the majority of psychiatric CHAMPUS care in the FAMC area is provided to children and adolescents.

3.4 PROJECTED HEALTH CARE DEMAND AT FAMC

As discussed early in this chapter, total FAMC demand has been divided into several components under this analysis. All care provided at FAMC, at Lowry, and through CHAMPUS to local catchment area beneficiaries has been quantified. The care provided at FAMC to nonlocal beneficiaries has also been quantified. This section describes how health care requirements associated with each of these components were projected to FY98.

Projection of Local Catchment Area Demand

All components of demand associated with the local catchment area population were grown by the FAMC population growth rates discussed in section 3.1. For example, the following formula was used to project BOD bed days for each clinical area and beneficiary type:

$$\text{Bed Days}_{BOD} = \frac{\text{Bed Days}_{\text{base year}}}{\text{Population}_{\text{base year}}} * \text{Adj} * \text{Population}_{BOD}$$

As discussed in the previous section, examination of historical health care utilization yielded no adjustments to the workload historically provided at FAMC or Lowry, so that the value of "Adj" in the above equation was set to 1 in these projections. Exhibits 3-30 and 3-31

EXHIBIT 3-30: FY98 PROJECTED FAMC INPATIENT CARE PROVIDED TO LOCAL CATCHMENT AREA BENEFICIARIES

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	149	111	473	423	1,156
CARDIOLOGY	32	22	461	372	887
NEUROLOGY	12	4	10	10	36
PEDIATRICS	0	410	87	0	497
OTHER MEDICAL	61	50	465	397	973
GENERAL SURGERY	83	90	359	256	788
ORTHOPEDICS	187	125	329	180	821
ORAL SURGERY	48	14	5	1	68
OPHTHALMOLOGY	15	25	107	166	313
OTOLARYNGOLOGY	57	164	124	34	379
UROLOGY	29	65	194	187	475
GYNECOLOGY	92	313	194	40	639
OTHER SURGERY	70	95	167	72	404
OBSTETRICS	104	646	134	0	884
PSYCHIATRY	78	7	9	1	95
ALL CLINICAL AREAS	1,017	2,141	3,118	2,139	8,415

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	687	644	3,753	3,989	9,073	7.8
CARDIOLOGY	316	80	2,223	2,383	5,002	5.6
NEUROLOGY	74	20	64	29	187	5.2
PEDIATRICS	0	1,135	286	0	1,421	2.9
OTHER MEDICAL	252	319	1,636	1,490	3,697	3.8
GENERAL SURGERY	625	475	4,017	3,109	8,226	10.4
ORTHOPEDICS	1,767	613	2,326	1,982	6,688	8.1
ORAL SURGERY	91	33	12	3	139	2.0
OPHTHALMOLOGY	63	44	449	598	1,154	3.7
OTOLARYNGOLOGY	261	325	475	341	1,402	3.7
UROLOGY	107	214	905	1,158	2,384	5.0
GYNECOLOGY	338	1,029	758	492	2,617	4.1
OTHER SURGERY	593	435	1,692	1,022	3,742	9.3
OBSTETRICS	651	3,051	675	0	4,377	5.0
PSYCHIATRY	836	16	48	18	918	9.7
ALL CLINICAL AREAS	6,661	8,433	19,319	16,614	51,027	6.1

EXHIBIT 3-31: FY98 PROJECTED FAMC LOCAL CLINIC VISITS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	11,055	6,977	58,208	25,779	102,019
FAM PRAC/PRIM CARE	7,242	10,044	41,847	9,306	68,440
FLT/UNDERSEAS MED	0	0	0	0	0
PEDIATRICS	0	57,004	18,600	0	75,604
ALLERGY	1,089	1,951	4,368	1,675	9,082
CARDIOLOGY	1,810	1,430	16,102	5,130	24,473
DERMATOLOGY	2,949	2,943	10,163	3,727	19,781
NEUROLOGY	566	554	1,744	886	3,751
EMERGENCY MEDICINE	4,019	20,961	15,201	5,868	46,050
GENERAL SURGERY	1,641	2,794	10,691	5,001	20,127
ORTHOPEDICS	7,825	5,776	11,261	4,830	29,693
OPHTHALMOLOGY	1,283	2,493	14,881	6,167	24,824
OTOLARYNGOLOGY	449	1,290	2,004	860	4,603
UROLOGY	989	759	5,416	2,190	9,354
GYNECOLOGY	2,040	11,046	3,952	1,808	18,846
OBSTETRICS	1,890	9,064	1,810	20	12,783
PSYCHIATRY	9,816	5,513	9,337	5,079	29,745
OPTOMETRY	849	971	3,275	1,201	6,296
ALL CLINICAL AREAS	55,513	141,571	228,859	79,527	505,469

display the FY98 projections of inpatient and outpatient health care demand historically provided at FAMC. Exhibit 3-32 displays the projected demand historically provided by the Lowry clinic.

Local CHAMPUS base year workloads were also projected based on the local population growth rates. Exhibits 3-33 and 3-34 display projected FY98 inpatient and outpatient demand historically provided through CHAMPUS. As discussed in section 3.3, the CHAMPUS psychiatric ALOS was reduced before psychiatric bed days were projected. The reduced ALOS was applied to projected FY98 psychiatric dispositions to project FY98 psychiatric bed days.

Exhibits 3-33 and 3-34 display the projected level of workload historically associated with local CHAMPUS care. Since this analysis examines scenarios in which a portion of this CHAMPUS care could be recaptured by FAMC, it is necessary to quantify the amount of workload any recaptured amount would represent at FAMC. The deductibles and copayments experienced under CHAMPUS, particularly for retiree beneficiaries, suggest that the amount of workload seen under CHAMPUS will be lower than if that care were available at the MTF. Care that is paid for by other insurance or that does not exceed the deductible would not appear as CHAMPUS workload. Some care may also be avoided by the beneficiary due to the higher cost share. Finally, there may be differences in the way workloads are counted in the two systems. The relationship between units of workload at the MTF and units of workload seen by DoD under CHAMPUS has been quantified for medical and surgical care in a 12 September 1989 memorandum from the Office of the Assistant Secretary of Defense (Health Affairs). This memorandum states that one unit of CHAMPUS workload is equivalent to the following units of MTF workload:

EXHIBIT 3-32: FY98 LOWRY AFB CLINIC PROJECTED OUTPATIENT VISITS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	0	0	0	0	0
FAM PRAC/PRIM CARE	24,591	721	800	1,500	27,612
FLT/UNDERSEAS MED	0	0	0	0	0
PEDIATRICS	0	0	0	0	0
ALLERGY	0	0	0	0	0
CARDIOLOGY	0	0	0	0	0
DERMATOLOGY	0	0	0	0	0
NEUROLOGY	0	0	0	0	0
EMERGENCY MEDICINE	0	0	0	0	0
GENERAL SURGERY	0	0	0	0	0
ORTHOPEDICS	0	0	0	0	0
OPHTHALMOLOGY	0	0	0	0	0
OTOLARYNGOLOGY	0	0	0	0	0
UROLOGY	0	0	0	0	0
GYNECOLOGY	0	0	0	0	0
OBSTETRICS	0	0	0	0	0
PSYCHIATRY	3,289	14	28	3	3,335
OPTOMETRY	4,698	31	194	60	4,983
ALL CLINICAL AREAS	32,578	765	1,023	1,563	35,929

EXHIBIT 3-33: FY98 PROJECTED FAMC CHAMPUS CARE PROVIDED TO LOCAL CATCHMENT AREA BENEFICIARIES

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	0	16	35	0	51
CARDIOLOGY	0	2	60	2	64
NEUROLOGY	0	5	23	0	28
PEDIATRICS	0	48	5	0	53
OTHER MEDICAL	0	4	32	0	36
GENERAL SURGERY	0	15	36	1	52
ORTHOPEDICS	0	2	14	3	19
ORAL SURGERY	0	0	3	0	3
OPHTHALMOLOGY	0	0	0	0	0
OTOLARYNGOLOGY	0	4	0	0	4
UROLOGY	0	1	5	2	8
GYNECOLOGY	0	4	4	0	8
OTHER SURGERY	0	4	19	0	23
OBSTETRICS	0	11	5	0	16
PSYCHIATRY	0	129	181	0	310
ALL CLINICAL AREAS	0	245	422	8	675

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	0	290	307	0	597	11.7
CARDIOLOGY	0	16	283	5	304	4.8
NEUROLOGY	0	61	489	0	550	19.6
PEDIATRICS	0	424	7	0	431	8.1
OTHER MEDICAL	0	79	223	0	302	8.4
GENERAL SURGERY	0	113	200	1	314	6.0
ORTHOPEDICS	0	7	135	52	194	10.2
ORAL SURGERY	0	0	8	0	8	2.7
OPHTHALMOLOGY	0	0	0	0	0	---
OTOLARYNGOLOGY	0	17	0	0	17	4.3
UROLOGY	0	1	14	7	22	2.8
GYNECOLOGY	0	20	16	0	36	4.5
OTHER SURGERY	0	29	218	0	247	10.7
OBSTETRICS	0	24	14	0	38	2.4
PSYCHIATRY	0	4,735	6,037	0	10,772	34.7
ALL CLINICAL AREAS	0	5,816	7,951	65	13,832	20.5

EXHIBIT 3-34: FY98 PROJECTED CHAMPUS OUTPATIENT VISITS
(EXCLUDING PARTNERSHIP VISITS)

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
MEDICAL/PRIM CARE	0	2,703	7,700	0	10,403
ALLERGY	0	0	0	0	0
CARDIOLOGY	0	0	0	0	0
DERMATOLOGY	0	0	0	0	0
NEUROLOGY	0	0	0	0	0
EMERGENCY MEDICINE	0	0	926	0	926
GENERAL SURGERY	0	689	3,497	0	4,186
ORTHOPEDICS	0	0	1,247	0	1,247
OPHTHALMOLOGY	0	3	1,080	0	1,083
OTOLARYNGOLOGY	0	666	1,102	0	1,768
UROLOGY	0	115	1,583	0	1,698
GYNECOLOGY	0	1,334	1,249	0	2,583
OBSTETRICS	0	72	0	0	72
PSYCHIATRY	0	7,308	12,619	0	19,927
OPTOMETRY	0	0	0	0	0
ALL CLINICAL AREAS	0	12,890	31,003	0	43,893

	Inpatient	Outpatient
Active Duty	1.0	1.0
Active Duty Dependents	1.0	1.8
Retirees/Dependents	2.8	2.8

The memorandum further dictates that these workload conversion factors (sometimes termed "MTF-to-CHAMPUS tradeoff factors") are to be used in economic analyses of military health care. Note that for all active duty care and for inpatient dependent of active duty care, there is a one-to-one relationship between MTF and CHAMPUS care. For retirees, on the other hand, one visit or disposition under CHAMPUS translates to 2.8 visits or dispositions at the MTF. As stated, these factors apply to medical and surgical care only. Quantifying factors for obstetrical and psychiatric care has proved problematic, so these conversions are currently assumed to be one-to-one.

In this study, further analysis was required to properly apply the dictated retiree/dependent of retiree factors, as described below. (For ease of discussion, they will be referred to as simply "retiree" factors.) The retiree factors dictated in the government memorandum were developed by comparing direct care to care seen under CHAMPUS for beneficiaries both under and over 65 years old. Thus, the government factors incorporate the fact that numbers of visits or dispositions provided by the MTF to beneficiaries over 65 years old effectively become zero under CHAMPUS (this care would be seen under Medicare and would not be CHAMPUS-eligible). Since this economic analysis is required to assess a government cost for both care seen under CHAMPUS and care seen under Medicare, it was necessary to decompose the retiree factors into under-65 and over-65 retiree factors.

Analyses performed to incorporate the government factors into the RAPS model showed that of care provided to retirees and their dependents at MTFs, approximately 67 percent of inpatient care and 80 percent of

outpatient care is provided to those under 65. Using these results, tradeoff factors for retirees under 65 were estimated as follows:

Inpatient:		Outpatient:
2.80	Tradeoff for all retirees	2.80
x .67	% of care to under 65 retirees	x .80
---		---
1.88	Tradeoff for under 65 retirees	2.24

The above methodology can be explained using outpatient care as an example. The government factor says that every 2.8 visits provided to retirees at the MTF become 1.0 visit when seen under CHAMPUS. Since 20 percent of these 2.8 visits are provided to retirees over 65, these .56 visits (2.8 x .20) really become 0.0 visits under CHAMPUS. Therefore, it is the remaining 2.24 visits (2.8 x .80) that become 1.0 visit under CHAMPUS; in other words, under 65 retirees display a tradeoff factor of 2.24.

For over 65 retirees, care sent out of the MTF would be provided under Medicare. Since no information on potential MTF-to-Medicare tradeoff factors is currently available, this economic analysis assumed over 65 retiree tradeoff factors of 1.0 for both inpatient and outpatient care.

By applying the workload conversion factors just discussed, the projected FY98 CHAMPUS workloads can be expressed as the number of dispositions, bed days, and visits that would be seen at FAMC, should this care be recaptured by the MTF. Exhibits 3-35 and 3-36 display these projected "MTF-equivalent" workloads.

The total inpatient and outpatient health care requirements generated by the local beneficiary population are displayed in exhibits 3-37 and 3-38. These workloads are the sum of projected workloads historically provided by the following sources: FAMC to local beneficiaries, the Lowry clinic, and local CHAMPUS, in MTF-equivalent units.

EXHIBIT 3-35: FY98 TOTAL CHAMPUS INPATIENT WORKLOAD IN MTF-EQUIVALENT UNITS

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	0	16	66	0	82
CARDIOLOGY	0	2	113	2	117
NEUROLOGY	0	5	43	0	48
PEDIATRICS	0	48	9	0	57
OTHER MEDICAL	0	4	60	0	64
GENERAL SURGERY	0	15	68	1	84
ORTHOPEDICS	0	2	26	3	31
ORAL SURGERY	0	0	6	0	6
OPHTHALMOLOGY	0	0	0	0	0
OTOLARYNGOLOGY	0	4	0	0	4
UROLOGY	0	1	9	2	12
GYNECOLOGY	0	4	8	0	12
OTHER SURGERY	0	4	36	0	40
OBSTETRICS	0	11	5	0	16
PSYCHIATRY	0	129	181	0	310
ALL CLINICAL AREAS	0	245	630	8	883

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	0	290	577	0	867	10.6
CARDIOLOGY	0	16	532	5	553	4.7
NEUROLOGY	0	61	919	0	980	20.3
PEDIATRICS	0	424	13	0	437	7.6
OTHER MEDICAL	0	79	419	0	498	7.8
GENERAL SURGERY	0	113	376	1	490	5.9
ORTHOPEDICS	0	7	254	52	313	10.0
ORAL SURGERY	0	0	15	0	15	2.7
OPHTHALMOLOGY	0	0	0	0	0	---
OTOLARYNGOLOGY	0	17	0	0	17	4.3
UROLOGY	0	1	26	7	34	2.8
GYNECOLOGY	0	20	30	0	50	4.3
OTHER SURGERY	0	29	410	0	439	11.0
OBSTETRICS	0	24	14	0	38	2.4
PSYCHIATRY	0	4,735	6,037	0	10,772	34.7
ALL CLINICAL AREAS	0	5,816	9,623	65	15,504	17.6

EXHIBIT 3-36: FY98 CHAMPUS OUTPATIENT VISITS IN MTF UNITS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
MEDICAL/PRIM CARE	0	4,865	17,248	0	22,113
ALLERGY	0	0	0	0	0
CARDIOLOGY	0	0	0	0	0
DERMATOLOGY	0	0	0	0	0
NEUROLOGY	0	0	0	0	0
EMERGENCY MEDICINE	0	0	2,074	0	2,074
GENERAL SURGERY	0	1,240	7,833	0	9,073
ORTHOPEDICS	0	0	2,793	0	2,793
OPHTHALMOLOGY	0	5	2,419	0	2,425
OTOLARYNGOLOGY	0	1,199	2,468	0	3,667
UROLOGY	0	207	3,546	0	3,753
GYNECOLOGY	0	2,401	2,798	0	5,199
OBSTETRICS	0	72	0	0	72
PSYCHIATRY	0	7,308	12,619	0	19,927
OPTOMETRY	0	0	0	0	0
ALL CLINICAL AREAS	0	17,298	53,799	0	71,097

EXHIBIT 3-37: FY98 TOTAL INPATIENT DEMAND FROM LOCAL BENEFICIARIES

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	149	127	539	423	1,238
CARDIOLOGY	32	24	574	374	1,004
NEUROLOGY	12	9	53	10	84
PEDIATRICS	0	458	96	0	554
OTHER MEDICAL	61	54	525	397	1,037
GENERAL SURGERY	83	105	427	257	872
ORTHOPEDICS	187	127	355	183	852
ORAL SURGERY	48	14	11	1	74
OPHTHALMOLOGY	15	25	107	166	313
OTOLARYNGOLOGY	57	168	124	34	383
UROLOGY	29	66	203	189	487
GYNECOLOGY	92	317	202	40	651
OTHER SURGERY	70	99	203	72	444
OBSTETRICS	104	657	139	0	900
PSYCHIATRY	78	136	190	1	405
ALL CLINICAL AREAS	1,017	2,386	3,748	2,147	9,298

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	687	934	4,330	3,989	9,940	8.0
CARDIOLOGY	316	96	2,755	2,388	5,555	5.5
NEUROLOGY	74	81	983	29	1,167	13.9
PEDIATRICS	0	1,559	299	0	1,858	3.4
OTHER MEDICAL	252	398	2,055	1,490	4,195	4.0
GENERAL SURGERY	625	588	4,393	3,110	8,716	10.0
ORTHOPEDICS	1,767	620	2,580	2,034	7,001	8.2
ORAL SURGERY	91	33	27	3	154	2.1
OPHTHALMOLOGY	63	44	449	598	1,154	3.7
OTOLARYNGOLOGY	261	342	475	341	1,419	3.7
UROLOGY	107	215	931	1,165	2,418	5.0
GYNECOLOGY	338	1,049	788	492	2,667	4.1
OTHER SURGERY	593	464	2,102	1,022	4,181	9.4
OBSTETRICS	651	3,075	689	0	4,415	4.9
PSYCHIATRY	836	4,751	6,085	18	11,690	28.9
ALL CLINICAL AREAS	6,661	14,249	28,942	16,679	66,531	7.2

EXHIBIT 3-38: TOTAL OUTPATIENT DEMAND FROM LOCAL BENEFICIARIES

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
MEDICAL/PRIM CARE	42,888	79,611	136,703	36,586	295,788
ALLERGY	1,089	1,951	4,368	1,675	9,082
CARDIOLOGY	1,810	1,430	16,102	5,130	24,473
DERMATOLOGY	2,949	2,943	10,163	3,727	19,781
NEUROLOGY	566	554	1,744	886	3,751
EMERGENCY MEDICINE	4,019	20,961	17,275	5,868	48,124
GENERAL SURGERY	1,641	4,034	18,524	5,001	29,200
ORTHOPEDICS	7,825	5,776	14,054	4,830	32,486
OPHTHALMOLOGY	1,283	2,498	17,300	6,167	27,249
OTOLARYNGOLOGY	449	2,489	4,473	860	8,271
UROLOGY	989	966	8,962	2,190	13,106
GYNECOLOGY	2,040	13,447	6,750	1,808	24,045
OBSTETRICS	1,890	9,136	1,810	20	12,855
PSYCHIATRY	13,106	12,835	21,984	5,082	53,007
OPTOMETRY	5,547	1,001	3,469	1,261	11,279
ALL CLINICAL AREAS	88,091	159,634	283,681	81,090	612,495

Projection of Referral Care at FAMC

Although local workload is not insubstantial, referral workloads from outside the FAMC catchment area will be vital in maintaining FAMC's support of GME and other training programs. As discussed earlier, the level of referral care is influenced by a variety of policies and conditions including referral patterns established by DoD and the Army, behavior patterns of beneficiaries, and the capacity of both the MTF and the civilian community in locations that send care to FAMC. Since this array of conditions could not be precisely projected into the future, the following assumptions were made in projecting referral care into FAMC.

The general assumption was that FAMC would continue to receive the level of referral care that the facility had received historically. The data assembled to assess trends in section 3.3 showed that the proportion of nonlocal inpatient care has been relatively stable over recent years. Base year levels of inpatient and outpatient referral care were therefore projected to remain constant to FY98, with one adjustment.

There were some concerns expressed by Army personnel that FY89 workloads did not reflect health care demand at FAMC as accurately as FY90 workloads. Since we required a complete and consistent set of population, direct care, and CHAMPUS data to perform the economic analysis, FY89 remained the best choice for our base year. However, in projecting the future referral workload anticipated at FAMC, FY90 MTF workloads were also examined.

FAMC provided the project team with total inpatient and outpatient workload data for FY89 and FY90. The FY89 FAMC data proved to be consistent in comparable clinical areas with the RAPS estimates used in this analysis, so that inconsistencies in mappings or accounting procedures did not appear to be a problem. A comparison between FY89 and FY90 FAMC

workloads revealed a fairly significant growth in inpatient care between the two years. Inpatient bed days increased by about 13%, while increased dispositions by about 7%, between FY89 and FY90.

The increase in FAMC's FY89 and FY90 inpatient workload was assumed in this analysis to be due to referral care, under the following rationale. Since there was no indication that the local population had increased significantly, this increase was not likely to be due entirely to the local population. Even if this care was due to the recapture of a significant portion of the local CHAMPUS care in FY90 (which there is also no reason to believe occurred), there was not enough CHAMPUS care present in FY89 to totally explain the increase. Finally, the lower rate of increase in dispositions relative to bed days suggests the increase occurred in cases with longer than FAMC's average length of stay -- another indication that a significant portion of this increased care was likely to be referral care.

Thus, FY90 FAMC workload data was used to supplement base year estimates of referral workload, providing more recent information to better estimate the likely future level of referral care seen at FAMC. Projected FY98 referral workloads started with base year FY89 estimates, described earlier in this chapter. Where FY90 levels of workload were higher, the base year estimates of referral care were adjusted upward. The resulting projections of FY98 health care demand associated with referral care are displayed in exhibits 3-39 and 3-40.

Projection of Total FAMC Health Care Demand

The combination of health care demand from local beneficiaries and health care demand from nonlocal referrals constitutes the total health projected care demand assessed for FAMC in this study. Exhibits 3-41 and 3-42 display this total inpatient and outpatient demand.

EXHIBIT 3-39: FY98 PROJECTED FAMC INPATIENT CARE PROVIDED TO BENEFICIARIES FROM OUTSIDE FAMC CATCHMENT AREA

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	430	158	512	243	1,344
CARDIOLOGY	171	33	294	152	650
NEUROLOGY	47	17	14	3	81
PEDIATRICS	0	554	48	0	601
OTHER MEDICAL	262	80	426	267	1,035
GENERAL SURGERY	98	51	158	99	407
ORTHOPEDICS	571	158	176	119	1,024
ORAL SURGERY	6	1	3	0	9
OPHTHALMOLOGY	56	58	64	56	234
OTOLARYNGOLOGY	175	65	50	13	303
UROLOGY	131	59	103	94	386
GYNECOLOGY	67	186	74	24	351
OTHER SURGERY	341	221	275	96	932
OBSTETRICS	69	233	11	1	314
PSYCHIATRY	219	1	1	0	221
ALL CLINICAL AREAS	2,641	1,875	2,208	1,168	7,892

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	4,973	1,049	4,731	2,108	12,861	9.6
CARDIOLOGY	1,598	228	2,825	1,751	6,401	9.9
NEUROLOGY	809	267	215	33	1,324	16.3
PEDIATRICS	0	2,398	242	0	2,640	4.4
OTHER MEDICAL	1,891	385	2,056	1,217	5,550	5.4
GENERAL SURGERY	1,446	567	2,625	2,325	6,962	17.1
ORTHOPEDICS	9,942	1,253	2,253	1,334	14,782	14.4
ORAL SURGERY	141	5	2	0	147	16.3
OPHTHALMOLOGY	502	224	465	430	1,621	6.9
OTOLARYNGOLOGY	1,737	238	966	274	3,215	10.6
UROLOGY	1,270	257	916	889	3,332	8.6
GYNECOLOGY	431	1,053	968	267	2,719	7.7
OTHER SURGERY	6,224	2,040	4,958	2,329	15,551	16.7
OBSTETRICS	1,157	2,275	175	19	3,626	11.6
PSYCHIATRY	3,698	4	3	0	3,705	16.8
ALL CLINICAL AREAS	35,819	12,242	23,399	12,977	84,437	10.7

EXHIBIT 3-40: FY98 PROJECTED FAMC CLINIC VISITS PROVIDED TO BENEFICIARIES FROM OUTSIDE THE CATCHMENT AREA

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	12,394	1,570	8,472	0	22,435
FAM PRAC/PRIM CARE	4,884	1,071	6,772	0	12,727
FLT/UNDERSEAS MED	0	0	0	0	0
PEDIATRICS	0	11,961	7,184	0	19,145
ALLERGY	630	468	852	0	1,951
CARDIOLOGY	0	0	0	0	0
DERMATOLOGY	1,566	436	1,728	0	3,730
NEUROLOGY	903	339	878	0	2,121
EMERGENCY MEDICINE	2,917	2,976	3,664	0	9,556
GENERAL SURGERY	2,768	1,191	2,770	0	6,729
ORTHOPEDICS	7,490	1,428	2,942	0	11,859
OPHTHALMOLOGY	1,703	693	3,736	0	6,132
OTOLARYNGOLOGY	718	333	578	0	1,629
UROLOGY	807	259	1,120	0	2,185
GYNECOLOGY	723	1,734	1,650	0	4,106
OBSTETRICS	236	1,764	244	0	2,244
PSYCHIATRY	14,793	1,050	1,861	0	17,704
OPTOMETRY	330	96	591	0	1,016
ALL CLINICAL AREAS	52,860	27,369	45,041	0	125,270

EXHIBIT 3-41: TOTAL FY98 PROJECTED FAMC INPATIENT DEMAND

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	579	285	1,051	666	2,581
CARDIOLOGY	203	57	867	526	1,654
NEUROLOGY	59	26	67	13	165
PEDIATRICS	0	1,012	144	0	1,156
OTHER MEDICAL	323	134	951	664	2,072
GENERAL SURGERY	181	156	585	356	1,279
ORTHOPEDICS	758	285	532	302	1,876
ORAL SURGERY	54	15	13	1	83
OPHTHALMOLOGY	71	83	171	222	547
OTOLARYNGOLOGY	232	233	174	47	686
UROLOGY	160	125	306	283	874
GYNECOLOGY	159	503	275	64	1,002
OTHER SURGERY	411	320	478	168	1,376
OBSTETRICS	173	890	150	1	1,214
PSYCHIATRY	297	137	191	1	626
ALL CLINICAL AREAS	3,658	4,261	5,956	3,315	17,189

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	5,660	1,983	9,061	6,097	22,801	8.8
CARDIOLOGY	1,914	324	5,580	4,139	11,957	7.2
NEUROLOGY	883	348	1,198	62	2,491	15.1
PEDIATRICS	0	3,957	541	0	4,499	3.9
OTHER MEDICAL	2,143	783	4,112	2,707	9,745	4.7
GENERAL SURGERY	2,071	1,155	7,018	5,435	15,678	12.3
ORTHOPEDICS	11,709	1,873	4,833	3,368	21,783	11.6
ORAL SURGERY	232	38	29	3	301	3.6
OPHTHALMOLOGY	565	268	914	1,028	2,775	---
OTOLARYNGOLOGY	1,998	580	1,441	615	4,634	6.8
UROLOGY	1,377	472	1,847	2,054	5,750	6.6
GYNECOLOGY	769	2,102	1,756	759	5,386	5.4
OTHER SURGERY	6,817	2,504	7,059	3,351	19,732	14.3
OBSTETRICS	1,808	5,350	864	19	8,041	6.6
PSYCHIATRY	4,534	4,755	6,088	18	15,395	24.6
ALL CLINICAL AREAS	42,480	26,491	52,341	29,656	150,968	8.8

EXHIBIT 3-42: TOTAL FY98 PROJECTED FAMC OUTPATIENT DEMAND

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
MEDICAL/PRIM CARE	60,165	94,214	159,131	36,586	350,095
ALLERGY	1,719	2,419	5,220	1,675	11,033
CARDIOLOGY	1,810	1,430	16,102	5,130	24,473
DERMATOLOGY	4,514	3,379	11,890	3,727	23,511
NEUROLOGY	1,469	894	2,622	886	5,871
EMERGENCY MEDICINE	6,936	23,937	20,939	5,868	57,680
GENERAL SURGERY	4,409	5,225	21,294	5,001	35,930
ORTHOPEDICS	15,315	7,204	16,996	4,830	44,345
OPHTHALMOLOGY	2,986	3,191	21,036	6,167	33,381
OTOLARYNGOLOGY	1,167	2,822	5,051	860	9,900
UROLOGY	1,796	1,225	10,082	2,190	15,292
GYNECOLOGY	2,763	15,180	8,400	1,808	28,151
OBSTETRICS	2,125	10,900	2,054	20	15,099
PSYCHIATRY	27,899	13,885	23,845	5,082	70,711
OPTOMETRY	5,876	1,097	4,060	1,261	12,295
ALL CLINICAL AREAS	140,950	187,003	328,722	81,091	737,767

4.0 GENERATION OF ALTERNATIVE SCENARIOS

This economic analysis examines and compares various scenarios for providing for the total health care demand faced by FAMC. The projected health care demand, as described in chapter 3.0, includes health care historically provided to local FAMC catchment area beneficiaries by various sources, and to some beneficiaries from outside the catchment area. The following components of workload were quantified in the base year:

(1) care historically provided by FAMC to local beneficiaries;

(2) care historically provided by FAMC to beneficiaries from outside the local catchment area (referral care);

(3) care historically provided at the Lowry AFB clinic; and

(4) care historically provided to local beneficiaries through CHAMPUS.

Components (1), (3), and (4) together represent the total health care demand of local FAMC catchment area beneficiaries. Component (2) represents a portion of the health care requirements of beneficiaries from outside the catchment area -- the portion that a future FAMC facility would be expected to provide, based on FAMC's historical referral workload. Each scenario examined in this analysis is defined in terms of how health care would be provided to these four components of health care demand, and the resulting workload requirements at FAMC. Based on contract requirements and discussions with the government, the following scenarios were examined:

- No MTF;
- Status Quo;
- All Care; and
- Best Economic Solution (BES).

The assumptions and the level of workload seen at FAMC under each of these scenarios are discussed in the subsections that follow.

4.1 THE NO MTF SCENARIO

Under the No MTF scenario, FAMC workloads were set to zero; i.e., FAMC would not provide for any of the health care requirements generated by local or non-local beneficiaries in 1998 and beyond. Costs of providing for those health care requirements elsewhere were calculated (by methods discussed in chapter 6.0) as a point of comparison to the other scenarios examined.

The analysis of this scenario did not include a cost analysis of the real-world implications of closing the existing FAMC. For example, we did not attempt to determine costs associated with moving medical or tenant unit operations from the FAMC installation, or potential revenues from the sale or lease of any land or facilities that might be possible if FAMC were not operating as an MTF.

Some obvious consequences of not operating FAMC which are not necessarily cost-related, but which would require consideration, include the following:

(1) The GME mission currently supported by FAMC.

The No MTF scenario clearly does not provide for the GME mission currently supported by FAMC. As detailed in exhibit 2-4, chapter 2.0 of this document, FAMC currently supports 170 interns, residents, and fellows in 19 specialties, representing about 10% of the Army's GME program. In addition, the FAMC GME program is integrated with the teaching and training programs of the Denver health care community.

(2) Training of other health care professionals currently supported by FAMC

In addition to GME, FAMC currently supports training of other health care professionals. Nursing training at FAMC includes nurse

anesthesia and critical care courses, as well as phase I and II practical nurse training. Enlisted health care personnel are trained in occupational therapy, physical therapy, radiology, nuclear medicine, and many other specialty areas. In the absence of FAMC, these training programs would no longer be supported.

(3) The tenant units currently housed on the FAMC installation

FAMC currently supports a variety of tenant activities located on the installation. Major tenants include OCHAMPUS, the US Army Medical Equipment and Optical School, and Region VI of the Selective Service System. Alternative means of providing logistical and administrative support to these tenants would need to be developed, including potentially moving them to other locations.

(4) Referral beneficiary health care requirements

The 6,000 dispositions, 66,000 bed days, and 125,000 visits from military referrals, most of which is care to active duty personnel, would not be supported under the No MTF scenario. This care would need to be provided at another military referral facility or through the civilian sector in the beneficiary's location.

Applying the DoD medical space planning criteria to the referral workload generated 206 total beds. This is the additional capacity that would be needed in military referral system to absorb the referral workload from FAMC without using the civilian sector.

4.2 THE STATUS QUO SCENARIO

Under this scenario, FAMC workloads are defined to remain at base year levels. The health care delivery patterns observed in the FY89

base year were therefore maintained, and each component of workload was assumed to receive care from its historical source.

FAMC workloads under the Status Quo scenario equal FY89 workloads, as shown in exhibit 4-1. FAMC would provide about 14,000 dispositions, 122,000 bed days, and over 600,000 visits to beneficiaries within and outside the FAMC catchment area. Applying the DoD medical space planning criteria to the Status Quo workloads generated 364 total beds. This number includes 31 obstetrical beds, and 333 Med/Surg/Psych beds, of which about 8% or 27 would be psychiatric beds. The GME and other training programs currently present at FAMC would be supported in the same manner as they are now.

4.3 THE ALL CARE SCENARIO

The All Care scenario represents an upper bound on the workloads to be performed at FAMC. It includes all care currently being performed at FAMC, plus all additional care that could reasonably be brought into the facility. Note that cost-effectiveness is not considered in the All Care scenario -- all care that could be performed at a new or renovated FAMC is included.

In determining the total amount of care potentially recapturable b a new or renovated FAMC, all four components of demand were examined. The following assumptions were made regarding the ability of a new or renovated FAMC to provide care historically seen at each of these healt care sources:

(1) the level of care to local beneficiaries that FAMC provided the base year, increased slightly for population growth, cou be provided by a new FAMC at the BOD;

(2) the level of referral care projected to be seen at FAMC in FY98 could be provided by a new FAMC (this level was based o historical referral care provided at FAMC in FY89 and FY90);

EXHIBIT 4-1: FAMC WORKLOADS UNDER STATUS QUO SCENARIO

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	405	188	689	466	1,748
CARDIOLOGY	178	48	662	460	1,348
NEUROLOGY	58	21	24	13	116
PEDIATRICS	0	730	102	0	832
OTHER MEDICAL	221	89	610	455	1,375
GENERAL SURGERY	175	137	501	344	1,157
ORTHOPEDICS	750	280	500	296	1,826
ORAL SURGERY	57	16	8	1	82
OPHTHALMOLOGY	68	80	165	214	527
OTOLARYNGOLOGY	233	230	175	47	685
UROLOGY	139	108	258	244	749
GYNECOLOGY	161	505	271	65	1,002
OTHER SURGERY	370	285	398	151	1,204
OBSTETRICS	160	814	134	1	1,109
PSYCHIATRY	302	8	9	1	320
ALL CLINICAL AREAS	3,277	3,539	4,506	2,758	14,080

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	4,354	1,302	6,526	4,690	16,872	9.7
CARDIOLOGY	1,450	233	3,824	3,132	8,639	6.4
NEUROLOGY	640	208	202	45	1,095	9.4
PEDIATRICS	0	2,896	433	0	3,329	4.0
OTHER MEDICAL	1,786	587	3,077	2,256	7,706	5.6
GENERAL SURGERY	1,972	992	6,326	5,175	14,465	12.5
ORTHOPEDICS	11,612	1,851	4,541	3,289	21,293	11.7
ORAL SURGERY	239	39	14	3	295	3.6
OPHTHALMOLOGY	549	260	888	998	2,695	5.1
OTOLARYNGOLOGY	1,988	560	1,434	612	4,594	6.7
UROLOGY	1,157	396	1,530	1,720	4,803	6.4
GYNECOLOGY	769	2,082	1,726	759	5,336	5.3
OTHER SURGERY	5,244	1,904	5,115	2,578	14,841	12.3
OBSTETRICS	1,507	4,438	708	16	6,669	6.0
PSYCHIATRY	9,186	39	93	33	9,351	29.2
ALL CLINICAL AREAS	42,453	17,787	36,437	25,306	121,983	8.7

-- Continued --

EXHIBIT 4-1: FAMC WORKLOADS UNDER STATUS QUO SCENARIO (Concluded)

CLINICAL AREA	ACTIVE DUTY	DEP ACTIVE < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	24,301	9,082	61,792	23,629	118,804
FAM PRAC/PRIM CARE	12,685	11,885	45,105	8,530	78,205
FLT/UNDERSEAS MED	0	0	0	0	0
PEDIATRICS	0	73,335	24,222	0	97,557
ALLERGY	1,803	2,569	4,853	1,535	10,760
CARDIOLOGY	1,950	1,540	14,750	4,702	22,942
DERMATOLOGY	4,742	3,605	11,037	3,416	22,800
NEUROLOGY	1,513	936	2,476	812	5,737
EMERGENCY MEDICINE	7,246	25,544	17,588	5,379	55,757
GENERAL SURGERY	4,536	4,199	12,563	4,584	25,882
ORTHOPEDICS	15,919	7,647	13,257	4,427	41,250
OPHTHALMOLOGY	3,085	3,377	17,367	5,653	29,482
OTOLARYNGOLOGY	1,202	1,722	2,414	788	6,126
UROLOGY	1,872	1,076	6,081	2,007	11,036
GYNECOLOGY	2,920	13,626	5,270	1,657	23,473
OBSTETRICS	2,271	11,523	1,902	18	15,714
PSYCHIATRY	13,871	6,933	10,296	4,614	35,714
OPTOMETRY	1,244	1,141	3,591	1,101	7,077
ALL CLINICAL AREAS	101,160	179,740	254,564	72,852	608,316

(3) the proportion of outpatient care historically provided at the Lowry AFB clinic would remain at that clinic; and

(4) some portion of projected local catchment area CHAMPUS care could potentially be recovered by FAMC. (Note that our comparison of expected Medicare-eligible utilization with FAMC local care to the 65-and-older age group indicated that FAMC appears to already be providing the vast majority of care we would expect to be generated by this age group; no further workload potentially being seen now under Medicare was considered recoverable by FAMC).

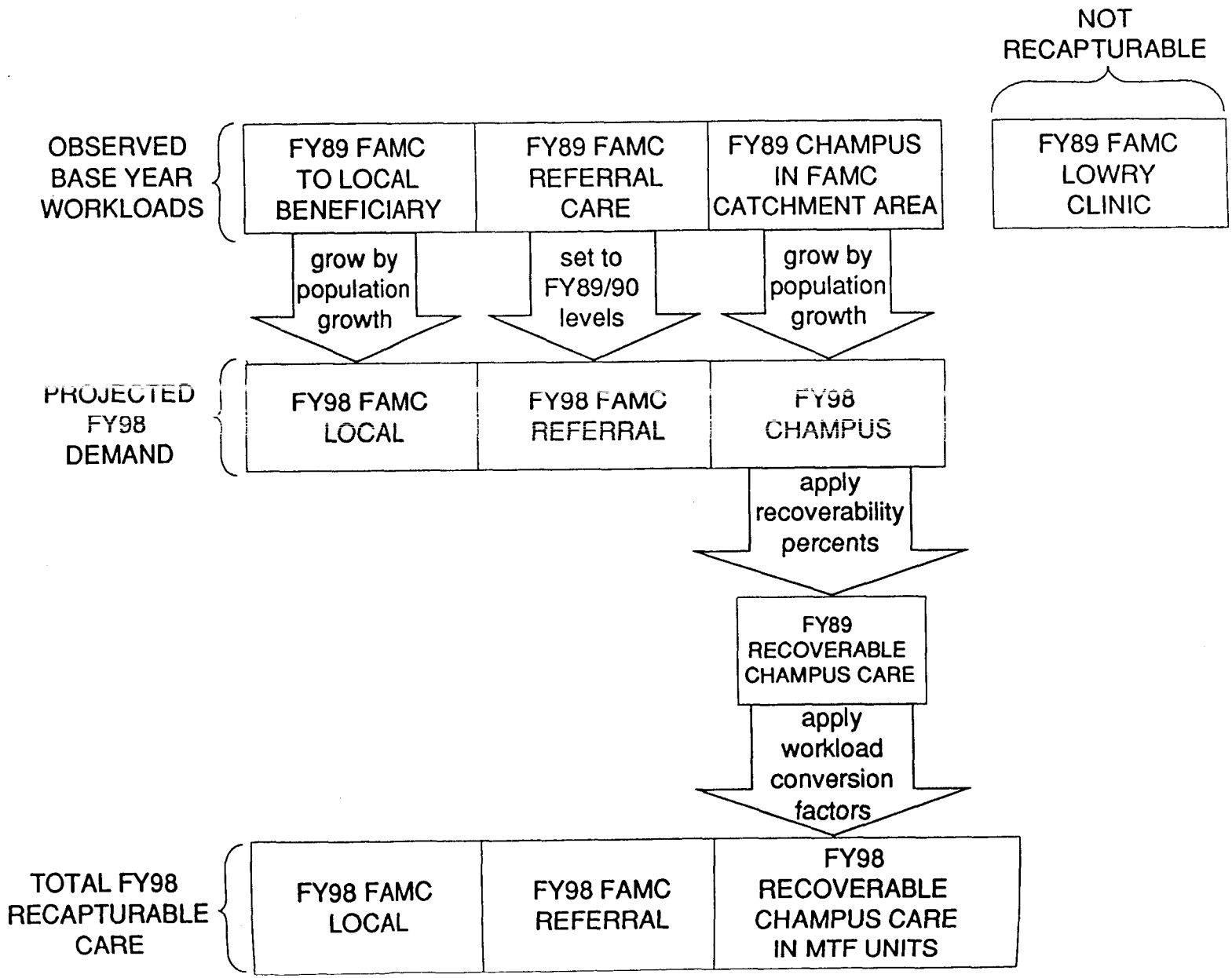
The process used to derive total recapturable workloads is depicted schematically in exhibit 4-2, and involved the following tasks:

- project FAMC workload provided to local beneficiaries in FY89 to FY98, to reflect local population growth;
- determine FY98 FAMC referral workload levels;
- project historical CHAMPUS workloads to FY98, to reflect population growth and adjustments to psychiatric lengths of stay;
- determine the percent of bed days, dispositions, and visits considered recoverable from CHAMPUS, for each clinical area and beneficiary type;
- apply the recoverability percentages to projected FY98 CHAMPUS workloads to estimate care recoverable from CHAMPUS;
- apply appropriate workload conversion factors to recoverable CHAMPUS care to express recoverable care as "MTF-equivalent" workloads -- the amount of workload expected to be seen at the MTF if this care were to be recovered from CHAMPUS; and
- add FY98 local and referral FAMC workloads to the "MTF-equivalent" recoverable CHAMPUS care to get total recapturable workloads. Note that total recapturable workloads, since they are used as the starting point for sizing the MTF under the BES, will always be expressed in terms of MTF-equivalent workloads.

The first three steps in the above process, projecting local FAMC workloads, referral FAMC workloads, and nondirect care workloads to FY98 were performed in chapter 3.0 as part of forecasting total demand (see section 3.4).

Estimating the amount of care that a new FAMC could recover from local CHAMPUS was based primarily on analysis of FY89 inpatient CHAMPUS claims data for the FAMC catchment area. For each clinical area and beneficiary type, the percent of inpatient care historically seen

EXHIBIT 4-2: CALCULATION OF RECAPTURABLE CARE



through CHAMPUS that was considered recoverable was calculated as described in the paragraphs below. Note that each step was performed for both dispositions and bed days, to preserve lengths of stay.

The CHAMPUS inpatient claims data contain a field which indicates the basis under which the care was received through CHAMPUS. The main categories under this field are "NAS Required", "Emergency", and "Beneficiary Covered Over 75% by Other Insurance". Of these categories, only care for which an NAS was required was considered recoverable by FAMC. Care treated under CHAMPUS on an emergency basis, and care to beneficiaries covered at least 75% by other insurance was assumed to remain under CHAMPUS as it had historically. Therefore, for each clinical area and each beneficiary type, care that had been seen under CHAMPUS under the issuance of an NAS was identified as being potentially recoverable at FAMC. Care for which an NAS was required was divided by total care in each category to create the recoverability ratios shown in exhibit 4-3.

For CHAMPUS outpatient care, information on how and why the care was received was not available. In general, since outpatient care is less costly, of shorter duration, less regulated in terms of costs, and represents a much larger number of patients, it is not tracked at a level of detail comparable to inpatient care. Furthermore, military beneficiaries are not required to obtain an NAS to receive outpatient care reimbursed through CHAMPUS, so this information could not be used to estimate recoverability on the outpatient side. Assumptions were required to estimate the amount of outpatient care historically seen through CHAMPUS that could be recovered by FAMC.

Since some inpatient care was considered recoverable from CHAMPUS, it was reasonable to assume that some outpatient care -- at least the outpatient care that would be associated with the additional inpatient

EXHIBIT 4-3: INPATIENT RECOVERABILITY RATIOS

I. DISPOSITIONS

CLINICAL AREA	DEP ACT < 65	OTHERS < 65
INTERNAL MEDICINE	0.688	0.367
CARDIOLOGY	0.000	0.137
NEUROLOGY	0.600	0.632
PEDIATRICS	0.646	0.400
OTHER MEDICAL	0.500	0.269
GENERAL SURGERY	0.667	0.367
ORTHOPEDICS	1.000	0.167
ORAL SURGERY	N/A	1.000
OPHTHALMOLOGY	N/A	N/A
OTOLARYNGOLOGY	0.750	N/A
UROLOGY	1.000	0.000
GYNECOLOGY	0.750	0.000
OTHER SURGERY	1.000	0.313
OBSTETRICS	0.727	0.750
PSYCHIATRY	0.775	0.500

II. BED DAYS

CLINICAL AREA	DEP ACT < 65	OTHERS < 65
INTERNAL MEDICINE	0.942	0.449
CARDIOLOGY	0.000	0.158
NEUROLOGY	0.397	0.624
PEDIATRICS	0.701	0.400
OTHER MEDICAL	0.880	0.241
GENERAL SURGERY	0.720	0.393
ORTHOPEDICS	1.000	0.477
ORAL SURGERY	N/A	1.000
OPHTHALMOLOGY	N/A	N/A
OTOLARYNGOLOGY	0.938	N/A
UROLOGY	1.000	0.000
GYNECOLOGY	0.789	0.000
OTHER SURGERY	1.000	0.267
OBSTETRICS	0.826	0.857
PSYCHIATRY	0.533	0.396

care -- was recoverable. For lack of more detailed information, it was assumed that the percent of outpatient care recoverable from CHAMPUS was comparable to the percent of inpatient care considered recoverable in a related inpatient clinical area. Therefore, outpatient recoverability factors, by beneficiary type, were set equal to the recoverability factors for bed days in a comparable clinical area. This method, in effect, maintains the CHAMPUS visit-to-bed day ratio observed in the base year for care being recovered by the MTF. The resulting outpatient recoverability percentages are shown in exhibit 4-4.

The inpatient and outpatient recoverability percentages were applied to the total projected FY98 nondirect workloads to obtain estimates of the amount of CHAMPUS care recoverable in FY98, as shown in exhibit 4-5.

The workloads in exhibit 4-5 are expressed as though the care were provided under CHAMPUS. To properly combine this recoverable care with the projected FY98 FAMC direct care, it was necessary to convert the CHAMPUS workloads to "MTF-equivalent" workloads. The medical and surgical workloads in exhibit 4-5 were multiplied by the appropriate factors for each beneficiary type, as described in section 3.4, to estimate the amount of additional workload that would be seen at FAMC if this recoverable care were performed at the MTF. This MTF-equivalent recoverable nondirect care workload is displayed in exhibit 4-6.

The final step in computing total recapturable care was to combine projected FY98 FAMC workloads with the MTF-equivalent recoverable nondirect care workloads. The resulting estimate of total recapturable care is displayed in exhibit 4-7. These are the FAMC workloads under the All Care scenario. The bed totals generated by the DoD medical space planning criteria under the All Care scenario are 37 obstetrical

EXHIBIT 4-4: OUTPATIENT RECOVERABILITY RATIOS

CLINICAL AREA	DEP ACT < 65	OTHERS < 65
MEDICAL/PRIM CARE	0.942	0.449
ALLERGY	0.942	0.449
CARDIOLOGY	0.000	0.158
DERMATOLOGY	0.880	0.241
NEUROLOGY	0.397	0.624
EMERGENCY MEDICINE	0.000	0.000
GENERAL SURGERY	0.720	0.393
ORTHOPEDICS	1.000	0.477
OPHTHALMOLOGY	0.000	0.000
OTOLARYNGOLOGY	0.938	0.000
UROLOGY	1.000	0.000
GYNECOLOGY	0.789	0.000
OBSTETRICS	0.826	0.857
PSYCHIATRY	0.533	0.396
OPTOMETRY	0.000	0.000

EXHIBIT 4-5: RECOVERABLE CHAMPUS WORKLOAD FY 98

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	0	11	13	0	24
CARDIOLOGY	0	0	8	0	8
NEUROLOGY	0	3	15	0	18
PEDIATRICS	0	31	2	0	33
OTHER MEDICAL	0	2	9	0	11
GENERAL SURGERY	0	10	13	0	23
ORTHOPEDICS	0	2	2	0	4
ORAL SURGERY	0	0	3	0	3
OPHTHALMOLOGY	0	0	0	0	0
OTOLARYNGOLOGY	0	3	0	0	3
UROLOGY	0	1	0	0	1
GYNECOLOGY	0	3	0	0	3
OTHER SURGERY	0	4	6	0	10
OBSTETRICS	0	8	4	0	12
PSYCHIATRY	0	100	91	0	191
ALL CLINICAL AREAS	0	178	166	0	344

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	0	273	138	0	411	17.1
CARDIOLOGY	0	0	45	0	45	5.6
NEUROLOGY	0	24	305	0	329	18.3
PEDIATRICS	0	297	3	0	300	9.1
OTHER MEDICAL	0	70	54	0	124	11.3
GENERAL SURGERY	0	81	79	0	160	7.0
ORTHOPEDICS	0	7	64	0	71	17.8
ORAL SURGERY	0	0	8	0	8	2.7
OPHTHALMOLOGY	0	0	0	0	0	---
OTOLARYNGOLOGY	0	16	0	0	16	5.3
UROLOGY	0	1	0	0	1	1.0
GYNECOLOGY	0	16	0	0	16	5.3
OTHER SURGERY	0	29	58	0	87	8.7
OBSTETRICS	0	20	12	0	32	2.7
PSYCHIATRY	0	2,524	2,391	0	4,915	25.7
ALL CLINICAL AREAS	0	3,358	3,157	0	6,515	18.9

-- Continued --

EXHIBIT 4-5: RECOVERABLE CHAMPUS WORKLOAD (Concluded)

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
MEDICAL/PRIM CARE	0	2,546	3,457	0	6,004
ALLERGY	0	0	0	0	0
CARDIOLOGY	0	0	0	0	0
DERMATOLOGY	0	0	0	0	0
NEUROLOGY	0	0	0	0	0
EMERGENCY MEDICINE	0	0	0	0	0
GENERAL SURGERY	0	496	1,374	0	1,870
ORTHOPEDICS	0	0	595	0	595
OPHTHALMOLOGY	0	0	0	0	0
OTOLARYNGOLOGY	0	625	0	0	625
UROLOGY	0	115	0	0	115
GYNECOLOGY	0	1,053	0	0	1,053
OBSTETRICS	0	59	0	0	59
PSYCHIATRY	0	3,895	4,997	0	8,892
OPTOMETRY	0	0	0	0	0
ALL CLINICAL AREAS	0	8,789	10,423	0	19,212

EXHIBIT 4-6: RECOVERABLE CHAMPUS WORKLOAD IN MTF EQUIVALENT UNITS

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	0	11	24	0	35
CARDIOLOGY	0	0	15	0	15
NEUROLOGY	0	3	28	0	31
PEDIATRICS	0	31	4	0	35
OTHER MEDICAL	0	2	17	0	19
GENERAL SURGERY	0	10	24	0	34
ORTHOPEDICS	0	2	4	0	6
ORAL SURGERY	0	0	6	0	6
OPHTHALMOLOGY	0	0	0	0	0
OTOLARYNGOLOGY	0	3	0	0	3
UROLOGY	0	1	0	0	1
GYNECOLOGY	0	3	0	0	3
OTHER SURGERY	0	4	11	0	15
OBSTETRICS	0	8	4	0	12
PSYCHIATRY	0	100	91	0	257
ALL CLINICAL AREAS	0	178	228	0	472

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	0	273	259	0	532	15.0
CARDIOLOGY	0	0	85	0	85	5.6
NEUROLOGY	0	24	573	0	597	19.1
PEDIATRICS	0	297	6	0	303	8.7
OTHER MEDICAL	0	70	102	0	172	9.1
GENERAL SURGERY	0	81	149	0	230	6.7
ORTHOPEDICS	0	7	120	0	127	22.1
ORAL SURGERY	0	0	15	0	15	2.7
OPHTHALMOLOGY	0	0	0	0	0	---
OTOLARYNGOLOGY	0	16	0	0	16	5.3
UROLOGY	0	1	0	0	1	1.0
GYNECOLOGY	0	16	0	0	16	5.3
OTHER SURGERY	0	29	58	0	87	5.7
OBSTETRICS	0	20	12	0	32	2.7
PSYCHIATRY	0	2,324	2,391	0	4,715	18.3
ALL CLINICAL AREAS	0	3,158	3,769	0	6,927	14.7

-- Continued --

EXHIBIT 4-6: RECOVERABLE CHAMPUS WORKLOAD IN MTF UNITS EQUIVALENT (Concluded)

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
MEDICAL/PRIM CARE	0	4,583	7,744	0	12,327
ALLERGY	0	0	0	0	0
CARDIOLOGY	0	0	0	0	0
DERMATOLOGY	0	0	0	0	0
NEUROLOGY	0	0	0	0	0
EMERGENCY MEDICINE	0	0	0	0	0
GENERAL SURGERY	0	893	3,078	0	3,971
ORTHOPEDICS	0	0	1,332	0	1,332
OPHTHALMOLOGY	0	0	0	0	0
OTOLARYNGOLOGY	0	1,124	0	0	1,124
UROLOGY	0	207	0	0	207
GYNECOLOGY	0	1,895	0	0	1,895
OBSTETRICS	0	59	0	0	59
PSYCHIATRY	0	3,895	4,997	0	8,892
OPTOMETRY	0	0	0	0	0
ALL CLINICAL AREAS	0	12,657	17,152	0	29,808

EXHIBIT 4-7: FAMC WORKLOADS UNDER ALL CARE SCENARIO (TOTAL FAMC RECOVERABLE DEMAND)

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	579	280	1,010	666	2,535
CARDIOLOGY	203	55	770	524	1,552
NEUROLOGY	59	24	52	13	148
PEDIATRICS	0	995	138	0	1,133
OTHER MEDICAL	323	132	908	664	2,026
GENERAL SURGERY	181	151	542	355	1,229
ORTHOPEDICS	758	285	509	299	1,851
ORAL SURGERY	54	15	13	1	83
OPHTHALMOLOGY	71	83	171	222	547
OTOLARYNGOLOGY	232	232	174	47	685
UROLOGY	160	125	297	281	862
GYNECOLOGY	159	502	268	64	993
OTHER SURGERY	411	320	453	168	1,352
OBSTETRICS	173	887	149	1	1,210
PSYCHIATRY	297	108	101	1	507
ALL CLINICAL AREAS	3,658	4,194	5,554	3,307	16,713

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	5,660	1,966	8,743	6,097	22,466	8.9
CARDIOLOGY	1,914	308	5,132	4,134	11,488	7.4
NEUROLOGY	883	311	852	62	2,109	14.2
PEDIATRICS	0	3,830	534	0	4,364	3.9
OTHER MEDICAL	2,143	774	3,794	2,707	9,419	4.6
GENERAL SURGERY	2,071	1,123	6,791	5,434	15,418	12.5
ORTHOPEDICS	11,709	1,873	4,699	3,316	21,597	11.7
ORAL SURGERY	232	38	29	3	301	3.6
OPHTHALMOLOGY	565	268	914	1,028	2,775	5.1
OTOLARYNGOLOGY	1,998	579	1,441	615	4,633	6.8
UROLOGY	1,377	472	1,821	2,047	5,717	6.6
GYNECOLOGY	769	2,098	1,726	759	5,352	5.4
OTHER SURGERY	6,817	2,504	6,708	3,351	19,380	14.3
OBSTETRICS	1,808	5,346	862	19	8,034	6.6
PSYCHIATRY	4,534	2,544	2,445	18	9,544	18.8
ALL CLINICAL AREAS	42,480	24,033	46,490	29,591	142,597	8.5

-- Continued --

EXHIBIT 4-7: FAMC WORKLOADS UNDER ALL CARE SCENARIO (TOTAL FAMC RECOVERABLE DEMAND) (Concluded)

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	23,448	8,979	70,479	25,779	128,685
FAM PRAC/PRIM CARE	12,126	11,737	51,350	9,306	84,519
FLT/UNDERSEAS MED	0	0	0	0	0
PEDIATRICS	0	72,494	26,998	0	99,492
ALLERGY	1,719	2,419	5,220	1,675	11,033
CARDIOLOGY	1,810	1,430	16,102	5,130	24,473
DERMATOLOGY	4,514	3,379	11,890	3,727	23,511
NEUROLOGY	1,469	894	2,622	886	5,871
EMERGENCY MEDICINE	6,936	23,937	18,864	5,868	55,606
GENERAL SURGERY	4,409	4,878	16,539	5,001	30,827
ORTHOPEDICS	15,315	7,204	15,535	4,830	42,884
OPHTHALMOLOGY	2,986	3,186	18,617	6,167	30,956
OTOLARYNGOLOGY	1,167	2,748	2,582	860	7,357
UROLOGY	1,796	1,225	6,536	2,190	11,746
GYNECOLOGY	2,763	14,674	5,602	1,808	24,846
OBSTETRICS	2,125	10,888	2,054	20	15,086
PSYCHIATRY	24,609	10,458	16,195	5,079	56,341
OPTOMETRY	1,178	1,067	3,866	1,201	7,312
ALL CLINICAL AREAS	108,372	181,597	291,052	79,527	660,547

beds and 388 Med/Surg/Psych beds of which 7% or 27 would be for psychiatric care, for a total of 425 beds.

In summary, all health care demand except that historically provided by the Lowry AFB clinic and the portion of CHAMPUS that would not be possible or appropriate for FAMC to recapture is provided at FAMC under the All Care scenario. Comparing the All Care workloads to the Status Quo workloads, the All Care represents an increase of nearly 20% in inpatient workload and nearly 10% in outpatient workload over historical levels.

4.4 THE BEST ECONOMIC SOLUTION SCENARIO

The Best Economic Solution (BES) scenario defines the level of inpatient and outpatient workload that represent the least cost to the government. Government costs considered included costs to operate a referral facility at FAMC, costs to provide care at other referral MTFs in the absence of FAMC, and government costs for care provided in the civilian sector in the absence of FAMC. The estimation of each of these costs in described in chapter 5.0, and their comparison to determine the most cost-effective workload levels is described in section 6.1. A summary of the resulting workloads is presented in this chapter to complete the discussion of all scenarios considered for FAMC.

The BES workloads derived from the chapter 6.0 cost analysis are displayed in exhibit 4-8. Under the BES, FAMC provides about 12,800 dispositions, 114,400 bed days, and 409,000 visits. This represents over 90% of the Status Quo inpatient workload and close to 70% of the Status Quo outpatient workload. The main decrease in the workload provided at FAMC is care to retiree/other beneficiaries under age 65 -- for this group, purchasing the care through CHAMPUS was found to be less costly than providing the care at FAMC. The BES represents 348 total beds; 289 medical/surgical, 25 psychiatric, and 34 obstetrical.

EXHIBIT 4-8: FAMC BEST ECONOMIC SOLUTION WORKLOADS

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	579	280	419	666	1,945
CARDIOLOGY	203	55	220	524	1,002
NEUROLOGY	59	24	11	13	107
PEDIATRICS	0	995	39	0	1,033
OTHER MEDICAL	323	132	343	664	1,462
GENERAL SURGERY	181	151	116	355	804
ORTHOPEDICS	758	285	127	299	1,469
ORAL SURGERY	54	15	2	1	71
OPHTHALMOLOGY	71	83	58	222	434
OTOLARYNGOLOGY	232	232	27	47	538
UROLOGY	160	125	77	281	642
GYNECOLOGY	159	502	60	64	785
OTHER SURGERY	411	320	183	168	1,081
OBSTETRICS	173	887	4	1	1,065
PSYCHIATRY	297	108	0	0	405
ALL CLINICAL AREAS	3,658	4,194	1,685	3,306	12,843

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	5,660	1,966	3,734	6,097	17,457	9.0
CARDIOLOGY	1,914	308	2,362	4,134	8,718	8.7
NEUROLOGY	883	311	191	62	1,447	13.5
PEDIATRICS	0	3,830	179	0	4,009	3.9
OTHER MEDICAL	2,143	774	1,519	2,707	7,144	4.9
GENERAL SURGERY	2,071	1,123	2,058	5,434	10,685	13.3
ORTHOPEDICS	11,709	1,873	1,911	3,316	18,809	12.8
ORAL SURGERY	232	38	1	3	274	3.9
OPHTHALMOLOGY	565	268	445	1,028	2,306	5.3
OTOLARYNGOLOGY	1,998	579	521	615	3,713	6.9
UROLOGY	1,377	472	713	2,047	4,609	7.2
GYNECOLOGY	769	2,098	722	759	4,348	5.5
OTHER SURGERY	6,817	2,504	3,838	3,351	16,511	15.3
OBSTETRICS	1,808	5,346	110	19	7,283	6.8
PSYCHIATRY	4,534	2,544	0	0	7,078	17.5
ALL CLINICAL AREAS	42,480	24,033	18,304	29,573	114,390	8.9

-- Continued --

EXHIBIT 4-8: FAMC BEST ECONOMIC SOLUTION CLINIC VISITS (Concluded)

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	23,448	8,979	8,472	25,779	66,678
FAM PRAC/PRIM CARE	12,126	11,737	6,772	9,306	39,942
FLT/UNDERSEAS MED	0	0	0	0	0
PEDIATRICS	0	72,494	7,184	0	79,678
ALLERGY	1,719	2,419	852	1,675	6,665
CARDIOLOGY	1,810	1,430	0	5,130	8,371
DERMATOLOGY	4,514	3,379	1,728	3,727	13,348
NEUROLOGY	1,469	894	878	886	4,127
EMERGENCY MEDICINE	6,936	23,937	3,664	5,868	40,405
GENERAL SURGERY	4,409	4,878	2,770	5,001	17,058
ORTHOPEDICS	15,315	7,204	2,942	4,830	30,291
OPHTHALMOLOGY	2,986	3,186	3,736	6,167	16,075
OTOLARYNGOLOGY	1,167	2,748	578	860	5,353
UROLOGY	1,796	1,225	1,120	2,190	6,330
GYNECOLOGY	2,763	14,674	1,650	1,808	20,894
OBSTETRICS	2,125	10,888	244	20	13,277
PSYCHIATRY	24,609	10,458	1,861	0	36,928
OPTOMETRY	1,178	1,067	591	1,201	4,037
ALL CLINICAL AREAS	108,372	181,597	45,041	74,448	409,457

5.0 ANALYSIS OF HEALTH CARE COSTS

This chapter documents the techniques and rationale used to estimate health care costs in this economic analysis. The types of costs estimated included costs associated with operating a referral center at FAMC and the government costs of providing care through alternatives to FAMC. The assumptions, data, and methodologies used in estimating each type of cost are described in the sections that follow.

5.1 FAMC OPERATING COSTS

To estimate the costs of operating a new facility at FAMC in FY98 (and beyond), we used information on the actual operating costs associated with each inpatient and outpatient clinical area for all referral MTFs in FY89. The EA methodology uses cost models based on all MTFs of a similar type to predict future MTF costs, rather than simply using the actual base year costs at the MTF being studied, for several reasons. First, a more stable and robust estimate of costs in each clinical area is possible using a larger number of data points. Second, since an EA is being performed to analyze a construction decision, the current MTF is presumably operating under some physical constraints or inefficiencies which should not be incorporated into the costs of operating a future new facility.

The specific direct care cost estimates used in this analysis were based on models developed for the Office of the Assistant Secretary of Defense for Health Affairs (OASD (HA)) under the Resource Analysis and Planning System (RAPS). The RAPS models were estimated using linear

regression techniques on FY89 third level Medical Expense and Performance Reporting System (MEPRS) data.[1]

The FY89 MEPRS data were based on the Services' financial data, and include both personnel and non-personnel costs, as well as costs associated with the retirement benefit and with base operating support. These data were mapped into the inpatient and outpatient clinical areas used in this analysis according to the mappings displayed in exhibits 5-1 and 5-2.

Separate models were developed for each inpatient and outpatient clinical area. For inpatient care, models took the functional form:

$$IOC = A0 + A1 * DISPS + A2 * OBEDS,$$

where:

IOC = annual direct care inpatient operating costs;

DISPS = annual dispositions;

OBEDS = annual occupied bed days; and

A0, A1, A2 = parameter estimates.

For outpatient care, the functional form was:

$$OOC = B0 + B1 * VISITS,$$

where:

OOC = annual direct care outpatient operating costs;

VISITS = annual visits; and

B0, B1 = parameter estimates.

The inpatient and outpatient models by clinical area were estimated for three "peer groups" of inpatient facilities: non-referral hospitals, referral hospitals, and medical centers. Physician specialty pay costs by clinical area were not included in MEPRS, so the resulting parameter

[1]For a detailed description of the modeling methodology, see RAPS Model Technical Description, VRI-DMIS-2.20 WP89-32(R), Defense Medical Information System, 23 May 1990.

EXHIBIT 5-1: MAPPING OF FY89 MEPRS THIRD-LEVEL ACCOUNTS INTO RAPS DIRECT CARE COST MODELS OF INPATIENT CLINICAL SERVICES

RAPS INPATIENT CLINICAL SERVICES

MEPRS ACCOUNTS	MEDICAL GROUP	CARDIOLOGY	NEUROLOGY	MEDICAL ONCOLOGY	SURGICAL GROUP	SURGICAL ONCOLOGY	OTHERS	OTHOPHTHALMOLOGY	OTOLARYNGOLOGY	UROLOGY	GYNECOLOGY	OBSTETRICS	PEDIATRICS	ORTHOPEDIATRICS	PSYCHIATRY
Internal Medicine AAA	AAA														
Cardiology AAB		AAB													
Coronary Care AAC		AAC													
Dermatology AAD	AAD														
Endocrinology AAE	AAE														
Gastroenterology AAF				AAF											
Hematology AAG	AAG														
Intensive Care (med) AAH	AAH														
Nephrology AAI	AAI														
Neurology AAJ			AAJ												
Oncology AAK				AAK											
Pulmonary/Upper Respiratory Disease AAL				AAL											
Rheumatology AAM	AAM														
Medical Care NEC* AAZ	AAZ														
General Surgery ABA					ABA										
Cardiovascular/ Thoracic Surgery ABB						ABB									
Intensive Care (surg) ABC					ABC										
Neurosurgery ABD						ABD									
Ophthalmology ABE							ABE								
Oral Surgery ABF								ABF							
Otorhinolaryngology ABG									ABG						
Pediatric Surgery ABH													ABH		
Plastic Surgery ABI						ABI									
Proctology ABJ					ABJ										
Urology ABK										ABK					
Surgical Care NEC* ABZ					ABZ										
Gynecology ACA											ACA				
Obstetrics ACB												ACB			
Ambulatory Obstetrics BCC												BCC			
Pediatrics ADA													ADA		
Nursery ADB												ADB			
Neonatal ICU ADC												ADC			
Pediatric Care NEC* ADZ													ADZ		
Orthopedics AEA														AEA	
Podiatry AEB														AEB	
Psychiatry AFA															AFA
Substance Abuse Rehabilitation AFB															AFB

* Not Elsewhere Classified

EXHIBIT 5-2: MAPPING OF FY89 MEPRS THIRD-LEVEL ACCOUNTS INTO RAPS DIRECT CARE COST MODELS OF AMBULATORY CLINICAL SERVICES*

RAPS AMBULATORY CLINICAL SERVICES

MEPRS ACCOUNTS	Medicine	Allergy	Cardiology	Dermatology	Neurology	Ophthalmology	Otolaryngology	Surgery	Urology	Gynecology	Pediatrics	Orthopedics	Family Psychiatrics	Optometry	Flight/Undersea Medicine
Internal Medicine BAA	BAA														
Allergy BAB		BAB													
Cardiology BAC			BAC												
Diabetic BAE	BAE														
Endocrinology BAF	BAF														
Gastroenterology BAG	BAG														
Hematology BAH	BAH														
Hypertension BAI	BAI														
Nephrology BAJ	BAJ														
Neurology BAK				BAK											
Nutrition BAL	BAL														
Oncology BAM	BAM														
Pulmonary Disease BAN	BAN														
Rheumatology BAO	BAO														
Dermatology BAP					BAP										
Infectious Disease BAQ	BAQ														
Medical Clinics NEC** BAZ	BAZ														
General Surgery BBA						BBA									
Cardiovascular and Thoracic Surgery BBB						BBB									
Neurosurgery BBC						BBC									
Ophthalmology BBD							BBD								
Organ Transplant BBE						BBE									
Otorhinolaryngology BBF								BBF							
Plastic Surgery BBG						BBG									
Proctology BBH						BBH									
Urology BBI									BBI						
Pediatric Surgery BBJ						BBJ									
Surgery Clinics NEC** BBZ						BBZ									
Family Planning BCA										BCA					
Gynecology BCB										BCB					
Pediatrics BDA											BDA				
Adolescent BDB											BDB				
Well Baby BDC											BDC				
Pediatrics Clinics NEC** BDZ											BDZ				
Orthopedics BEA												BEA			
Cast Clinic BEB												BEB			
Hand Surgery BEC												BEC			
Neuromusculoskeletal Screening BED												BED			
Orthopedic Appliance BEE												BEE			
Podiatry BEF												BEF			
Psychiatry BFA													BFA		
Psychology BFB													BFB		
Child Guidance BFC													BFC		
Mental Health BFD													BFD		
Social Work BFE													BFE		
Substance Abuse Rehabilitation BFF													BFF		
Family Practice BG														BG	
Primary Care BHA														BHA	
Medical Examination BHB														BHB	
Optometry BHC															BHC
Audiology BHD														BHD	
Speech Pathology BHE														BHE	
Community Health BHF														BHF	
Occupational Health BHG														BHG	
Primary Care NEC** BHZ														BHZ	
Emergency Medicine BI															BI
Flight Medicine BJ															
Underseas Medicine BK															

* Note, ambulatory obstetrics (MEPRS account BCC) costs are included in the RAPS inpatient direct care cost models. ** Not Elsewhere Classified

estimates were adjusted to reflect these costs. The specialty pay adjustments were specific to peer group and clinical area, with an overall increase in estimated costs of about 7%.

This EA used the specialty-pay adjusted referral center cost models to quantify the cost of operating a FAMC facility. Referral center models were used throughout the analysis rather than non-referral hospital models because the types and levels of workload being costed under all scenarios were those associated with a referral center at FAMC.

Although FAMC currently supports GME, and is expected to continue to support GME, referral center cost models were specifically chosen instead of medical center models for analyzing the cost-effectiveness of bringing in care. It has certainly been established that the presence of GME increases the cost of providing hospital care, both directly (e.g., through the cost of resident stipends) and indirectly (e.g., through costs of additional tests, procedures, etc. performed in the process of teaching and training). Clearly, it will be more "cost-effective" for an MTF to provide care if it is not burdened by the costs of supporting a GME mission. However, if DoD continues to provide graduate medical training, the additional cost burden of GME must be borne at an MTF somewhere in the system. Whether or not the benefits of GME to the DoD health care system as a whole outweigh the additional costs of GME is an overall policy question which is not specific to any one site. Therefore, the costs associated with the GME mission should remain separate from the question of the cost-effective level of care to provide at a particular location. On this basis, it was not considered appropriate to use medical center cost models in comparing FAMC costs to the costs of alternative sources of care.

As a final note, Medicare has quantified the indirect cost associated with GME to be a 4% increase in costs for every one-tenth of a

resident per bed. Studies of DoD medical financial data performed in the process of developing a direct care DRG-based resource allocation model have shown that this formula is also appropriate for estimating the indirect costs of GME in military medical centers. Therefore, if an estimate of the full cost of operating a FAMC referral center with GME is required, this formula could be applied to estimate the additional cost associated with GME under each scenario.

Exhibits 5-3 and 5-4 present the estimated RAPS inpatient and outpatient referral hospital cost coefficients, adjusted for physician specialty pay.[1] As discussed, these cost models were used in comparing FAMC costs to the costs of alternative sources in developing Best Economic Solution (BES) workloads (see section 6.1), and in computing total direct care operating costs for each alternative scenario (see section 6.2). Direct care costs were expressed and compared as costs per bed day for inpatient care and costs per visit for outpatient care. Total direct care costs per bed day (or visit) were calculated as the marginal cost per unit of workload plus the constant cost for each model.

For outpatient care, the calculation of marginal costs was straightforward; marginal costs were simply the B1 parameter estimates. On the inpatient side, however, marginal costs were more complicated since the models contained two predictor variables (dispositions and occupied bed days). Marginal costs per bed day were calculated as the partial derivative of inpatient operating costs with respect to bed days. Using dispositions equal to occupied bed days divided by average length of stay (ALOS), marginal costs per bed day were derived as follows:

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[1]One correction was required for the outpatient costs output by RAPS. The RAPS models regressed total visit costs against outpatient visit workloads, thus slightly overstating the cost per visit. The original RAPS estimates were deflated by 3.5%, the proportion of inpatient visits for referral hospitals in FY89.

EXHIBIT 5-3: FAMC INPATIENT DIRECT CARE COST COEFFICIENTS

INPATIENT DOLLARS PER OCCUPIED BED DAY

CLINICAL AREA	CONSTANT COEFF (AO)	DISPS COEFF (A1)	OBEDS COEFF (A2)
INTERNAL MEDICINE	215,045	-88.5	484.8
CARDIOLOGY	15,724	248.7	666.0
NEUROLOGY	18,378	117.5	368.5
PEDIATRICS	5,663	-160.7	609.3
OTHER MEDICAL	0	177.6	346.9
GENERAL SURGERY	220,863	206.5	535.5
ORTHOPEDICS	5,148	1349.5	258.0
ORAL SURGERY	10,766	-466.9	1053.2
OPHTHALMOLOGY	5,565	1375.9	307.2
OTOLARYNGOLOGY	11,534	437.3	548.9
UROLOGY	6,061	523.7	497.8
GYNECOLOGY	72,919	1208.3	312.4
OTHER SURGERY	224	1298.3	366.1
OBSTETRICS[1]	101,413	1266.1	751.2
PSYCHIATRY	1,481	577.2	219.2

[1] Outpatient obstetrical care costed with inpatient episode.

EXHIBIT 5-4: FAMC OUTPATIENT DIRECT CARE COST COEFFICIENTS

OUTPATIENT DOLLARS PER OUTPATIENT VISIT

CLINICAL AREA	CONSTANT COEFF (B0)	VISITS COEFF (B1)
INTERNAL MEDICINE	26,148	112.6
FAM PRAC/PRIM CARE	334,782	61.8
FLIGHT/UNDERSEAS MED	20,194	73.5
PEDIATRICS	43,186	57.6
ALLERGY	1,438	29.4
CARDIOLOGY	884	88.2
DERMATOLOGY	4,337	67.7
NEUROLOGY	379	109.7
EMERGENCY MEDICINE	676,992	77.1
GENERAL SURGERY	41,458	126.2
ORTHOPEDICS	5,717	88.6
OPHTHALMOLOGY	6,462	90.0
OTOLARYNGOLOGY	0	102.9
UROLOGY	0	133.3
GYNECOLOGY	12,988	77.5
OBSTETRICS[1]	---	---
PSYCHIATRY	62,699	96.8
OPTOMETRY	52,472	36.2

[1] Outpatient obstetrical care costed with inpatient episode.

$$IOC = A0 + A1 * DISPS + A2 * OBEDS$$

$$IOC = A0 + A1 * (OBEDS/ALOS) + A2 * OBEDS$$

$$\partial(OC)/\partial(OBEDS) = (A1/ALOS) + A2$$

The average lengths of stay used to calculate marginal cost by clinical area were those associated with the total workload being costed.

Since all cost comparisons and calculations were made in BOD year dollars, the final step in developing direct care cost estimates was to inflate the FY89 estimates to the FY98 BOD. To do this, direct care costs were broken into three components: military personnel costs, civilian personnel costs, and non-personnel costs.

The proportion of total costs represented by each component was taken from detailed analyses of military health care costs performed during development of a DRG-based direct care resource allocation model.[1] These analyses indicated the following percentages for Army MTFs:

Component of Cost	% of Total Cost
Military personnel	53%
Civilian personnel	26%
Other Operating Costs	21%

Annual price escalation rates for the first two components -- military personnel and civilian personnel -- were provided by the government, based on OSD Comptroller official planning rates. Over the nine year period from FY89 to FY98, these rates averaged about 4.1% inflation per year.

The third component of costs consisted of supplies, utilities, contracts and other operating costs. These costs were assumed to rise

[1]DoD Diagnosis Related Group Financial Modeling and Biostatistical Refinement Study to Support Resource Allocation, Correlation Analyses, (Deliverable 0005AH), VRI-HMS-1 WP90-4, Vector Research, Incorporated, Ann Arbor, Michigan, 19 March 1990.

at a level comparable to the overall Consumer Price Index (CPI) for medical care. The average increase in the medical CPI over the past three years has been 7.1% per year.

The final inflation of direct care costs was computed by inflating the military and civilian personnel component, or 79% of total costs, at a rate of 4.1% per year, while inflating the remaining 21% of total costs at 7.1% per year. The resulting annual inflation rate was 4.75% per year, for a total increase of 52.6% over the nine year period.

Exhibits 5-5 and 5-6 display the final FY98 direct care cost estimates used in this analysis. Exhibit 5-5 displays the marginal costs per bed day, while exhibit 5-6 displays the marginal cost per visit.

5.2 GOVERNMENT COSTS UNDER ALTERNATIVES TO FAMC

There are two basic alternatives to a FAMC referral facility for the health care needs of military beneficiaries: the civilian sector and other military facilities. Section 5.2.1 describes our estimation of costs associated with civilian health care sources, while section 5.2.2 describes our approach to costing other DoD alternatives to FAMC.

5.2.1 COSTS ASSOCIATED WITH CIVILIAN SECTOR ALTERNATIVES

The predominant form of government payment for civilian sector health care is standard CHAMPUS reimbursement. This is also the most likely civilian alternative for most beneficiaries. Our estimates of civilian sector costs were therefore based on CHAMPUS government cost data. Note that non-standard alternatives to CHAMPUS reimbursement for civilian sector care can be evaluated as part of a sensitivity analysis, on the basis of the expected relationship between those alternatives and standard CHAMPUS costs.

EXHIBIT 5-5: FY98 FAMC INPATIENT DIRECT CARE COST ESTIMATES

MARGINAL OPERATING COSTS
PER OCCUPIED BED DAY

CLINICAL AREA	COST
INTERNAL MEDICINE	$724
CARDIOLOGY	$1,084
NEUROLOGY	$576
PEDIATRICS	$863
OTHER MEDICAL	$592
GENERAL SURGERY	$845
ORTHOPEDICS	$613
ORAL SURGERY	$1,322
OPHTHALMOLOGY	$1,007
OTOLARYNGOLOGY	$977
UROLOGY	$916
GYNECOLOGY	$896
OTHER SURGERY	$744
OBSTETRICS[1]	$1,504
PSYCHIATRY	$384

[1] Outpatient obstetrics cost combined with inpatient obstetrics cost.

EXHIBIT 5-6: FY98 FAMC OUTPATIENT DIRECT CARE COST ESTIMATES

MARGINAL OPERATING COSTS
PER OUTPATIENT VISIT

CLINICAL AREA	COST
INTERNAL MEDICINE	$166
FAM PRAC/PRIM CARE	$91
FLIGHT/UNDERSEAS MED	$108
PEDIATRICS	$85
MED/PC GROUP [1]	$120
ALLERGY	$43
CARDIOLOGY	$130
DERMATOLOGY	$100
NEUROLOGY	$162
EMERGENCY MEDICINE	$114
GENERAL SURGERY	$186
ORTHOPEDICS	$130
OPHTHALMOLOGY	$133
OTOLARYNGOLOGY	$152
UROLOGY	$196
GYNECOLOGY	$114
PSYCHIATRY	$143
OPTOMETRY	$53

[1] Med/pc group includes internal medicine, family practice/primary care, flight/underseas medicine, and pediatrics.

Since the government share of CHAMPUS costs varies by beneficiary type, the civilian cost estimates were developed specific to both clinical area and beneficiary type. Since civilian health care costs vary by geographic location, estimates were based on observed cost data for the area around FAMC. The following paragraphs describe how government costs for civilian sector care were estimated in this analysis.

(1) Start With RAPS Cost Nondirect Care Estimates

Estimates of the cost of civilian alternatives to FAMC were based on observed CHAMPUS costs in the FAMC, AF Academy, and Fort Carson catchment areas, with some adjustments. The starting point estimates were the nondirect care costs per bed day and per visit for each of the three catchment areas produced by the RAPS model, version 4.20.

For inpatient care, RAPS uses CHAMPUS hospital services and inpatient professional services claims data to estimate nondirect care costs per bed day. Costs are developed separately for "NAS Required" CHAMPUS care, and care for which an NAS was not required (primarily emergency care and care to beneficiaries with other insurance). Since only care for which an NAS had been required was considered recapturable by FAMC, only these costs were relevant to the analysis. Therefore, RAPS estimates for NAS Required inpatient care were used.

For outpatient care, RAPS uses a combination of OCHAMPUS Health Care Summary Report (HCSR) and Cost and Workload Report (CWR) data to estimate nondirect care costs per visit. The HCSR provides clinical area detail, while the CWR provides beneficiary type detail.

The methodology used to develop nondirect care cost estimates in the current RAPS model is virtually the same as the methodology used to develop these estimates "by hand" in previous economic analyses.[1]

Several aspects of the RAPS and EA nondirect care cost estimates are worth reviewing. First, as discussed in chapter 3.0 under base year utilization, existing CHAMPUS outpatient data cannot be mapped into the same basic medical clinical areas as direct care. A medical/primary care category was created for CHAMPUS workloads, for comparison to the combination of internal medicine, family practice/primary care, and pediatrics in direct care. The cost estimation proceeded in a similar manner, with nondirect care costs developed for the total medical/primary care category, for comparison to the combination of direct care categories.

In the area of obstetrics, CHAMPUS reports the costs of outpatient care with the inpatient episode. Therefore, to properly compare costs, outpatient costs in obstetrics were combined with inpatient costs for both direct care and nondirect care cost estimates.

For optometry, since most care received from an optometrist is not covered under the CHAMPUS benefit, a CHAMPUS optometry cost estimate could not be derived. This clinical area was assumed to be available at the direct care facility if basic medical care was provided.

In the area of emergency medicine, CHAMPUS costs and workloads in an emergency medical category comparable to direct care are not tracked separately in the CHAMPUS data. Rather than use a somewhat arbitrary cost estimate for CHAMPUS emergency care, it was assumed that some form

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[1]For a more detailed description of the cost estimation methodology, see RAPS Model Technical Description Suplement, VRI-DMIS-2.21 WP90-1(R), 12 July 1990; or Economic Analysis of Naval Hospital Cherry Point, Volume II: Requirements Analysis, Landers-Atkins Planners, Incorporated, April 1990.

of emergency medicine would need to be provided in any hospital; therefore, this clinical area was assumed to be available at the direct care facility if basic medical care was provided.

Finally, for beneficiaries over 64 years of age, costs for CHAMPUS retirees, retiree dependents and survivors under 65 ("other" beneficiaries) were used to approximate Medicare costs. While the direct care benefit is not affected by age, almost all beneficiaries over 64 years old are eligible for Medicare benefits, and therefore do not retain CHAMPUS eligibility. Ideally, two sets of nondirect care cost functions would be used to describe the costs experienced by beneficiaries under the age of 65 versus those 65 and older. However, due to programmatic differences between CHAMPUS and Medicare, Medicare cost functions that parallel those developed for CHAMPUS are extremely difficult to develop. Major points of divergence between the Medicare and CHAMPUS programs are summarized below.

- The Medicare plan is formed of two parts -- Part A (Hospital Insurance) and Part B (Supplemental Medical Insurance), which mainly covers professional services. However, unlike CHAMPUS, for which inpatient and outpatient professional services can be separated quite consistently and logically, Part B cost and utilization cannot be readily partitioned. Thus, the cost of a Medicare outpatient visit or the complete cost of an inpatient episode are difficult to isolate, at least in aggregated data.

- The Medicare system is not actually geared to reporting unit costs in terms of expense per unit workload. Because Medicare purchases not only standard office visits and hospital days, but also large quantities of skilled nursing and hospice services, home health care, durable medical equipment, rehabilitative services, and physical therapy, Medicare costs are typically reported as reimbursements per enrollee.

- Clinical distinctions of the kind created by CHAMPUS (i.e., the 27 hospital specialties used in the Health Care Summary Report), are not a feature of Medicare reporting. Now that both programs are using a DRG-based reimbursement system, this may provide the basis for a clinically-oriented cost comparison scheme in the future, although it would be cumbersome and extend only to hospital services.

For these reasons, RAPS and EAs continue to rely upon CHAMPUS-based nondirect care cost functions to estimate nondirect care costs for all beneficiaries.

(2) Adjust FAMC Outpatient Costs for Partnership Program

About one-third of CHAMPUS visits in the FAMC catchment area were visits to Partnership Program providers operating out of FAMC. Since these visits were billed at a negotiated discount from total allowable charges, their presence significantly understated the estimates of CHAMPUS costs per outpatient visit. We adjusted estimates of FAMC catchment area CHAMPUS costs per visit, as follows.

For each clinical area, let:

C_{RAPS} = original cost/visit from RAPS, which includes Partnership;

%p = the percent of total visits which were Partnership; and

C_{adj} = adjusted cost/visit for non-Partnership care.

Then

$$C_{RAPS} = (\%p * .7*C_{adj}) + (1-\%p)*C_{adj}$$

The above equation says that our original estimated costs were composed of two parts -- Partnership visit costs and non-Partnership visit costs. For Partnership visits (%p), FAMC negotiates partner's charges to be 70% or less of total CHAMPUS allowable charges. We therefore expressed Partnership visit costs in our equation as 70% of our adjusted cost per visit. The remaining non-Partnership visit costs (1-%p), we expressed in our equation as having the full non-Partnership cost per visit. Solving for C_{adj} in the above equation:

$$C_{adj} = C_{adj}/(1-.3*\%p)$$

Therefore, the original RAPS estimates were divided by (1-.3%p), where %p was the percent of visits in that clinical area associated with a

Partnership provider in FY89. Our new estimated CHAMPUS costs per visit for non-Partnership care were about 10% higher than when Partnership was included.

(3) Combine RAPS FAMC, Fort Carson, and AF Academy Catchment Area Estimates

The RAPS estimates of costs per bed day and visit (with FAMC costs per visit adjusted for the effect of Partnership visits) were combined to form a single set of Denver/Colorado Springs area civilian costs. For each inpatient and outpatient clinical area, a weighted average was taken of the three costs in each clinical area.

Weighted averages were calculated in each clinical area for dependent of active duty costs and "other under 65" costs. For outpatient clinical areas, cost estimates from the three catchment areas were weighted by the number of FY89 visits in that clinical area. For inpatient clinical areas, since the inpatient costs being used were those associated with NAS care, the cost estimates for each catchment area were weighted by the number of bed days for which an NAS was required in that clinical area. Overall, combining of costs from the three catchment areas did not dramatically change the cost estimates from any one catchment area.

After costs in each clinical area for dependents of active duty and others under 65 were combined, active duty and retiree over 64 costs were derived. It was assumed that the government would pay the full share of active duty civilian costs, with no copay or deductible. Therefore, active duty costs were derived by inflating dependent of active duty costs to reflect total costs. Inpatient dependent of active duty costs, which already reflect nearly the total CHAMPUS cost, were inflated by 3%. Outpatient dependent of active duty costs, of which the

dependent beneficiary pays a larger share, were inflated by 28% to reflect total costs. Costs for others over 64 were set equal to costs for others under 65, for reasons which were explained earlier.

(4) Inflate Costs to the BOD

Outpatient cost estimates were inflated to the BOD by 7.14% per year, the average annual increase over the past three years in the CPI for medical care. This rate is consistent with the observed increase in total CHAMPUS costs per visit observed over the past several years.

Inpatient nondirect care costs have been rising at a much slower rate since the implementation in FY88 of the CHAMPUS DRG-based prospective payment system (PPS). The RAPS model uses a CHAMPUS inpatient inflation rate of 4% per year, due to the cost-controlling effect PPS has on hospital services reimbursement rates. In this EA, inpatient nondirect care costs were divided into hospital services costs (about 80%) and inpatient professional costs (about 20%). The hospital services component was grown at 4% per year, while the inpatient professional cost component was grown at the 7.14% CPI rate per year, for a combined inpatient inflation rate of 4.63% per year.

The combined Denver/Colorado Springs nondirect care costs per bed day and visit, inflated to FY98, are displayed in exhibits 5-7 and 5-8.

(5) Apply Workload Conversion Factors

The previous exhibits displayed estimates of government costs for each visit and bed day purchased from the civilian sector. To properly compare nondirect care costs with direct care costs, it was also necessary to incorporate the difference in the amount of workload expected at each source.

EXHIBIT 5-7: FY98 FAMC INPATIENT NONDIRECT CARE COST ESTIMATES

GOVERNMENT COST PER OCCUPIED BED DAY

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64
INTERNAL MEDICINE	$1,820	$1,767	$1,173	$1,173
CARDIOLOGY	$2,065	$2,004	$1,611	$1,611
NEUROLOGY	$1,680	$1,630	$1,043	$1,043
PEDIATRICS	---	$1,970	$1,306	---
OTHER MEDICAL	$1,729	$1,678	$1,070	$1,070
GENERAL SURGERY	$2,389	$2,318	$1,065	$1,065
ORTHOPEDICS	$2,706	$2,628	$1,277	$1,277
ORAL SURGERY	$2,183	$2,120	$1,409	$1,409
OPHTHALMOLOGY	$3,848	$3,735	$2,413	$2,413
OTOLARYNGOLOGY	$3,424	$3,324	$1,654	$1,654
UROLOGY	$3,764	$3,654	$1,555	$1,555
GYNECOLOGY	$2,888	$2,804	$1,288	$1,288
OTHER SURGERY	$4,446	$4,317	$1,889	$1,889
OBSTETRICS[1]	$1,617	$1,569	$1,814	$1,814
PSYCHIATRY	$867	$841	$597	$597

[1] Outpatient obstetrics cost combined with inpatient obstetrics cost.

EXHIBIT 5-8: FY98 FAMC OUTPATIENT NONDIRECT CARE COST ESTIMATES

GOVERNMENT COST PER OUTPATIENT VISIT

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64
MED/PC GROUP[1]	$173	$141	$108	$100
ALLERGY	$69	$61	$48	$41
CARDIOLOGY	$186	$151	$117	$110
DERMATOLOGY	$130	$108	$84	$76
NEUROLOGY	$210	$171	$132	$125
EMERGENCY MEDICINE	---	---	---	---
GENERAL SURGERY	$320	$255	$193	$186
ORTHOPEDICS	$186	$151	$117	$110
OPHTHALMOLOGY	$270	$216	$166	$158
OTOLARYNGOLOGY	$128	$108	$84	$76
UROLOGY	$342	$272	$210	$203
GYNECOLOGY	$262	$212	$158	$151
OBSTETRICS		(combined with inpatient ob)		
PSYCHIATRY	$136	$112	$99	$91
OPTOMETRY	---	---	---	---

[1] Med/pc group includes internal medicine, family practice/primary care, flight/underseas medicine, and pediatrics.

For obstetrical and psychiatric care, the amount of workload expected did not depend on the source of care. For medical and surgical care, however, the workload conversion factors used in this economic analysis quantified the difference in workload expected at the MTF versus the workload expected through nondirect care sources. As described in section 3.4, the following factors were used for medical and surgical care:

	Inpatient	Outpatient
Active Duty	1.00	1.00
Dependent of Active Duty	1.00	1.80
Retiree/Other Under 65	1.88	2.24
Over 65	1.00	1.00

As an example of the interpretation of these factors, consider the outpatient dependent of active duty tradeoff of 1.8. This says that for every 1.8 visits at the MTF, the government would only pay for 1.0 visit if the care were provided by nondirect care sources.

Nondirect care costs that reflect both unit cost estimates and the expected decrease in the government-paid workload when care is sent out of the MTF are derived by dividing the estimated unit costs by the above workload conversion factors. Thus, the costs per bed day and per visit in the medical and surgical clinical areas (presented previously in exhibits 5-7 and 5-8) were divided by the above factors to produce nondirect care costs which also incorporate the difference in the workload paid for by the government. These adjusted nondirect care cost estimates are shown in exhibits 5-9 and 5-10. As described in chapter 6.0, the costs which incorporate the workload conversion were used to develop the Best Economic Solution and to compute total nondirect care costs for each FAMC scenario.

EXHIBIT 5-9: FY98 FAMC INPATIENT NONDIRECT CARE COST ESTIMATES, INCLUDING WORKLOAD CONVERSION FACTORS

GOVERNMENT COST PER OCCUPIED BED DAY

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64
INTERNAL MEDICINE	$1,820	$1,767	$624	$1,173
CARDIOLOGY	$2,065	$2,004	$857	$1,611
NEUROLOGY	$1,680	$1,630	$555	$1,043
PEDIATRICS	---	$1,970	$695	---
OTHER MEDICAL	$1,729	$1,678	$569	$1,070
GENERAL SURGERY	$2,389	$2,318	$567	$1,065
ORTHOPEDICS	$2,706	$2,628	$679	$1,277
ORAL SURGERY	$2,183	$2,120	$750	$1,409
OPHTHALMOLOGY	$3,848	$3,735	$1,284	$2,413
OTOLARYNGOLOGY	$3,424	$3,324	$880	$1,654
UROLOGY	$3,764	$3,654	$827	$1,555
GYNECOLOGY	$2,888	$2,804	$685	$1,288
OTHER SURGERY	$4,446	$4,317	$1,005	$1,889
OBSTETRICS[1]	$1,617	$1,569	$965	$1,814
PSYCHIATRY	$867	$841	$317	$597

[1] Outpatient obstetrics cost combined with inpatient obstetrics cost.

EXHIBIT 5-10: FY98 FAMC OUTPATIENT NONDIRECT CARE COST ESTIMATES, INCLUDING WORKLOAD CONVERSION FACTORS

GOVERNMENT COST PER OUTPATIENT VISIT

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64
MED/PC GROUP[1]	$173	$79	$48	$100
ALLERGY	$69	$34	$22	$41
CARDIOLOGY	$186	$84	$52	$110
DERMATOLOGY	$130	$60	$37	$76
NEUROLOGY	$210	$95	$59	$125
EMERGENCY MEDICINE	---	---	---	---
GENERAL SURGERY	$320	$142	$86	$186
ORTHOPEDICS	$186	$84	$52	$110
OPHTHALMOLOGY	$270	$120	$74	$158
OTOLARYNGOLOGY	$128	$60	$37	$76
UROLOGY	$342	$151	$94	$203
GYNECOLOGY	$262	$118	$71	$151
OBSTETRICS	(combined with inpatient ob)			
PSYCHIATRY	$136	$62	$44	$91
OPTOMETRY	---	---	---	---

[1] Med/pc group includes internal medicine, family practice/primary care, flight/underseas medicine, and pediatrics.

5.2.2 COSTS ASSOCIATED WITH DIRECT CARE ALTERNATIVES TO FAMC

Besides health care resources in the civilian sector, another alternative to FAMC is other DoD referral facilities. In this analysis, other direct care costs were assumed to be comparable to FAMC operating costs. Thus, the comparison between FAMC and other referral MTFs was essentially cost-neutral. We note that if the physical capacity currently exists to absorb this workload in the military referral system <u>without</u> a requirement for any additional construction, it would clearly be cheaper for the government to redistribute this referral care to fill existing physical capacity, rather than to build for it at FAMC. Given the impending closure of Letterman AMC, and potential plans to expand other future construction projects (such as Fort Bragg) to accommodate referral or medical center level workloads, it appears that the capacity of the military referral system is currently undergoing some change. In assuming cost-neutrality for direct care alternatives to FAMC, we have assumed that:

- the level of referral care currently seen at FAMC could, in FY98 and beyond, be referred to other MTFs;
- there would eventually be an associated cost to modify, build, or renovate those other referral MTFs to accommodate the additional care; and
- that associated modification cost would not be significantly different from the cost of building to provide the care at FAMC.

6.0 ANALYSIS OF HEALTH CARE COSTS

This chapter describes the final step in the economic analysis, the comparison and analysis of health care costs. The cost analysis is performed both to determine the most cost-effective level of workload to provide at FAMC, and to analyze all scenarios examined. The first section of this chapter describes the assumptions, rationale and cost comparisons performed to develop the most cost-effective level of workload, termed the best economic solution (BES).

Section 6.2 compares both the workload characteristics and the total cost to the government under each of the four scenarios examined. Total costs examined include FAMC operating costs, costs to provide care at other MTFs, and government costs of civilian care.

The scope of this EA does not include estimation of construction alternatives or construction costs associated with the FAMC workload under each scenario. However, since the issue of cost-effective provision of care at FAMC is being explored in the context of a future construction project, relative cost savings between scenarios will be discussed in terms of the level of construction that could be cost-justified over a 25-year facility life cycle.

Section 6.3 discusses the sensitivity of the overall results to changes in assumptions made during the analysis. This section will be expanded for the final report, based on reactions to assumptions and questions raised during review of this draft report.

6.1 DEFINITION OF THE BES

The BES is defined to be the level of workload the government would provide at FAMC if the goal were to minimize total government cost. This solution could range from zero to all possible care, based on the

cost of providing care at a FAMC referral hospital, versus the government cost of the alternatives to FAMC. The BES solution may or may not support the GME mission -- levels to support GME are not taken as a minimum level of workload, but are expected to be compared to the BES levels outside this analysis.

In determining the level of health care that is cost-effective for the government to provide at FAMC, the first step was identifying the alternatives to FAMC. The two basic alternatives for beneficiaries currently served by the facility are civilian sources and other military medical facilities. For each component of total demand, the most likely alternative to FAMC was identified, as described below.

Component (1): FAMC care to local catchment area population

Given the abundance of teaching hospitals in the Denver area, many of which are operating below capacity, and the preponderance of retirees/dependent of retirees in the area (who are more likely to have other insurance), it is reasonable to assume that the primary alternative to FAMC for local catchment area beneficiaries is the local civilian community.

Component (2): Care historically provided through the Lowry clinic

This workload is assumed to remain at the Lowry clinic. Lowry clinic workloads were held constant across all scenarios at FY98 projected levels, and did not affect the cost comparison.

Component (3): FAMC care to non-catchment area (referral) beneficiaries

Since this care is in currently seen within the military health care referral system, we assume the capability does not exist to perform it at the local MTFs. Therefore, the alternatives to FAMC providing

this care are the civilian sector at each location or other military referral facilities. The use of these two alternatives would depend on:

- capacity at other referral MTFs;
- capacity and capabilities in the civilian sector of each catchment area; and
- likely behavior patterns or choices of dependents and retirees, who are generally given the choice of an NAS or military referral.

In this analysis, we have assumed that the alternative to FAMC for referrals from the Colorado Springs area is local CHAMPUS. Colorado Springs beneficiaries represent about 15% of all inpatient care provided at FAMC (one-third of all inpatient referral care), a significantly larger percentage than any other catchment or noncatchment area. Clearly, Colorado springs referrals were much more tied to the proximate geographic location of the current FAMC referral center. Since Colorado Springs is within driving distance of FAMC, these beneficiaries arrive there through shuttle or private ground transportation -- it was less likely that the majority of these beneficiaries would be equally willing to travel on a plane to another referral center. Finally, Colorado Springs and the Denver area have an abundance of civilian capacity and capability, so that care would not be forced into the military referral system due to lack of civilian access.

For referrals from outside Colorado Springs, the alternative to FAMC was assumed to be other referral MTFs. Once the beneficiary is 100 miles or more distant from the MTF, the particular geographic location of that referral MTF would not have as great an impact.

After the alternatives to FAMC were identified, the next step in determining cost-effective levels at FAMC was to compare costs among the alternatives. Chapter 5.0 described the process of estimating costs for FAMC, for civilian alternatives, and for other MTF alternatives. As

described in section 5.2, other referral MTF costs were assumed to be comparable to FAMC operating costs; therefore, referral care from outside the Colorado Springs area was essentially cost-neutral. This workload, shown in exhibit 6-1, was used as the starting point for the BES workloads.

The remaining portion of the total recapturable workload was workload historically provided by FAMC to local catchment area and Colorado Springs beneficiaries, along with the portion of local FAMC CHAMPUS care that could potentially be recovered. This maximum local level of workload is shown in exhibit 6-2.

To determine how much of the local FAMC and Colorado Springs catchment area workloads were cost-effective, FAMC operating costs were compared to the estimates of Denver/Colorado Springs civilian costs in each clinical area, and for each beneficiary type, as follows.

The comparison began with estimates of FY98 direct care marginal operating costs (shown in exhibits 5-5 and 5-6) and FY98 nondirect care costs adjusted for workload conversion factors (shown in exhibits 5-9 and 5-10). Nondirect care costs were then compared to direct care costs in several steps, as described below. The computer spreadsheets used to perform this cost analysis are displayed in appendix B.

The first step in determining cost-effective care was a comparison of marginal costs for each beneficiary type. In each clinical area, the direct care marginal cost and the nondirect care cost per bed day (or visit) were multiplied by the total recapturable bed days (or visits) in that clinical area, for that beneficiary type. The product of cost and workload under nondirect care was then subtracted from the product of cost and workload under direct care to compute the marginal "savings" achieved by providing that clinical area/beneficiary type at the MTF.

EXHIBIT 6-1: DEMAND FROM REFERRALS OUTSIDE COLORADO SPRINGS

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	375	141	419	217	1,153
CARDIOLOGY	138	27	220	114	499
NEUROLOGY	39	14	11	2	66
PEDIATRICS	0	425	39	0	463
OTHER MEDICAL	223	65	343	224	855
GENERAL SURGERY	83	38	116	71	309
ORTHOPEDICS	466	107	127	72	772
ORAL SURGERY	5	1	2	0	7
OPHTHALMOLOGY	44	40	58	39	181
OTOLARYNGOLOGY	134	40	27	6	207
UROLOGY	121	53	77	76	326
GYNECOLOGY	47	123	60	19	249
OTHER SURGERY	248	161	183	54	645
OBSTETRICS	41	180	4	1	226
PSYCHIATRY	80	1	0	0	81
ALL CLINICAL AREAS	2,042	1,416	1,685	896	6,039

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	4,421	961	3,734	1,761	10,877	9.4
CARDIOLOGY	1,478	175	2,362	1,559	5,573	11.2
NEUROLOGY	563	264	191	31	1,049	15.9
PEDIATRICS	0	1,727	179	0	1,906	4.1
OTHER MEDICAL	1,601	329	1,519	958	4,408	5.2
GENERAL SURGERY	1,163	454	2,058	1,564	5,238	17.0
ORTHOPEDICS	7,755	975	1,911	892	11,533	14.9
ORAL SURGERY	105	5	1	0	110	15.7
OPHTHALMOLOGY	432	166	445	317	1,360	---
OTOLARYNGOLOGY	1,466	166	521	174	2,327	11.2
UROLOGY	1,231	232	713	818	2,994	9.2
GYNECOLOGY	351	791	722	206	2,070	8.3
OTHER SURGERY	4,710	1,667	3,838	1,597	11,812	18.3
OBSTETRICS	810	1,823	110	19	2,762	12.2
PSYCHIATRY	1,968	4	0	0	1,972	24.3
ALL CLINICAL AREAS	28,054	9,738	18,303	9,897	65,992	10.9

-- Continued --

EXHIBITS 6-1: DEMAND FROM REFERRALS OUTSIDE COLORADO SPRINGS
(Concluded)

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	12,394	1,570	8,472	0	22,435
FAM PRAC/PRIM CARE	4,884	1,071	6,772	0	12,727
FLT/UNDERSEAS MED	0	0	0	0	0
PEDIATRICS	0	11,961	7,184	0	19,145
ALLERGY	630	468	852	0	1,951
CARDIOLOGY	0	0	0	0	0
DERMATOLOGY	1,566	436	1,728	0	3,730
NEUROLOGY	903	339	878	0	2,121
EMERGENCY MEDICINE	2,917	2,976	3,664	0	9,556
GENERAL SURGERY	2,768	1,191	2,770	0	6,729
ORTHOPEDICS	7,490	1,428	2,942	0	11,859
OPHTHALMOLOGY	1,703	693	3,736	0	6,132
OTOLARYNGOLOGY	718	333	578	0	1,629
UROLOGY	807	259	1,120	0	2,185
GYNECOLOGY	723	1,734	1,650	0	4,106
OBSTETRICS	236	1,764	244	0	2,244
PSYCHIATRY	14,793	1,050	1,861	0	17,704
OPTOMETRY	330	96	591	0	1,016
ALL CLINICAL AREAS	52,860	27,369	45,041	0	125,270

EXHIBIT 6-2: DEMAND FROM LOCAL FAMC AND COLORADO SPRINGS BENEFICIARIES

I. DISPOSITIONS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
INTERNAL MEDICINE	204	139	590	449	1,382
CARDIOLOGY	65	28	550	410	1,053
NEUROLOGY	20	10	41	11	82
PEDIATRICS	0	570	100	0	670
OTHER MEDICAL	100	67	565	440	1,172
GENERAL SURGERY	98	113	425	284	920
ORTHOPEDICS	292	178	382	227	1,079
ORAL SURGERY	49	14	12	1	76
OPHTHALMOLOGY	27	43	113	183	366
OTOLARYNGOLOGY	98	192	147	41	478
UROLOGY	39	72	220	205	536
GYNECOLOGY	112	379	208	45	744
OTHER SURGERY	163	159	270	114	706
OBSTETRICS	132	707	145	0	984
PSYCHIATRY	217	107	101	1	426
ALL CLINICAL AREAS	1,616	2,778	3,869	2,411	10,674

II. BED DAYS

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL	ALOS
INTERNAL MEDICINE	1,239	1,005	5,009	4,336	11,589	8.4
CARDIOLOGY	436	133	2,771	2,575	5,915	5.6
NEUROLOGY	320	47	661	31	1,059	12.9
PEDIATRICS	0	2,103	355	0	2,458	3.7
OTHER MEDICAL	542	445	2,275	1,749	5,011	4.3
GENERAL SURGERY	908	669	4,733	3,870	10,180	11.1
ORTHOPEDICS	3,954	898	2,788	2,424	10,064	9.3
ORAL SURGERY	127	33	28	3	191	2.5
OPHTHALMOLOGY	133	102	469	711	1,415	3.9
OTOLARYNGOLOGY	532	413	920	441	2,306	4.8
UROLOGY	146	240	1,108	1,229	2,723	5.1
GYNECOLOGY	418	1,307	1,004	553	3,282	4.4
OTHER SURGERY	2,107	837	2,870	1,754	7,568	10.7
OBSTETRICS	998	3,523	752	0	5,273	5.4
PSYCHIATRY	2,566	2,540	2,442	18	7,566	17.8
ALL CLINICAL AREAS	14,426	14,295	28,184	19,694	76,599	7.2

-- Continued --

EXHIBIT 6-2: DEMAND FROM LOCAL FAMC AND COLORADO SPRINGS BENEFICIARIES (Concluded)

CLINICAL AREA	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL
MEDICAL/PRIM CARE	18,297	78,609	126,399	35,085	258,390
ALLERGY	1,089	1,951	4,368	1,675	9,082
CARDIOLOGY	1,810	1,430	16,102	5,130	24,473
DERMATOLOGY	2,949	2,943	10,163	3,727	19,781
NEUROLOGY	566	554	1,744	886	3,751
EMERGENCY MEDICINE	4,019	20,961	15,201	5,868	46,050
GENERAL SURGERY	1,641	3,687	13,769	5,001	24,098
ORTHOPEDICS	7,825	5,776	12,593	4,830	31,025
OPHTHALMOLOGY	1,283	2,493	14,881	6,167	24,824
OTOLARYNGOLOGY	449	2,415	2,004	860	5,728
UROLOGY	989	966	5,416	2,190	9,561
GYNECOLOGY	2,040	12,940	3,952	1,808	20,740
OBSTETRICS	1,890	9,123	1,810	20	12,842
PSYCHIATRY	9,816	9,408	14,334	5,079	38,637
OPTOMETRY	849	971	3,275	1,201	6,296
ALL CLINICAL AREAS	55,513	154,228	246,011	79,527	535,278

Where savings were negative, care was generally considered more cost-effective to provide through nondirect care sources than at the MTF. However, before this care was excluded, inpatient and outpatient savings were combined and examined. If, for example, inpatient savings offset outpatient losses then the clinical area was retained.

Exhibits 6-3 through 6-6 display the marginal cost "savings" in each clinical area for active duty, dependents of active duty, others under 65, and over 64 beneficiaries, respectively. Each exhibit shows the detailed clinical area costs, and then the combined costs in the four major types of care: medical, surgical, obstetric, and psychiatric. As shown, total inpatient plus outpatient marginal savings were positive in all of the four major types of care for active duty and active duty dependents. For retirees under 65, all types of care showed losses; therefore, all local FAMC and Colorado Springs care to others under 65 were excluded from the BES workloads. For others over 64, the psychiatric type of care was also excluded from the BES as not cost-effective.

After the marginal analysis by beneficiary type, and the resulting exclusion of all care to retirees under 65 and psychiatric care to over 64 beneficiaries, total costs were computed in each clinical area. These total costs, shown in exhibit 6-7, include the fixed operating costs for each clinical area. The addition of fixed operating costs did not change the clinical areas that generated positive savings if performed at FAMC.

The final BES workloads were thus the combination of all non-Colorado Springs referral workloads (shown previously in exhibit 6-1), and a portion of the local FAMC catchment area and Colorado Springs workloads (shown in exhibit 6-2) -- that portion generated by active duty beneficiaries (all care), dependents of active duty (all care), and

EXHIBIT 6-3: MARGINAL COST ANALYSIS FOR ACTIVE DUTY BENEFICIARIES

CLINICAL AREA	INPATIENT SAVINGS	OUTPATIENT SAVINGS	TOTAL SAVINGS
MED/PC GROUP	$1,974,102	$973,405	$2,947,507
INTERNAL MEDICINE	$1,357,774	------	$1,357,774
FAM PRAC/PRIM CARE	------	------	------
FLIGHT/UNDERSEAS	------	------	------
PEDIATRICS	------	------	$0
OTHER MEDICAL	$616,328	------	$616,328
ALLERGY	------	$27,829	$27,829
CARDIOLOGY	$427,521	$101,457	$528,978
DERMATOLOGY	------	$90,163	$90,163
NEUROLOGY	$353,224	$27,565	$380,789
EMERGENCY MEDICINE	------	------	------
SURGERY	$1,401,583	$219,926	$1,621,509
ORTHOPEDICS	$8,277,371	$434,818	$8,712,189
ORAL SURGERY	$109,354	------	$109,354
OPHTHALMOLOGY	$377,855	$176,029	$553,884
OTOLARYNGOLOGY	$1,302,205	($10,426)	$1,291,779
UROLOGY	$415,743	$144,397	$560,140
GYNECOLOGY	$832,717	$302,360	$1,135,077
OTHER SURGERY	$7,800,862	------	$7,800,862
OBSTETRICS	$112,468	------	$112,468
PSYCHIATRY	$1,240,169	($66,265)	$1,173,904
OPTOMETRY	------	------	------
ALL CLINICAL AREAS	$24,625,174	$2,421,258	$27,046,432

	INPATIENT SAVINGS	OUTPATIENT SAVINGS	TOTAL SAVINGS
MEDICAL	$2,754,847	$1,220,419	$3,975,266
SURGICAL	$20,517,690	$1,267,104	$21,784,794
OB	$112,468	$0	$112,468
PSYCH	$1,240,169	($66,265)	$1,173,904
TOTAL	$24,625,174	$2,421,258	$27,046,432

EXHIBIT 6-4: MARGINAL COST ANALYSIS FOR ACTIVE DUTY DEPENDENTS

CLINICAL AREA	INPATIENT SAVINGS	OUTPATIENT SAVINGS	TOTAL SAVINGS
MED/PC GROUP	$3,858,555	($3,243,227)	$615,328
INTERNAL MEDICINE	$1,048,489	------	$1,048,489
FAM PRAC/PRIM CARE	------	------	------
FLIGHT/UNDERSEAS	------	------	------
PEDIATRICS	$2,326,774	------	$2,326,774
OTHER MEDICAL	$483,292	------	$483,292
ALLERGY	------	($17,890)	($17,890)
CARDIOLOGY	$122,420	($66,150)	$56,270
DERMATOLOGY	------	($116,840)	($116,840)
NEUROLOGY	$49,549	($36,800)	$12,749
EMERGENCY MEDICINE	------	------	------
SURGERY	$985,419	($163,537)	$821,882
ORTHOPEDICS	$1,809,725	($269,996)	$1,539,729
ORAL SURGERY	$26,332	------	$26,332
OPHTHALMOLOGY	$278,289	($31,537)	$246,752
OTOLARYNGOLOGY	$969,345	($221,299)	$748,046
UROLOGY	$657,105	($43,850)	$613,255
GYNECOLOGY	$2,493,760	$48,372	$2,542,132
OTHER SURGERY	$2,990,714	------	$2,990,714
OBSTETRICS	$227,627	------	$227,627
PSYCHIATRY	$1,162,723	($757,716)	$405,007
OPTOMETRY	------	------	------
ALL CLINICAL AREAS	$15,631,563	($4,920,470)	$10,711,093

	INPATIENT SAVINGS	OUTPATIENT SAVINGS	TOTAL SAVINGS
MEDICAL	$4,030,524	($3,480,907)	$549,617
SURGICAL	$10,210,689	($681,847)	$9,528,842
OB	$227,627	$0	$227,627
PSYCH	$1,162,723	($757,716)	$405,007
TOTAL	$15,631,563	($4,920,470)	$10,711,093

EXHIBIT 6-5: MARGINAL COST ANALYSIS FOR OTHERS UNDER 65

CLINICAL AREA	INPATIENT SAVINGS	OUTPATIENT SAVINGS	TOTAL SAVINGS
MED/PC GROUP	($611,437)	($9,054,459)	($9,665,896)
INTERNAL MEDICINE	($498,569)	------	($498,569)
FAM PRAC/PRIM CARE	------	------	------
FLIGHT/UNDERSEAS	------	------	------
PEDIATRICS	($59,964)	------	($59,964)
OTHER MEDICAL	($52,904)	------	($52,904)
ALLERGY	------	($94,706)	($94,706)
CARDIOLOGY	($629,525)	($1,250,315)	($1,879,840)
DERMATOLOGY	------	($632,859)	($632,859)
NEUROLOGY	($14,125)	($178,831)	($192,956)
EMERGENCY MEDICINE	------	------	------
SURGERY	($1,319,644)	($1,370,993)	($2,690,637)
ORTHOPEDICS	$185,842	($983,963)	($798,121)
ORAL SURGERY	($16,029)	------	($16,029)
OPHTHALMOLOGY	$129,694	($872,334)	($742,640)
OTOLARYNGOLOGY	($88,892)	($228,867)	($317,759)
UROLOGY	($98,697)	($554,797)	($653,494)
GYNECOLOGY	($211,671)	($171,861)	($383,532)
OTHER SURGERY	$748,844	------	$748,844
OBSTETRICS	($405,617)	------	($405,617)
PSYCHIATRY	($162,081)	($1,412,369)	($1,574,450)
OPTOMETRY	------	------	------
ALL CLINICAL AREAS	($2,493,338)	($16,806,354)	($19,299,692)

	INPATIENT SAVINGS	OUTPATIENT SAVINGS	TOTAL SAVINGS
MEDICAL	($1,255,087)	($11,211,170)	($12,466,257)
SURGICAL	($670,553)	($4,182,815)	($4,853,368)
OB	($405,617)	$0	($405,617)
PSYCH	($162,081)	($1,412,369)	($1,574,450)
TOTAL	($2,493,338)	($16,806,354)	($19,299,692)

EXHIBIT 6-6: MARGINAL COST ANALYSIS FOR OTHERS OVER 64

CLINICAL AREA	INPATIENT SAVINGS	OUTPATIENT SAVINGS	TOTAL SAVINGS
MED/PC GROUP	$2,785,320	($678,839)	$2,106,481
INTERNAL MEDICINE	$1,950,170	------	$1,950,170
FAM PRAC/PRIM CARE	------	------	------
FLIGHT/UNDERSEAS	------	------	------
PEDIATRICS	$0	------	$0
OTHER MEDICAL	$835,150	------	$835,150
ALLERGY	------	($3,934)	($3,934)
CARDIOLOGY	$1,356,461	($103,705)	$1,252,756
DERMATOLOGY	------	($87,109)	($87,109)
NEUROLOGY	$14,469	($32,665)	($18,196)
EMERGENCY MEDICINE	------	------	------
SURGERY	$850,780	$419	$851,199
ORTHOPEDICS	$1,610,709	($99,988)	$1,510,721
ORAL SURGERY	$262	------	$262
OPHTHALMOLOGY	$999,718	$157,799	$1,157,517
OTOLARYNGOLOGY	$298,883	($64,764)	$234,119
UROLOGY	$785,165	$14,204	$799,369
GYNECOLOGY	$216,733	$66,177	$282,910
OTHER SURGERY	$2,008,332	------	$2,008,332
OBSTETRICS	$0	------	$0
PSYCHIATRY	$3,831	($261,041)	($257,210)
OPTOMETRY	------	------	------
ALL CLINICAL AREAS	$10,930,663	($1,093,446)	$9,837,217

	INPATIENT SAVINGS	OUTPATIENT SAVINGS	TOTAL SAVINGS
MEDICAL	$4,156,250	($906,252)	$3,249,998
SURGICAL	$6,770,582	$73,847	$6,844,429
OB	$0	$0	$0
PSYCH	$3,831	($261,041)	($257,210)
TOTAL	$10,930,663	($1,093,446)	$9,837,217

EXHIBIT 6-7: TOTAL SAVINGS AFTER EXCLUDING NON-COST EFFECTIVE CARE

CLINICAL AREA	INPATIENT SAVINGS	OUTPATIENT SAVINGS	TOTAL SAVINGS
MED/PC GROUP	$8,281,213	($2,948,661)	$5,332,552
INTERNAL MEDICINE	$4,028,291	------	$4,028,291
FAM PRAC/PRIM CARE	------	------	------
FLIGHT/UNDERSEAS	------	------	------
PEDIATRICS	$2,318,132	------	$2,318,132
OTHER MEDICAL	$1,934,790	------	$1,934,790
ALLERGY	------	$22,235	$22,235
CARDIOLOGY	$1,882,409	($5,900)	$1,876,509
DERMATOLOGY	------	($193,262)	($193,262)
NEUROLOGY	$389,198	$125,690	$514,888
EMERGENCY MEDICINE	------	------	------
SURGERY	$2,900,763	$822,325	$3,723,088
ORTHOPEDICS	$11,689,950	($307,414)	$11,382,536
ORAL SURGERY	$119,520	------	$119,520
OPHTHALMOLOGY	$1,647,371	$292,430	$1,939,801
OTOLARYNGOLOGY	$2,552,833	($296,489)	$2,256,344
UROLOGY	$1,848,775	$114,751	$1,963,526
GYNECOLOGY	$3,431,942	$397,090	$3,829,032
OTHER SURGERY	$12,799,567	------	$12,799,567
OBSTETRICS	$185,347	------	$185,347
PSYCHIATRY	$2,399,220	($919,656)	$1,479,564
OPTOMETRY	------	------	------
ALL CLINICAL AREAS	$50,128,108	($2,896,861)	$47,231,247

	INPATIENT SAVINGS	OUTPATIENT SAVINGS	TOTAL SAVINGS
MEDICAL	$10,552,820	($2,999,898)	$7,552,922
SURGICAL	$36,990,721	$1,022,693	$38,013,414
OB	$185,347	$0	$185,347
PSYCH	$2,399,220	($919,656)	$1,479,564
TOTAL	$50,128,108	($2,896,861)	$47,231,247

Total present value savings $428,859,723

beneficiaries over 64 (all care but psychiatric). The resulting workloads are shown in exhibit 4-8 in chapter 4.0.

6.2 FINAL COMPARISON ACROSS SCENARIOS

Exhibit 6-8 summarizes the workload to be provided at FAMC and elsewhere under each of the alternative scenarios described in chapter 4.0. As shown, the All Care scenario represents the largest facility, at 425 beds and 661,000 visits, while the BES represents the smallest facility, at 342 beds and 409,500 visits. Note that CHAMPUS workloads are expressed in CHAMPUS units (not MTF-equivalent units).

The final step in the analysis was the comparison of total costs for each scenario. Total costs comprise:

- costs to operate a FAMC facility;
- government costs to operate direct care alternatives to FAMC; and
- the government share of civilian sector costs.

Exhibit 6-9 displays the bottom-line cost comparison across all scenarios for FAMC. The costs in this exhibit represent government costs of providing the total recapturable local and nonlocal workloads, i.e., the All Care scenario workloads. Workloads assumed to remain at the Lowry clinic and CHAMPUS care that was not considered recapturable were not costed. Any costs associated with these non-recapturable workloads would remain constant across all scenarios, and would not affect the comparison.

FAMC operating costs, other MTF operating costs, and civilian costs were generated by applying the cost estimates presented in chapter 5.0 to the FAMC, other MTF, and civilian workloads in each scenario. The computer spreadsheets used to generate these total costs are displayed in appendix B.

EXHIBIT 6-8: COMPARISON OF WORKLOADS ACROSS SCENARIOS

CHARACTERISTICS OF EACH SCENARIO	SCENARIOS			
	NO MTF	STATUS QUO	ALL CARE	BEST ECONOMIC SOLUTION
FAMC WORKLOADS				
DISPOSITIONS	0	14,080	16,713	12,843
BED DAYS	0	121,983	142,594	114,390
ADPL	N/A	334	391	313
VISITS	0	608,316	660,547	409,457
FAMC BEDS				
MEDICAL/SURGICAL	0	306	361	289
OBSTETRICAL	0	31	37	34
PSYCHIATRIC	0	27	27	19
TOTAL	0	364	425	342
OTHER MTFs				
BEDS	206	0	0	0
VISITS	116,007	0	0	0
CHAMPUS				
BEDS	180	63	0	49
VISITS	330,547	37,273	0	114,905

EXHIBIT 6-9: COMPARISON OF TOTAL ANNUAL COSTS ACROSS FAMC SCENARIOS

COSTS UNDER EACH SCENARIO[1]	NO MTF	STATUS QUO	ALL CARE	BEST ECONOMIC SOLUTION
	(000)	(000)	(000)	(000)
ANNUAL FAMC OPERATING COSTS	$0	$171,641	$208,021	$152,854
INPATIENT COSTS	$0	$94,448	$110,186	$88,437
OUTPATIENT COSTS	$0	$77,193	$97,835	$64,417
ANNUAL OTHER MTF OPERATING COSTS	$67,819	$0	$0	$0
INPATIENT COSTS	$49,597	$0	$0	$0
OUTPATIENT COSTS	$18,222	$0	$0	$0
ANNUAL CIVILIAN CARE COSTS	$171,986	$43,688	$0	$47,345
INPATIENT COSTS	$109,793	$36,435	$0	$20,117
OUTPATIENT COSTS	$62,193	$7,253	$0	$27,228
TOTAL ANNUAL GOVERNMENT COST	$239,805	$215,329	$208,021	$200,199
COMPARISON TO NO MTF				
ANNUAL SAVINGS	$0	$24,476	$31,784	$39,606
PRESENT VALUE SAVINGS[2]	$0	$222,242	$288,599	$359,622

[1] All costs in thousands of FY98 dollars

[2] Assumes 10% discount rate over 25-year life cycle of a new facility.

An examination of the row labeled "Total Annual Government $" shows that the scenarios rank as follows from lowest to highest annual cost:

(1) Best Economic Solution;

(2) All Care;

(3) Status Quo; and

(4) No MTF.

The comparisons to the No MTF scenario represent savings to the government of operating FAMC at the level defined under each scenario, versus not operating a facility at FAMC. All three levels of workload -- the Status Quo, All Care, and BES -- offer savings relative to not operating the facility. In fact, all three scenarios offer significant enough savings to recoup the cost of building a new facility within a few years.

The present value savings represents the total savings offered by each scenario over the 25-year life cycle of a new facility (assuming a 10% discount rate). Operating FAMC at Status Quo (FY89) levels generates enough savings to cost-justify a $220 million construction project. Operating FAMC at a slightly higher level under the All Care scenario generates an even higher savings, while operating at the BES level generates the highest savings.

6.3 SENSITIVITY ANALYSES

This section will be expanded for the final report on the study results. Comments generated at the draft briefing and through written government comments will identify key alternative assumptions or approaches to examine. Examples of the types of assumptions that might be explored include:

- over 64 workload conversion factors;
- assumptions about the level of future referral care;
- population growth rates; and
- assumptions about Colorado Springs workloads.

In general, preliminary examination of the sensitivity of study results to changes in assumptions has led to the following conclusions:

- care to active duty beneficiaries is generally cost-effective;
- care to retiree/dependent of retiree beneficiaries is generally <u>not</u> cost-effective;
- care to dependents of active duty beneficiaries is cost-effective under most conditions, but may not be cost-effective under all combinations of conditions;
- care to over 64 beneficiaries is generally cost-effective per unit of workload, but depends on assumptions about the MTF to Medicare workload conversion. (For example, if the MTF-to-Medicare conversion were the same as the MTF-to-CHAMPUS conversion, care to these beneficiaries would not be cost-effective.)

APPENDIX A: LISTING OF ZIP CODES IN FAMC CATCHMENT AREA

ZIP CODE	TOWN NAME	OVERLAP	DIST TO FAMC
80001	ARVADA	NO OVERLAP	13
80002	ARVADA	NO OVERLAP	12
80003	WESTMINSTER	NO OVERLAP	12
80004	ARVADA	NO OVERLAP	14
80005	WESTMINSTER	NO OVERLAP	15
80010	AURORA	NO OVERLAP	1
80011	ALTURA	NO OVERLAP	2
80012	AURORA	NO OVERLAP	3
80013	AURORA	NO OVERLAP	6
80014	AURORA	NO OVERLAP	6
80015	AURORA	NO OVERLAP	9
80016	AURORA	NO OVERLAP	11
80017	AURORA	NO OVERLAP	4
80018	ALTURA	NO OVERLAP	2
80019	ALTURA	NO OVERLAP	2
80020	WESTMINSTER	NO OVERLAP	16
80021	BROOMFIELD	NO OVERLAP	16
80022	ADAMS CITY	NO OVERLAP	7
80023	COMMERCE CITY	NO OVERLAP	7
80024	DUPONT	NO OVERLAP	8
80025	ELDORADO SPGS	NO OVERLAP	26
80026	LAFAYETTE	NO OVERLAP	21
80027	LOUISVILLE	NO OVERLAP	22
80028	LOUISVILLE	NO OVERLAP	22
80030	WESTMINSTER	NO OVERLAP	11
80031	WESTMINSTER	NO OVERLAP	11

-- Continued --

APPENDIX A: LISTING OF ZIP CODES IN FAMC CATCHMENT AREA (Continued)

80033	WHEATRIDGE	NO OVERLAP	12
80034	WHEATRIDGE	NO OVERLAP	12
80035	WESTMINSTER	NO OVERLAP	11
80036	WESTMINSTER	NO OVERLAP	11
80037	COMMERCE CITY	NO OVERLAP	6
80038	BROOMFIELD	NO OVERLAP	16
80040	AURORA	NO OVERLAP	1
80041	AURORA	NO OVERLAP	1
80042	ALTURA	NO OVERLAP	2
80044	AURORA	NO OVERLAP	6
80045	AURORA	NO OVERLAP	0
80046	SMOKY HILL	NO OVERLAP	9
80098	WHEAT RIDGE	NO OVERLAP	13
80102	BENNETT	NO OVERLAP	22
80103	BYERS	NO OVERLAP	32
80104	CASTLE ROCK	OVERLAP	26
80106	ELBERT	OVERLAP	40
80107	ELIZABETH	OVERLAP	29
80110	ENGLEWOOD	NO OVERLAP	9
80111	ENGLEWOOD	NO OVERLAP	9
80112	ENGLEWOOD	NO OVERLAP	6
80116	FRANKTOWN	OVERLAP	25
80117	KIOWA	OVERLAP	34
80118	LARKSPUR	OVERLAP	35
80120	LITTLETON	NO OVERLAP	12
80121	LITTLETON	NO OVERLAP	11
80122	LITTLETON	NO OVERLAP	13
80123	LITTLETON	NO OVERLAP	15
80124	LITTLETON	OVERLAP	16
80125	LITTLETON	NO OVERLAP	16
80126	LITTLETON	OVERLAP	16
80127	LITTLETON	OVERLAP	21
80131	LOUVIERS	OVERLAP	21
80134	PARKER	OVERLAP	16

-- Continued --

APPENDIX A: LISTING OF ZIP CODES IN FAMC CATCHMENT AREA (Continued)

80135	SEDALIA	OVERLAP	22
80136	STRASBURG	NO OVERLAP	27
80137	WATKINS	NO OVERLAP	12
80150	ENGLEWOOD	NO OVERLAP	9
80151	ENGLEWOOD	NO OVERLAP	9
80153	ENGLEWOOD	NO OVERLAP	10
80154	ENGLEWOOD	NO OVERLAP	9
80155	ENGLEWOOD	NO OVERLAP	9
80156	ENGLEWOOD	NO OVERLAP	9
80160	LITTLETON	NO OVERLAP	17
80161	LITTLETON	NO OVERLAP	17
80162	LITTLETON	NO OVERLAP	16
80165	LITTLETON	NO OVERLAP	12
80166	LITTLETON	NO OVERLAP	12
80201	DENVER	NO OVERLAP	8
80202	DENVER	NO OVERLAP	8
80203	DENVER	NO OVERLAP	8
80204	DENVER	NO OVERLAP	8
80205	DENVER	NO OVERLAP	6
80206	DENVER	NO OVERLAP	6
80207	DENVER	NO OVERLAP	4
80208	DENVER	NO OVERLAP	8
80209	DENVER	NO OVERLAP	7
80210	DENVER	NO OVERLAP	8
80211	DENVER	NO OVERLAP	10
80212	DENVER	NO OVERLAP	11
80213	DENVER	NO OVERLAP	8
80214	EDGEWATER	NO OVERLAP	11
80215	LAKEWOOD	NO OVERLAP	14
80216	DENVER	NO OVERLAP	7
80217	DENVER	NO OVERLAP	8
80218	DENVER	NO OVERLAP	7
80219	DENVER	NO OVERLAP	11
80220	DENVER	NO OVERLAP	3

-- Continued --

APPENDIX A: LISTING OF ZIP CODES IN FAMC CATCHMENT AREA (Continued)

80221	THORNTON	NO OVERLAP	12
80222	GLENDALE	NO OVERLAP	6
80223	DENVER	NO OVERLAP	9
80224	DENVER	NO OVERLAP	5
80225	LAKEWOOD	NO OVERLAP	14
80226	LAKEWOOD	NO OVERLAP	14
80227	LAKEWOOD	NO OVERLAP	14
80228	LAKEWOOD	NO OVERLAP	3
80229	THORNTON	NO OVERLAP	10
80230	LOWRY AFB	NO OVERLAP	3
80231	DENVER	NO OVERLAP	4
80232	DENVER	NO OVERLAP	6
80233	THORNTON	NO OVERLAP	12
80234	WESTMINSTER	NO OVERLAP	14
80235	LAKEWOOD	NO OVERLAP	15
80236	LAKEWOOD	NO OVERLAP	12
80237	DENVER	NO OVERLAP	8
80238	DENVER	NO OVERLAP	15
80239	DENVER	NO OVERLAP	3
80240	DENVER	NO OVERLAP	1
80241	NORTHGLENN	NO OVERLAP	13
80243	DENVER	NO OVERLAP	8
80244	DENVER	NO OVERLAP	8
80248	DENVER	NO OVERLAP	8
80249	MONTBELLO	NO OVERLAP	8
80250	DENVER	NO OVERLAP	8
80251	DENVER	NO OVERLAP	8
80252	DENVER	NO OVERLAP	8
80253	DENVER	NO OVERLAP	8
80254	DENVER	NO OVERLAP	8
80255	DENVER	NO OVERLAP	8
80256	DENVER	NO OVERLAP	8
80258	DENVER	NO OVERLAP	8
80259	DENVER	NO OVERLAP	8

-- Continued --

APPENDIX A: LISTING OF ZIP CODES IN FAMC CATCHMENT AREA (Continued)

80260	DENVER	NO OVERLAP	8
80261	DENVER	NO OVERLAP	8
80262	DENVER	NO OVERLAP	5
80263	DENVER	NO OVERLAP	8
80264	DENVER	NO OVERLAP	9
80265	DENVER	NO OVERLAP	8
80266	DENVER	NO OVERLAP	6
80270	DENVER	NO OVERLAP	8
80271	DENVER	NO OVERLAP	8
80272	DENVER	NO OVERLAP	8
80273	DENVER	NO OVERLAP	8
80274	DENVER	NO OVERLAP	8
80275	DENVER	NO OVERLAP	8
80277	DENVER	NO OVERLAP	8
80279	DENVER	NO OVERLAP	3
80280	DENVER	NO OVERLAP	3
80281	DENVER	NO OVERLAP	8
80290	DENVER	NO OVERLAP	8
80291	DENVER	NO OVERLAP	8
80292	DENVER	NO OVERLAP	8
80293	DENVER	NO OVERLAP	8
80294	DENVER	NO OVERLAP	8
80295	DENVER	NO OVERLAP	8
80301	BOULDER	NO OVERLAP	28
80302	BOULDER	NO OVERLAP	30
80303	BOULDER	NO OVERLAP	26
80304	BOULDER	NO OVERLAP	29
80306	BOULDER	NO OVERLAP	37
80307	BOULDER	NO OVERLAP	26
80308	BOULDER	NO OVERLAP	37
80309	BOULDER	NO OVERLAP	28
80310	BOULDER	NO OVERLAP	28
80314	BOULDER	NO OVERLAP	29
80315	BOULDER	NO OVERLAP	29

-- Continued --

APPENDIX A: LISTING OF ZIP CODES IN FAMC CATCHMENT AREA (Continued)

80315	BOULDER	NO OVERLAP	29
80321	BOULDER	NO OVERLAP	29
80322	BOULDER	NO OVERLAP	29
80323	BOULDER	NO OVERLAP	29
80328	BOULDER	NO OVERLAP	37
80329	BOULDER	NO OVERLAP	37
80401	EDGEMONT	NO OVERLAP	17
80402	GOLDEN	NO OVERLAP	17
80403	GOLDEN	NO OVERLAP	20
80419	GOLDEN	NO OVERLAP	17
80421	BAILEY	NO OVERLAP	40
80422	BLACK HAWK	NO OVERLAP	34
80425	BUFFALO CREEK	OVERLAP	34
80427	CENTRAL CITY	NO OVERLAP	35
80433	CONIFER	NO OVERLAP	29
80436	DUMONT	NO OVERLAP	40
80439	EVERGREEN	NO OVERLAP	26
80441	FOXTON	OVERLAP	29
80452	IDAHO SPGS	NO OVERLAP	36
80453	IDLEDALE	NO OVERLAP	22
80454	INDIAN HILLS	NO OVERLAP	23
80455	JAMESTOWN	NO OVERLAP	38
80457	KITTEREDGE	NO OVERLAP	25
80465	MORRISON	NO OVERLAP	19
80466	NEDERLAND	NO OVERLAP	38
80470	PINE	OVERLAP	34
80471	PINECLIFFE	NO OVERLAP	33
80474	ROLLINSVILLE	NO OVERLAP	37
80501	LONGMONT	NO OVERLAP	31
80502	LONGMONT	NO OVERLAP	31
80513	BERTHOUD	NO OVERLAP	40
80514	DACONO	NO OVERLAP	24
80516	ERIE	NO OVERLAP	22
80520	FIRESTONE	NO OVERLAP	25

-- Continued --

APPENDIX A: LISTING OF ZIP CODES IN FAMC CATCHMENT AREA (Concluded)

80530	FREDERICK	NO OVERLAP	24
80533	HYGIENE	NO OVERLAP	35
80534	JOHNSTOWN	NO OVERLAP	39
80540	LYONS	NO OVERLAP	39
80542	MEAD	NO OVERLAP	34
80543	MILLIKEN	NO OVERLAP	40
80544	NIWOT	NO OVERLAP	30
80601	BRIGHTON	NO OVERLAP	16
80614	EASTLAKE	NO OVERLAP	13
80621	FORT LUPTON	NO OVERLAP	23
80623	GILCREST	NO OVERLAP	36
80640	HENDERSON	NO OVERLAP	11
80642	HUDSON	NO OVERLAP	24
80643	KEENESBURG	NO OVERLAP	29
80651	PLATTEVILLE	NO OVERLAP	31
80652	ROGGEN	NO OVERLAP	37

APPENDIX B: SPREADSHEETS USED IN COST ANALYSIS

EXHIBIT B-1: INPATIENT BES SPREADSHEET, INITIAL VERSION

A1 B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
2																				
3	** IR1_BES **		E S T I M A T E		N O N - D I R E C T			C A R E		C O S T S			E S T I M A T E		B A S E		Y R	D I R E C T	C A R E	
4																				
5	FAMC Local Catchment		GOVERNMENT COST PER BED DAY					GOVERNMENT COST PER BED DAY					DIRECT CARE COST FCN PARAMETERS						MARGINAL DC	
6	Area + Colorado Spgs		FOR NON-MTF CARE					FOR NON-MTF CARE						Disp	Bed Day				OPER COST	
7			(Base Year blended FAMC + Col Spgs)					(Inflated to BOD Year)					Constant	Coeff	Coeff		ALOS		(Base Year)	
8																				
9	INPATIENT		ACTIVE	DEP ACT	OTHERS	OVER		ACTIVE	DEP ACT	OTHERS	OVER		referral hosp coefficients				Total			
10	CLINICAL AREA		DUTY	< 65	< 65	64		DUTY	< 65	< 65	64		B0	B1	B2		Recov.			
11					w/trdoff					w/trdoff							care			
12	INTERNAL MEDICINE		$1,211	$1,176	$415	$781		$1,820	$1,767	$624	$1,173		215,045	-88.5	484.8		8.4		$474	
13	CARDIOLOGY		$1,374	$1,334	$570	$1,072		$2,065	$2,004	$857	$1,611		15,724	248.7	666.0		5.6		$710	
14	NEUROLOGY		$1,118	$1,085	$369	$694		$1,680	$1,630	$555	$1,043		18,378	117.5	368.5		13.0		$378	
15	PEDIATRICS		---	$1,311	$462	---		---	$1,970	$695	---		5,663	-160.7	609.3		3.7		$566	
16	OTHER MEDICAL		$1,151	$1,117	$379	$712		$1,729	$1,678	$569	$1,070		0	177.6	346.9		4.3		$388	
17	GENERAL SURGERY		$1,590	$1,543	$377	$709		$2,389	$2,318	$567	$1,065		220,863	206.5	535.5		11.1		$554	
18	ORTHOPEDICS		$1,801	$1,749	$452	$850		$2,706	$2,628	$679	$1,277		5,148	1349.5	258.0		9.4		$402	
19	ORAL SURGERY		$1,453	$1,411	$499	$938		$2,183	$2,120	$750	$1,409		10,766	-466.9	1053.2		2.5		$866	
20	OPHTHALMOLOGY		$2,561	$2,486	$854	$1,606		$3,848	$3,735	$1,284	$2,413		5,565	1375.9	307.2		3.9		$660	
21	OTOLARYNGOLOGY		$2,279	$2,212	$586	$1,101		$3,424	$3,324	$880	$1,654		11,534	437.3	548.9		4.8		$640	
22	UROLOGY		$2,505	$2,432	$551	$1,035		$3,764	$3,654	$827	$1,555		6,061	523.7	497.8		5.1		$600	
23	GYNECOLOGY		$1,922	$1,866	$456	$857		$2,888	$2,804	$685	$1,288		72,919	1208.3	312.4		4.4		$587	
24	OTHER SURGERY		$2,959	$2,873	$669	$1,257		$4,446	$4,317	$1,005	$1,889		224	1298.3	366.1		10.7		$487	
25	OBSTETRICS		$1,076	$1,044	$642	$1,207		$1,617	$1,569	$965	$1,814		101,413	1266.1	751.2		5.4		$986	
26	PSYCHIATRY		$577	$560	$211	$397		$867	$841	$317	$597		1,481	577.2	219.2		17.8		$251	
27																				
28	TOTAL INPATIENT																			
29																				

-- Continued --

EXHIBIT B-1: INPATIENT BES SPREADSHEET, INITIAL VERSION
(Continued)

W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
COMPUTE MARGINAL SAVINGS/BED DAY									COMPUTE TOTAL MARGINAL SAVINGS									
MARGINAL DC OPER COST (BOD Year)		MARGINAL OPER+CONSTR COST		MARGINAL GOVERNMENT SAVINGS PER BED DAY UNDER DIRECT CARE (direct care$ - non-direct care$)					TOTAL RECAPTURABLE BED DAYS FAMC local catchment area + Colorado Springs referral					TOTAL MARGINAL SAVINGS (marg savings/bed day * bed days)				
		no constr$ added		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	
$724		$724		$1,096	$1,043	($100)	$450		1,239	1,005	5,009	4,336		$1,357,774	$1,048,489	($498,569)	$1,950,170	
$1,084		$1,084		$981	$920	($227)	$527		436	133	2,771	2,575		$427,521	$122,420	($629,525)	$1,356,461	
$576		$576		$1,104	$1,054	($21)	$467		320	47	661	31		$353,224	$49,549	($14,125)	$14,469	
$863		$863		---	$1,106	($169)	---		0	2,103	355	0		---	$2,326,774	($59,964)	---	
$592		$592		$1,137	$1,086	($23)	$478		542	445	2,275	1,749		$616,328	$483,292	($52,904)	$835,170	
$845		$845		$1,544	$1,473	($279)	$220		908	669	4,733	3,870		$1,401,583	$985,419	($1,319,644)	$850,780	
$613		$613		$2,093	$2,015	$67	$664		3,954	898	2,788	2,424		$8,277,371	$1,809,725	$185,842	$1,610,709	
$1,322		$1,322		$861	$798	($572)	$87		127	33	28	3		$109,354	$26,332	($16,029)	$262	
$1,007		$1,007		$2,841	$2,728	$277	$1,406		133	102	469	711		$377,855	$278,289	$129,694	$999,718	
$977		$977		$2,448	$2,347	($97)	$678		532	413	920	441		$1,302,205	$969,345	($88,892)	$298,883	
$916		$916		$2,848	$2,738	($89)	$639		146	240	1,108	1,229		$415,753	$657,105	($98,697)	$785,165	
$896		$896		$1,992	$1,908	($211)	$392		418	1,307	1,004	553		$832,717	$2,493,760	($211,671)	$216,733	
$744		$744		$3,702	$3,573	$261	$1,145		2,107	837	2,870	1,754		$7,800,862	$2,990,714	$748,844	$2,008,332	
$1,504		$1,504		$113	$65	($539)	$310		998	3,523	752	0		$112,468	$227,627	($405,617)	$0	
$384		$384		$483	$458	($66)	$213		2,566	2,540	2,442	18		$1,240,169	$1,162,723	($162,081)	$3,831	
									14,426	14,295	28,185	19,694		$24,625,184	$15,631,564	($2,493,338)	$10,930,684	

-- Continued --

EXHIBIT B-1: INPATIENT BES SPREADSHEET, INITIAL VERSION (Concluded)

AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB
COMPUTE SAVINGS													
MTF CONSTANT COST PARAMETER (BOD Year)			TOTAL MTF ANNUAL SAVINGS										
		$328,142	$3,529,722										
		$23,994	$1,252,883										
		$28,043	$375,074										
		$8,642	$2,258,168										
		$0	$1,881,885										
		$337,019	$1,581,119										
		$7,855	$11,875,792										
		$16,428	$103,491										
		$8,492	$1,777,065										
		$17,599	$2,463,941										
		$9,249	$1,750,079										
		$111,269	$3,220,271										
		$342	$13,548,411										
		$154,748	($220,270)										
		$2,260	$2,242,382										
			$47,640,012										

2	
3	INPUT AND CALCULATE COST ADJUSTMENTS
4	
5	ADJUSTMENTS CALCULATED BY SPREADSHEET
6	
7	MARGINAL CONSTRUCTION COST .0%
8	DIRECT CARE INFLATION TO BOD 52.6%
9	CIVILIAN INFLATION TO BOD 50.3%
10	
11	INPUTS REQUIRED TO CALCULATE TOTAL INFLATION RATES
12	
13	ANNL RATE YEARS BASE YR BOD YR
14	DC PERSONNEL INFL 4.11% 9 1989 1998
15	DC NON-PERSONNEL INFL 7.14% 9 1989 1998
16	COMBINED TOTAL DC INFL 4.75% 9 1989 1998
17	CIVILIAN INFLATION RATE 4.63% % mil pers %civ pers
18	.53 .26
19	%TOTAL PERSONNEL COSTS 79.0%
20	
21	INPUTS REQUIRED IN OTHER COST CALCULATIONS
22	
23	DISCOUNT RATE (dictated) 10.0%
24	MARGINAL CONSTRUCTION$ .0%
25	REGIONAL CONSTR $ ADJUSTMENT FACTOR .96
26	ASSUMED REDUCTION IN CIVIL PRICES 0%
27	TRADEOFF RETIREE/OTHER 1.88

EXHIBIT B-2: OUTPATIENT BES SPREADSHEET, INITIAL VERSION

A1 B	C	D E	F	G	H	I J	K L	M	N	O	P Q	R	S	T U
2														
3	** OR1_BES **	ESTIMATE GOVERNMENT NON-DIRECT CARE COSTS												
4														
5	FAMC Local Catchment	Blended FAMC and Col Spgs				%Part-	GOVERNMENT COST PER VISIT				GOVERNMENT COST PER VISIT			
6	Area + Col spgs	CHAMPUS Cost/visit				nership	FOR NON-MTF CARE - FAMC AREA				FOR NON-MTF CARE - FAMC CA			
7		Base Year				FY89	Adjusted for claims processing $				w/tradeoffs (Base Yr)			
8														
9	OUTPATIENT	ACTIVE	DEP ACT	OTHERS	OVER		ACTIVE	DEP ACT	OTHERS	OVER	ACTIVE	DEP ACT	OTHERS	OVER
10	CLINICAL AREA	DUTY	< 65	< 65	64		DUTY	< 65	< 65	64	DUTY	< 65	< 65	64
11														
12	INTERNAL MEDICINE	---	---	---	---	--	---	---	---	---	---	---	---	---
13	FAM PRAC/PRIM CARE	---	---	---	---	--	---	---	---	---	---	---	---	---
14	FLIGHT/UNDERSEAS MED	---	---	---	---	--	---	---	---	---	---	---	---	---
15	PEDIATRICS	---	---	---	---	--	---	---	---	---	---	---	---	---
16	MED/PC GROUP	$93	$72	$54	$54	45%	$93	$76	$58	$54	$93	$42	$26	$54
17	ALLERGY	$37	$29	$22	$22	21%	$37	$33	$26	$22	$37	$18	$12	$22
18	CARDIOLOGY	$100	$77	$59	$59	63%	$100	$81	$63	$59	$100	$45	$28	$59
19	DERMATOLOGY	$70	$54	$41	$41	53%	$70	$58	$45	$41	$70	$32	$20	$41
20	NEUROLOGY	$113	$88	$67	$67	35%	$113	$92	$71	$67	$113	$51	$32	$67
21	EMERGENCY MEDICINE	---	---		---	0%	---	---	---	---	---	---	---	---
22	GENERAL SURGERY	$172	$133	$100	$100	33%	$172	$137	$104	$100	$172	$76	$46	$100
23	ORTHOPEDICS	$100	$77	$59	$59	52%	$100	$81	$63	$59	$100	$45	$28	$59
24	OPHTHALMOLOGY	$145	$112	$85	$85	52%	$145	$116	$89	$85	$145	$64	$40	$85
25	OTOLARYNGOLOGY	$69	$54	$41	$41	56%	$69	$58	$45	$41	$69	$32	$20	$41
26	UROLOGY	$184	$142	$109	$109	58%	$184	$146	$113	$109	$184	$81	$50	$109
27	GYNECOLOGY	$141	$110	$81	$81	22%	$141	$114	$85	$81	$141	$63	$38	$81
28	OBSTETRICS	(combined with inpatient ob)					(combined with inpatient ob)							
29	PSYCHIATRY	$73	$56	$49	$49	5%	$73	$60	$53	$49	$73	$33	$24	$49
30	OPTOMETRY	---	---	---	---	--	---	---	---	---				
31														
32	TOTAL OUTPATIENT													
33														

-- Continued --

EXHIBIT B-2: OUTPATIENT BES SPREADSHEET, INITIAL VERSION (Continued)

U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN
						ESTIMATE UNADJUSTED MARGINAL COSTS					COMPUTE MARGINAL SAVINGS/VISIT								
GOVERNMENT COST PER VISIT FOR NON-MTF CARE (Inflated to BOD Year)						DIRECT CARE COST FCN PARAMETERS			MARGINAL $/VISIT (Base Yr)		MARGINAL $/VISIT (Base Yr		MARGINAL $/VISIT (BOD Yr)		MARGINAL GOVERNMENT SAVINGS/VISIT UNDER DIRECT CARE				
						Constant	Visit												
ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64			referral hosp model B0	B1				adj for inpat visits				ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	
---	---	---	---			26,148	112.6		$113		$109		$166		---	---	---	---	
---	---	---	---			334,782	61.8		$62		$60		$91		---	---	---	---	
---	---	---	---			20,194	73.5		$74		$71		$108		---	---	---	---	
---	---	---	---			43,166	57.6		$58		$56		$85		---	---	---	---	
$173	$79	$48	$100			---	---		$81		$75		$120		$53	($41)	($72)	($19)	
$69	$34	$22	$41			1,438	29.4		$29		$28		$43		$26	($9)	($22)	($2)	
$186	$84	$52	$110			884	88.2		$88		$85		$130		$56	($46)	($78)	($20)	
$130	$60	$37	$76			4,337	67.7		$68		$65		$100		$31	($40)	($62)	($23)	
$210	$95	$59	$125			379	109.7		$110		$106		$162		$49	($66)	($103)	($37)	
---	---	---	---			676,992	77.1		$77		$74		$114		---	---	---	---	
$320	$142	$86	$186			41,458	126.2		$126		$122		$186		$134	($44)	($100)	$0	
$186	$84	$52	$110			5,717	88.6		$89		$85		$130		$56	($47)	($78)	($21)	
$270	$120	$74	$158			6,462	90.0		$90		$87		$133		$137	($13)	($59)	$26	
$128	$60	$37	$76			0	102.9		$103		$99		$152		($23)	($92)	($114)	($75)	
$342	$151	$94	$203			0	133.3		$133		$129		$196		$146	($45)	($102)	$6	
$262	$118	$71	$151			12,988	77.5		$77		$75		$114		$148	$4	($43)	$37	
(combined with inpatient ob)						---	---								(combined with inpatient obstetrics				
$136	$62	$44	$91			62,699	96.8		$97		$93		$143		($7)	($81)	($99)	($51)	
---	---	---	---			52,472	36.2		$36		$35		$53		---	---	---	---	

-- Continued --

EXHIBIT B-2: OUTPATIENT BES SPREADSHEET, INITIAL VERSION (Continued)

AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB
T	COMPUTE TOTAL MARGINAL SAVINGS										COMPUTE TOTAL SAVINGS			
	LOCAL FAMC CATCHMENT AREA TOTAL BOD RECAPTURABLE VISITS (FAMC local + CHAMPUS recoverable)					TOTAL MARGINAL SAVINGS (marg savings/visit * visits)					DIRECT CARE CONSTANT (BOD Year)		TOTAL ANNUAL SAVINGS UNDER DIRECT CARE	
	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64					
	---	---	---	---		---	---	---	---		$39,899		---------	
	---	---	---	---		---	---	---	---		$510,851		---------	
	---	---	---	---		---	---	---	---		$30,814		---------	
	---	---	---	0		---	---	---	---		$65,898		---------	
	18,297	78,609	126,399	35,085		973,405	(3,243,227)	(9,054,459)	(678,839)		$0		($12,003,120)	
	1089	1,951	4,368	1,675		27,829	(17,890)	(94,706)	(3,934)		$2,195		($72,472)	
	1,810	1,430	16,102	5,130		101,457	(66,150)	(1,250,315)	(103,705)		$1,349		($1,256,215)	
	2,949	2,943	10,163	3,727		90,163	(116,840)	(632,859)	(87,109)		$6,618		($826,122)	
	588	554	1,744	886		27,565	(36,800)	(178,831)	(32,665)		$578		($53,141)	
	4,019	20,961	15,201	5,868		---	---	---	---		$1,033,036		---------	
	1,641	3,687	13,769	5,001		219,926	(163,537)	(1,370,993)	419		$63,262		($548,669)	
	7,825	5,776	12,593	4,830		434,818	(269,996)	(983,963)	(99,988)		$8,724		($1,291,377)	
	1,283	2,493	14,881	6,167		176,029	(31,537)	(872,334)	157,799		$9,860		($579,903)	
	449	2,415	2,004	860		(10,426)	(221,299)	(228,867)	(64,764)		$0		($525,356)	
	989	966	5,416	2,190		144,397	(43,850)	(554,797)	14,204		$0		($440,046)	
	2,040	12,940	3,952	1,808		302,360	48,372	(171,861)	66,177		$19,818		$225,229	
	1,890	9,123	1,810	20		---	---	---	---		----		---------	
	9,816	9,408	14,334	5,079		(66,265)	(757,716)	(1,412,369)	(261,041)		$95,674		($2,593,065)	
	849	971	3,275	1,201		---	---	---	---		$80,068		---------	
	55,512	154,227	246,011	79,527		2,421,257	(4,920,468)	(16,806,355)	(1,093,446)				($19,964,257)	

-- Continued --

EXHIBIT B-2: OUTPATIENT BES SPREADSHEET, INITIAL VERSION (Concluded)

BD BE BF BG BH BI BJ BK

INPUT AND CALCULATE COST ADJUSTMENTS

ADJUSTMENTS CALCULATED BY SPREADSHEET

MARGINAL CONSTRUCTION COST	.0%
DIRECT CARE INFLATION TO BOD	52.6%
CIVILIAN INFLATION TO BOD	86.0%

INPUTS REQUIRED TO CALCULATE INFLATION RATES

	ANNL RATE	YEARS	BASE YR	BOD YR
DC PERSONNEL INFL	4.11%	9	1989	1998
DC NON-PERSONNEL INFL	7.14%	9	1989	1998
COMBINED TOTAL DC INFL	4.75%			
CIVILIAN INFLATION RATE	7.14%	9	1989	1998
		%mil pers	%civ pers	
%TOTAL PERSONNEL COSTS	79.0%	56%	23%	

INPUTS REQUIRED IN OTHER COST CALCULATIONS

DISCOUNT RATE (dictated)	10.0%
MARGINAL CONSTRUCTION$ (from model)	15.4%
REGIONAL CONSTR$ ADJUSTMENT FACTOR	.96
ASSUMED REDUCTION IN CIVIL PRICES	0%

GOVERNMENT SHARE OF COSTS/VISIT (calculated from actual CHAMPUS data)

	DEP AD	OTHER
OBSTETRICS		
PSYCH	--	--
MED/SURG	--	--

TRADEOFF FACTORS

DAD	1.80	CHAMPUS CLAIMS PROCESSING $/VISIT	$4.00
RET	2.24		

ADJ FOR INP VISITS

REF CNTR	1.036
MED CNTR	1.091

.HIBIT B-3: INPATIENT BES SPREADSHEET WITH NON-COST-EFFECTIVE WORKLOADS REMOVED

A1 B	C	D E	F	G	H	I J	K	L	M	N O	P	Q	R S	T U	V
2															
3	** IR2_BES **	E S T I M A T E N O N - D I R E C T C A R E C O S T S								E S T I M A T E B A S E Y R D I R E C T C A R E					
4															
5	FAMC Local Catchment	GOVERNMENT COST PER BED DAY				GOVERNMENT COST PER BED DAY				DIRECT CARE COST FCN PARAMETERS				MARGINAL DC	
6	Area + Colorado Spgs	FOR NON-MTF CARE				FOR NON-MTF CARE					Disp	Bed Day		OPER COST	
7		(Base Year blended FAMC + Col Spgs)				(Inflated to BOD Year)				Constant	Coeff	Coeff	ALOS	(Base Year)	
8															
9	INPATIENT	ACTIVE	DEP ACT	OTHERS	OVER	ACTIVE	DEP ACT	OTHERS	OVER	referral hosp coefficients			Total		
10	CLINICAL AREA	DUTY	< 65	< 65	64	DUTY	< 65	< 65	64	B0	B1	B2	Recov.		
11				w/trdoff				w/trdoff					care		
12	INTERNAL MEDICINE	$1,211	$1,176	$415	$781	$1,820	$1,767	$624	$1,173	215,045	-88.5	484.8	8.4	$474	
13	CARDIOLOGY	$1,374	$1,334	$570	$1,072	$2,065	$2,004	$857	$1,611	15,724	248.7	666.0	5.6	$710	
14	NEUROLOGY	$1,118	$1,085	$369	$694	$1,680	$1,630	$555	$1,043	18,378	117.5	368.5	13.0	$378	
15	PEDIATRICS	---	$1,311	$462	---	---	$1,970	$695	---	5,663	-160.7	609.3	3.7	$566	
16	OTHER MEDICAL	$1,151	$1,117	$379	$712	$1,729	$1,678	$569	$1,070	0	177.6	346.9	4.3	$388	
17	GENERAL SURGERY	$1,590	$1,543	$377	$709	$2,389	$2,318	$567	$1,065	220,863	206.5	535.5	11.1	$554	
18	ORTHOPEDICS	$1,801	$1,749	$452	$850	$2,706	$2,628	$679	$1,277	5,148	1349.5	258.0	9.4	$402	
19	ORAL SURGERY	$1,453	$1,411	$499	$938	$2,183	$2,120	$750	$1,409	10,766	166.3	1053.2	2.5	$866	
20	OPHTHALMOLOGY	$2,561	$2,486	$854	$1,606	$3,848	$3,735	$1,284	$2,413	5,565	1375.9	307.2	3.9	$660	
21	OTOLARYNGOLOGY	$2,279	$2,212	$586	$1,101	$3,424	$3,324	$880	$1,654	11,534	437.3	548.9	4.8	$640	
22	UROLOGY	$2,505	$2,432	$551	$1,035	$3,764	$3,654	$827	$1,555	6,061	523.7	497.8	5.1	$600	
23	GYNECOLOGY	$1,922	$1,866	$456	$857	$2,888	$2,804	$685	$1,288	72,919	1208.3	312.4	4.4	$587	
24	OTHER SURGERY	$2,959	$2,873	$669	$1,257	$4,446	$4,317	$1,005	$1,889	224	1298.3	366.1	10.7	$487	
25	OBSTETRICS	$1,076	$1,044	$642	$1,207	$1,617	$1,569	$965	$1,814	101,413	1266.1	751.2	5.4	$986	
26	PSYCHIATRY	$577	$560	$211	$397	$867	$841	$317	$597	1,481	577.2	219.2	17.8	$252	
27															
28	TOTAL INPATIENT														
29															

-- Continued --

EXHIBIT B-3: INPATIENT BES SPREADSHEET WITH NON-COST-EFFECTIVE WORKLOADS REMOVED (Continued)

W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
COMPUTE MARGINAL SAVINGS/BED DAY									COMPUTE TOTAL MARGINAL SAVINGS									
MARGINAL DC OPER COST (BOD Year)	MARGINAL OPER+CONSTR COST			MARGINAL GOVERNMENT SAVINGS PER BED DAY UNDER DIRECT CARE (direct care$ - non-direct care$)					TOTAL RECAPTURABLE BED DAYS FAMC local catchment area + Colorado Springs referral					TOTAL MARGINAL SAVINGS (marg savings/bed day * bed days)				
	no constr$ added			ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	
											not c-eff	no psych						
$724	$724			$1,096	$1,043	($100)	$450		1,239	1,005	0	4,336		$1,357,774	$1,048,489	$0	$1,950,170	
$1,084	$1,084			$981	$920	($227)	$527		436	133	0	2,575		$427,521	$122,420	$0	$1,356,461	
$576	$576			$1,104	$1,054	($21)	$467		320	47	0	31		$353,224	$49,549	$0	$14,469	
$863	$863			---	$1,106	($169)	---		0	2,103	0	0		---	$2,326,774	$0	---	
$592	$592			$1,137	$1,086	($23)	$478		542	445	0	1,749		$616,328	$483,292	$0	$835,170	
$845	$845			$1,544	$1,473	($279)	$220		908	669	0	3,870		$1,401,583	$985,419	$0	$850,780	
$613	$613			$2,093	$2,015	$67	$664		3,954	898	0	2,424		$8,277,371	$1,809,725	$0	$1,610,709	
$1,322	$1,322			$861	$798	($572)	$87		127	33	0	3		$109,354	$26,332	$0	$262	
$1,007	$1,007			$2,841	$2,728	$277	$1,406		133	102	0	711		$377,855	$278,289	$0	$999,718	
$977	$977			$2,448	$2,347	($97)	$678		532	413	0	441		$1,302,205	$969,345	$0	$298,883	
$916	$916			$2,848	$2,738	($89)	$639		146	240	0	1,229		$415,753	$657,105	$0	$785,165	
$896	$896			$1,992	$1,908	($211)	$392		418	1,307	0	553		$832,717	$2,493,760	$0	$216,733	
$744	$744			$3,702	$3,573	$261	$1,145		2,107	837	0	1,754		$7,800,862	$2,990,714	$0	$2,008,332	
$1,504	$1,504			$113	$65	($539)	$310		998	3,523	0	0		$112,468	$227,627	$0	$0	
$384	$384			$483	$457	($67)	$213		2,566	2,540	0	0		$1,239,460	$1,162,021	$0	$0	
									14,426	14,295	0	19,676		$24,624,475	$15,630,862	$0	$10,926,853	

-- Continued --

EXHIBIT B-3: INPATIENT BES SPREADSHEET WITH NON-COST-EFFECTIVE WORKLOADS REMOVED (Concluded)

AO	AP	AQ	AR	AS	AT
COMPUTE SAVINGS					
MTF CONSTANT COST PARAMETER (BOD Year)			TOTAL MTF ANNUAL SAVINGS		
	$328,142		$4,028,291		
	$23,994		$1,882,409		
	$28,043		$389,198		
	$8,642		$2,318,132		
	$0		$1,934,790		
	$337,019		$2,900,763		
	$7,855		$11,689,950		
	$16,428		$119,520		
	$8,492		$1,647,371		
	$17,599		$2,552,833		
	$9,249		$1,848,775		
	$111,269		$3,431,942		
	$342		$12,799,567		
	$154,748		$185,347		
	$2,260		$2,399,220		
			$50,128,107		

	AU	AV	AW	AX	AY	AZ	BA	BB
2								
3	INPUT AND CALCULATE COST ADJUSTMENTS							
4								
5	ADJUSTMENTS CALCULATED BY SPREADSHEET							
6								
7	MARGINAL CONSTRUCTION COST				.0%			
8	DIRECT CARE INFLATION TO BOD				52.6%			
9	CIVILIAN INFLATION TO BOD				50.3%			
10								
11	INPUTS REQUIRED TO CALCULATE TOTAL INFLATION RATES							
12								
13				ANNL RATE	YEARS	BASE YR	BOD YR	
14	DC PERSONNEL INFL			4.11%	9	1989	1998	
15	DC NON-PERSONNEL INFL			7.14%	9	1989	1998	
16	COMBINED TOTAL DC INFL			4.75%				
17	CIVILIAN INFLATION RATE			4.63%	9	1989	1998	
18						% mil pers	%civ pers	
19	%TOTAL PERSONNEL COSTS			79.0%		.53	.26	
20								
21	INPUTS REQUIRED IN OTHER COST CALCULATIONS							
22								
23	DISCOUNT RATE (dictated)				10.0%			
24	MARGINAL CONSTRUCTION$				.0%			
25	REGIONAL CONSTR $ ADJUSTMENT FACTOR				.96			
26	ASSUMED REDUCTION IN CIVIL PRICES				0%			
27	TRADEOFF RETIREE/OTHER				1.88			

-- Continued --

EXHIBIT B-4: OUTPATIENT BES SPREADSHEET WITH NON-COST-EFFECTIVE WORKLOADS REMOVED

A1 B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
2																			
3	** OR2_BES **		ESTIMATE GOVERNMENT NON-DIRECT CARE COSTS																
4																			
5	FAMC Local Catchment		Blended FAMC and Col Spgs					%Part-		GOVERNMENT COST PER VISIT					GOVERNMENT COST PER VISIT				
6	Area + Col spgs		CHAMPUS Cost/visit					nership		FOR NON-MTF CARE - FAMC AREA					FOR NON-MTF CARE - FAMC CA				
7	03/11/91		Base Year					FY89		Adjusted for claims processing $					w/tradeoffs (Base Yr)				
8																			
9	OUTPATIENT		ACTIVE	DEP ACT	OTHERS	OVER				ACTIVE	DEP ACT	OTHERS	OVER		ACTIVE	DEP ACT	OTHERS	OVER	
10	CLINICAL AREA		DUTY	< 65	< 65	64				DUTY	< 65	< 65	64		DUTY	< 65	< 65	64	
11																			
12	INTERNAL MEDICINE		---	---	---	---		-		---	---	---	---		---	---	---	---	
13	FAM PRAC/PRIM CARE		---	---	---	---		--		---	---	-	---		---	---	---	---	
14	FLIGHT/UNDERSEAS MED		---	---	---	---		--		---	---	---	---		---	---		---	
15	PEDIATRICS		---	---	---	---		--		---	---	---	---		---	--	---	---	
16	MED/PC GROUP		$93	$72	$54	$54		45%		$93	$76	$58	$54		$93	$42	$26	$54	
17	ALLERGY		$37	$29	$22	$22		21%		$37	$33	$26	$22		$37	$18	$12	$22	
18	CARDIOLOGY		$100	$77	$59	$59		63%		$100	$81	$63	$59		$100	$45	$28	$59	
19	DERMATOLOGY		$70	$54	$41	$41		53%		$70	$58	$45	$41		$70	$32	$20	$41	
20	NEUROLOGY		$113	$88	$67	$67		35%		$113	$92	$71	$67		$113	$51	$32	$67	
21	EMERGENCY MEDICINE		---	---	---	---		0%		---	---	---			---	---	---	---	
22	GENERAL SURGERY		$172	$133	$100	$100		33%		$172	$137	$104	$100		$172	$76	$46	$100	
23	ORTHOPEDICS		$100	$77	$59	$59		52%		$100	$81	$63	$59		$100	$45	$28	$59	
24	OPHTHALMOLOGY		$145	$112	$85	$85		52%		$145	$116	$89	$85		$145	$64	$40	$85	
25	OTOLARYNGOLOGY		$69	$54	$41	$41		56%		$69	$58	$45	$41		$69	$32	$20	$41	
26	UROLOGY		$184	$142	$109	$109		58%		$184	$146	$113	$109		$184	$81	$50	$109	
27	GYNECOLOGY		$141	$110	$81	$81		22%		$141	$114	$85	$81		$141	$63	$38	$81	
28	OBSTETRICS		(combined with inpatient ob)							(combined with inpatient ob)									
29	PSYCHIATRY		$73	$56	$49	$49		5%		$73	$60	$53	$49		$73	$33	$24	$49	
30	OPTOMETRY		---	---	---	---		--		---	---	---							
31																			
32	TOTAL OUTPATIENT																		
33																			

-- Continued --

EXHIBIT B-4: OUTPATIENT BES SPREADSHEET WITH NON-COST-EFFECTIVE WORKLOADS REMOVED (Continued)

U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN
					ESTIMATE UNADJUSTED MARGINAL COSTS					COMPUTE MARGINAL SAVINGS/VISIT									
GOVERNMENT COST PER VISIT FOR NON-MTF CARE (Inflated to BOD Year)					DIRECT CARE COST FCN PARAMETERS			MARGINAL $/VISIT (Base Yr)		MARGINAL $/VISIT (Base Yr	MARGINAL $/VISIT (BOD Yr)			MARGINAL GOVERNMENT SAVINGS/VISIT UNDER DIRECT CARE					
ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		Constant	Visit				adj for inpat visits				ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		
					referral hosp model														
					B0	B1													
---	---	---	---		26,148	112.6		$113		$109	$166			---	---	---	---		
---	---	---	---		334,782	61.8		$62		$60	$91			---	---	---	---		
---	---	---	---		20,194	73.5		$74		$71	$108			---	---	---	---		
---	---	---	---		43,186	57.6		$58		$56	$85			---	---	---	---		
$173	$79	$48	$100		---	---		$81		$79	$120			$53	($41)	($72)	($19)		
$69	$34	$22	$41		1,438	29.4		$29		$28	$43			$26	($9)	($22)	($2)		
$186	$84	$52	$110		884	88.2		$88		$85	$130			$56	($46)	($78)	($20)		
$130	$60	$37	$76		4,337	67.7		$68		$65	$100			$31	($40)	($62)	($23)		
$210	$95	$59	$125		379	109.7		$110		$106	$162			$49	($66)	($103)	($37)		
---	---	---	---		676,992	77.1		$77		$74	$114			---	---	---	---		
$320	$142	$86	$186		41,458	126.2		$126		$122	$186			$134	($44)	($100)	$0		
$186	$84	$52	$110		5,717	88.6		$89		$85	$130			$56	($47)	($78)	($21)		
$270	$120	$74	$158		6,462	90.0		$90		$87	$133			$137	($13)	($59)	$26		
$128	$60	$37	$76		0	102.9		$103		$99	$152			($23)	($92)	($114)	($75)		
$342	$151	$94	$203		0	133.3		$133		$129	$196			$146	($45)	($102)	$6		
$262	$118	$71	$151		12,988	77.5		$77		$75	$114			$148	$4	($43)	$37		
(combined with inpatient ob)					---	---								(combined with inpatient obstetrics					
$136	$62	$44	$91		62,699	96.8		$97		$93	$143			($7)	($81)	($99)	($51)		
---	---	---	---		52,472	36.2		$36		$35	$53			---	---	---	---		

-- Continued --

EXHIBIT B-4: OUTPATIENT BES SPREADSHEET WITH NON-COST-EFFECTIVE WORKLOADS REMOVED (Continued)

AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB
T| COMPUTE TOTAL MARGINAL SAVINGS											COMPUTE TOTAL SAVINGS			
	LOCAL FAMC CATCHMENT AREA TOTAL BOD RECAPTURABLE VISITS (FAMC local + CHAMPUS recoverable)					TOTAL MARGINAL SAVINGS (marg savings/visit * visits)					DIRECT CARE CONSTANT (BOD Year)		TOTAL ANNUAL SAVINGS UNDER DIRECT CARE	
	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65 not c-eff	OVER 64 no psych		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64					
	---	---	---	---		---	---	---	---		$39,899		---------	
	---	---	---	---		---	---		---		$510,851		---------	
	---	---	---	---		---	---	---	---		$50,814		---------	
	---	---	---	0		---	---	---	---		$65,898		---------	
	18,297	78,609	0	35,085		973,405	(3,243,227)	0	(678,839)		$0		($2,946,661)	
	1089	1,951	0	1,675		27,829	(17,890)	0	(3,934)		$2,195		$22,235	
	1,810	1,430	0	5,130		101,457	(66,150)	0	(103,705)		$1,349		($5,900)	
	2,949	2,943	0	3,727		90,163	(116,840)	0	(87,109)		$6,618		($193,262)	
	566	554	0	886		27,565	(36,800)	0	(32,665)		$578		$125,690	
	4,019	20,961	0	5,868		---	---	---	---		$1,033,036		---------	
	1,641	3,687	0	5,001		219,926	(163,537)	0	419		$63,262		$822,325	
	7,825	5,776	0	4,830		434,818	(269,996)	0	(99,988)		$8,724		($307,414)	
	1,283	2,493	0	6,167		176,029	(31,537)	0	157,799		$9,860		$292,430	
	449	2,415	0	860		(10,426)	(221,299)	0	(64,764)		$0		($296,489)	
	989	966	0	2,190		144,397	(43,850)	0	14,204		$0		$114,751	
	2,040	12,940	0	1,808		302,360	48,372	0	66,177		$19,818		$397,090	
	1,890	9,123	0	20		---	---	---	---		----		---------	
	9,816	9,408	0	0		(66,265)	(757,716)	0	0		$95,674		($919,656)	
	849	971	0	1,201		---	---	---	---		$80,068		---------	
	55,512	154,227	0	74,448		2,421,257	(4,920,468)	0	(832,405)				($2,896,861)	

-- Continued --

EXHIBIT B-4: OUTPATIENT BES SPREADSHEET WITH NON-COST-EFFECTIVE WORKLOADS REMOVED (Concluded)

BD BE BF BG BH BI BJ BK

INPUT AND CALCULATE COST ADJUSTMENTS

ADJUSTMENTS CALCULATED BY SPREADSHEET

MARGINAL CONSTRUCTION COST	.0%
DIRECT CARE INFLATION TO BOD	52.6%
CIVILIAN INFLATION TO BOD	86.0%

INPUTS REQUIRED TO CALCULATE INFLATION RATES

	ANNL RATE	YEARS	BASE YR	BOD YR
DC PERSONNEL INFL	4.11%	9	1989	1998
DC NON-PERSONNEL INFL	7.14%	9	1989	1998
COMBINED TOTAL DC INFL	4.75%			
CIVILIAN INFLATION RATE	7.14%	9	1989	1998
			%mil pers	%civ pers
%TOTAL PERSONNEL COSTS	79.0%		56%	23%

INPUTS REQUIRED IN OTHER COST CALCULATIONS

DISCOUNT RATE (dictated)	10.0%
MARGINAL CONSTRUCTION$ (from model)	15.4%
REGIONAL CONSTR$ ADJUSTMENT FACTOR	.96
ASSUMED REDUCTION IN CIVIL PRICES	0%

GOVERNMENT SHARE OF COSTS/VISIT (calculated from actual CHAMPUS data)

	DEP AD	OTHER
OBSTETRICS		
PSYCH	--	--
MED/SURG	--	--

TRADEOFF FACTORS

DAD	1.80	CHAMPUS CLAIMS PROCESSING $/VISIT	$4.00
RET	2.24		

ADJ FOR INP VISITS

REF CNTR	1.036
MED CNTR	1.091

EXHIBIT B-5: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER NO MTF

A1 B	C	D E F	G H I	J K L	M N O	P Q R	S T U	V
2								
3	*** NOMTF_I ***	INPUT SCENARIO WORKLOADS						
4								
5	FAMC	FAMC		FAMC	CLINICAL	DIRECT CARE BED DAYS SEEN AT		
6		DIRECT CARE BED DAYS		DIRECT CARE DISPOSITIONS UNDER	AREA	OTHER REFERRAL MTFS UNDER		
7	INPATIENT	---> NO MTF <---		---> NO MTF <---	OPEN?	---> NO MTF <---		
8								
9		ACTIVE DEP ACT	OTHERS OVER	ACTIVE DEP ACT	OTHERS OVER		ACTIVE DEP ACT OTHERS OVER	
10	CLINICAL AREA	DUTY < 65	< 65 64	DUTY < 65	< 65 64	(Yes=1)	DUTY < 65 < 65 64	TOTAL
11								
12	INTERNAL MEDICINE	0 0	0 0	0 0	0 0	0	4,421 961 3,734 1,761	10,877
13	CARDIOLOGY	0 0	0 0	0 0	0 0	0	1,478 175 2,362 1,559	5,574
14	NEUROLOGY	0 0	0 0	0 0	0 0	0	563 264 191 31	1,049
15	PEDIATRICS	0 0	0 0	0 0	0 0	0	0 1,727 179 0	1,906
16	OTHER MEDICAL	0 0	0 0	0 0	0 0	0	1,601 329 1,519 958	4,407
17	GENERAL SURGERY	0 0	0 0	0 0	0 0	0	1,163 454 2,058 1,564	5,239
18	ORTHOPEDICS	0 0	0 0	0 0	0 0	0	7,755 975 1,911 892	11,533
19	ORAL SURGERY	0 0	0 0	0 0	0 0	0	105 5 1 0	111
20	OPHTHALMOLOGY	0 0	0 0	0 0	0 0	0	432 166 445 317	1,360
21	OTOLARYNGOLOGY	0 0	0 0	0 0	0 0	0	1,466 166 521 174	2,327
22	UROLOGY	0 0	0 0	0 0	0 0	0	1,231 232 713 818	2,994
23	GYNECOLOGY	0 0	0 0	0 0	0 0	0	351 791 722 206	2,070
24	OTHER SURGERY	0 0	0 0	0 0	0 0	0	4,710 1,667 3,838 1,597	11,812
25	OBSTETRICS	0 0	0 0	0 0	0 0	0	810 1,823 110 19	2,762
26	PSYCHIATRY	0 0	0 0	0 0	0 0	0	1,968 4 0 0	1,972
27								
28	TOTAL INPATIENT	0 0	0 0	0 0	0 0		28,054 9,739 18,304 9,896	65,993
29								

-- Continued --

EXHIBIT B-5: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER NO MTF (Continued)

V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
								CALCULATE NON-MTF SCENARIO WORKLOADS														
DIRECT CARE DISPOSITIONS SEEN AT OTHER REFERRAL MTFS UNDER ---> NO MTF <---						CLINICAL AREA OPEN?		TOTAL RECAPTURABLE BED DAYS FROM LOCAL FAMC/COL SPGS AREA "Alt C"					TOTAL BED DAYS THAT WOULD BE PERFORMED AT ANOTHER REF MTF IF NOT DONE AT FAMC					CIVILIAN SECTOR BED DAYS UNDER ---> NO MTF <--- (Calculated in MTF units)				
ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64			(Yes=1)		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	
375	141	419	217			1		1,239	1,005	5,009	4,336		4,421	961	3,734	1,761		1,239	1,005	5,009	4,336	
138	27	220	114			1		436	133	2,771	2,575		1,478	175	2,362	1,559		436	133	2,771	2,575	
39	14	11	2			1		320	47	661	31		563	264	191	31		320	47	661	31	
0	425	39	0			1		0	2,103	355	0		0	1,727	179	0		0	2,103	355	0	
223	65	343	224			1		542	445	2,275	1,749		1,601	329	1,519	958		542	445	2,275	1,749	
83	38	116	71			1		908	669	4,733	3,870		1,163	454	2,058	1,564		908	669	4,733	3,870	
466	107	127	72			1		3,954	898	2,788	2,424		7,755	975	1,911	892		3,954	898	2,788	2,424	
5	1	2	0			1		127	33	28	3		105	5	1	0		127	33	28	3	
44	40	58	39			1		133	102	469	711		432	166	445	317		133	102	469	711	
134	40	27	6			1		532	413	920	441		1,466	166	521	174		532	413	920	441	
121	53	77	76			1		146	240	1,108	1,229		1,231	232	713	818		146	240	1,108	1,229	
47	123	60	19			1		418	1,307	1,004	553		351	791	722	206		418	1,307	1,004	553	
248	161	183	54			1		2,107	837	2,870	1,754		4,710	1,667	3,838	1,597		2,107	837	2,870	1,754	
41	180	4	1			1		998	3,523	752	0		810	1,823	110	19		998	3,523	752	0	
80	1	0	0			1		2,566	2,540	2,442	18		1,968	4	0	0		2,566	2,540	2,442	18	
2,044	1,416	1,686	895					14,426	14,295	28,185	19,694		28,054	9,739	18,304	9,896		14,426	14,295	28,185	19,694	

-- Continued --

EXHIBIT B-5: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER NO MTF (Continued)

AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG
							RECEIVE DIRECT CARE COSTS				RECEIVE NON-DIRECT CARE COSTS				
	CIVILIAN SECTOR BED DAYS UNDER ---> STATUS QUO <--- (Converted to CHAMPUS units)						DIRECT CARE COST FUNCTION PARAMETERS ("Alt A"))				GOVERNMENT COST PER BED DAY FOR NON-MTF CARE (Base Year) ("Alt B")				
							Constant	Disp	Bed Day						
	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL		B0	B1	B2		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65 w/tradeoff	OVER 64	
	1,233	1,005	2,306	4,336	8,886		215,045	-88.5	484.8		$1,211	$1,176	$415	$781	
	436	133	1,370	2,575	4,514		15,724	248.7	666.0		$1,374	$1,334	$570	$1,072	
	320	47	16	31	414		18,378	117.5	368.5		$1,118	$1,085	$369	$694	
	0	2,103	0	0	2,103		5,663	-160.7	609.3		---	$1,311	$462	-	
	542	445	930	1,749	3,666		0	177.6	346.9		$1,151	$1,117	$379	$712	
	908	669	2,059	3,870	7,506		220,863	206.5	535.5		$1,590	$1,543	$377	$709	
	3,954	898	1,289	2,424	8,565		5,148	1349.5	258.0		$1,801	$1,749	$452	$850	
	127	33	2	3	165		10,766	-466.9	1053.2		$1,453	$1,411	$499	$938	
	133	102	378	711	1,324		5,565	1375.9	307.2		$2,561	$2,486	$854	$1,606	
	532	413	235	441	1,621		11,534	437.3	548.9		$2,279	$2,212	$586	$1,101	
	146	240	654	1,229	2,269		6,061	523.7	497.8		$2,505	$2,432	$551	$1,035	
	418	1,307	294	553	2,572		72,919	1208.3	312.4		$1,922	$1,866	$456	$857	
	2,107	837	933	1,754	5,631		224	1298.3	366.1		$2,959	$2,873	$669	$1,257	
	998	3,523	0	0	4,521		101,413	1266.1	751.2		$1,076	$1,044	$642	$1,207	
	2,566	2,540	10	18	5,134		1,481	577.2	219.2		$577	$560	$211	$397	
	14,426	14,295	10,476	19,694	58,891										

-- Continued --

EXHIBIT B-5: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER NO MTF (Concludued)

BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ
COMPUTE TOTAL INPATIENT COSTS					COMPUTE MEASURES OF COST SAVINGS				
FAMC OPERATING COSTS	COSTS FOR NON-FAMC MTF CARE	COSTS FOR CIVILIAN CARE	TOTAL SCENARIO COST		CIVILIAN CARE COST WITH NO MTF	DIRECT CARE COST WITH NO MTF	ANNUAL SAVINGS OVER NO MTF	PV SAVINGS OVER 25 YRS	
					set constant				
($000)	($000)	($000)	($000)		($000)	($000)	($000)	($000)	
$0	$8,219	$12,245	$20,464		$12,245	$8,219	($0)	($0)	
$0	$5,877	$7,689	$13,566		$7,689	$5,877	($0)	($0)	
$0	$630	$1,013	$1,643		$1,013	$630	$0	$0	
$0	$1,667	$4,389	$6,056		$4,389	$1,667	$0	$0	
$0	$2,564	$4,850	$7,414		$4,850	$2,564	$0	$0	
$0	$4,714	$10,525	$15,240		$10,525	$4,714	$0	$0	
$0	$6,137	$18,050	$24,187		$18,050	$6,137	($0)	($0)	
$0	$189	$372	$562		$372	$189	$0	$0	
$0	$1,026	$3,211	$4,236		$3,211	$1,026	($0)	($0)	
$0	$2,105	$4,734	$6,838		$4,734	$2,105	($0)	($0)	
$0	$2,545	$4,254	$6,799		$4,254	$2,545	($0)	($0)	
$0	$1,557	$6,271	$7,829		$6,271	$1,557	$0	$0	
$0	$7,877	$19,177	$27,055		$19,177	$7,877	($0)	($0)	
$0	$3,757	$7,865	$11,623		$7,865	$3,757	$0	$0	
$0	$733	$5,147	$5,881		$5,147	$733	($0)	($0)	
$0	$49,597	$109,793	$159,390		$109,793	$49,597	($0)	($0)	
[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheett]							

BRBS	BT	BU	BV	BW	BX	BY
2						
3	INPUT AND CALCULATE COST ADJUSTMENTS					
4						
5	INFLATION RATES (Calculated by spreadsheet)					
6						
7	DIRECT CARE INFLATION TO BOD		52.6%			
8	CIVILIAN INFLATION TO BOD		50.3%			
9						
10	INPUTS REQUIRED FOR CALCULATION OF TOTAL INFLATION					
11						
12	Inflation Rates:	ANNL RATE	BASE YR	BOD YR	YEARS	
13	DC MIL PERSONNEL	4.11%	1989	1998	9	
14	DC NON-PERSONNEL	7.14%	1989	1998	9	
15	CIVILIAN INFL RATE	4.63%	1989	1998	9	
16						
17	%MIL PERSONNEL COSTS		79%			
18						
19	OTHER REQUIRED INPUTS:					
20						
21	DISCOUNT RATE (dictated)			10.0%		
22	DISCOUNT FACTOR (@discnt rt over 25 years)			9.08		
23	ASSUMED REDUCTION IN CIVILIAN PRICES			0%		
24	TRADEOFF RETIREE/OTHER		1.88			

EXHIBIT B-6: SPREADSHEET TO CALCULATE TOTAL OUTPATIENT COSTS UNDER NO MTF

A1 B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
2																						
3	*** NOMTF_O ***		INPUT SCENARIO WORKLOADS															CALCULATE NON-MTF SCENARIO WORKLOADS				
4																						
5	FAMC		FAMC					CLINICAL		NON-FAMC MTF						CLINICAL		TOTAL RECAPTURABLE VISITS				
6			DIRECT CARE VISITS UNDER					AREA		DIRECT CARE VISITS UNDER						AREA		FROM LOCAL FAMC/COL SPGS AREA				
7	OUTPATIENT		---> NO MTF <---					OPEN?		---> NO MTF <---						OPEN?		"(Alt C)"				
8																						
9			ACTIVE DEP ACT		OTHERS	OVER				ACTIVE DEP ACT		OTHERS	OVER					ACTIVE DEP ACT		OTHERS	OVER	
10	CLINICAL AREA		DUTY	< 65	< 65	64		(Yes=1)		DUTY	< 65	< 65	64	TOTAL		(Yes=1)		DUTY	< 65	< 65	64	
11																						
12	INTERNAL MEDICINE		0	0	0	0		0		12,394	1,570	8,472	0	22,436		1		---	---	---	---	
13	FAM PRAC/PRIM CARE		0	0	0	0		0		4,884	1,071	6,772	0	12,727		1		---	---	---	---	
14	FLIGHT/UNDERSEAS MED		0	0	0	0		0		0	0	0	0	0		0		---	---	---	---	
15	PEDIATRICS		0	0	0	0		0		0	11,961	7,184	0	19,145		1		---	---	---	---	
16	MED/PC GROUP		0	0	0	0		0		17,278	14,602	22,428	0	54,308		1		18,297	78,609	126,399	35,085	
17	ALLERGY		0	0	0	0		0		630	468	852	0	1,950		1		1,089	1,951	4,368	1,675	
18	CARDIOLOGY		0	0	0	0		0		0	0	0	0	0		0		1,810	1,430	16,102	5,130	
19	DERMATOLOGY		0	0	0	0		0		1,566	436	1,728	0	3,730		1		2,949	2,943	10,163	3,727	
20	NEUROLOGY		0	0	0	0		0		903	339	878	0	2,120		1		566	554	1,744	886	
21	EMERGENCY MEDICINE		0	0	0	0		0		2,917	2,976	3,664	0	9,557		1		4,019	20,961	15,201	5,868	
22	GENERAL SURGERY		0	0	0	0		0		2,768	1,191	2,770	0	6,729		1		1,641	3,687	13,769	5,001	
23	ORTHOPEDICS		0	0	0	0		0		7,490	1,428	2,942	0	11,860		1		7,825	5,776	12,593	4,830	
24	OPHTHALMOLOGY		0	0	0	0		0		1,703	693	3,736	0	6,132		1		1,283	2,493	14,881	6,167	
25	OTOLARYNGOLOGY		0	0	0	0		0		718	333	578	0	1,629		1		449	2,415	2,004	860	
26	UROLOGY		0	0	0	0		0		807	259	1,120	0	2,186		1		989	966	5,416	2190	
27	GYNECOLOGY		0	0	0	0		0		723	1,734	1,650	0	4,107		1		2,040	12,940	3,952	1,808	
28	OBSTETRICS		0	0	0	0		0		236	1,764	244	0	2,244		1		1,890	9,123	1,810	20	
29	PSYCHIATRY		0	0	0	0		0		14,793	1,050	1,861	0	17,704		1		9,816	9,408	14,334	5,079	
30	OPTOMETRY		0	0	0	0		0		330	96	591	0	1,017		1		849	971	3,275	1,201	
31																						
32	TOTAL OUTPATIENT		0	0	0	0				52,862	27,369	45,042	0	125,273				55,512	154,227	246,011	79,527	
33																						

-- Continued --

EXHIBIT B-6: SPREADSHEET TO CALCULATE TOTAL OUTPATIENT COSTS UNDER NO MTF (Continued)

X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU
																	RECEIVE DC COSTS			RECEIVE NON-DIRECT CARE COSTS			
TOTAL VISITS THAT WOULD BE PROVIDED AT OTHER REF MTFS IF NOT PROVIDED AT FAMC						CIVILIAN SECTOR VISITS UNDER ---> NO MTF <--- (Calculated, in MTF units)					CIVILIAN SECTOR VISITS UNDER ---> NO MTF <--- (Converted to CHAMPUS units)						DIRECT CARE COST FCN PARAMETERS "(Alt A)"			NON-DIRECT COST/VISIT (Base Year) "(Alt B)"			
ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64			ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL		B0	B1		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64
12,394	1,570	8,472	0			---	---	---	---		---	---	---	---	---		26,148	112.6		---	---	---	---
4,884	1,071	6,772	0			---	---	---	---		---	---	---	---	---		334,782	61.8		---	---	---	---
0	0	0	0			---	---	---	---		---	---	---	---	---		20,194	73.5		---	---	---	---
0	11,961	7,184	0			---	---	---	---		---	---	---	---	---		43,186	57.6		---	---	---	---
17,278	14,602	22,428	0			18,297	78,609	126,399	35,085		18,297	43,672	56,428	35,085	153,482					$93	$76	$58	$54
630	468	852	0			1,089	1,951	4,368	1,675		1,089	1,084	1,950	1,675	5,798		1,438	29.4		$37	$33	$26	$22
0	0	0	0			1,810	1,430	16,102	5,130		1,810	794	7,188	5,130	14,923		884	88.2		$100	$81	$63	$59
1,566	436	1,728	0			2,949	2,943	10,163	3,727		2,949	1,635	4,537	3,727	12,848		4,337	67.7		$70	$58	$45	$41
903	339	878	0			566	554	1,744	886		566	308	779	886	2,538		379	109.7		$113	$92	$71	$67
2,917	2,976	3,664	0			4,019	20,961	15,201	5,868		4,019	11,645	6,786	5,868	28,318		676,992	77.1					
2,768	1,191	2,770	0			1,641	3,687	13,769	5,001		1,641	2,048	6,147	5,001	14,837		41,458	126.2		$172	$137	$104	$100
7,490	1,428	2,942	0			7,825	5,776	12,593	4,830		7,825	3,209	5,622	4,830	21,486		5,717	88.6		$100	$81	$63	$59
1,703	693	3,736	0			1,283	2,493	14,881	6,167		1,283	1,385	6,643	6,167	15,478		6,462	90.0		$145	$116	$89	$85
718	333	578	0			449	2,415	2,004	860		449	1,342	895	860	3,545		0	102.9		$69	$58	$45	$41
807	259	1,120	0			989	966	5,416	2,190		989	537	2,418	2,190	6,134		0	133.3		$184	146	$113	109
723	1,734	1,650	0			2,040	12,940	3,952	1,808		2,040	7,189	1,764	1,808	12,801		12,988	77.5		$141	$114	$85	$81
236	1,764	244	0			1,890	9,123	1,810	20		1,890	5,068	808	20	7,786								
14,793	1,050	1,861	0			9,816	9,408	14,334	5,079		9,816	5,227	6,399	5,079	26,521		62,699	96.8		$73	$60	$53	$49
330	96	591	0			849	971	3,275	1,201		849	539	1,462	1,201	4,051		52,472	36.2					
52,862	27,369	45,042	0			55,512	154,227	246,011	79,527		55,512	85,682	109,826	79,527	330,547								

-- Continued --

EXHIBIT B-6: SPREADSHEET TO CALCULATE TOTAL OUTPATIENT COSTS UNDER NO MTF (Concluded)

AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF
	COMPUTE TOTAL OUTPATIENT COSTS					COMPUTE MEASURES OF COST SAVINGS				
	FAMC OPERATING COSTS	OTHER MTF OPERATING COSTS	COSTS FOR NON-MTF CARE	TOTAL SCENARIO COST		CIVILIAN COST UNDER NO MTF	OTHER MTF COST UNDER NO MTF	ANNUAL SAVINGS OVER NOMTF	PV SAVINGS OVER 25 YRS	
	($000)	($000)	($000)	($000)		($000)	set constant ($000)	($000)	($000)	
	$0	$2,895	---	---		---	$3,895	---	---	
	$0	$1,711	---	---		-	$1,711	---	---	
	$0	$0	---	---		- -	$0	---	---	
	$0	$1,749	---	---		---	$1,749	---	--	
	$0	$7,355	$31,441	$38,796		$31,441	$7,355	$0	$0	
	$0	$90	$475	$564		$475	$90	$0	$0	
	$0	$0	$3,002	$3,002		$3,002	$0	$0	$0	
	$0	$392	$1,837	$2,228		$1,837	$392	($0)	($0)	
	$0	$355	$555	$910		$555	$355	$0	$0	
	$0	$2,157	$0	$2,157		$0	$2,157	($0)	($0)	
	$0	$1,359	$5,059	$6,418		$5,059	$1,359	$0	$0	
	$0	$1,611	$4,332	$5,943		$4,332	$1,612	$0	$0	
	$0	$852	$4,323	$5,175		$4,323	$852	$0	$0	
	$0	$256	$552	$807		$552	$256	$0	$0	
	$0	$444	$2,183	$2,628		$2,183	$444	$0	$0	
	$0	$505	$4,177	$4,682		$4,177	$505	$0	$0	
	(ob costs combined w/inpatient)			$0		---		$0	---	
	$0	$2,710	$4,259	$6,969		$4,259	$2,710	($0)	($0)	
	$0	$136	$0	$136		$0	$136	($0)	($0)	
	$0	$18,222	$62,193	$80,415		$62,193	$18,223	$0	$0	
	[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheeet]							

BGBH	BI	BJ	BK	BL	BM	BN
2						
3	INPUT AND CALCULATE COST ADJUSTMENTS					
4						
5	COST ADJUSTMENTS CALCULATED BY SPREADSHEET					
6						
7	DIRECT CARE INFLATION TO BOD		52.6%			
8	CIVILIAN INFLATION TO BOD		86.0%			
9						
10	INPUTS REQUIRED TO CALCULATE INFLATION					
11						
12	Inflation Rates:	ANNL RATE	BASE YR	BOD YR	YEARS	
13	DC MIL PERSONNEL	4.11%	1989	1998	9	
14	DC NON-PERSONNEL	7.14%	1989	1998	9	
15	CIVILIAN INFL RATE	7.14%	1989	1998	9	
16						
17	%MIL PERSONNEL COSTS		79.0%			
18						
19	OTHER REQUIRED INPUTS					
20						
21	DISCOUNT RATE (dictated)			10.0%		
22	DISCOUNT FACTOR (@discnt rate over 25 yrs)			9.08		
23	ASSUMED REDUCTION IN CIVILIAN PRICES			0%		
24						
25	TRADEOFF FACTORS					
26	DAD	1.80				
27	RETIREE/OTHER	2.24				
28						
29						
30						

EXHIBIT B-7: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER STATUS QUO

A1 B	C	D E	F	G	H	I J	K	L	M	N O	P Q	R	S	T U
3	*** SQ_I ***	INPUT SCENARIO WORKLOADS												
5	FAMC	FAMC				FAMC				CLINICAL	DIRECT CARE BED DAYS SEEN AT			
6		DIRECT CARE BED DAYS				DIRECT CARE DISPOSITIONS UNDER				AREA	OTHER REFERRAL MTFS UNDER			
7	INPATIENT	---> STATUS QUO <---				---> STATUS QUO <---				OPEN?	---> STATUS QUO <---			
9		ACTIVE	DEP ACT	OTHERS	OVER	ACTIVE	DEP ACT	OTHERS	OVER		ACTIVE	DEP ACT	OTHERS	OVER
10	CLINICAL AREA	DUTY	< 65	< 65	64	DUTY	< 65	< 65	64	(Yes=1)	DUTY	< 65	< 65	64
12	INTERNAL MEDICINE	4,354	1,302	6,526	4,690	405	188	689	466	1	0	0	0	0
13	CARDIOLOGY	1,450	233	3,824	3,132	178	48	662	460	1	0	0	0	0
14	NEUROLOGY	640	208	202	45	58	21	24	13	1	0	0	0	0
15	PEDIATRICS	0	2,896	433	0	0	730	102	0	1	0	0	0	0
16	OTHER MEDICAL	1,786	587	3,077	2,256	221	89	610	455	1	0	0	0	0
17	GENERAL SURGERY	1,972	992	6,326	5,175	175	137	501	344	1	0	0	0	0
18	ORTHOPEDICS	11,612	1,851	4,541	3,289	750	280	500	296	1	0	0	0	0
19	ORAL SURGERY	239	39	14	3	57	16	8	1	1	0	0	0	0
20	OPHTHALMOLOGY	549	260	888	998	68	80	165	214	1	0	0	0	0
21	OTOLARYNGOLOGY	1,988	560	1,434	612	233	230	175	47	1	0	0	0	0
22	UROLOGY	1,157	396	1,530	1,720	139	108	258	244	1	0	0	0	0
23	GYNECOLOGY	769	2,082	1,726	759	161	505	271	65	1	0	0	0	0
24	OTHER SURGERY	5,244	1,904	5,115	2,578	370	285	398	151	1	0	0	0	0
25	OBSTETRICS	1,507	4,438	708	16	160	814	134	1	1	0	0	0	0
26	PSYCHIATRY	9,186	39	93	33	302	8	9	1	1	0	0	0	0
28	TOTAL INPATIENT	42,453	17,787	36,437	25,306	3,277	3,539	4,506	2,758		0	0	0	0

-- Continued --

EXHIBIT B-7: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER STATUS QUO (Continued)

U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ
								CALCULATE NON-MTF SCENARIO WORKLOADS														
DIRECT CARE DISPOSITIONS SEEN AT OTHER REFERRAL MTFS UNDER ---> STATUS QUO <---					CLINICAL AREA OPEN?			TOTAL RECAPTURABLE BED DAYS FROM LOCAL FAMC/COL SPGS AREA "Alt C"					TOTAL BED DAYS THAT WOULD BE PERFORMED AT ANOTHER REF MTF IF NOT DONE AT FAMC					CIVILIAN SECTOR BED DAYS UNDER ---> STATUS QUO <--- (Calculated, in MTF units)				
ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		(Yes=1)			ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	
0	0	0	0		0			1,239	1,005	5,009	4,336		4,421	961	3,734	1,761		1,306	664	2,217	1,407	
0	0	0	0		0			436	133	2,771	2,575		1,478	175	2,362	1,559		464	75	1,309	1,002	
0	0	0	0		0			320	47	661	31		563	264	191	31		243	103	650	17	
0	0	0	0		0			0	2,103	355	0		0	1,727	179	0		0	934	101	0	
0	0	0	0		0			542	445	2,275	1,749		1,601	329	1,519	958		357	187	717	451	
0	0	0	0		0			908	669	4,733	3,870		1,163	454	2,058	1,564		99	131	465	259	
0	0	0	0		0			3,954	898	2,788	2,424		7,755	975	1,911	892		97	22	158	27	
0	0	0	0		0			127	33	28	3		105	5	1	0		0	0	15	0	
0	0	0	0		0			133	102	469	711		432	166	445	317		16	8	26	30	
0	0	0	0		0			532	413	920	441		1,466	166	521	174		10	19	7	3	
0	0	0	0		0			146	240	1,108	1,229		1,231	232	713	818		220	76	291	327	
0	0	0	0		0			418	1,307	1,004	553		351	791	722	206		0	16	0	0	
0	0	0	0		0			2,107	837	2,870	1,754		4,710	1,667	3,838	1,597		1,573	600	1,593	773	
0	0	0	0		0			998	3,523	752	0		810	1,823	110	19		301	908	154	3	
0	0	0	0		0			2,566	2,540	2,442	18		1,968	4	0	0		0	2,505	2,349	0	
0	0	0	0					14,426	14,295	28,185	19,694		28,054	9,739	18,304	9,896		4,686	6,248	10,052	4,299	

-- Continued --

EXHIBIT B-7: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER STATUS QUO (Continued)

AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF
							RECEIVE DIRECT CARE COSTS				RECEIVE NON-DIRECT CARE COSTS				
CIVILIAN SECTOR BED DAYS UNDER ---> STATUS QUO <--- (Converted to CHAMPUS units)							DIRECT CARE COST FUNCTION PARAMETERS ("Alt A"))				GOVERNMENT COST PER BED DAY FOR NON-MTF CARE (Base Year) ("Alt B")				
ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL		Constant B0	Disp B1	Bed Day B2		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65 w/tradeoff	OVER 64	
1,306	664	1,179	1,407	4,556		215,045	-88.5	484.8		$1,211	$1,176	$415	$781	
464	75	696	1,002	2,237		15,724	248.7	666.0		$1,374	$1,334	$570	$1,072	
243	103	346	17	709		18,378	117.5	368.5		$1,118	$1,085	$369	$694	
0	934	54	0	988		5,663	-160.7	609.3		---	$1,311	$462	---	
357	187	381	451	1,376		0	177.6	346.9		$1,151	$1,117	$379	$712	
99	131	247	259	736		220,863	206.5	535.5		$1,590	$1,543	$377	$709	
97	22	84	27	230		5,148	1349.5	258.0		$1,801	$1,749	$452	$850	
0	0	8	0	8		10,766	-466.9	1053.2		$1,453	$1,411	$499	$938	
16	8	14	30	68		5,565	1375.9	307.2		$2,561	$2,486	$854	$1,606	
10	19	4	3	36		11,534	437.3	548.9		$2,279	$2,212	$586	$1,101	
220	76	155	327	778		6,061	523.7	497.8		$2,505	$2,432	$551	$1,035	
0	16	0	0	16		72,919	1208.3	312.4		$1,922	$1,866	$456	$857	
1,573	600	847	773	3,793		224	1298.3	366.1		$2,959	$2,873	$669	$1,257	
301	908	82	3	1,294		101,413	1266.1	751.2		$1,076	$1,044	$642	$1,207	
0	2,505	1,249	0	3,754		1,481	577.2	219.2		$577	$560	$211	$397	
4,686	6,248	5,347	4,299	20,580										

-- Continued --

EXHIBIT B-7: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER STATUS QUO (Concluded)

BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP
COMPUTE TOTAL INPATIENT COSTS					COMPUTE MEASURES OF COST SAVINGS				
FAMC OPERATING COSTS	COSTS FOR NON-FAMC MTF CARE	COSTS FOR CIVILIAN CARE	TOTAL SCENARIO COST		CIVILIAN CARE COST WITH NO MTF	DIRECT CARE COST WITH NO MTF	ANNUAL SAVINGS OVER NO MTF	PV SAVINGS OVER 25 YRS	
					set constant				
($000)	($000)	($000)	($000)		($000)	($000)	($000)	($000)	
$12,573	$0	$6,585	$19,158		$12,245	$8,213	$1,306	$11,860	
$9,314	$0	$3,844	$13,158		$7,689	$5,877	$408	$3,706	
$664	$0	$954	$1,619		$1,013	$630	$24	$217	
$2,899	$0	$1,910	$4,809		$4,389	$1,667	$1,247	$11,318	
$4,451	$0	$1,822	$6,273		$4,850	$2,564	$1,141	$10,363	
$12,520	$0	$1,080	$13,599		$10,525	$4,714	$1,640	$14,891	
$12,149	$0	$462	$12,611		$18,050	$6,137	$11,576	$105,109	
$432	$0	$11	$443		$372	$189	$118	$1,074	
$2,378	$0	$197	$2,575		$3,211	$1,026	$1,661	$15,084	
$4,322	$0	$109	$4,431		$4,734	$2,105	$2,407	$21,860	
$4,256	$0	$1,855	$6,111		$4,254	$2,545	$688	$6,248	
$4,502	$0	$45	$4,547		$6,271	$1,557	$3,281	$29,796	
$10,674	$0	$12,644	$23,319		$19,177	$7,877	$3,736	$33,922	
$9,941	$0	$2,065	$12,006		$7,865	$3,757	($384)	($3,483)	
$3,411	$0	$2,853	$6,265		$5,147	$733	($384)	($3,486)	
$94,488	$0	$36,435	$130,923		$109,793	$49,597	$28,467	$258,478	
[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheet]							

BQ	BR	BS	BT	BU	BV	BW	BX
2							
3		INPUT AND CALCULATE COST ADJUSTMENTS					
4							
5		INFLATION RATES (Calculated by spreadsheet)					
6							
7		DIRECT CARE INFLATION TO BOD		52.6%			
8		CIVILIAN INFLATION TO BOD		50.3%			
9							
10		INPUTS REQUIRED FOR CALCULATION OF TOTAL INFLATION					
11							
12		Inflation Rates:	ANNL RATE	BASE YR	BOD YR	YEARS	
13		DC MIL PERSONNEL	4.11%	1989	1998	9	
14		DC NON-PERSONNEL	7.14%	1989	1998	9	
15		CIVILIAN INFL RATE	4.63%	1989	1998	9	
16							
17		%MIL PERSONNEL COSTS		79%			
18							
19		OTHER REQUIRED INPUTS:					
20							
21		DISCOUNT RATE (dictated)			10.0%		
22		DISCOUNT FACTOR (@discnt rt over 25 years)			9.08		
23		ASSUMED REDUCTION IN CIVILIAN PRICES			0%		
24		TRADEOFF FACTOR RETIREE/OTHER			1.88		

EXHIBIT B-8: SPREADSHEET TO CALCULATE TOTAL OUTPATIENT COSTS UNDER STATUS QUO

A1 B	C	D E	F	G	H	I J	K L	M	N	O P	Q R	S	T	U	V W
2															
3	*** SQ_O ***	INPUT SCENARIO WORKLOADS										CALCULATE NON-MTF SCENARIO WORKLOAD			
4															
5	FAMC	FAMC				CLINICAL	NON-FAMC MTF				CLINICAL	TOTAL RECAPTURABLE VISITS			
6		DIRECT CARE VISITS UNDER				AREA	DIRECT CARE VISITS UNDER				AREA	FROM LOCAL FAMC/COL SPGS AREA			
7	OUTPATIENT	---> STATUS QUO <---				OPEN?	---> STATUS QUO <---				OPEN?	"(Alt C)"			
8															
9		ACTIVE	DEP ACT	OTHERS	OVER		ACTIVE	DEP ACT	OTHERS	OVER		ACTIVE	DEP ACT	OTHERS	OVER
10	CLINICAL AREA	DUTY	< 65	< 65	64	(Yes=1)	DUTY	< 65	< 65	64	(Yes=1)	DUTY	< 65	< 65	64
11															
12	INTERNAL MEDICINE	24,301	9,082	61,792	23,629	1	0	0	0	0	0	---	---	---	---
13	FAM PRAC/PRIM CARE	12,685	11,885	45,105	8,530	1	0	0	0	0	0	---	---	---	---
14	FLIGHT/UNDERSEAS MED	0	0	0	0	0	0	0	0	0	0	---	---	---	---
15	PEDIATRICS	0	73,335	24,222	0	1	0	0	0	0	0	---	---	---	---
16	MED/PC GROUP (calculated)	36,986	94,302	131,119	32,159	1	0	0	0	0	0	18,297	78,609	126,399	35,085
17	ALLERGY	1,803	2,569	4,853	1,535	1	0	0	0	0	0	1,089	1,951	4,368	1,675
18	CARDIOLOGY	1,950	1,540	14,750	4,702	1	0	0	0	0	0	1,810	1,430	16,102	5,130
19	DERMATOLOGY	4,742	3,605	11,037	3,416	1	0	0	0	0	0	2,949	2,943	10,163	3,727
20	NEUROLOGY	1,513	936	2,476	812	1	0	0	0	0	0	566	554	1,744	886
21	EMERGENCY MEDICINE	7,246	25,544	17,588	5,379	1	0	0	0	0	0	4,019	20,961	15,201	5,868
22	GENERAL SURGERY	4,536	4,199	12,563	4,584	1	0	0	0	0	0	1,641	3,687	13,769	5,001
23	ORTHOPEDICS	15,919	7,647	13,257	4,427	1	0	0	0	0	0	7,825	5,776	12,593	4,830
24	OPHTHALMOLOGY	3,085	3,377	17,367	5,653	1	0	0	0	0	0	1,283	2,493	14,881	6,167
25	OTOLARYNGOLOGY	1,202	1,722	2,414	788	1	0	0	0	0	0	449	2,415	2,004	860
26	UROLOGY	1,872	1,076	6,081	2,007	1	0	0	0	0	0	989	966	5,416	2190
27	GYNECOLOGY	2,920	13,626	5,270	1,657	1	0	0	0	0	0	2,040	12,940	3,952	1,808
28	OBSTETRICS	2,271	11,523	1,902	18	1	0	0	0	0	0	1,890	9,123	1,810	20
29	PSYCHIATRY	13,871	6,933	10,296	4,614	1	0	0	0	0	0	9,816	9,408	14,334	5,079
30	OPTOMETRY	1,244	1,141	3,591	1,101	1	0	0	0	0	0	849	971	3,275	1,201
31															
32	TOTAL OUTPATIENT	101,160	179,740	254,564	72,852		0	0	0	0		55,512	154,227	246,011	79,527
33															

-- Continued --

EXHIBIT B-8: SPREADSHEET TO CALCULATE TOTAL OUTPATIENT COSTS UNDER STATUS QUO (Continued)

W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT
																	RECEIVE DC COSTS			RECEIVE NON-DIRECT CARE COSTS			
TOTAL VISITS THAT WOULD BE PROVIDED AT OTHER REF MTFS IF NOT PROVIDED AT FAMC						CIVILIAN SECTOR VISITS UNDER ---> STATUS QUO <--- (Calculated, in MTF units)					CIVILIAN SECTOR VISITS UNDER ---> NO MTF <--- (Converted to CHAMPUS units)						DIRECT CARE COST FCN PARAMETERS "(Alt A)"			NON-DIRECT COST/VISIT (Base Year) "(Alt B)"			
ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64			ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL		B0	B1		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64
12,394	1,570	8,472	0			---	---	---	---		---	---	---	---	---		26,148	112.6		---	---	---	---
4,884	1,071	6,772	0				---	---	---		---	---	---	---	---		334,782	61.8		---	---	---	---
0	0	0	0			---	---	---	---		---	---		---	---		20,194	73.5		---	---	---	---
0	11,961	7,184	0			---	---	---	---		-	---	---	---	---		43,186	37.6		---	---	---	---
17,278	14,602	22,428	0			0	0	17,708	2,926		0	0	7,905	2,926	10,831					$93	$76	$58	$54
630	468	852	0			0	0	367	140		0	0	164	140	304		1,438	29.4		$37	$33	$26	$22
0	0	0	0			0	0	1,352	428		0	0	604	428	1,032		884	88.2		$100	$81	$63	$59
1,566	436	1,728	0			0	0	854	311		0	0	381	311	692		4,337	67.7		$70	$58	$45	$41
903	339	878	0			0	0	146	74		0	0	65	74	139		379	109.7		$113	$92	$71	$67
2,917	2,976	3,664	0			0	0	1,277	489		0	0	570	489	1,059		676,992	77.1					
2,768	1,191	2,770	0			0	679	3,976	417		0	377	1,775	417	2,569		41,458	126.2		$172	$137	$104	$100
7,490	1,428	2,942	0			0	0	2,278	403		0	0	1,017	403	1,420		5,717	88.6		$100	$81	$63	$59
1,703	693	3,736	0			0	0	1,250	514		0	0	558	514	1,072		6,462	90.0		$145	$116	$89	$85
718	333	578	0			0	1,026	168	72		0	570	75	72	717		0	102.9		$69	$58	$45	$41
807	259	1,120	0			0	149	455	183		0	83	203	183	469		0	133.3		$184	146	$113	109
723	1,734	1,650	0			0	1,048	332	151		0	582	148	151	881		12,988	77.5		$141	$114	$85	$81
236	1,764	244	0			0	0	152	2		0	0	68	2	70								
14,793	1,050	1,861	0			10,738	3,525	5,899	465		10,738	1,958	2,633	465	15,795		62,699	96.8		$73	$60	$53	$49
330	96	591	0			0	0	275	100		0	0	123	100	223		52,472	36.2					
52,862	27,369	45,042	0			10,738	6,427	36,489	6,675		10,738	3,571	16,290	6,675	37,273								

-- Continued --

EXHIBIT B-8: SPREADSHEET TO CALCULATE TOTAL OUTPATIENT COSTS UNDER STATUS QUO (Concluded)

AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE
	COMPUTE TOTAL OUTPATIENT COSTS					COMPUTE MEASURES OF COST SAVINGS				
	FAMC OPERATING COSTS	OTHER MTF OPERATING COSTS	COSTS FOR NON-MTF CARE	TOTAL SCENARIO COST		CIVILIAN COST UNDER NO MTF	OTHER MTF COST UNDER NO MTF	ANNUAL SAVINGS OVER NOMTF	PV SAVINGS OVER 25 YRS	
	($000)	($000)	($000)	($000)		set constant ($000)	($000)	($000)	($000)	
	$20,453	$0	---	---		---	$3,895	---	---	
	$7,884	$0	---	---		---	$1,711	---	---	
	$0	$0	---	---		---	$0	---	---	
	$8,644	$0	---	---		---	$1,749	---	---	
	$36,981	$0	$2,204	$39,186		$31,441	$7,355	($390)	($3,541)	
	$491	$0	$23	$515		$475	$90	$50	$450	
	$3,466	$0	$205	$3,672		$3,002	$0	($669)	($6,077)	
	$2,027	$0	$95	$2,122		$1,837	$392	$106	$964	
	$1,920	$0	$29	$1,948		$555	$355	($1,038)	($9,427)	
	$7,271	$0	$0	$7,271		$0	$2,157	($5,114)	($46,437)	
	$7,241	$0	$1,020	$8,261		$5,059	$1,359	($1,843)	($16,733)	
	$3,849	$0	$311	$4,160		$4,332	$1,612	$1,783	$16,192	
	$3,799	$0	$288	$4,087		$4,323	$852	$1,087	$9,873	
	$1,067	$0	$130	$1,197		$552	$256	($390)	($3,542)	
	$2,457	$0	$173	$2,630		$2,183	$444	($2)	($22)	
	$2,717	$0	$297	$3,015		$4,177	$505	$1,667	$15,138	
	(ob costs combined w/inpatient)			$0		---		$0	---	
	$3,505	$0	$2,476	$5,980		$4,259	$2,710	$989	$8,977	
	$402	$0	$0	$402		$0	$136	($266)	($2,413)	
	$77,193	$0	$7,253	$84,446		$62,193	$18,223	($4,030)	($36,597)	
	[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheeet]							

BF	BG	BH	BI	BJ	BK	BL	BM
2							
3		INPUT AND CALCULATE COST ADJUSTMENTS					
4							
5		COST ADJUSTMENTS CALCULATED BY SPREADSHEET					
6							
7		DIRECT CARE INFLATION TO BOD		52.6%			
8		CIVILIAN INFLATION TO BOD		86.0%			
9							
10		INPUTS REQUIRED TO CALCULATE INFLATION					
11							
12		Inflation Rates:	ANNL RATE	BASE YR	BOD YR	YEARS	
13		DC MIL PERSONNEL	4.11%	1989	1998	9	
14		DC NON-PERSONNEL	7.14%	1989	1998	9	
15		CIVILIAN INFL RATE	7.14%	1989	1998	9	
16							
17		%MIL PERSONNEL COSTS		79.0%			
18							
19		OTHER REQUIRED INPUTS					
20							
21		DISCOUNT RATE (dictated)			10.0%		
22		DISCOUNT FACTOR (@discnt rate over 25 yrs)			9.08		
23		ASSUMED REDUCTION IN CIVILIAN PRICES			0%		
24							
25		TRADEOFF FACTORS					
26		DAD	1.80				
27		RETIREE/OTHER	2.24				
28							
29							
30							

-- Continued --

EXHIBIT B-9: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER ALL CARE

A1 B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
2																			
3	*** ALLC_I ***				INPUT SCENARIO WORKLOADS														
4																			
5	FAMC				FAMC					FAMC			CLINICAL				DIRECT CARE BED DAYS SEEN AT		
6					DIRECT CARE BED DAYS					DIRECT CARE DISPOSITIONS UNDER			AREA				OTHER REFERRAL MTFS UNDER		
7	INPATIENT				---> ALL CARE <---					---> ALL CARE <---			OPEN?				---> ALL CARE <---		
8																			
9			ACTIVE	DEP ACT	OTHERS	OVER		ACTIVE	DEP ACT	OTHERS	OVER				ACTIVE	DEP ACT	OTHERS	OVER	
10	CLINICAL AREA		DUTY	< 65	< 65	64		DUTY	< 65	< 65	64		(Yes=1)		DUTY	< 65	< 65	64	
11																			
12	INTERNAL MEDICINE		5,660	1,966	8,743	6,097		579	280	1,010	666		1		0	0	0	0	
13	CARDIOLOGY		1,914	308	5,132	4,134		203	55	770	524		1		0	0	0	0	
14	NEUROLOGY		883	311	852	62		59	24	52	13		1		0	0	0	0	
15	PEDIATRICS		0	3,830	534	0		0	995	138	0		1		0	0	0	0	
16	OTHER MEDICAL		2,143	774	3,794	2,707		323	132	908	664		1		0	0	0	0	
17	GENERAL SURGERY		2,071	1,123	6,791	5,434		181	151	542	355		1		0	0	0	0	
18	ORTHOPEDICS		11,709	1,873	4,699	3,316		758	285	509	299		1		0	0	0	0	
19	ORAL SURGERY		232	38	29	3		54	15	13	1		1		0	0	0	0	
20	OPHTHALMOLOGY		565	268	914	1,028		71	83	171	222		1		0	0	0	0	
21	OTOLARYNGOLOGY		1,998	579	1,441	615		232	232	174	47		1		0	0	0	0	
22	UROLOGY		1,377	472	1,821	2,047		160	125	297	281		1		0	0	0	0	
23	GYNECOLOGY		769	2,098	1,726	759		159	502	268	64		1		0	0	0	0	
24	OTHER SURGERY		6,817	2,504	6,708	3,351		411	320	453	168		1		0	0	0	0	
25	OBSTETRICS		1,808	5,346	862	19		173	887	149	1		1		0	0	0	0	
26	PSYCHIATRY		4,534	2,547	2,445	18		297	108	101	1		1		0	0	0	0	
27																			
28	TOTAL INPATIENT		42,480	24,037	46,491	29,590		3,660	4,194	5,555	3,306				0	0	0	0	
29																			

-- Continued --

EXHIBIT B-9: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER ALL CARE (Continued)

U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ
								CALCULATE NON-MTF SCENARIO WORKLOADS														
	DIRECT CARE DISPOSITIONS SEEN AT OTHER REFERRAL MTFS UNDER ---> ALL CARE <---					CLINICAL AREA OPEN?		TOTAL RECAPTURABLE BED DAYS FROM LOCAL FAMC/COL SPGS AREA "Alt C"					TOTAL BED DAYS THAT WOULD BE PERFORMED AT ANOTHER REF MTF IF NOT DONE AT FAMC					CIVILIAN SECTOR BED DAYS UNDER ---> ALL CARE <--- (Calculated, in MTF units)				
	ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		(Yes=1)		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	
	0	0	0	0		0		1,239	1,005	5,009	4,336		4,421	961	3,734	1,761		0	0	0	0	
	0	0	0	0		0		436	133	2,771	2,575		1,478	175	2,362	1,559		0	0	0	0	
	0	0	0	0		0		320	47	661	31		563	264	191	31		0	0	0	0	
	0	0	0	0		0		0	2,103	355	0		0	1,727	179	0		0	0	0	0	
	0	0	0	0		0		542	445	2,275	1,749		1,601	329	1,519	958		0	0	0	0	
	0	0	0	0		0		908	669	4,733	3,870		1,163	454	2,058	1,564		0	0	0	0	
	0	0	0	0		0		3,954	898	2,788	2,424		7,755	975	1,911	892		0	0	0	0	
	0	0	0	0		0		127	33	28	3		105	5	1	0		0	0	0	0	
	0	0	0	0		0		133	102	469	711		432	166	445	317		0	0	0	0	
	0	0	0	0		0		532	413	920	441		1,466	166	521	174		0	0	0	0	
	0	0	0	0		0		146	240	1,108	1,229		1,231	232	713	818		0	0	0	0	
	0	0	0	0		0		418	1,307	1,004	553		351	791	722	206		0	0	0	0	
	0	0	0	0		0		2,107	837	2,870	1,754		4,710	1,667	3,838	1,597		0	0	0	0	
	0	0	0	0		0		998	3,523	752	0		810	1,823	110	19		0	0	0	0	
	0	0	0	0		0		2,566	2,540	2,442	18		1,968	4	0	0		0	0	0	0	
	0	0	0	0				14,426	14,295	28,185	19,694		28,054	9,739	18,304	9,896		0	0	0	0	

-- Continued --

EXHIBIT B-9: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER ALL CARE (Continued)

AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF
							RECEIVE DIRECT CARE COSTS				RECEIVE NON-DIRECT CARE COSTS				
CIVILIAN SECTOR BED DAYS UNDER ---> STATUS QUO <--- (Converted to CHAMPUS units)							DIRECT CARE COST FUNCTION PARAMETERS ("Alt A"))				GOVERNMENT COST PER BED DAY FOR NON-MTF CARE (Base Year) ("Alt B")				
							Constant	Disp	Bed Day						
ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL			B0	B1	B2		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	
											w/tradeoff				
0	0	0	0	0			215,045	-88.5	484.8		$1,211	$1,176	$415	$781	
0	0	0	0	0			15,724	248.7	666.0		$1,374	$1,334	$570	$1,072	
0	0	0	0	0			18,378	117.5	368.5		$1,118	$1,085	$369	$694	
0	0	0	0	0			5,663	-160.7	609.3		---	$1,311	$462	---	
0	0	0	0	0			0	177.6	346.9		$1,151	$1,117	$379	$712	
0	0	0	0	0			220,863	206.5	535.5		$1,590	$1,543	$377	$709	
0	0	0	0	0			5,148	1349.5	258.0		$1,801	$1,749	$452	$850	
0	0	0	0	0			10,766	-466.9	1053.2		$1,453	$1,411	$499	$938	
0	0	0	0	0			5,565	1375.9	307.2		$2,561	$2,486	$854	$1,606	
0	0	0	0	0			11,534	437.3	548.9		$2,279	$2,212	$586	$1,101	
0	0	0	0	0			6,061	523.7	497.8		$2,505	$2,432	$551	$1,035	
0	0	0	0	0			72,919	1208.3	312.4		$1,922	$1,866	$456	$857	
0	0	0	0	0			224	1298.3	366.1		$2,959	$2,873	$669	$1,257	
0	0	0	0	0			101,413	1266.1	751.2		$1,076	$1,044	$642	$1,207	
0	0	0	0	0			1,481	577.2	219.2		$577	$560	$211	$397	
0	0	0	0	0											

-- Continued --

EXHIBIT B-9: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER ALL CARE (Concluded)

BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP
COMPUTE TOTAL INPATIENT COSTS					COMPUTE MEASURES OF COST SAVINGS				
FAMC OPERATING COSTS	COSTS FOR NON-FAMC MTF CARE	COSTS FOR CIVILIAN CARE	TOTAL SCENARIO COST		CIVILIAN CARE COST WITH NO MTF	DIRECT CARE COST WITH NO MTF	ANNUAL SAVINGS OVER NO MTF	PV SAVINGS OVER 25 YRS	
					set constant				
($000)	($000)	($000)	($000)		($000)	($000)	($000)	($000)	
$16,605	$0	$0	$16,605		$12,245	$8,219	$3,859	$35,039	
$12,286	$0	$0	$12,286		$7,689	$5,877	$1,280	$11,619	
$1,240	$0	$0	$1,240		$1,013	$630	$403	$3,660	
$3,788	$0	$0	$3,788		$4,389	$1,667	$2,268	$20,594	
$5,718	$0	$0	$5,718		$4,850	$2,564	$1,696	$15,396	
$13,935	$0	$0	$13,935		$10,525	$4,714	$1,305	$11,847	
$11,597	$0	$0	$11,597		$18,050	$6,137	$12,589	$114,309	
$812	$0	$0	$812		$372	$189	($251)	($2,276)	
$2,603	$0	$0	$2,603		$3,211	$1,026	$1,633	$14,830	
$4,265	$0	$0	$4,265		$4,734	$2,105	$2,573	$23,362	
$6,276	$0	$0	$6,276		$4,254	$2,545	$523	$4,747	
$4,687	$0	$0	$4,687		$6,271	$1,557	$3,142	$28,527	
$15,090	$0	$0	$15,090		$19,177	$7,877	$11,964	$108,637	
$8,494	$0	$0	$8,494		$7,865	$3,757	$3,129	$28,409	
$2,789	$0	$0	$2,789		$5,147	$733	$3,092	$28,073	
$110,186	$0	$0	$110,186		$109,793	$49,597	$49,204	$446,773	
[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheett]							

BQBR	BS	BT	BU	BV	BW	BX
2						
3	INPUT AND CALCULATE COST ADJUSTMENTS					
4						
5	INFLATION RATES (Calculated by spreadsheet)					
6						
7	DIRECT CARE INFLATION TO BOD		52.6%			
8	CIVILIAN INFLATION TO BOD		50.3%			
9						
10	INPUTS REQUIRED FOR CALCULATION OF TOTAL INFLATION					
11						
12	Inflation Rates:	ANNL RATE	BASE YR	BOD YR	YEARS	
13	DC MIL PERSONNEL	4.11%	1989	1998	9	
14	DC NON-PERSONNEL	7.14%	1989	1998	9	
15	CIVILIAN INFL RATE	4.63%	1989	1998	9	
16						
17	%MIL PERSONNEL COSTS		79%			
18						
19	OTHER REQUIRED INPUTS:					
20						
21	DISCOUNT RATE (dictated)			10.0%		
22	DISCOUNT FACTOR (@discnt rt over 25 years)			9.08		
23	ASSUMED REDUCTION IN CIVILIAN PRICES			0%		
24	TRADEOFF RETIREE/OTHER		1.88			

EXHIBIT B-10: SPREADSHEET TO CALCULATE TOTAL OUTPATIENT COSTS UNDER ALL CARE

A1 B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
2																					
3	*** ALLC_0 ***		INPUT SCENARIO WORKLOADS														CALCULATE NON-MTF SCENARIO WORKLOADS				
4																					
5	FAMC		FAMC				CLINICAL			NON-FAMC MTF					CLINICAL		TOTAL RECAPTURABLE VISITS				
6			DIRECT CARE VISITS UNDER				AREA			DIRECT CARE VISITS UNDER					AREA		FROM LOCAL FAMC/COL SPGS AREA				
7	OUTPATIENT		---> ALL CARE <--				OPEN?			---> ALL CARE <---					OPEN?		"(Alt C)"				
8																					
9			ACTIVE DEP ACT		OTHERS	OVER				ACTIVE DEP ACT		OTHERS	OVER				ACTIVE DEP ACT		OTHERS	OVER	
10	CLINICAL AREA		DUTY	< 65	< 65	64	(Yes=1)			DUTY	< 65	< 65	64		(Yes=1)		DUTY	< 65	< 65	64	
11																					
12	INTERNAL MEDICINE		23,448	8,979	70,479	25,779	1			0	0	0	0		0		---	---	---	---	
13	FAM PRAC/PRIM CARE		12,126	11,737	51,350	9,306	1			0	0	0	0		0		---	---	---	---	
14	FLIGHT/OVERSEAS MED		0	0	0	0	1			0	0	0	0		0		---	---	---	---	
15	PEDIATRICS		0	72,494	26,998	0	1			0	0	0	0		0		---	---	---	---	
16	MED/PC GROUP (calculated)		35,574	93,210	148,827	35,085	1			0	0	0	0		0		18,297	78,609	126,399	35,085	
17	ALLERGY		1,719	2,419	5,220	1,675	1			0	0	0	0		0		1,089	1,951	4,368	1,675	
18	CARDIOLOGY		1,810	1,430	16,102	5,130	1			0	0	0	0		0		1,810	1,430	16,102	5,130	
19	DERMATOLOGY		4,514	3,379	11,890	3,727	1			0	0	0	0		0		2,949	2,943	10,163	3,727	
20	NEUROLOGY		1,469	894	2,622	886	1			0	0	0	0		0		566	554	1,744	886	
21	EMERGENCY MEDICINE		6,936	23,937	18,864	5,868	1			0	0	0	0		0		4,019	20,961	15,201	5,868	
22	GENERAL SURGERY		4,409	4,878	16,539	5,001	1			0	0	0	0		0		1,641	3,687	13,769	5,001	
23	ORTHOPEDICS		15,315	7,204	15,535	4,830	1			0	0	0	0		0		7,825	5,776	12,593	4,830	
24	OPHTHALMOLOGY		2,986	3,186	18,617	6,167	1			0	0	0	0		0		1,283	2,493	14,881	6,167	
25	OTOLARYNGOLOGY		1,167	2,748	2,582	860	1			0	0	0	0		0		449	2,415	2,004	860	
26	UROLOGY		1,796	1,225	6,536	2,190	1			0	0	0	0		0		989	966	5,416	2190	
27	GYNECOLOGY		2,763	14,674	5,602	1,808	1			0	0	0	0		0		2,040	12,940	3,952	1,808	
28	OBSTETRICS		2,125	10,888	2,054	20	1			0	0	0	0		0		1,890	9,123	1,810	20	
29	PSYCHIATRY		24,609	10,458	16,195	5,079	1			0	0	0	0		0		9,816	9,408	14,334	5,079	
30	OPTOMETRY		1,178	1,067	3,866	1,201	1			0	0	0	0		0		849	971	3,275	1,201	
31																					
32	TOTAL OUTPATIENT		108,370	181,597	291,051	79,527				0	0	0	0				55,512	154,227	246,011	79,527	
33																					

-- Continued --

EXHIBIT B-10: SPREADSHEET TO CALCULATE TOTAL OUTPATIENT COSTS UNDER ALL CARE (Continued)

W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT
																	RECEIVE DC COSTS			RECEIVE NON-DIRECT CARE COSTS			
TOTAL VISITS THAT WOULD BE PROVIDED AT OTHER REF MTFS IF NOT PROVIDED AT FAMC						CIVILIAN SECTOR VISITS UNDER ---> ALL CARE <--- (Calculated, in MTF units)					CIVILIAN SECTOR VISITS UNDER ---> NO MTF <--- (Converted to CHAMPUS units)						DIRECT CARE COST FCN PARAMETERS "(Alt A)"			NON-DIRECT COST/VISIT (Base Year) "(Alt B)"			
ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64			ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL		B0	B1		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64
12,394	1,570	8,472	0			---	---	---	---		---	---	---	---	---		26,148	112.6		---	---	---	---
4,884	1,071	6,772	0			---	---	---	---		---	---	---	---	---		334,782	61.8		---	---	---	---
0	0	0	0			---	---	---	---		---	---	---	---	---		20,194	73.5		---	---	---	---
0	11,961	7,184	0			---	---	---	---		---	---	---	---	---		43,186	57.6		---	---	---	---
17,278	14,602	22,428	0			0	0	0	0		0	0	0	0	0					$93	$76	$58	$54
630	468	852	0			0	0	0	0		0	0	0	0	0		1,438	29.4		$37	$33	$26	$22
0	0	0	0			0	0	0	0		0	0	0	0	0		884	88.2		$100	$81	$63	$59
1,566	436	1,728	0			0	0	0	0		0	0	0	0	0		4,337	67.7		$70	$58	$45	$41
903	339	878	0			0	0	0	0		0	0	0	0	0		379	109.7		$113	$92	$71	$67
2,917	2,976	3,664	0			0	0	0	0		0	0	0	0	0		676,992	77.1					
2,768	1,191	2,770	0			0	0	0	0		0	0	0	0	0		41,458	126.2		$172	$137	$104	$100
7,490	1,428	2,942	0			0	0	0	0		0	0	0	0	0		5,717	88.6		$100	$81	$63	$59
1,703	693	3,736	0			0	0	0	0		0	0	0	0	0		6,462	90.0		$145	$116	$89	$85
718	333	578	0			0	0	0	0		0	0	0	0	0		0	102.9		$69	$58	$45	$41
807	259	1,120	0			0	0	0	0		0	0	0	0	0		0	133.3		$184	146	$113	109
723	1,734	1,650	0			0	0	0	0		0	0	0	0	0		12,988	77.5		$141	$114	$85	$81
236	1,764	244	0			0	0	0	0		0	0	0	0	0								
14,793	1,050	1,861	0			0	0	0	0		0	0	0	0	0		62,699	96.8		$73	$60	$53	$49
330	96	591	0			0	0	0	0		0	0	0	0	0		52,472	36.2					
52,862	27,369	45,042	0			0	0	0	0		0	0	0	0	0								

-- Continued --

EXHIBIT B-10: SPREADSHEET TO CALCULATE TOTAL OUTPATIENT COSTS UNDER ALL CARE (Concluded)

AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE
	COMPUTE TOTAL OUTPATIENT COSTS					COMPUTE MEASURES OF COST SAVINGS				
	FAMC OPERATING COSTS	OTHER MTF OPERATING COSTS	COSTS FOR NON-MTF CARE	TOTAL SCENARIO COST		CIVILIAN COST UNDER NO MTF	OTHER MTF COST UNDER NO MTF	ANNUAL SAVINGS OVER NOMTF	PV SAVINGS OVER 25 YRS	
						set constant				
	($000)	($000)	($000)	($000)		($000)	($000)	($000)	($000)	
	$24,234	$0	---	---		---	$3,895	---	---	
	$7.498	$0	---	---		---	$1,711	---	---	
	$234	$0	--	---		---	$0	---	---	
	$9,211	$0	---	---		---	$1,749	---	---	
	$41,178	$0	$0	$41,178		$31,441	$7,355	($2,382)	($21,627)	
	$617	$0	$0	$617		$475	$90	($53)	($483)	
	$5,114	$0	$0	$5,114		$3,002	$0	($2,112)	($19,179)	
	$2,276	$0	$0	$2,276		$1,837	$392	($47)	($431)	
	$932	$0	$0	$932		$555	$355	($22)	($204)	
	$6,967	$0	$0	$6,967		$0	$2,157	($4,811)	($43,680)	
	$5,684	$0	$0	$5,684		$5,059	$1,359	$734	$6,666	
	$4,022	$0	$0	$4,022		$4,332	$1,612	$1,922	$17,450	
	$7,229	$0	$0	$7,229		$4,323	$852	($2,054)	($18,650)	
	$1,157	$0	$0	$1,157		$552	$256	($350)	($3,174)	
	$2,023	$0	$0	$2,023		$2,183	$444	$605	$5,489	
	$15,436	$0	$0	$15,436		$4,177	$505	($10,754)	($97,650)	
	(ob costs combined w/inpatient)			$0		---		$0	---	
	$4,781	$0	$0	$4,781		$4,259	$2,710	$2,188	$19,864	
	$418	$0	$0	$418		$0	$136	($282)	($2,564)	
	$97,835	$0	$0	$97,835		$62,193	$18,223	($17,420)	($158,173)	
	[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheeet]							

BF	BG	BH	BI	BJ	BK	BL	BM
2							
3		INPUT AND CALCULATE COST ADJUSTMENTS					
4							
5		COST ADJUSTMENTS CALCULATED BY SPREADSHEET					
6							
7		DIRECT CARE INFLATION TO BOD		52.6%			
8		CIVILIAN INFLATION TO BOD		86.0%			
9							
10		INPUTS REQUIRED TO CALCULATE INFLATION					
11							
12		Inflation Rates:	ANNL RATE	BASE YR	BOD YR	YEARS	
13		DC MIL PERSONNEL	4.11%	1989	1998	9	
14		DC NON-PERSONNEL	7.14%	1989	1998	9	
15		CIVILIAN INFL RATE	7.14%	1989	1998	9	
16							
17		%MIL PERSONNEL COSTS		79.0%			
18							
19		OTHER REQUIRED INPUTS					
20							
21		DISCOUNT RATE (dictated)			10.0%		
22		DISCOUNT FACTOR (@discnt rate over 25 yrs)			9.08		
23		ASSUMED REDUCTION IN CIVILIAN PRICES			0%		
24							
25		TRADEOFF FACTORS					
26		DAD	1.80				
27		RETIREE/OTHER	2.24				
28							
29							
30							

EXHIBIT B-11: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER BES

A1 B	C	D E	F	G	H	I J	K	L	M	N O	P Q	R	S	T	U
2															
3	*** BES_I ***	INPUT SCENARIO WORKLOADS													
4															
5	FAMC	FAMC				FAMC				CLINICAL	DIRECT CARE BED DAYS SEEN AT				
6		DIRECT CARE BED DAYS				DIRECT CARE DISPOSITIONS UNDER				AREA	OTHER REFERRAL MTFS UNDER				
7	INPATIENT	---> BES <---				---> BES <---				OPEN?	---> BES <---				
8															
9		ACTIVE DEP ACT		OTHERS	OVER	ACTIVE DEP ACT		OTHERS	OVER		ACTIVE DEP ACT		OTHERS	OVER	
10	CLINICAL AREA	DUTY	< 65	< 65	64	DUTY	< 65	< 65	64	(Yes=1)	DUTY	< 65	< 65	64	
11															
12	INTERNAL MEDICINE	5,660	1,966	3,734	6,097	579	280	419	666	1	0	0	0	0	
13	CARDIOLOGY	1,914	308	2,362	4,134	203	55	220	524	1	0	0	0	0	
14	NEUROLOGY	883	311	191	62	59	24	11	13	1	0	0	0	0	
15	PEDIATRICS	0	3,830	179	0	0	995	39	0	1	0	0	0	0	
16	OTHER MEDICAL	2,143	774	1,519	2,707	323	132	343	664	1	0	0	0	0	
17	GENERAL SURGERY	2,071	1,123	2,058	5,434	181	151	116	355	1	0	0	0	0	
18	ORTHOPEDICS	11,709	1,873	1,911	3,316	758	285	127	299	1	0	0	0	0	
19	ORAL SURGERY	232	38	1	3	54	15	2	1	1	0	0	0	0	
20	OPHTHALMOLOGY	565	268	445	1,028	71	83	58	222	1	0	0	0	0	
21	OTOLARYNGOLOGY	1,998	579	521	615	232	232	27	47	1	0	0	0	0	
22	UROLOGY	1,377	472	713	2,047	160	125	77	281	1	0	0	0	0	
23	GYNECOLOGY	769	2,098	722	759	159	502	60	64	1	0	0	0	0	
24	OTHER SURGERY	6,817	2,504	3,838	3,351	411	320	183	168	1	0	0	0	0	
25	OBSTETRICS	1,808	5,346	110	19	173	887	4	1	1	0	0	0	0	
26	PSYCHIATRY	4,533	1,711	0	0	297	108	0	0	1	0	0	0	0	
27															
28	TOTAL INPATIENT	42,479	23,201	18,304	29,572	3,660	4,194	1,686	3,305		0	0	0	0	
29															

-- Continued --

EXHIBIT B-11: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER BES (Continued)

U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ
								CALCULATE NON-MTF SCENARIO WORKLOADS														
DIRECT CARE DISPOSITIONS SEEN AT OTHER REFERRAL MTFS UNDER ---> BES <---					CLINICAL AREA OPEN?			TOTAL RECAPTURABLE BED DAYS FROM LOCAL FAMC/COL SPGS AREA "Alt C"					TOTAL BED DAYS THAT WOULD BE PERFORMED AT ANOTHER REF MTF IF NOT DONE AT FAMC					CIVILIAN SECTOR BED DAYS UNDER ---> BES <--- (Calculated, in MTF units)				
ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		(Yes=1)			ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	
0	0	0	0		0			1,239	1,005	5,009	4,336		4,421	961	3,734	1,761		0	0	5,009	0	
0	0	0	0		0			436	133	2,771	2,575		1,478	175	2,362	1,559		0	0	2,771	0	
0	0	0	0		0			320	47	661	31		563	264	191	31		0	0	661	0	
0	0	0	0		0			0	2,103	355	0		0	1,727	179	0		0	0	355	0	
0	0	0	0		0			542	445	2,275	1,749		1,601	329	1,519	958		0	0	2,275	0	
0	0	0	0		0			908	669	4,733	3,870		1,163	454	2,058	1,564		0	0	4,733	0	
0	0	0	0		0			3,954	898	2,788	2,424		7,755	975	1,911	892		0	0	2,788	0	
0	0	0	0		0			127	33	28	3		105	5	1	0		0	0	28	0	
0	0	0	0		0			133	102	469	711		432	166	445	317		0	0	469	0	
0	0	0	0		0			532	413	920	441		1,466	166	521	174		0	0	920	0	
0	0	0	0		0			146	240	1,108	1,229		1,231	232	713	818		0	0	1,108	0	
0	0	0	0		0			418	1,307	1,004	553		351	791	722	206		0	0	1,004	0	
0	0	0	0		0			2,107	837	2,870	1,754		4,710	1,667	3,838	1,597		0	0	2,870	0	
0	0	0	0		0			998	3,523	752	0		810	1,823	110	19		0	0	752	0	
0	0	0	0		0			2,566	2,540	2,442	18		1,968	4	0	0		1	833	2,442	18	
0	0	0	0					14,426	14,295	28,185	19,694		28,054	9,739	18,304	9,896		1	833	28,185	18	

-- Continued --

EXHIBIT B-11: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER BES (Continued)

AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF
						RECEIVE DIRECT CARE COSTS				RECEIVE NON-DIRECT CARE COSTS					
CIVILIAN SECTOR BED DAYS UNDER ---> STATUS QUO <--- (Converted to CHAMPUS units)						DIRECT CARE COST FUNCTION PARAMETERS ("Alt A"))				GOVERNMENT COST PER BED DAY FOR NON-MTF CARE (Base Year) ("Alt B")					
ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL		Constant B0	Disp B1	Bed Day B2		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65 w/tradeoff	OVER 64		
0	0	2,664	0	2,664		215,045	-88.5	484.8		$1,211	$1,176	$415	$781		
0	0	1,474	0	1,474		15,724	248.7	666.0		$1,374	$1,334	$570	$1,072		
0	0	352	0	352		18,378	117.5	368.5		$1,118	$1,085	$369	$694		
0	0	189	0	189		5,663	-160.7	609.3		---	$1,311	$462	---		
0	0	1,210	0	1,210		0	177.6	346.9		$1,151	$1,117	$379	$712		
0	0	2,518	0	2,518		220,863	206.5	535.5		$1,590	$1,543	$377	$709		
0	0	1,483	0	1,483		5,148	1349.5	258.0		$1,801	$1,749	$452	$850		
0	0	15	0	15		10,766	-466.9	1053.2		$1,453	$1,411	$499	$938		
0	0	249	0	249		5,565	1375.9	307.2		$2,561	$2,486	$854	$1,606		
0	0	489	0	489		11,534	437.3	548.9		$2,279	$2,212	$586	$1,101		
0	0	589	0	589		6,061	523.7	497.8		$2,505	$2,432	$551	$1,035		
0	0	534	0	534		72,919	1208.3	312.4		$1,922	$1,866	$456	$857		
0	0	1,527	0	1,527		224	1298.3	366.1		$2,959	$2,873	$669	$1,257		
0	0	400	0	400		101,413	1266.1	751.2		$1,076	$1,044	$642	$1,207		
1	833	1,299	18	2,151		1,481	577.2	219.2		$577	$560	$211	$397		
1	833	14,992	18	15,844											

-- Continued --

EXHIBIT B-11: SPREADSHEET TO CALCULATE TOTAL INPATIENT COSTS UNDER BES (Concluded)

BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP
COMPUTE TOTAL INPATIENT COSTS					COMPUTE MEASURES OF COST SAVINGS				
FAMC OPERATING COSTS	COSTS FOR NON-FAMC MTF CARE	COSTS FOR CIVILIAN CARE	TOTAL SCENARIO COST		CIVILIAN CARE COST WITH NO MTF	DIRECT CARE COST WITH NO MTF	ANNUAL SAVINGS OVER NO MTF	PV SAVINGS OVER 25 YRS	
						set constant			
($000)	($000)	($000)	($000)		($000)	($000)	($000)	($000)	
$12,980	$0	$3,127	$16,106		$12,245	$8,219	$4,358	$39,570	
$9,263	$0	$2,374	$11,637		$7,689	$5,877	$1,929	$17,514	
$861	$0	$367	$1,227		$1,013	$630	$415	$3,772	
$3,482	$0	$247	$3,729		$4,389	$1,667	$2,327	$21,132	
$4,177	$0	$1,295	$5,471		$4,850	$2,564	$1,943	$17,641	
$9,321	$0	$2,682	$12,003		$10,525	$4,714	$3,237	$29,390	
$10,436	$0	$1,894	$12,330		$18,050	$6,137	$11,857	$107,659	
$405	$0	$21	$426		$372	$189	$135	$1,227	
$2,000	$0	$602	$2,602		$3,211	$1,026	$1,634	$14,837	
$3,486	$0	$810	$4,296		$4,734	$2,105	$2,542	$23,084	
$4,024	$0	$917	$4,940		$4,254	$2,545	$1,859	$16,877	
$3,631	$0	$688	$4,319		$6,271	$1,557	$3,510	$31,868	
$11,365	$0	$2,883	$14,248		$19,177	$7,877	$12,806	$116,281	
$10,560	$0	$725	$11,285		$7,865	$3,757	$337	$3,061	
$2,447	$0	$1,487	$3,935		$5,147	$733	$1,946	$17,670	
$88,437	$0	$20,117	$108,555		$109,793	$49,597	$50,835	$461,582	
[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheett]							

BQ	BR	BS	BT	BU	BV	BW	BX
2							
3		INPUT AND CALCULATE COST ADJUSTMENTS					
4							
5		INFLATION RATES (Calculated by spreadsheet)					
6							
7		DIRECT CARE INFLATION TO BOD		52.6%			
8		CIVILIAN INFLATION TO BOD		50.3%			
9							
10		INPUTS REQUIRED FOR CALCULATION OF TOTAL INFLATION					
11							
12		Inflation Rates:	ANNL RATE	BASE YR	BOD YR	YEARS	
13		DC MIL PERSONNEL	4.11%	1989	1998	9	
14		DC NON-PERSONNEL	7.14%	1989	1998	9	
15		CIVILIAN INFL RATE	4.63%	1989	1998	9	
16							
17		%MIL PERSONNEL COSTS		79%			
18							
19		OTHER REQUIRED INPUTS:					
20							
21		DISCOUNT RATE (dictated)			10.0%		
22		DISCOUNT FACTOR (@discnt rt over 25 years)			9.08		
23		ASSUMED REDUCTION IN CIVILIAN PRICES			0%		
24		TRADEOFF RETIREE/OTH		1.88			

EXHIBIT B-12: SPREADSHEET TO CALCULATE TOTAL OUTPATIENT COSTS UNDER BES (Continued)

W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT
																	RECEIVE DC COSTS			RECEIVE NON-DIRECT CARE COSTS			
TOTAL VISITS THAT WOULD BE PROVIDED AT OTHER REF MTFS IF NOT PROVIDED AT FAMC						CIVILIAN SECTOR VISITS UNDER ---> BES <--- (Calculated, in MTF units)					CIVILIAN SECTOR VISITS UNDER ---> NO MTF <--- (Converted to CHAMPUS units)						DIRECT CARE COST FCN PARAMETERS "(Alt A)"			NON-DIRECT COST/VISIT (Base Year) "(Alt B)"			
ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64			ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64	TOTAL		B0	B1		ACTIVE DUTY	DEP ACT < 65	OTHERS < 65	OVER 64
12,394	1,570	8,472	0			---	---	---	---		---	---	---	---	---		26,148	112.6		---	---	---	---
4,884	1,071	6,772	0			---	---	---	---		---	---	---	---	---		334,782	61.8		---	---	---	---
0	0	0	0			---	---	---	---		---	---	---	---	---		20,194	73.5		---	---	---	---
0	11,961	7,184	0			---	---	---	---		---	---	---	---			43,186	57.6		---	---	---	---
17,278	14,602	22,428	0			0	0	126,399	0		0	0	56,428	0	56,428					$93	$76	$58	$54
630	468	852	0			0	0	4,368	0		0	0	1,950	0	1,950		1,438	29.4		$37	$33	$26	$22
0	0	0	0			0	0	16,102	0		0	0	7,188	0	7,188		884	88.2		$100	$81	$63	$59
1,566	436	1,728	0			0	0	10,163	0		0	0	4,537	0	4,537		4,337	67.7		$70	$58	$45	$41
903	339	878	0			0	0	1,744	0		0	0	779	0	779		379	109.7		$113	$92	$71	$67
2,917	2,976	3,664	0			0	0	15,201	0		0	0	6,786	0	6,786		676,992	77.1					
2,768	1,191	2,770	0			0	0	13,769	0		0	0	6,147	0	6,147		41,458	126.2		$172	$137	$104	$100
7,490	1,428	2,942	0			0	0	12,593	0		0	0	5,622	0	5,622		5,717	88.6		$100	$81	$63	$59
1,703	693	3,736	0			0	0	14,881	0		0	0	6,643	0	6,643		6,462	90.0		$145	$116	$89	$85
718	333	578	0			0	0	2,004	0		0	0	895	0	895		0	102.9		$69	$58	$45	$41
807	259	1,120	0			0	0	5,416	0		0	0	2,418	0	2,418		0	133.3		$184	146	$113	109
723	1,734	1,650	0			0	0	3,952	0		0	0	1,764	0	1,764		12,988	77.5		$141	$114	$85	$81
236	1,764	244	0			0	0	1,810	0		0	0	808	0	808								
14,793	1,050	1,861	0			0	0	14,334	5,079		0	0	6,399	5,079	11,478		62,699	96.8		$73	$60	$53	$49
330	96	591	0			0	0	3,275	0		0	0	1,462	0	1,462		52,472	36.2					
52,862	27,369	45,042	0			0	0	246,011	5,079		0	0	109,826	5,079	114,905								

-- Continued --

EXHIBIT B-12: SPREADSHEET TO CALCULATE TOTAL OUTPATIENT COSTS UNDER BES (Concluded)

AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE
	COMPUTE TOTAL OUTPATIENT COSTS					COMPUTE MEASURES OF COST SAVINGS				
	FAMC OPERATING COSTS	OTHER MTF OPERATING COSTS	COSTS FOR NON-MTF CARE	TOTAL SCENARIO COST		CIVILIAN COST UNDER NO MTF	OTHER MTF COST UNDER NO MTF	ANNUAL SAVINGS OVER NOMTF	PV SAVINGS OVER 25 YRS	
						set constant				
	($000)	($000)	($000)	($000)		($000)	($000)	($000)	($000)	
	$13,580	$0	---	---		---	$3,895	---	---	
	$3,295	$0	---	---		---	$1,711	---	---	
	$234	$0	---	---		---	$0	---	---	
	$7,469	$0	---	---		---	$1,749	---	---	
	$24,578	$0	$13,638	$38,216		$31,441	$7,355	$580	$5,265	
	$422	$0	$211	$633		$475	$90	($69)	($624)	
	$2,947	$0	$1,887	$4,834		$3,002	$0	($1,831)	($16,629)	
	$1,227	$0	$851	$2,077		$1,837	$332	$151	$1,369	
	$641	$0	$230	$871		$555	$355	$39	$354	
	$5,180	$0	$0	$5,180		$0	$2,157	($3,023)	($27,450)	
	$3,032	$0	$2,664	$5,696		$5,059	$1,359	$722	$6,560	
	$2,320	$0	$1,476	$3,796		$4,332	$1,612	$2,148	$19,502	
	$5,186	$0	$2,464	$7,649		$4,323	$852	($2,475)	($22,470)	
	$842	$0	$168	$1,010		$552	$256	($203)	($1,840)	
	$922	$0	$1,138	$2,061		$2,183	$444	$567	$5,151	
	$14,969	$0	$625	$15,594		$4,177	$505	($10,912)	($99,084)	
	(ob costs combined w/inpatient)			$0		---		$0	---	
	$1,915	$0	$1,876	$3,791		$4,259	$2,710	$3,178	$28,858	
	$238	$0	$0	$238		$0	$136	($102)	($923)	
	$64,417	$0	$27,228	$91,644		$62,193	$18,223	($11,229)	($101,960)	
	[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheet]	[Input to SUMMARY spreadsheeet]							

BF	BG	BH	BI	BJ	BK	BL	BM
2							
3		INPUT AND CALCULATE COST ADJUSTMENTS					
4							
5		COST ADJUSTMENTS CALCULATED BY SPREADSHEET					
6							
7		DIRECT CARE INFLATION TO BOD		52.6%			
8		CIVILIAN INFLATION TO BOD		86.0%			
9							
10		INPUTS REQUIRED TO CALCULATE INFLATION					
11							
12		Inflation Rates:	ANNL RATE	BASE YR	BOD YR	YEARS	
13		DC MIL PERSONNEL	4.11%	1989	1998	9	
14		DC NON-PERSONNEL	7.14%	1989	1998	9	
15		CIVILIAN INFL RATE	7.14%	1989	1998	9	
16							
17		%MIL PERSONNEL COSTS		79.0%			
18							
19		OTHER REQUIRED INPUTS					
20							
21		DISCOUNT RATE (dictated)			10.0%		
22		DISCOUNT FACTOR (@discnt rate over 25 yrs)			9.08		
23		ASSUMED REDUCTION IN CIVILIAN PRICES			0%		
24							
25		TRADEOFF FACTORS					
26		DAD	1.80				
27		RETIREE/OTHER	2.24				
28							
29							
30							