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HEALTH CARE IN NON-CATCHMENT AREAS:
MAXIMIZING RESOURCE EFFICIENCY, ACCESS, AND QUALITY

A Graduate Management Project

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Baylor University

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ABSTRACT

Applying coordinated care to both open allotment and Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) beneficiaries in non-catchment areas could yield significant improvements in access and efficiency. This is particularly true when these populations are geographically clustered. The Fort George G. Meade (FGGM) U.S. Army Medical Department Activity's (USAMEDDAC) Health Service Area includes such a beneficiary population cluster located in western Pennsylvania in and around the city of Pittsburgh.

This project compared the current health care delivery mechanism and three alternatives. These included a contract health maintenance organization, a Department of Veterans Affairs (VA) agreement, a military outpatient clinic, and the current system of open allotment, direct care, and CHAMPUS. The criteria used to evaluate the four options included the Government criteria:

(a) Government Cost, (b) Control and Flexibility, and (c) Unit Command and Control and the Customer Satisfaction criteria: (a) Cost to Patient, (b) Geographic Convenience, (c) Simplicity, and (d) Freedom of Choice.

Based on the above criteria, the optimal alternative was the military outpatient clinic option. However, the VA option ranked a

close second and was the optimal alternative for the open allotment beneficiaries. The Contract option was ranked third overall but was the best option when judged against the customer satisfaction criteria alone. The current system was ranked fourth.

TABLE OF CONTENTS

I.	Acknowledgements.....	2
II.	Abstract.....	3
III.	Table of Contents.....	5
IV.	List of Tables.....	8
V.	List of Figures.....	11
VI.	Introduction.....	12
	A. Charles E. Kelly Support Facility.....	14
	B. Conditions Which Prompted this Study.....	16
	C. Problem Statement.....	20
	D. Literature Review.....	21
	E. Purpose Statement.....	28
VII.	Data Collection.....	29
	A. General.....	29
	B. Population.....	30
	C. Open Allotment Costs.....	32
	D. CHAMPUS Usage and Cost.....	37
VIII.	Analysis.....	39
	A. Alternative Delivery Mechanisms.....	39
	1. Clinic Option.....	39
	2. Veterans Affairs Option.....	40

3. Health Maintenance Organization Contract Option.....	41
B. Geographic Focus for Analysis.....	42
C. Criteria Utilized to Compare Options.....	45
D. Decision Matrices.....	46
1. Government Criteria Decision Matrices.....	46
a. Cost to Government Decision Matrices.....	46
(1) Contract Option.....	46
(2) Government Clinic.....	50
(3) Veterans Affairs Option.....	56
(4) Current System.....	58
(5) Government Cost Summary.....	58
b. Control and Flexibility Decision Matrix.....	59
(1) Option Weight Development.....	59
(2) Monitoring and Influencing Quality and Customer Satisfaction.....	61
(3) Adjust Services.....	62
(4) Control Future Costs.....	63
(5) Criterion Summary.....	64
c. Unit Command and Control Decision Matrix.....	65
2. Customer Satisfaction Criteria Decision Matricies...	68
a. Cost to Patient Decision Matrix.....	68

b.	Geographic Convenience Decision Matrix.....	69
c.	Simplicity Decision Matrix.....	71
d.	Freedom of Choice Decision Matrix.....	72
3.	Combined Criteria Decision Matrices.....	74
a.	Combined Beneficiary Category Decision Matrices.....	74
b.	Individual Beneficiary Categories Decision Matrices.....	78
c.	Combined Individual Beneficiary Categories Decision Matrices.....	80
IX.	Results.....	82
X.	Conclusion.....	85
XI.	References.....	92

LIST OF TABLES

Table 1	Outpatient Procedures Requiring a Non-Availability Statement.....	97
Table 2	Population by 3 Digit Zip Code, Beneficiary Category, and Branch of Service.....	98
Table 3	FY93 Open Allotment Costs by Zip Code.....	99
Table 4	Categorization of Open Allotment Claims.....	100
Table 5	FY93 Open Allotment Claims by Category.....	101
Table 6	FY93 CHAMPUS Outpatient Visits and Costs.....	103
Table 7	FY93 CHAMPUS Hospital Admission, Bed Days, and Costs..	105
Table 8	FY93 CHAMPUS Inpatient Professional Services and Cost.....	110
Table 9	Location and Access Routes for Zip Codes Included in the Analysis.....	113
Table 10	Military Units by Zip Code.....	114
Table 11	Aggregate Population, Open Allotment, and CHAMPUS Data for Area of Study.....	115
Table 12	Criteria.....	117
Table 13	Annual Reimbursement Rates by Gender and Age for the Baltimore, Maryland U.S. Family Health Plan.....	118

Table 14	Government Cost Calculations -- Contract Option - Open Allotment Population.....	119
Table 15	Government Cost Calculations -- Contract Option - Dependents of Active Duty Population.....	120
Table 16	Government Cost Calculations -- Contract Option - Retirees, Dependents of Retirees, and Survivors Population.....	121
Table 17	Government Cost for Contract Option.....	122
Table 18	Government Cost Calculations -- Clinic Option - Open Allotment Population.....	123
Table 19	Government Cost for Clinic Option.....	124
Table 20	Government Cost for VA Option.....	125
Table 21	Development of Option Weights by Beneficiary Category.....	126
Table 22	Control and Flexibility Decision Matrix.....	127
Table 23	Unit Command and Control Decision Matrix.....	128
Table 24	Cost to Patient Decision Matrix.....	129
Table 25	Geographic Convenience Decision Matrix.....	130
Table 26	Simplicity Decision Matrix.....	131
Table 27	Freedom of Choice Decision Matrix.....	132

Table 28	Master Decision Matrix -- Combined Beneficiaries Categories - Un-Weighted.....	133
Table 29	Pair-Wise Judgements for Criterion Weighting.....	134
Table 30	Master Decision Matrix -- Combined Beneficiary Categories - Weighted.....	135
Table 31	Scoring Methodology for Government Cost Criterion.....	136
Table 32	Master Decision Matrix -- Combined Beneficiary Categories - Weighted - Using Score Versus Ranking for the Government Cost Option.....	137
Table 33	Option Ranking Comparison of Un-Weighted and Weighted Criteria with Government Cost Score Versus Rank.....	138
Table 34	Master Decision Matrix -- Open Allotment Beneficiary Category - Weighted.....	139
Table 35	Master Decision Matrix -- Dependent of Active Duty Beneficiary Category - Weighted.....	140
Table 36	Master Decision Matrix -- Retiree, Dependent of Retiree, and Survivor Beneficiary.Category...Weighted.....	141
Table 37	Master Decision Matrix -- Sum of Weighted Individual Beneficiary Category Option.....	142
Table 38	Comparison of Rankings for All Weighted Decision Matrices.....	143

LIST OF FIGURES

Figure 1 Zip Code Area Map.....112

INTRODUCTION

Traditional coordinated care initiatives in the Department of Defense (DOD) principally focus on beneficiaries residing in proximity to military treatment facilities (MTF) in what are termed catchment areas. Yet many eligible beneficiaries reside outside these catchment areas. While some Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) projects, such as the CHAMPUS Reform Initiative and Southeastern Fiscal Intermediary Program (Fant & Pool, 1990), have the potential of affecting non-catchment area beneficiaries, their effect is limited to those eligible for the CHAMPUS program, an indemnity health insurance for active duty dependents and non-Medicare eligible retirees and their dependents.

Frequently these non-catchment area populations include significant numbers of active duty beneficiaries whose health care is funded through the open allotment (OA) system. In Fiscal Year (FY) 1992, the U.S. Army Health Services Command paid a total of \$57,500,000 in OA claims for Army beneficiaries residing in the 50 states, Puerto Rico, and Panama. A total of \$61,100,000 was programmed for FY 93 (Walton, personal communication, May 26, 1993).

Applying coordinated care initiatives to both OA and CHAMPUS beneficiaries in non-catchment areas could yield significant improvements in access and resource efficiency. This is particularly true when these populations are geographically clustered. The Fort George G. Meade (FGGM) U.S. Army Medical Department Activity's (USAMEDDAC) Health Service Area includes such a beneficiary population cluster located in western Pennsylvania in and around the city of Pittsburgh.

CHARLES E. KELLY SUPPORT FACILITY

The Charles E. Kelly Support Facility (CEKSF) is located approximately 10 miles south-west of downtown Pittsburgh in Allegheny County. The CEKSF performs a variety of functions to include administrative and logistical support to those units located on the installation as well as those in surrounding communities and maintaining a commissary and post exchange for beneficiaries in the area. Although CEKSF's area of responsibility varies with its assorted missions, it basically includes western Pennsylvania as well as small portions of Ohio (OH) and West Virginia (WV).

The nearest military treatment facility is an outpatient clinic located 200 miles from the CEKSF in Carlisle Barracks, Pennsylvania. Kimbrough Army Community Hospital (KACH), located on Fort George G. Meade, Maryland, and the Air Force hospital located in Dayton, Ohio, are the closest military inpatient facilities and are approximately 230 miles distant. The nearest Navy hospital is approximately 260 miles away in Washington, D.C..

In April of 1975, an Army Health Clinic located at the Greater Pittsburgh International Airport closed due to inactivating units in the area. This clinic serviced an average of 874 patients per month from September 1973 to August 1974. Additionally, a Public Health

Service facility in downtown Pittsburgh closed in October 1981 (Hodor, draft memorandum, 11 January, 1989).

Medical care for beneficiaries is currently provided by the clinics and hospitals previously noted or under the Open Allotment (OA), CHAMPUS, or Medicare programs depending on the eligibility of the beneficiary. Veterans with service related injuries are also eligible for priority care at local Department of Veterans Affairs (VA) facilities. Additionally, active duty members and veterans with non-service related injuries may receive care at VA facilities on a space available basis.

CONDITIONS WHICH PROMPTED THIS STUDY

Since the mid-1980's, the various commanders of CEKSF have petitioned the FGGM USAMEDDAC to improve health services in the Pittsburgh area, preferably by reopening a clinic. Inadequacies with the current system affect both the individual beneficiary and organizational effectiveness (Burns, memorandum, November 12, 1991; Burns, interview, December 10, 1991).

With no MTF for sick call, soldiers must use civilian physicians who may be unable to see them at the beginning of the work day. Consequently, an active duty member who is well enough to work but needs a prescription medication, may miss a significant portion of the work day waiting for an appointment. Civilian physicians may also be more prone than their military counterparts to excuse soldiers from work (quarters) (Burns, interview, December 10, 1991). This loss of duty time impacts on organizational effectiveness and command and control. The lack of a military physician also makes it difficult to administer military unique health programs such as HIV testing, physical examinations, and weight control.

Many health care providers are unwilling to bill the FGGM USAMEDDAC Claims Office and wait for their payment (Burns, interview, December 10, 1991). Consequently, many active duty members must pay

for their health care out of pocket and wait for reimbursement. Lost time and command and control problems are amplified when the cost of care is expected to exceed \$250 or specialist care is required, since approval from the FGGM USAMEDDAC must be obtained prior to obtaining this care (Army Regulation 40-3, 1985). If the care is available in the military system, such as at KACH, soldiers may be required to travel on temporary duty (TDY) to FGGM to receive their care. This results in time away from their jobs and families, as well as TDY costs to their units.

There are no firm rules as to what medical procedures or health needs will be approved or disapproved. What is approved or disapproved may vary significantly based on current KACH resources and/or leadership philosophy. Additionally, many hospital procedures and policies are not designed for remotely located beneficiaries. A routine physical examination requires a trip for ancillary tests, a second for the actual exam, and additional trips for any problems which are referred to a specialist. An over-40 physical can require yet another trip for a stress test. A vasectomy, which is classified as elective surgery, can not be approved under the Supplemental Care program and requires up to four trips to include a preoperative appointment, surgery, and two subsequent postoperative tests.

The use of CHAMPUS by dependents of active duty can also be a significant burden. Particularly for lower ranking individuals with large families who are forced to use CHAMPUS and pay the \$300 family deductibles (FY 94) and 20% co-payments. Some care, such as school physical examinations, is not authorized under CHAMPUS and must be paid for at the parents' expense. Additionally, dependent parents are not authorized to use CHAMPUS. Their care must be paid for by the active duty member. The lack of an MTF option creates an inequitable health care system for beneficiaries who are not assigned duty near an MTF.

Traditionally, a USAMEDDAC commander has had little control over the care that is received by beneficiaries outside of his catchment area. The Assistant Secretary of Defense for Health Affairs (ASD(HA)) Policy Guidelines on the DOD Coordinated Care Program (January 8, 1992, p. 6-7) states that, "Because no MTF commander is responsible for non-catchment areas, a mechanism for establishing networks [of health care providers] in non-catchment areas will be provided by the ASD(HA) where feasible and desirable." In a draft concept paper, Policy Guideline on Implementing the Managed Care Program in the Military Health System, the ASD(HA) announced that managed care support contracts would be used to

provide managed care services for care received from the civilian sector to include claims processing, utilization management, and establishment of provider networks where appropriate (1993, September 23).

With the tools of coordinated care and the flexibility to innovatively approach the delivery of health care, commanders have an exceptional opportunity to identify and target population clusters in a USAMEDDAC's Health Service Area (HSA) while increasing access for beneficiaries, monitoring the quality of care they receive, and controlling the costs of delivering that care. This can be accomplished prior to the implementation of managed care support contracts or in conjunction with them.

PROBLEM STATEMENT

The current mechanism for delivering health care in non-catchment areas does not adequately ensure acceptable access and resource efficiency. Consequently, beneficiaries residing in the Greater Pittsburgh Area are dissatisfied with their current health care system.

LITERATURE REVIEW

Health care costs in the United States accounted for approximately 11.5% of the gross national product (GNP) in 1990 (Kaiser, 1990) and are expected to reach 16% by the year 2000 (Lanoue, memorandum, January 8, 1993). Critics of the health care system argue that the United States spends too much on health care and that consumers do not receive adequate compensation for the investment. In fact, the United States spends more money on health care than any other country in the world; 38% more than Canada which ranks second in total health care expenditures. Yet the United States is ranked 16th in life expectancy and 17th in infant mortality (Maher, 1990).

Others point to the unique characteristics of the United States, such as our large indigent population, as explanations for the statistics and argue that 11.5%, or even 16%, of the GNP may not be enough funding for health care. Regardless of the conflicting views on how much should be spent on health care, there is nearly unanimous concern over the rate of increase of health care costs which continue to out pace general inflation. From 1985 to 1988, "the medical care component of the CPI [Consumer Price Index] grew half again as fast as did the index for all other items" (Donham &

Vanek, 1990, p. 128). Health care costs continue to experience 10% inflation, twice that of general inflation (Lanoue, memorandum, January 8, 1993).

Health care reform is arguably the most pressing issue facing the country. President Clinton's proposed Health Care Reform Act is placing significant pressure on the health care industry to bring medical inflation under control. The Department of Defense is not immune to this pressure. While the Army budget has been decreasing in real dollars since 1985 (Braendel, 1990), the cost of providing health care has increased steadily. From 1985 to 1990, military medical costs have increased 55% (Mendez, 1990). This has resulted in dedicating an increasing portion of the Defense budget to health care. Of particular note are the increasing costs of CHAMPUS. A study by the United States General Accounting Office (1990) found that from FY 85 to projected costs in FY 91, MTF costs would increase 43% as compared to a 93% increase in CHAMPUS costs.

In response, numerous programs were initiated in an attempt to control CHAMPUS costs. These include the CHAMPUS Reform Initiative, Southeast Fiscal Intermediary Program, and Primary Care for the Uniformed Services Program. Other programs such as Catchment Area Management and Gateway to Care targeted both MTF and CHAMPUS costs

within an MTF's catchment area. All of these programs applied principals of managed care which included lower co-pays and deductibles under CHAMPUS and in some cases enrollment to influence beneficiary and provider behavior in an effort to control costs.

A USAMEDDAC commander is responsible for the delivery of health services to Army beneficiaries residing in his or her Health Service Area (HSA) (Army Regulation 40-4, 1980). The HSA of the FGGM USAMEDDAC includes the states of Delaware and Pennsylvania (less the city of Philadelphia); the state of Maryland less the counties of Charles, St. Mary's, Montgomery, and Prince Georges; five counties of West Virginia bordering on south-western Maryland; and five counties in the north-eastern portion of Virginia (Health Services Command Regulation 40-21, 1992). While the FGGM USAMEDDAC's HSA is much larger than the CEKSF area of operations, the HSA does not include Ohio or the portions of West Virginia falling within CEKSF's scope. The areas in Ohio are in the Fort Knox, Kentucky USAMEDDAC's HSA and the areas in West Virginia are in the Fort Belvoir, Virginia USAMEDDAC's HSA.

Catchment areas are geographic areas within the HSA established around MTFs. They define the beneficiary population which an MTF is resourced for and expected to serve. The size of the catchment area

varies dependent on whether the MTF provides inpatient services. Medical treatment facilities with inpatient services have a 40-mile catchment area. In its purest form, this is a compilation of zip-codes within a 40-mile radius of the MTF. Many times this area is adjusted due to its overlapping with another MTF's catchment area or due to a geographic barrier such as a river which would limit accessibility (Defense Management Information System, 1993).

An MTF which offers only outpatient services is assigned a 20-mile catchment area. The operational impact of the catchment area also differs dependent on whether it is an inpatient MTF or outpatient MTF catchment area.

An inpatient MTF's catchment area has two aspects which significantly impact on how health care is delivered. First, the MTF is funded for and responsible for all beneficiaries residing in the catchment area regardless of their branch of service. Therefore, all care to beneficiaries residing within the catchment area that is provided directly by the MTF and through CHAMPUS is funded directly by the MTF or by the MTF's branch of service. Secondly, beneficiaries must obtain pre-approval (i.e., a non-availability statement) from the MTF prior to obtaining any non-emergency

inpatient services or selected outpatient procedures (see Table 1) through the CHAMPUS program (CHAMPUS Public Affairs Branch, 1992).

Insert Table 1 about here

The CHAMPUS beneficiaries residing in an outpatient MTF's catchment area are not required to obtain a non-availability statement. Although eligibility for care at the MTF is not service specific and is funded for by the MTF's service, all CHAMPUS charges are paid by the beneficiary's service and not necessarily by the parent service of the MTF.

The DOD OA system provides for the health care of active duty beneficiaries residing in a remote area. In the FGGM USAMEDDAC HSA this is defined as 60 miles from the nearest MTF. In addition to active duty beneficiaries, the OA system also provides full health care for Title 10 Active Guard and Reserve beneficiaries, emergency care and limited primary care for individuals on active duty for training and similar training activations, quadrennial physical examinations for Reserve personnel, follow-up care for injuries which occurred in the line of duty, and Reserve Officer Training Corps (ROTC) physical examinations (Army Regulation 40-3, 1985; Health Services Command Pamphlet 40-4, 1987).

Open allotment costs are always paid by the parent service of the beneficiary. As earlier mentioned, certain health care such as physical examinations or medical boards must be performed by a federally employed physician. Likewise, elective procedures are not authorized. The local commander may approve non-specialist care which does not exceed \$250 for the entire episode of care. Pre-approval is not required in the case of emergencies. Any other care must be pre-approved by the beneficiary's parent service MTF (Army Regulation 40-3, 1985).

Army OA bills are paid out of a central account at U.S. Army Health Services Command (HSC). Bills are submitted by the beneficiary to the medical claims office of the servicing MTF. Historically, all claims were paid at the billed rate. Diagnosis Related Groups (DRG) and Usual and Customary Rates were not used. Starting in June of 1991, all hospital bills were processed by the regionally-based CHAMPUS Fiscal Intermediary (FI) for payment under the DRG system (Lanoue, memorandum, 1991, June 25). All other claims to include inpatient and outpatient professional fees are still paid at billed charges.

The FGGM USAMEDDAC has experienced a historical problem with timeliness of claims payments and at one time had a 10 to 11 month backlog. Additional staff were hired in 1989 and the current time from receipt to payment is 30 to 60 days depending on the date of the month the claim is received. Claims received in June, for example, are processed in July. However, this time lengthens considerably if the claim is inaccurate or incomplete and can take from three months up to a year. Consideration for approval of OA care should include: the potential need for authorized absences such as convalescent leave or quarters following care, travel expenses for the unit, loss of duty time, and cost of local care (Davis, information paper, 1990). Currently, the FGGM USAMEDDAC approves virtually all OA requests for physical therapy, most diagnostic procedures, all deliveries, and most medications. Very few requests for surgical care under OA is approved. All requests are dealt with on a case by case basis (LaMarca, interview, February 18, 1993).

Many of the current managed or coordinated care programs have met with varying degrees of success. Absent from these initiatives was a concerted application of the tools of coordinated care to both CHAMPUS and OA beneficiaries in non-catchment areas.

PURPOSE STATEMENT

The purpose of this project is to evaluate alternatives to the current health care delivery mechanism utilized by beneficiaries located in and around Pittsburgh and to propose the most effective method for improving access while ensuring resource efficiency for OA and CHAMPUS beneficiaries. The alternatives evaluated against the current system include initiating a health maintenance organization-like contract, instituting interagency reimbursement of local VA facilities, and opening of a DOD clinic.

DATA COLLECTION**GENERAL**

For this analysis, FY 90 population and CHAMPUS data and FY 91 OA data was used. There can be a significant delay between the date a particular CHAMPUS service is received and the date that the charges for those services are reflected in CHAMPUS reports. Eighteen months are permitted for initial filing of a claim. Additional delays may occur if there are any problems with the claim. Charges for a service received on the last day of FY 1990 may not be included on a full fiscal year's report until FY 92. Therefore, FY 90 data was intentionally requested to ensure complete data was received on CHAMPUS services. Data on population figures were also obtained for FY 90 to allow for accurate cost per beneficiary analysis. Fiscal year 91, the latest complete year of data available at the time of collection, was used for OA to minimize the impact of the transition to DRG-based reimbursement for hospital claims.

The CEKSF area has seen little change in population since FY 90. Base closures and the reduction in force (downsizing) have had minimal to no impact on the population supported (Burns, interview, December 10, 1991). Therefore, it is assumed that the population and demand for services is unchanged.

POPULATION

The goal of the first phase was to identify the geographic location, eligibility categories, and service branches of the beneficiary population residing in the CEKSF area of responsibility. The beneficiary population was obtained via special request from the Defense Management Information System (DMIS) which utilizes Defense Enrollment Eligibility Reporting System (DEERS) data. Fiscal Year 1990 data was provided for the 17, three digit zip codes which comprise the majority of the CEKSF area of responsibility. The beneficiary population of each three digit zip code was broken out by branch of service (Army, Air Force, Marines, Navy, Navy Afloat (those dependents of active duty who were currently serving at sea), Coast Guard, and Other) and further broken out for each branch of service by beneficiary category (Active Duty, Dependent of Active Duty, Retiree, Dependent of Retiree, Guard/Reserve, Dependent of Guard/Reserve, Survivor, and Other (e.g., those authorized health care as a presidential designee)).

All beneficiaries with branches of service other than Army were compiled into an Other category. The Other category represents those beneficiaries whose care and associated funding is not currently provided by the FGGM USAMEDDAC or HSC. The various beneficiary

categories were compiled into eligibility categories of: (a) Open Allotment, (b) Dependent of Active Duty (DofAD), (c) Retirees, Dependents of Retirees, and Survivors (RET/DofR/SV), and (d) Direct/Non-CHAMPUS Eligibles (DIR/Non-CHAMP). This data is depicted in Table 2.

Insert Table 2 about here

The OA category includes all active duty beneficiaries, to include Guard/Reserve, whose care is provided either through OA or the direct care system. Direct care refers to the care available at any MTF or DOD designated facility. The ROTC students who are eligible for health physicals under OA are not included in these population figures. The CHAMPUS eligible categories include those beneficiaries authorized care through either CHAMPUS or the direct care system. The final category of Direct/Non-CHAMPUS eligibles includes those who are eligible for care under the direct care system but are not authorized care under CHAMPUS. This category is principally comprised of Medicare eligible beneficiaries but also includes small numbers of other categories such as dependent parents of service members.

OPEN ALLOTMENT COSTS

Data collection for OA costs presented the greatest challenge. Open allotment claims are manually processed and input into the Standard Army Finance System (STANFINS). The STANFINS is a single entry cost accounting system which was not designed for medical claims processing. Thus it does not have the capability to provide meaningful medical claims data reports. No central data base could be identified which would provide OA data by zip code or site and type of care rendered (i.e., hospitalization or outpatient, internal medicine or orthopedic).

Consequently, computer printouts of 10,704 OA claims approved for payment of \$4,375,034 in FY 91 for the FGGM USAMEDDAC HSA were obtained from STANFINS. Since the FGGM USAMEDDAC claims office only processes Army OA claims within its HSA, the computer printout did not include non-Army OA claims or claims of those beneficiaries residing in the WV or OH zip codes which are in the Fort Belvoir and Fort Knox USAMEDDAC HSAs respectively. The following methodology was used to estimate the services' total OA costs for all zip codes included in the study.

The printouts of OA data contained the payee's name and address, contract number, date paid, and voucher number. The

printouts were manually screened for payee addresses with zip codes matching those in the area under study. Where possible, the type of care was identified by the name of the payee (e.g. Harbor Hospital, John Smith, M.D.). From these printouts it was determined that the total cost of all OA claims for the zip code area was \$1,644,640. This total only includes Army claims and, as noted earlier, excludes the three zip codes of West Virginia and Ohio. This total was divided by the total Army beneficiary population of the 14 Pennsylvania zip codes to obtain an average cost per beneficiary of \$1,023. This figure is slightly inflated since the ROTC student population is not included in the population figures but the cost of their physical examinations is included in the OA costs. To adjust this FY 91 cost to FY 93 dollars, the cost per beneficiary was increased by 6.2% which equals two years of the three year 9.3% inflation experienced in CHAMPUS costs in HSC catchment areas not participating in the managed care program Gateway to Care, or the CHAMPUS Reform Initiative from FY 90 to FY 93 (Noyes, 1993). The resulting cost per beneficiary in FY 93 dollars was \$1,086.20. This figure was then multiplied by the OA population of each zip code for the service categories of Army and Other. The result is depicted in Table 3.

Insert Table 3 about here

Claims were categorized, when identifiable, in the categories of Physician (including inpatient and outpatient charges), Laboratory and Radiology, Mental Health, Hospital, and Pharmacy. When the type of claim was not definitively discernable from the payee's name, the claim was categorized as other. The percentage of total claims for

Insert Table 4 about here

each category was obtained (see Table 4) and then applied to the total claims for each zip code (see Table 5).

Insert Table 5 about here

Inpatient and outpatient physician fees could not be differentiated and, as indicated above, are both included in the category physician. In all cases where the payee was the service member filing the claim, the cost was assigned to the category Pharmacy. This method was adopted at the recommendation of the Chief of Medical Claims who, based on her experience in processing and reviewing claims, stated that virtually 100% of such claims were for pharmaceuticals. The relatively low dollar amounts associated with

claims paid directly to the service member supported this opinion. Although this likely introduced some level of error, it was not possible to more accurately identify the type of care when the service member was the payee.

It is important to note that the average cost per beneficiary of \$1,086 does not include the cost of care provided to beneficiaries in MTFs. Only crude records of denials for care under the OA system were maintained by the FGGM Office of the Deputy Commander for Clinical Services. The amount and cost of care provided at an MTF was estimated during the analysis phase of this project. Other categories of care such as dental, optometry, and ambulance claims were excluded in this analysis.

The validity of estimating total DOD OA costs by averaging Army claims data relies on two main assumptions. First it assumes that the per capita demand for health care among the services is equal. It further assumes that the frequency with which the various services require the beneficiary to obtain his or her care at an MTF is equivalent. This method of averaging across a large number of zip codes also provided an advantage by minimizing the impact of sporadic acute episodes of illness or injury for any one zip code during the data collection year.

As previously mentioned, a DRG-based reimbursement system was initiated in June of 1991. Although it is assumed that this lowered inpatient claim costs, the actual effect is not known. The actual inflation in OA claims between FY 91 and FY 93 is also not known and therefore the CHAMPUS inflation factor (6.2%) was used. During this period, the CHAMPUS maximum allowable reimbursement rates were reduced twice. Since all but inpatient charges under OA are reimbursed at the billed amount it is likely that the actual inflation exceeded the 6.2% used.

CHAMPUS USAGE AND COST

Fiscal year 1990 data on CHAMPUS usage and costs was obtained from the Tri-Service CHAMPUS Statistical Database maintained by Health Care Systems and Clinical Investigation Activity, a Field Operating Agency of HSC. Visit and cost data was provided in ambulatory and inpatient professional services data sets. Another data set included admissions and costs for hospital services. Each set was broken out by beneficiary category (Active Duty, Dependent of Active Duty, Retiree, Dependent of Retiree, Guard/Reserve, Dependent of Guard/Reserve, Survivor, and Other) and branch of service (Army, Air Force, Marines, Navy, Navy AFfloat, Coast Guard, and Other). The CHAMPUS usage and cost data was compiled into the same categories used for the population data (the service categories of Army and Other and the beneficiary categories of DofAD and RET/DofR/SV).

The FY 90 CHAMPUS cost data was increased by 9.3%, which was the CHAMPUS inflation rate experienced in HSC catchment areas which were not participating in the managed care program, Gateway to Care, or the CHAMPUS Reform Initiative (Noyes, 1993). The outpatient, hospital, and inpatient professional data are shown in Tables 6, 7, and 8. All three figures include patient costs, third party payments (private insurance) and government costs. Table 6 includes the

Insert Tables 6, 7, and 8 about here

number of outpatient visits, Table 7 includes the number of hospital admissions and bed days, and Table 8 includes the number of inpatient professional services provided.

ANALYSIS

ALTERNATIVE DELIVERY MECHANISMS

Three potential health care delivery methods will be evaluated against the current system of OA, direct care, and CHAMPUS. The first is establishing a military health clinic in the Pittsburgh area to provide primary and limited specialty care to all categories of beneficiaries. The second is to establish an agreement with the Department of Veterans Affairs to provide all inpatient and outpatient services to OA beneficiaries. The third is to contract with a Health Maintenance Organization (HMO) for all categories of beneficiaries on a per member per month reimbursement schedule.

Clinic Option

The Clinic option assumes that family practitioners would staff the clinic. Consequently, full primary and some specialty outpatient care such as pediatrics and gynecology would be available. The clinic would have limited laboratory and radiologic capabilities. The clinic would not have a pharmacy. Pharmaceuticals would be available under a pre-pack system for dissemination by the clinic providers. Refills for pharmaceuticals dispensed under the pre-pack system would be filled by the KACH pharmacy and mailed to the clinic. Prescriptions written by civilian providers would not be filled under

this system. Therefore, only those beneficiaries using the clinic would have access to pharmaceuticals. Other beneficiaries could make use of a DOD experimental mail-in pharmacy system which includes the state of Pennsylvania and is scheduled to start in January 1994.

Fort Ritchie U.S. Army Health Clinic (AHC), a remote clinic of the FGGM USAMEDDAC, was used as a model for the Pittsburgh clinic and costs were derived from Fort Ritchie's FY 93 operating budget.

Fort Ritchie serves a smaller population but has a similar mix of beneficiary categories. Additional staff and associated costs, to include physicians, were added to provide additional care capability.

Open allotment beneficiaries would be required to use the clinic. The clinic would be open to all other categories of eligible beneficiaries on a space available basis.

Veterans Affairs Option

The second option of using VA assets in the Pittsburgh area assumes that the VA would be willing to provide a full range of outpatient and inpatient care to OA eligible beneficiaries at FY 93 Army MTF interagency reimbursement rates. It further assumes that the VA would dedicate and hire, if necessary, the staff required to provide appropriate access. Although OA beneficiaries are eligible to receive care at VA facilities, they are currently seen on a space

available priority and encounter limited access and lengthy waits. Previous attempts to utilize VA assets under these conditions were unsuccessful. Open allotment beneficiaries would be required to use VA for their care. The DofAD and RET/DofR/SV populations would continue to use CHAMPUS and Medicare for their care.

Health Maintenance Organization Contract Option

The third option of contracting with a civilian HMO in the Pittsburgh area is patterned after the new DOD sponsored U.S. Family Health Plan (USFHP) which replaced the U.S. Treatment Facilities in October of 1993. However, unlike the Baltimore USFHP, under this option OA beneficiaries would be eligible and required to enroll. Other categories of beneficiaries would be offered the option to enroll. The HMO would be reimbursed at a per member per month, gender and age based rate. They would provide all outpatient and inpatient care required.

GEOGRAPHIC FOCUS FOR ANALYSIS

Since the single military Clinic option would serve a much smaller geographic area than would a multi-facility Contract option, the area of study was reduced to equitably compare the various health care delivery options. Although the standard CHAMPUS catchment area for an outpatient clinic is a twenty-mile radius, the FGGM USAMEDDAC's experience with its seven outlying clinics suggests that this is an extremely artificial boundary for defining the population served. Dunham AHC, an outlying clinic located at Carlisle Barracks, Pennsylvania, reports that soldiers have driven 200 miles from Pittsburgh, PA to receive elective care from them. The inaccuracy of the 20-mile radius is particularly significant in the case of retirees, who regularly drive in excess of 60 miles to receive their care. Although this effect is likely greater in rural areas than in urban areas where traffic congestion can increase driving times for similar distances, the assumption was made that a standard 20-mile radius would not accurately reflect the population which a Pittsburgh clinic would serve.

Therefore, the area of study was adjusted from the standard 20-mile radius to include zip code areas which included population centers located just outside the 20-mile radius with appropriate road

networks to support access into the greater Pittsburgh area. However, since population data was obtained by three digit zip, this required the inclusion of a large geographic area which could extend up to 50 miles distant from the geographic center of downtown Pittsburgh. The zip code areas chosen for inclusion in the analysis were the Pennsylvania zip code areas of 150, 151, 152, 153, 156, and 160, the West Virginia zip code of 260 and the Ohio zip code area of 439. Figure 1 shows a sketch map of the area and Table 9 provides a

Insert Figure 1 about here

description of their geographic locations and major roads providing access to downtown Pittsburgh.

Insert Table 9 about here

The zip code areas of 150, 151, and 152 all fall within a 20-mile radius of downtown Pittsburgh and include 77% of the OA population. Only two active duty units supported by CEKSF are located outside this three zip code area in zip codes 153 and 160 (see Table 10). This area also contains a high percentage of the other populations to include 57% of the CHAMPUS eligible population

Insert Table 10 about here

and 64% of the Medicare eligible population. The zip code areas of 153, 156, 160, 260, and 439 include areas up to 50 miles from the geographic center of downtown Pittsburgh. Aggregate population, OA, and CHAMPUS data for this study area is at Table 11.

Insert Table 11 about here

CRITERIA UTILIZED TO COMPARE OPTIONS

The criteria used to compare and evaluate the options were grouped into two primary categories and are shown in Table 12. The first group of Government Criteria included three criterion:

Insert Table 12 about here

(a) the total government cost for care under the option, (b) the degree to which the government could exercise control and maintain the flexibility to meet any changes in population or health care demand, and (c) how well each option supported unit command and control over OA beneficiaries.

The second group of criteria focused on customer satisfaction. This group included criteria which evaluated: (a) the cost to the patient, (b) the geographic convenience of health care sites, (c) the simplicity of the system, and (d) the freedom to choose where and by whom they could receive their health care.

DECISION MATRICES**Government Criteria Decision Matrices****Cost to Government Decision Matrix****Contract Option**

The cost under the Contract option was based on the reimbursement rates of the Baltimore, Maryland USFHP. This reimbursement schedule is gender and age based and is shown in

Insert Table 13 about here

Table 13. The population data did not include gender and age so a number of assumptions were made to obtain an estimated cost.

For the OA eligible population it was assumed that there was equal distribution among the age groups 15-24, 25-34, and 35-44. It was also assumed that 70% of the population was male and 30% female. Although the overall Army population includes a higher percentage of the lower age categories and lower percentage of females, active duty personnel assigned to the Pittsburgh area are not a typical Army population such as that found at a divisional post. This population is comprised principally of headquarters type units (see Table 10) and includes significant numbers of other than Army OA beneficiaries which would also affect the normal mixes. Additionally, the first

age category of 15-24 includes three ages (15 to 17) which would not be present in the OA population (see Table 14). Thus, the first age category includes only 7 ages versus the 10 year age groups in the later two categories and is therefore more heavily weighted. Since enrollment for OA eligible beneficiaries under this option is mandatory, 100% enrollment cost was calculated for 2,099 beneficiaries to be \$3,031,166 (see Table 14).

Insert Table 14 about here

For dependents of active duty it was assumed that one-third of the population were spouses and the remaining two-thirds were dependent children. For dependent children, an equal distribution by age was assumed. The total ages contained in the age groups <2, 2-14, and 15-24 is 22 years (only the ages of 15-21 were considered in the later age group). Therefore, the age group <2, which contained two ages, had 9.1% of the total population. Since only under certain circumstances can children aged 18-21 retain eligibility, the later age group of 15-21 may be inflated. It was also assumed that there was an equal distribution between males and females. The final assumption was that 50% of the eligibles would join the plan while the remaining 50% would continue to use CHAMPUS.

For spouses of active duty, an equal age distribution among the age groups of 15-24, 24-34, and 35-44 was assumed. The first age group of 15-24 includes only ages 18-24 and is therefore intentionally skewed to match the OA population. Although there may be dependent spouses with an age greater than 44, it was assumed to be minimal and not considered. Mirroring the gender ratios of the OA eligible population, it was assumed that 70% of spouses were female and 30% male. It was also assumed that 50% would choose to join the plan.

The contract cost of providing care for 1,775 dependent spouses and 3,550 dependent children was \$3,720,278. Along with the remaining 50% of the CHAMPUS costs (\$2,651,125), the total cost for dependents of active duty under the Contract option was \$6,371,403 (see Table 15).

Insert Table 15 about here

The retiree and dependent population consisted of those that were CHAMPUS eligible and those that were Medicare eligible. For the CHAMPUS eligible population, an equal distribution by gender and age was assumed for the age groups 45-54 and 55-64 and it was assumed that 50% would choose to join the plan. An equal gender distribution

was assumed for the Medicare eligible age groups of 65-69, 70-74, 75-79, 80-84, and 85+. It was assumed that 90% of the population fit into the first three groups (33.33% each) and of the remaining 10%, 8% fit into the 80-84 group and 2% in the 85+ group. The age and gender assumptions made in the Medicare eligible category are the most likely to introduce error. For example, the longevity of females in comparison to males challenges the assumption of equal gender distribution. It was also assumed that 50% of this population would join the plan. This may be underestimated as the USFHP benefits are much better than Medicare and may attract a higher percentage of this population.

The cost under the Contract option for the CHAMPUS eligible population was \$12,307,804 and the remaining CHAMPUS costs were \$2,597,808 for a total cost of \$14,905,611. The contract cost for the Medicare eligible population was \$13,203,498 (see Table 16). It

Insert Table 16 about here

is important to note that costs generated from the Medicare eligible population is all new cost. Currently, the DOD incurs no cost under the OA and CHAMPUS systems for the Medicare eligible population. However, existing law does not permit differentiating between CHAMPUS

and Medicare eligible retirees and their dependents. Since this option would be open to the CHAMPUS eligible RET/DofR/SV population, the Medicare eligible population (DIR/Non-CHAMPUS) had to be included in cost calculations.

The total costs for all populations under the Contract option was \$37,511,678. This amount was reduced by 50% of the total amount of CHAMPUS health care which was funded by third parties such as private insurers for the 50% of the total population which enrolled. The HMO would be expected to recoup this money by billing third party payors. The adjusted government cost is 36,736,820 (see Table 17).

Insert Table 17 about here

Government Clinic Option

Five areas of cost were considered in the Clinic option:

(a) clinic operating expenses, (b) cost of CHAMPUS remaining, (c) cost of OA remaining, (d) cost of direct care remaining, and (e) cost of TDY for direct care. As previously stated, the cost of operating a clinic was based on the operating expenses and workload/staff capabilities of the Fort Ritchie AHC. The Fort Ritchie AHC serves a population of 1,320 active duty beneficiaries (Cameron, 1993). Based on their reported active duty workload of 6,788 visits, each active

duty beneficiary accounts for 5.14 visits per year. Assuming that the OA eligible beneficiaries in the Pittsburgh area have a similar demand for health care, the total Pittsburgh population of 2,099 at 5.14 visits per year per beneficiary would result in a demand for 10,789 visits per year.

The Fort Ritchie AHC had three providers during FY 93, who provided a total of 14,896 visits to all categories of beneficiaries. With an OA visit demand of 10,789, three providers in a Pittsburgh clinic would leave very little space available care for other beneficiaries and CHAMPUS recapture. Therefore, it was determined that a fourth doctor would be needed under this option.

The supply, equipment, contract, rental, and civilian and military pay costs for the Fort Ritchie AHC were acquired for FY 93 from the Medical Productivity Reporting System, an automated expense reporting system maintained by the Resource Management Division of the FGGM USAMEDDAC. These costs were adjusted to account for the addition of the fourth physician. The resulting total cost was \$1,174,500. This clinic operating cost does not include start-up costs, facility rental if necessary, costs of utilities if operating in a civilian building, or the overhead of administrative support received from the FGGM USAMEDDAC. Therefore it may be a significant

underestimate of the true expense, particularly if the facility is located in a rented civilian building.

The addition of a fourth physician gives the clinic a total visit capacity of 19,861. Subtracting out the OA demand of 10,789 leaves 9,072 visits available for other beneficiaries. The total CHAMPUS outpatient demand in the Pittsburgh area of study was 37,313 (see Table 11). The available 9,072 visits falls far short of this demand. However, under the assumption that only 50% of the eligible population would use the clinic and of that only 50% of the type of care they desired would be available at the clinic, the demand falls to 9,328, which is very close to the available visits. Based on this assumption, and by further assuming that these visit percentages can be applied to CHAMPUS costs, the clinic will recapture 25% of the total outpatient CHAMPUS cost of \$3,716,531 or \$929,133. Remaining outpatient CHAMPUS cost would total \$2,787,398. Including 100% of inpatient professional and hospital costs, the total CHAMPUS cost would be \$9,568,733.

Open allotment costs could not be eliminated under a Clinic option. Table 18 depicts those OA costs which could be recaptured

Insert Table 18 about here

and those costs which would remain. It was assumed that 100% of known pharmacy costs could be recaptured. Since the OA category of Physician includes inpatient professional fees as well as specialty care which may not be available at the clinic, only 70% of these costs were included in the recapture figure. While the clinic will have laboratory and radiology capability, it was assumed that some studies and tests would still have to be provided by civilian sources. Therefore, only 80% of these costs were counted for recapture. No recapture in the Mental Health and Hospital categories was included. The Other category included claims that were not definitively identifiable. Upon a subjective review of the payees' name and address on the OA data it appeared likely that many of the unidentifiable claims included pharmacy costs and physician charges made through a billing service. Therefore, it was assumed that 25% of these "other" costs could be recaptured. Based on the above assumptions, the total OA costs recaptured would be \$576,546 and the OA costs remaining would be \$1,703,385.

Data on the current direct care costs of serving the OA beneficiaries was not available. Out of 273 requests in the FGGM USAMEDDAC HSA for OA during the six month period 1 October 1992 to 31 March 1993, only 17 requests, or 6.23%, were disapproved, thus

requiring the beneficiary to use the direct care system only 6.23% of the time. Denials were not identified by unit or location, so the 6.23% denial rate is based on the entire FGGM USAMEDDAC HSA.

Travel distances are a factor in deciding to approve or disapprove OA requests. The greater the distance to the USAMEDDAC, the more likely the request will be approved. Since Pittsburgh is over 200 miles distant, it is likely that the disapproval rate for requests from the Pittsburgh area are lower than 6.23%. However, the completeness of the informal records maintained on these denials is questionable. Some requests were never logged in. Additionally, not all direct care is associated with a denial. Some care is obtained from the direct care system by choice, when the care is not obtainable under the OA system, or when through experience the beneficiary knows it will be denied. Based on these facts, it was estimated that 7% of the OA population's care was received from the direct care system.

What type of care and the cost of that care was also not available. Consequently, direct care costs were estimated from OA costs. It was assumed that on the average it cost the direct care system 25% less than what the government paid civilian sources under the OA system for care. Therefore, direct care costs were estimated

to be 7% of the total OA costs (\$159,592) and then reduced by a 25% efficiency factor to yield an adjusted total direct care cost of \$119,696.

The clinic would not have the capability to recapture much of this direct care cost as it is typically associated with inpatient or sub-specialist care. Only physical examinations and other basic outpatient care could be accomplished by the clinic. Therefore, it was estimated that only 20% (\$18,978) of this care could be recaptured leaving a remaining direct care cost of \$100,718.

The final cost under the Clinic option is the cost of TDY for obtaining care from an MTF. This cost data was also not available and was estimated from population and visit per year data. The Fort Ritchie AHC average of 5.14 visits per beneficiary per year (PBPY) was inflated to 6.0 visits PBPY to account for the fact that Fort Ritchie currently refers patients to other MTFs for inpatient and specialty care which makes their average artificially low for this comparison. The 6.0 visits PBPY was multiplied by 7% to determine the amount of total care required from the direct care system PBPY and then multiplied by the total OA population of 2,099 to determine that 882 total visits would be required from the direct care system. The average TDY cost of a trip was estimated at \$175. This included

reimbursement for a 400 mile round trip at \$0.25 per mile and \$75 per diem for one overnight stay. Assuming that each visit represented one night and one trip to the FGGM USAMEDDAC, the TDY cost for direct care was estimated at \$154,350. Since the clinic is only recapturing 20% of the direct care workload, the savings would be \$30,870 and the remaining TDY cost would be \$123,480.

The total cost of the Clinic option to include the cost of the clinic and the cost of the remaining CHAMPUS, OA, direct care, and TDY was \$12,670,816 (see Table 19). The savings in CHAMPUS, OA, direct care, and TDY of \$1,555,527 would provide a net savings of

Insert Table 19 about here

\$381,027 over the clinic cost of \$1,174,500. Under the assumption that the clinic would recapture 25% of all outpatient CHAMPUS workload, the clinic could potentially recoup 25% of the total CHAMPUS outpatient third party payments of \$582,168. Thus the clinic cost could be reduced by \$145,542 through collections from private insurance.

Veterans Affairs Option

The cost of the VA option was calculated using FY 93 Interagency Rates (Health Services Command Electronic Message, 1992).

Inpatient per day rates were \$728 for general medical care, \$958 for general surgical, \$826 for orthopedic, \$621 for family practice, \$448 for same day surgery, and \$931 for obstetrics and gynecology (OB/GYN). Since OA inpatient care by specialty was not available, equal distribution of demand among all inpatient specialties was assumed (excluding OB/GYN for males). The average cost per bed day for males was \$726.20 and for females was \$760.33. The number of bed days required was estimated from the population using the DOD-based RAND corporation standard of .1338 admissions PBPY (Cornell, personal communication, October 25, 1993) and an estimated average length of stay (ALOS) of three days per admission. The population, admission rate, and ALOS were multiplied to determine a total bed day requirement of 843. Assuming a proportional demand for bed days between males and females, 70% (590) of these bed days were multiplied against the male average cost per bed day and 30% (253) against the female average cost per bed day to determine a total cost of \$620,633 for inpatient care (see Table 20).

The FY 93 outpatient interagency reimbursement rate is \$94 per visit. The demand for outpatient visits was estimated using the Fort Ritchie AHC average of 5.14 visits PBPY multiplied by the OA population of 2,099 to yield a total visit demand of 10,789.

Insert Table 20 about here

At \$94 per visit, the outpatient cost was \$1,014,153. The total inpatient and outpatient cost for care from the VA to OA beneficiaries was \$1,634,787. This was then inflated by 15% to cover VA administrative costs, to provide an incentive for increased access, and to make the overall proposal more attractive to the VA. Since the VA would only provide care to OA beneficiaries, all CHAMPUS costs would remain the same. The total cost of the VA option was \$12,377,871 (see Table 20).

Current System

The Current System costs include \$2,279,932 in OA claims, \$10,497,866 in CHAMPUS costs, \$119,696 in direct care and \$154,350 in TDY costs as calculated for the Clinic option. The total cost of the Current System is \$13,051,844.

Government Cost Summary

The VA option at a cost of \$12,377,871 and the Clinic option at a cost of 12,570,816 both showed a savings over the current system and were ranked at 1 and 2 respectively. The Current System option at a cost of 13,051,844 was ranked at 3. The Contract option at a

cost of 36,736,820 resulted in an increase over the current system and was ranked at 4.

Control and Flexibility Decision Matrix

The control and flexibility criterion is a subjective assessment of the government's ability to ensure efficiency, quality, and access for care received under the various options. Three sub-criteria were established which assessed the government's ability to: (a) monitor quality and customer satisfaction and take action to address customer concerns, (b) adjust services to meet a changing environment or customer needs, and (c) control costs in future years.

Option Weight Development

It was necessary to develop option weights at this point since the impact of each option on the total health care need of the beneficiary population is a function of the amount and type of care demanded by each beneficiary category and the amount and type of care available for each beneficiary category under the various options. Therefore, a beneficiary category weight was developed for each option. These weights factor the percent of demand for outpatient visits and inpatient admissions against the amount of care available for outpatient visits and inpatient admissions under each option for the beneficiary categories of OA, DofAD, and Other (RET/DofR/SV).

To obtain these weights, the decimal percent for outpatient demand relative to total demand for each beneficiary category and the decimal percent of outpatient availability relative to total availability for each option were multiplied. The same was done for inpatient demand and availability. The products were then summed to develop a weight by beneficiary category for each option. For example, the demand from the DofAD population was 17,904 outpatient visits and 903 admissions. Thus the percent demand for outpatient care was 95.20% and for admissions was 4.80%. These percentages were then multiplied against the percent of the demand which would be provided under each option. In the Clinic option the DofAD population would receive 25% of their outpatient and 0% of their inpatient care from the clinic. Multiplying the decimal percents of demand and availability for outpatient and inpatient care results in a value of .24 for outpatient and .0 for inpatient, since none of the DofAD population's demand for inpatient care will be met by the clinic. These values were then summed to obtain a weight of .24 for dependents of active duty under the Clinic option.

These weights were then multiplied by the ranking of each option. If the Clinic option was ranked at 3 with a weight of .24, the final score would be .72. Since the care which could not be

provided under the option would be received under the current system, 1 (100% of demand) less the weight, or .24 in this example, was multiplied by the rank assigned to the Current System. The two scores were summed to assign a final score for each beneficiary category for each option. These calculations and the final weights for each beneficiary category under each option are at Table 21. These option weights will be used in all the remaining criteria analyses.

Insert Table 21 about here

Monitoring and Influencing Quality and Customer Satisfaction

The ability to monitor quality and customer satisfaction was evaluated as a function of how much of the population's care was received at a known location or locations and how easy it would be for the government to influence operations and modify staff behavior at those locations. The Clinic and VA options both offer care at only one site. However, the Clinic option was rated best for ability to influence operations since the clinic would operate under the direct control of the FGGM USAMEDDAC and the VA option would require modification of an agreement. Therefore the Clinic and VA options were ranked at 1 and 2 respectively. The Contract option would offer

care at a finite number of sites and influence over operations would be exercised through penalties built into the contract or contract modification. The Contract option was judged equal to the VA option for ability to influence, but with more sites to monitor, the Contract option was ranked at 3. The Current System was ranked at 4 since care is received at numerous locations which include many civilian sources which the government exercises little to no influence over. The ability to monitor the satisfaction of the chain of command as a customer does not differ among the options since the point of monitoring is the unit and this does not change between options.

Adjust Services

The ability to make adjustments in the services provided under each option was determined to be greatest under the Clinic option since the clinic would operate under the direct control of the FGGM USAMEDDAC. The VA option was judged next best followed by the Contract option since the less formal VA agreement would likely be easier to alter than a formal contract. The current system would be least responsive to local service adjustments required by the Pittsburgh population.

Control Future Costs

The Clinic option was also judged to be best for controlling costs in future years for the same reason of direct control by the FGGM USAMEDDAC and was ranked at 1. The VA and Contract options were judged to be equally advantageous and were both ranked at 2.5. The contract agency would be selected in a competitive manner and thus introduce some cost controls. Cost controls would also be present by virtue of the capitated payment system. However, the contract agency would likely be profit oriented. The VA is not profit oriented and assuming the VA would continue to accept interagency reimbursement rates, inflation would also be controlled. However, since the VA option would be a fee for service operation, the advantages of capitation would be lost.

Although initiatives such as lowering the CHAMPUS maximum allowable reimbursement rates and conversion to DRG-based reimbursement in OA has the ability to control inflation, the lack of direct oversight does not prevent churning (unnecessary visits and procedures), creep (inflated coding of visits and procedures), and the practice of defensive medicine (unnecessary tests). Thus, the Current System was ranked last at 4.

Criterion Summary

The option ranks for each sub-criteria were multiplied against the beneficiary/option weights. The resulting values were summed for each individual beneficiary category and for combined beneficiary categories. These sums were then used to rank each sub-criterion by individual and combined beneficiary categories. The ranks of the individual and combined beneficiary categories for each sub-criterion were then summed and used to obtain individual and combined beneficiary category option rankings for the criterion Control and Flexibility.

The option ranking for the combined beneficiary categories from 1 to 4 was Clinic, Contract, VA, and Current System options. The ranking for the OA population in descending order were the Clinic, VA, Contract, and Current System options. For the DofAD population the Clinic option was ranked at 1 and the contract option was ranked at 2. The VA and Current System options were tied at 3.5. The RET/DofR/SV population ranking was Contract option at 1 and the remaining three options tied at 3 (see Table 22).

Insert Table 22 about here

Unit Command and Control Decision Matrix

This criterion is a subjective assessment of how well each option supports the following three sub-criteria related to unit command and control: (a) accountability, (b) dedicated care, and (c) military medical requirements. This criterion only relates to the OA population but did use the weights developed in the control and flexibility criterion.

The first sub-criterion of accountability ranks the options on how well they support a unit's accountability of its soldiers. It was assumed that fewer sites, fewer health care providers, and less mixing of the OA population with other beneficiary categories and civilians would enhance the ability of the option to achieve this goal. On the measure of number of sites, the Clinic and VA options with only one site each scored 1.5, the Contract option with more than one but a finite number of sites scored 3, and the Current System with the largest number of potential sites scored 4.

The Clinic option would have the least number of providers and was scored 1. The VA, Contract, and Current System options were scored 2, 3, and 4 respectively for increasing numbers of providers. The Clinic and VA options were judged to have the least potential for mixing populations and were both scored 1.5. The Contract option

adds civilian customers to the mix and was ranked at 3. The Current System was ranked at 4.

The second sub-criterion of dedicated care assesses the ability of each option to dedicate health care resources to the OA population in a manner conducive to unit missions. For example, how well will each option support morning sick-call by putting soldiers first so as to return them to work in as timely a manner as possible. The Clinic option with a primary mission of supporting the OA population would best fulfill this role and was scored 1. Under the assumption that the VA would dedicate appropriate resources to the OA population, the VA option was ranked at 2. The Contract option could dedicate specific resources to the OA population through contract requirements, but the OA population would still compete with civilian care for available resources. Therefore the Contract option was ranked at 3. The Current System offers no dedicated services under OA and was ranked at 4.

The third sub-criterion of military medical requirements was an assessment of each option's ability to appropriately and fairly administer military medical programs such as weight control, physical examinations, and medical boards. The Clinic option, by virtue of using providers employed directly by the FGGM USAMEDDAC, was ranked

at 1. The finite number of doctors and the ability to exercise control through agreements and contracts earned the VA and Contract options equal rankings of 2.5. The Current System was ranked at 4.

The ranks of the individual measures under the sub-criterion Accountability were summed and adjusted by the weights. The resulting values were then ranked. The rankings of the sub-criteria Dedicated Care and Military Medical Requirements were likewise adjusted for the weights and then ranked by the resulting values. The weighted ranks were then summed for all sub-criteria and the final ranking for the criterion Unit Command and Control was determined. The Clinic option was ranked at 1, followed by the VA at 2, the Contract option at 3, and the Current System at 4 (see Table 23).

Insert Table 23 about here

Customer Satisfaction Criteria Decision Matrices**Cost to Patient Decision Matrix**

The criterion Cost to Patient accounts for the deductibles, co-pays, and user fees associated with each option. Since there are no costs for the OA population under any of the options, they were not included in the decision matrix for this criterion. The weights developed in the criterion Control and Flexibility were utilized to adjust the rankings. Since the VA option does not provide care for the DofAD or RET/DofR/SV populations, all of their care under the VA option was received from the Current System. Therefore, the VA and Current System options were equally ranked in all cases.

The Clinic option was ranked at 1 since there are no payments associated with care received in the clinic. The Contract option incorporates user fees. Overall, these fees are less than the deductibles and co-pays associated with CHAMPUS. They are significantly less for CHAMPUS eligible retirees who pay fewer user fees than other beneficiaries and for the DIR/Non-CHAMPUS population who receive their care under Medicare and must pay premiums for Medicare Part B and private insurance supplemental coverage to achieve similar deductibles and co-pays. The only area where CHAMPUS is potentially less costly is inpatient care for DofAD who only pay a

per diem subsistence rate of \$9.30 with no deductible or co-pay. However, since the majority of care sought by this population is in the outpatient arena, the net result is higher overall costs under CHAMPUS. Therefore, the Contract option was rated 3 and the Current System and VA options were rated 4.

The rankings were weighted and the resulting scores ranked. For the combined beneficiary categories, the Contract option was ranked at 1, followed by the Clinic option ranked at 2 and the VA and Current System options both ranked at 3.5. The ranking for the DofAD category was the same as the combined. The Contract option was also ranked at 1 for the RET/DofR/SV category but the Clinic, VA, and Current System options were all ranked at 3.5 (see Table 24).

Insert Table 24 about here

Geographic Convenience Decision Matrix

The geographic convenience of the care would be a significant factor in utilization of the clinic and a decision to enroll in the Contract option. The geographic convenience which each option offers will also significantly impact on the satisfaction of the beneficiaries. Given the large geographic area of the study, providing care at only one site would likely be inconvenient for a

significant portion of the population. The option which provides the greatest geographic convenience is the Current System (ranked at 1). Civilian sources for care are available throughout the study area. The option providing the next most geographic convenience is the Contract option ranked at 2. The Clinic and VA options would both be available at only one location and were therefore both ranked at 3.5.

These option ranks were adjusted using the weights developed in the Control and Flexibility criterion. The adjusted scores were used to rank the option for combined and individual beneficiary categories. The combined beneficiary categories scores resulted in a rank of 1 for the Current System, 2 for the Contract option, 3 for the Clinic option, and 4 for the VA option. The rank order for the OA population was the Current System at 1, the Contract option at 2, the Clinic option at 3, and the VA option at 4. The VA and Current System options were ranked at 1.5 for the DofAD population since under the VA option the DofAD population receives their care from the Current System. The Contract option was ranked at 3 and the Clinic option 4. The Clinic, VA, and Current System options were tied for a rank of 2 for the RET/DofR/SV population and the Contract option was ranked at 4 (see Table 25).

Insert Table 25 about here

Simplicity Decision Matrix

The criterion simplicity gauges the ease with which each option can be effectively used by the beneficiaries. Simplicity should increase satisfaction. The administrative burden, such as claims filing, involved in each option was used to subjectively evaluate this criterion. It was assumed that under the Contract and VA options, the administrative burden would be on the contractor or VA and not the beneficiary. The Clinic option would likewise not place any administrative requirements on the beneficiary. Therefore, all three options were ranked at 2. The Current System places a significant administrative burden on the beneficiary through both the OA and CHAMPUS programs and was ranked at 4.

The ranks were adjusted by the weights developed in the Control and Flexibility criterion. The options were then ranked for the combined and individual beneficiary categories using the adjusted scores. The combined beneficiary scores revealed that the Contract option was most favorable overall and was ranked at 1. The VA option was ranked at 2, the Clinic option at 3, and the Current System was ranked at 4. The Contract and VA options were both ranked at 1.5 for

the OA population. The Clinic option was ranked at 3 and the Current System 4. The Contract option was ranked at 1 for the DofAD population followed by the Clinic option at 2, and the VA and Current System options both at 3.5. The Contract option was also ranked at 1 for the RET/DofR/SV population. The Clinic, VA, and Current System options all received ranks of 3 (see Table 26).

Insert Table 26 about here

Freedom of Choice Decision Matrix

The freedom to choose the provider and site of care can also be a significant factor in satisfaction. The criterion Freedom of Choice is a subjective assessment of the beneficiaries' freedom to choose where and by whom they will receive their care under each option. Two sub-criteria, Freedom of Provider and Freedom of Location were used to evaluate this criterion.

The Current System was judged to provide the greatest freedom in choice of provider. The Contract and VA options were each ranked at 2.5 since both offer a choice in provider which was judged greater than the choice of providers in the Clinic option which was ranked at 4.

The Current System was also ranked first for freedom of location. The Contract option offered the next most options in location for beneficiaries to choose from and was ranked at 2. The Clinic and VA options were ranked at 3.5 since they both offer only one choice in location.

The option ranks for each sub-criteria were adjusted by the weights developed in the Control and Flexibility criterion. The adjusted scores were used to rank the options for individual and combined beneficiary categories for each sub-criterion. The individual and combined rankings for each sub-criteria were summed and results used to rank the options for the criteria for individual and combined beneficiary categories.

For combined beneficiary categories, the Current System was ranked at 1 and the Clinic, VA, and Contract options were all ranked at 3. The OA population rankings also put the Current System at 1, but ranked the Contract option next at 2, the VA option at 3 and the Clinic option last at 4. For the DofAD population the Current System and VA options were tied at 1.5, followed by the Contract option at 3, and the Clinic option at 4. The Clinic, VA, and Current System options were tied at 2 for the RET/DofR/SV population and the Contract option was ranked at 4 (see Table 27).

Insert Table 27 about here

Combined Criteria Decision Matrices

Combined Beneficiary Category Decision Matrices

The option rankings for all criteria were summed and the resulting values used to provide overall rankings for the options. The option rankings for the Government criteria and Customer Satisfaction criteria were also summed separately and then ranked. The optimal option for all criteria was the Contract option ranked at 1, followed by the Clinic option at 2, the VA option at 3, and the Current System at 4. The best option for the Government alone, based on the Government criteria, was the Clinic option ranked at 1 followed by the VA, Contract and Current System options ranked at 2, 3, and 4 respectively. The best option for the beneficiaries, based on the Customer Satisfaction criteria, was the Contract option ranked at 1 followed by the Current System, VA, and Clinic options in descending order (see Table 28).

Insert Table 28 about here

The previous method results in all criteria having an equal impact on the outcome. However, some criterion were judged to be

more important than others. For example, the Government Cost of each option (strategy) was considered a more critical measure than was the Simplicity of the option. Therefore, the criteria (states of nature) were weighted using the Combined Arms Services Staff School -- Military Application Program Package. This automated program facilitates an analytical selection of weights through pair-wise comparison of the criteria. A decision is made for each criterion pair as to whether they are equally important, or if one criterion is Slightly Favored, Favored, or Strongly Favored over the other. In addition to the weights for each criterion, the statistical program calculated a consistency ratio for the judgements made regarding criteria favorableness.

Table 29 displays in matrix format the judgements made regarding favoring one criterion over another and the resulting

Insert Table 29 about here

weights. In view of current budget constraints, affordability was judged as the single most significant criterion. Therefore, Government Cost was assigned a weight of 5.80. The Control and Flexibility criterion was also weighted heavily at 3.84. The delivery of quality care and ability to adjust services and control

costs in the future is crucial to the success of the option chosen. The next highest weighted criterion was patient cost at 2.63 as it was judged the most significant Customer Satisfaction criterion. The unit command and control criterion received a weight of 1.64 since the Army Medical Department's primary mission is health care to the active duty in support of their mission. The remaining criteria were weighted 1. The internal consistency of these weights was 92.29%.

These weights were applied to the criteria option rankings as in the previous decision matrix utilizing the automated decision matrix option also available in the Combined Arms Services Staff School -- Military Application Program Package. The resulting overall ranking was notably different from the non-weighted

Insert Table 30 about here

ranking (see Table 30). The weighted scores had the Clinic option, rather than the Contract option, ranked 1 followed by the VA, Contract, and Current System options ranked at 2, 3, and 4 respectively.

The automated decision matrix program also provides a sensitivity analysis to determine if the optimal option is sensitive to a change in a criterion's weight. The criterion Control and

Flexibility weighted at 3.84 was found to be sensitive at a weight of 0.84. Using these weights the optimal option would be the VA. It was necessary to use option ranks to achieve equitable comparisons between the criterion since the option scores were not analogous across criteria. However, this method did introduce some artificiality. Large differences and minimal differences in sum scores were concealed in the rankings. Whether an option's sum score exceeded another option's sum score by 10 or 1,000, it received a rank only one point higher. This effect was particularly present on the Government Cost criterion.

To measure this effect, the total government cost for each option was assigned a score based on the change in total cost from the current system. Scores were assigned at increments of 1 for every 10% in savings or increased cost. A negative value indicated a savings and a positive value indicated an increase in cost. For example, a 10% savings was scored -1 and a 20% increase was scored +2. The Current System was scored 0. The Contract option scored a +6. The VA and Clinic options both scored a -1 (see Table 31).

Insert Table 31 about here

These scores were used in place of rankings for the government cost criterion in the weighted combined beneficiary category decision matrix (see Table 32).

Insert Table 32 about here

Table 33 shows the option sum scores and rankings of the (a) un-weighted criteria using option ranks, (b) weighted criteria using option ranks, and (c) weighted criteria using scores for the Government Cost criterion and option ranks for all other criteria.

Insert Table 33 about here

The delta between the Contract and Clinic options' weighted scores changed from 11.59 on the decision matrix using ranks to 40.59 when using scores. Although the Clinic option remained at a rank of 1 and the VA option at a rank of 2, the Contract option dropped from a rank of 3 to 4. None of the options were sensitive to changes in the criteria weights.

Individual Beneficiary Categories Decision Matrices

A weighted decision matrix was also developed for each individual beneficiary category utilizing that category's ranking from each criterion. One exception to this rule was made with the

criterion Government Cost which could not be broken out by beneficiary category and remained the same in all individual beneficiary category decision matrices. The OA decision matrix excluded the criterion Patient Cost since no cost was incurred by this population under any option and the DofAD and RET/DofR/SV decision matrix excluded the criterion Unit Command and Control as it does not apply to this population. This necessitated recalculating the criteria weights. Utilizing the method previously employed, and adjudging the same favorableness in comparison of criteria, the weights for the OA criteria were determined to be 5.10 for Government Cost, 2.90 for Control and Flexibility, 1.60 for Unit Command and Control, and 1.00 for the remaining criteria. The consistency ratio was 93.32%. The weights for the DofAD and RET/DofR/SV criteria were 4.90 for Government Cost, 2.70 for Control and Flexibility, 1.60 for Patient Cost, and 1.00 for the remaining criteria. The consistency ratio was 96.13%.

The OA decision matrix (see Table 34) resulted in a rank of 1 for the VA option, followed by the Clinic, Current System and Contract options at 2, 3, and 4 respectively. Sensitivity analysis

Insert Table 34 about here

found that four of the six criteria were sensitive at various weights as shown in Table 34.

The DofAD matrix (see Table 35) resulted in the Clinic option earning a rank of 1 followed by the VA option at 2, Contract option

Insert Table 35 about here

at 3, and the Current System at 4. Like the OA matrix, the RET/DofR/SV (see Table 36) matrix ranked the VA at 1 and Clinic

Insert Table 36 about here

option at 2. However, the Contract option was ranked at 3 and the Current System at 4.

Combined Individual Beneficiary Categories Decision Matrices

The individual beneficiary category option ranks developed in the decision matrices in Tables 34, 35, and 36 were also summed in a weighted decision matrix (see Table 37). The criteria in this matrix

Insert Table 37 about here

were the three populations. The weights were developed using the Combined Armed Services Staff School -- Military Application Program Package. The populations were judged against each other based on the

priority of care established by regulation (Army Regulation 40-3, 1985). The OA population was Favored over the DofAD population and Strongly Favored over the RET/DofR/SV population. The DofAD population was Favored over the RET/DofR/SV population. These judgements yielded weights of 5.2 for the OA population, 2.3 for the DofAD population, and 1.0 for the RET/DofR/SV population with a consistency ratio of 93.18%. Utilizing this method, the VA was the optimal option and ranked at 1 followed by the Clinic, Current System, and Contract options.

RESULTS

Table 38 displays the option rankings for the weighted combined beneficiary category decision matrix, the individual beneficiary category decision matrices, and the weighted beneficiary category

Insert Table 38 about here

decision matrix. In all five decision matrices the Clinic and VA option sum scores were very close. In the OA and RET/DofR/SV individual beneficiary and combined individual beneficiary categories decision matrices, the VA option received a rank of 1. The Clinic option was ranked at 1 for the combined beneficiary categories and the DofAD individual beneficiary category decision matrices. The Contract and Current System options were ranked at 3 or 4 in all matrices.

The OA individual beneficiary category decision matrix and the combined individual beneficiary categories decision matrix with weighted beneficiary categories both found the VA option to be the best alternative delivery mechanism for the OA population. The VA option was ranked better than the Clinic option in the Freedom of Choice, Simplicity, and Government Cost Criteria. Surprisingly, the Current System option came in at a rank of 3 followed by the Contract

option at a rank of 4. The Contract option's ranking of 4 behind the current system is a result of better scores for the Current System option on the criteria Government Cost, Geographic Convenience, and Freedom of Choice.

The DofAD population individual beneficiary category decision matrix and combined beneficiary categories decision matrix ranked the options the same with the Clinic option at 1, the VA option at 2, the Contract option at 3, and the Current System option at 4. Since under the VA option all care for the DofAD population was received under the Current System, the Clinic option was actually competing with the Current System option on the DofAD decision matrix.

Although the VA and Clinic option were ranked at 1 and 2 for the RET/DofR/SV population in the individual beneficiary category decision matrix, this is a result of the overall Government cost which was a constant on all individual beneficiary category decision matrices. The only option which altered this population's method of receiving care was the contract option which scored better than the Current System. This is more obvious when comparing the options utilizing the separate criteria groups of Government and Customer Satisfaction.

The Government criteria consistently rated the Clinic and VA options at 1 or 2 and the Current System and Contract options at 3 or 4. Because of the heavy weighting on Government criteria these ranks are consistent with the overall ranking in the combined beneficiary categories decision matrix. However, the Contract option was ranked 1 for all individual beneficiary categories and the combined beneficiary category when only considering customer satisfaction.

CONCLUSION

This analysis presented a subjective review of three alternative health care delivery mechanisms for beneficiaries in the Pittsburgh area. Based on this analysis, the military outpatient clinic option is the best overall alternative to the current system. If one places more emphasis on serving the OA population then the VA is the best option. Although the HMO Contract option provides the greatest customer satisfaction, it was ranked third primarily due to its significant cost.

These results are heavily contingent on the validity of numerous assumptions, estimates, and subjective assessments made in the data collection and analysis phases. Fiscal year 1990 CHAMPUS data was used to ensure completeness of the data. This necessitated applying a nation-wide CHAMPUS inflation factor which may not reflect actual inflation in the Pittsburgh area. It was also necessary to assume that there were no other significant changes in CHAMPUS usage and cost from FY 90 to FY 93.

In order to accurately compare CHAMPUS data to population data, FY 90 data was also used for the population data set. Thus it was necessary to assume that there was no significant change in population from FY 90 to FY 93 in either total numbers or beneficiary

category ratios. Additionally, the population data set did not include age or gender data. Since this data was necessary to estimating option costs, a number of assumptions were made to estimate this data.

The OA data set was the least complete and thus required a significant number of assumptions. The OA data for the area of study was estimated using a FGGM HSA wide data set to determine an average cost per Army beneficiary which was applied to the all-service active duty population in the study area. Although this method had some advantages, its ultimate accuracy relies on the assumptions that the Pittsburgh area did not differ significantly in usage patterns and cost then the HSA-wide average and that the per capita demand for health care among services was equal. Numerous assumptions were also made in categorizing the OA payment data into type of service (radiology, pharmacy, and inpatient/outpatient physician fees) and mix of specialty care (obstetrics, internal medicine, and orthopedics).

Another series of assumptions were made regarding the amount and cost of care received from the direct care system. This data was unavailable and had to be estimated from requests for care under the open allotment system.

Assumptions were also made in establishing the three alternatives or options to the current health care system. None of the options were researched for viability in the Pittsburgh area. The study assumed that a Pittsburgh area HMO would be willing to accept military beneficiaries under a USFHP payment methodology. Likewise, it assumed that the VA would agree to the access standards and payment methodologies established for purpose of this analysis. Finally, the clinic option assumes that staffing could be hired and that an existing government facility could be used. Unavailable data also necessitated estimating costs of TDY, non-direct radiology and laboratory costs, and costs of remaining direct care under the clinic option. All three options factor in an assumed third party collection recoupment. The potential for actual recoupment may be significantly different.

The validity and accuracy of these data assumptions and estimates impact significantly on the resulting option ranking for the Government Cost Criterion. For example, since the options varied in the amount of CHAMPUS they would incorporate, the over- or under-statement of actual CHAMPUS costs might affect the Government Cost rankings. The potential impact of invalid assumptions and inaccurate estimates is amplified by the heavy weighting given the Government

Cost Criterion. The remaining criteria are principally subjective and are not significantly affected by these data assumptions and estimates. However, in that they are subjective and not data dependent, they introduce their own potential for error.

Quantifying these subjective assessments through the use of assessment tools such as customer surveys would increase the validity of the conclusions but were beyond the scope of this project. Using population data with age and gender breakouts, obtaining OA data which specifies the geographic location and type of care received, capturing true direct care costs, the use of a scoring versus ranking system in option comparison, and utilizing actual Navy and Air Force data would enhance a future study.

Only three alternatives were compared to the current system in this study. There are numerous other combinations that could be explored. For example, the Contract option could be evaluated with only the OA population eligible for enrollment. The clinic could be principally staffed with CHAMPUS partners willing to accept CHAMPUS reimbursement at reduced rates. Improvements in the current system are also possible. The \$250 limit on care without approval could be increased. The commander of CEKSF believes this change alone would cut the current problems in half

(Burns, interview, December 10, 1991). Other improvements might include altering USAMEDDAC procedures to minimize trips for care, approving more OA care, and providing housing for patients and their families when care at an MTF is required.

Not all health care requirements were included in this study. Dental care, industrial hygiene, and occupational health were not analyzed. The FGGM USAMEDDAC currently sends OH teams to the CEKSF twice a year. These teams provide over 175 occupational health visits annually. The cost of this mission includes approximately \$1,500 in TDY cost per trip, the salary costs of two registered nurses, a respiratory therapist, OH technician, and files clerk as well as associated supply costs.

Another factor to include in any future study or implementation is the actual sites of care for the alternatives. The actual location of the VA facilities in the Pittsburgh area may have a significant impact on criteria such as geographic convenience. This is also true of the Clinic option.

Caution must be exercised in using zip code based data to make assumptions regarding preferred geographic locations for health care delivery sites. The zip codes used to break out the CHAMPUS eligible population and the CHAMPUS usage and cost data are based on the

residential zip code of the beneficiary as registered in DEERS. Open allotment beneficiaries are registered by their work zip codes. The OA costs are a mixture of residential and site-of-care zip codes, but are predominately site-of-care zip codes.

Open allotment beneficiaries may seek care close to their residence, work, or both depending on the type of care they need. Dependents and Retirees may seek health care sights close to home or may combine their non-urgent health care visits with trips to the commissary or post exchange. Likewise, some dependent spouses may seek health care near their work and may desire to take dependent children to locations near the child's school or day care center. Some zip code areas may not offer a particular specialty or may have insufficient health care resources.

Implementation of any option as described in this study would require the cooperation of the Army, Navy, and Air Force. Both OA and CHAMPUS monies currently under the control of each individual service would have to be pooled. If the option results in a reduction in direct care, MTFs may have to provide any associated savings to help fund implementation of the option. The inclusion of three HSAs in the study would also require the cooperation of three separate Army USAMEDDACs.

The value of this project is not in the conclusions drawn regarding the best option. Data inadequacies necessitated numerous assumptions and estimates which limit the validity of these conclusions. However, the template developed is a useful tool for further analysis. This methodology provides a rational approach to analyze options for providing health care to geographically remote beneficiaries. Subject to the accuracy of the assumptions and estimates made in this project, improvements in the health care provided to beneficiaries in the Pittsburgh area is possible. Increased access, quality control, customer satisfaction, and cost savings are obtainable.

REFERENCES

- Army Regulation 40-3 (1985). Medical, dental, and veterinary care (U.S. G.P.O. 1989-242-446:00198). Washington, DC. Army
- Regulation 40-4 (1980). Army medical department facilities/activities (U.S. G.P.O. TAGO 16A-- December 310-541--79). Washington, DC.
- Assistant Secretary of Defense (Health Affairs) (1992, January 8). Policy Guidelines on the Department of Defense Coordinated Care Program. Washington, DC.
- Assistant Secretary of Defense (Health Affairs) (1993, September 23). Guidelines on Implementing the Managed Care Program in the Military Health System. Washington, DC.
- Braendel, D.A. (1990). A Managed care model for the military departments. Unpublished Manuscript, Office of Prepaid Health Care Financing Administration, Department of Health and Human Services, Washington, DC.

Burns, R.D. (1991, November 12). Medical support for DOD uniformed members. Memorandum to Chief of Staff, First U.S. Army from Garrison Commander, Charles E. Kelly Support Facility. Oakdale, PA.

Burns, R.D. (December 10, 1991). Interview. Garrison Commander, Charles E. Kelly Support Facility. Oakdale, PA.

Cameron, R.D. (1993, October 7). Catchment beneficiary population for fiscal year (FY) 1992, FY93, and FY94. Memorandum to multiple addressees from Health Services Command, San Antonio, TX.

CHAMPUS Public Affairs Branch (1992, July). CHAMPUS handbook (OCHAMPUS 6010.46-H). Aurora, CO.

Cornell, A. (1993, October 25). Personal communication. Data from research in progress by Bennett (1992), RAND Corporation, Long Beach, CA.

Davis, M. (1990). Information Paper. Chief, Medical Claims, U.S. Army Medical Department Activity, Fort George G. Meade, MD.

Defense Management Information System (1993, October

- 1). Catchment area directory -- United States and Puerto Rico inpatient. Defense Medical Systems Support Center, Falls Church, VA.

Donham, C.S., & Vanek, A.E. (1990). Health care

indicators. Health Care Finance Review, 10(3), 125-145.

Fant, D.J., & Pool, C.J. (1990). The CHAMPUS reform

initiative and fiscal intermediary managed care. Journal of Ambulatory Care, 13(3), 22-28.

Health Services Command Regulation 40-21 (with change

- 1) (1992). Health regions and health service areas. San Antonio, TX.

Health Services Command Electronic Message (1992,

October 7). FY93 Medical, Dental and Subsistence Rates for Army Medical Department Treatment Facilities. San Antonio, TX.

Health Services Command Pamphlet 40-4 (1987). Health

care from civilian sources for the active duty soldier. San Antonio, TX.

- Hodor, R.P. (1989, January 11). Establishment of a health clinic. Draft memorandum to Director of Health Services, First U.S. Army from Garrison Commander, Charles E. Kelly Support Facility. Oakdale, PA.
- Kaiser, H.J. (1990). The Health Sector's Share of the Gross National Product. Science, 247(2), 534-538.
- LaMarca, D. (February 18, 1993). Interview. Management Assistant, Deputy Commander for Clinical Services, U.S. Army Medical Department Activity, Fort George G. Meade, MD.
- Lanoue, A.M. (1991, June 25). Implementation of Active Duty Claims Payment Program. Memorandum to Commander, Health Services Command from Office of the Surgeon General, Army. Falls Church, VA.
- Lanoue, A.M. (1993, January 8). The Surgeon General's 1993 Public Affairs Plan. Memorandum to multiple addressees from Office of the Surgeon General, Army. Falls Church, VA.

Maher, W.B. (1990). National Health Insurance.

Federation of American Health Systems Review,

23(1), 34-35.

Mendez, E. (1990). Update on military medicine

[Summary]. Uniformed Services Journal, 14(5),

20-21.

Noyes, H. (1993, September). Cost figures prove

Gateway works. HSC Mercury, pp. 1, 12.

United States General Accounting Office. (1990). DOD

health care: Funding shortfalls in CHAMPUS,

fiscal years 1985-91 (GAO/HRD 90-99BR).

Gaithersburg, MD: U.S. GAO.

Walton, D. (May 26, 1993). Personal Communication.

Budget Analyst, U.S. Army Health Services Command,

Fort Sam Houston, TX.

Table 1

Outpatient Procedures Requiring a Non-Availability
Statement

Arthroscopy
Breast Mass or Tumor Excision
Cataract Removal
Cystoscopy
Dilation and Curettage
GI Endoscopy
Gynecology Laparoscopy
Hernia Repair
Ligation of Transection of Fallopian Tube(s)
Myringotomy or Tympanostomy
Neuroplasty
Nose Repair (Rhinoplasty and Septoplasty)
Strabismus Repair (Eye Muscle Surgery)
Tonsillectomy or Adenoidectomy

Table 2

Population by 3 Digit Zip Code, Beneficiary Category, and Branch of Service

	Z150	Z151	Z152	Z153	Z154	Z155	Z156	Z157	Z160	Z161	Z162	Z163	Z164	Z165	Z260	Z439	Z444	TOTAL
OPENALLOTMENT																		
Army	258	95	453	84	57	41	105	67	80	85	53	56	47	127	45	49	66	1768
Other	93	157	549	26	19	6	30	4	30	23	2	17	5	56	33	12	59	1121
TOTAL	351	252	1002	110	76	47	135	71	110	108	55	73	52	183	78	61	125	2889
CHAMPUS ELIGIBLE																		
DofAD																		
Army	498	383	698	245	153	88	271	117	186	317	98	299	91	202	129	215	365	4355
Other	461	462	770	160	134	72	296	101	144	256	59	153	135	240	197	210	364	4214
TOTAL	959	845	1468	405	287	160	567	218	330	573	157	452	226	442	326	425	729	8569
RET/DofR/SV																		
Army	692	530	1018	336	274	187	554	241	283	346	150	297	195	241	280	345	485	6454
Other	1241	953	1477	503	525	286	920	418	521	607	262	618	388	440	475	620	794	11048
TOTAL	1933	1483	2495	839	799	473	1474	659	804	953	412	915	583	681	755	965	1279	17502
Total CHAMPUS	2892	2328	3963	1244	1086	633	2041	877	1134	1526	569	1367	809	1123	1081	1390	2008	26071
DIR/Non-CHAMP																		
Army	301	259	605	148	159	73	187	89	115	108	52	128	39	104	102	93	99	2661
Other	298	338	535	115	127	85	191	73	103	152	54	114	59	144	123	137	270	2918
TOTAL	599	597	1140	263	286	158	378	162	218	260	106	242	98	248	225	230	369	5579
GRAND TOTAL	3842	3177	6105	1617	1448	838	2554	1110	1462	1894	730	1682	959	1554	1384	1681	2502	34539
TOTAL ALL CATEGORIES																		
Army	1749	1267	2774	813	643	389	1117	514	664	856	353	780	372	674	556	702	1015	15238
Other	2093	1910	3331	804	805	449	1437	596	798	1038	377	902	587	880	828	979	1487	19301
GRAND TOTAL	3842	3177	6105	1617	1448	838	2554	1110	1462	1894	730	1682	959	1554	1384	1681	2502	34539

Table 3

FY93 Open Allotment Costs by Zip Code

	OA POP	CLAIMS PAID		OA POP	CLAIMS PAID
ZIP 150			ZIP 161		
ARMY	258	\$280,239.35	ARMY	85	\$92,326.92
OTHER	93	\$101,016.51	OTHER	23	\$24,982.58
TOTAL	351	\$381,255.86	TOTAL	108	\$117,309.50
ZIP 151			ZIP 162		
ARMY	95	\$103,188.91	ARMY	53	\$57,568.55
OTHER	157	\$170,533.25	OTHER	2	\$2,172.40
TOTAL	252	\$273,722.16	TOTAL	55	\$59,740.95
ZIP 152			ZIP 163		
ARMY	453	\$492,048.17	ARMY	56	\$60,827.15
OTHER	549	\$596,323.28	OTHER	17	\$18,465.38
TOTAL	1002	\$1,088,371.44	TOTAL	73	\$79,292.53
ZIP 153			ZIP 164		
ARMY	84	\$91,240.72	ARMY	47	\$51,051.36
OTHER	26	\$28,241.18	OTHER	5	\$5,431.00
TOTAL	110	\$119,481.89	TOTAL	52	\$56,482.35
ZIP 154			ZIP 165		
ARMY	57	\$61,913.35	ARMY	127	\$137,947.28
OTHER	19	\$20,637.78	OTHER	56	\$60,827.15
TOTAL	76	\$82,551.13	TOTAL	183	\$198,774.43
ZIP 155			ZIP 260		
ARMY	41	\$44,534.16	ARMY	45	\$48,878.96
OTHER	6	\$6,517.19	OTHER	33	\$35,844.57
TOTAL	47	\$51,051.36	TOTAL	78	\$84,723.53
ZIP 156			ZIP 439		
ARMY	105	\$114,050.90	ARMY	49	\$53,223.75
OTHER	30	\$32,585.97	OTHER	12	\$13,034.39
TOTAL	135	\$146,636.87	TOTAL	61	\$66,258.14
ZIP 157			ZIP 444		
ARMY	67	\$72,775.34	ARMY	66	\$71,689.14
OTHER	4	\$4,344.80	OTHER	59	\$64,085.74
TOTAL	71	\$77,120.13	TOTAL	125	\$135,774.88
ZIP 160			ALL ZIPS		
ARMY	80	\$86,895.92	ARMY	1768	\$1,920,399.91
OTHER	30	\$32,585.97	OTHER	1121	\$1,217,629.13
TOTAL	110	\$119,481.89	TOTAL	2889	\$3,138,029.04

Table 4

Categorization of Open Allotment Claims

\$1,382,213.16	Total of all categories	
\$210,401.05	Total of Physician	15.22 Physician % of total
\$28,546.04	Total of Lab & Rad	2.07 Lab & Rad % of total
\$45,135.50	Total of Mental Health	3.27 Mental Health % of total
\$516,449.36	Total of Hospital	37.36 Hospital % of total
\$45,325.64	Total of Pharmacy	3.28 Pharmacy % of total
\$536,355.57	Total of Other	38.80 Other % of total

Table 5

FY93 Open Allotment Claims by Category

		PHARMACY CLAIMS	PHYSICIAN CLAIMS	LAB & RAD CLAIMS	MENTAL HEALTH	HOSPITAL CLAIMS	OTHER CLAIMS	TOT PAID CLAIMS
ZIP 150	ARMY	\$9,190	\$42,658	\$5,788	\$9,151	\$104,708	\$108,744	\$280,239
	OTHER	\$3,313	\$15,377	\$2,086	\$3,299	\$37,744	\$39,199	\$101,017
	TOTAL	\$12,502	\$58,035	\$7,874	\$12,450	\$142,452	\$147,943	\$381,256
ZIP 151	ARMY	\$3,384	\$15,707	\$2,131	\$3,370	\$38,555	\$40,042	\$103,189
	OTHER	\$5,592	\$25,959	\$3,522	\$5,569	\$63,718	\$66,174	\$170,533
	TOTAL	\$8,976	\$41,666	\$5,653	\$8,938	\$102,273	\$106,215	\$273,722
ZIP 152	ARMY	\$16,135	\$74,900	\$10,162	\$16,068	\$183,849	\$190,935	\$492,048
	OTHER	\$19,555	\$90,773	\$12,316	\$19,473	\$222,810	\$231,398	\$596,323
	TOTAL	\$35,690	\$165,672	\$22,477	\$35,540	\$406,659	\$422,333	\$1,088,371
ZIP 153	ARMY	\$2,992	\$13,889	\$1,884	\$2,979	\$34,091	\$35,405	\$91,241
	OTHER	\$926	\$4,299	\$583	\$922	\$10,552	\$10,959	\$28,241
	TOTAL	\$3,918	\$18,188	\$2,468	\$3,902	\$44,643	\$46,364	\$119,482
ZIP 154	ARMY	\$2,030	\$9,424	\$1,279	\$2,022	\$23,133	\$24,025	\$61,913
	OTHER	\$677	\$3,141	\$426	\$674	\$7,711	\$8,008	\$20,638
	TOTAL	\$2,707	\$12,566	\$1,705	\$2,696	\$30,844	\$32,033	\$82,551
ZIP 155	ARMY	\$1,460	\$6,779	\$920	\$1,454	\$16,640	\$17,281	\$44,534
	OTHER	\$214	\$992	\$135	\$213	\$2,435	\$2,529	\$6,517
	TOTAL	\$1,674	\$7,771	\$1,054	\$1,667	\$19,075	\$19,810	\$51,051
ZIP 156	ARMY	\$3,740	\$17,361	\$2,355	\$3,724	\$42,614	\$44,256	\$114,051
	OTHER	\$1,069	\$4,960	\$673	\$1,064	\$12,175	\$12,645	\$32,586
	TOTAL	\$4,809	\$22,321	\$3,028	\$4,788	\$54,789	\$56,901	\$146,637
ZIP 157	ARMY	\$2,386	\$11,078	\$1,503	\$2,376	\$27,192	\$28,240	\$72,775
	OTHER	\$142	\$661	\$90	\$142	\$1,623	\$1,686	\$4,345
	TOTAL	\$2,529	\$11,739	\$1,593	\$2,518	\$28,815	\$29,926	\$77,120
ZIP 160	ARMY	\$2,849	\$13,227	\$1,795	\$2,838	\$32,468	\$33,719	\$86,896
	OTHER	\$1,069	\$4,960	\$673	\$1,064	\$12,175	\$12,645	\$32,586
	TOTAL	\$3,918	\$18,188	\$2,468	\$3,902	\$44,643	\$46,364	\$119,482
ZIP 161	ARMY	\$3,028	\$14,054	\$1,907	\$3,015	\$34,497	\$35,827	\$92,327
	OTHER	\$819	\$3,803	\$516	\$816	\$9,334	\$9,694	\$24,983
	TOTAL	\$3,847	\$17,857	\$2,423	\$3,831	\$43,831	\$45,521	\$117,309
ZIP 162	ARMY	\$1,888	\$8,763	\$1,189	\$1,880	\$21,510	\$22,339	\$57,569
	OTHER	\$71	\$331	\$45	\$71	\$812	\$843	\$2,172
	TOTAL	\$1,959	\$9,094	\$1,234	\$1,951	\$22,322	\$23,182	\$59,741

Table 5 Continued

		PHARMACY CLAIMS	PHYSICIAN CLAIMS	LAB & RAD CLAIMS	MENTAL HEALTH	HOSPITAL CLAIMS	OTHER CLAIMS	TOT PAID CLAIMS
ZIP 163	ARMY	\$1,995	\$9,259	\$1,256	\$1,986	\$22,727	\$23,603	\$60,827
	OTHER	\$606	\$2,811	\$381	\$603	\$6,899	\$7,165	\$18,465
	TOTAL	\$2,600	\$12,070	\$1,638	\$2,589	\$29,627	\$30,769	\$79,293
ZIP 164	ARMY	\$1,674	\$7,771	\$1,054	\$1,667	\$19,075	\$19,810	\$51,061
	OTHER	\$178	\$827	\$112	\$177	\$2,029	\$2,107	\$5,431
	TOTAL	\$1,852	\$8,598	\$1,166	\$1,844	\$21,104	\$21,917	\$56,482
ZIP 165	ARMY	\$4,524	\$20,998	\$2,849	\$4,505	\$51,543	\$53,529	\$137,947
	OTHER	\$1,995	\$9,259	\$1,256	\$1,986	\$22,727	\$23,603	\$60,827
	TOTAL	\$6,518	\$30,258	\$4,105	\$6,491	\$74,270	\$77,133	\$198,774
ZIP 260	ARMY	\$1,603	\$7,440	\$1,009	\$1,596	\$18,263	\$18,967	\$48,879
	OTHER	\$1,175	\$5,456	\$740	\$1,170	\$13,393	\$13,909	\$35,845
	TOTAL	\$2,778	\$12,897	\$1,750	\$2,767	\$31,656	\$32,876	\$84,724
ZIP 439	ARMY	\$1,745	\$8,102	\$1,099	\$1,738	\$19,886	\$20,653	\$53,224
	OTHER	\$427	\$1,984	\$269	\$426	\$4,870	\$5,058	\$13,034
	TOTAL	\$2,173	\$10,086	\$1,368	\$2,164	\$24,757	\$25,711	\$66,258
ZIP 444	ARMY	\$2,351	\$10,913	\$1,481	\$2,341	\$26,786	\$27,818	\$71,689
	OTHER	\$2,102	\$9,755	\$1,324	\$2,093	\$23,945	\$24,868	\$64,086
	TOTAL	\$4,452	\$20,668	\$2,804	\$4,434	\$50,731	\$52,686	\$135,775
ALL ZIPS	ARMY	\$62,974	\$292,324	\$39,661	\$62,710	\$717,537	\$745,194	\$1,920,400
	OTHER	\$39,929	\$185,348	\$25,147	\$39,761	\$454,954	\$472,490	\$1,217,629
	TOTAL	\$102,902	\$477,672	\$64,808	\$102,471	\$1,172,491	\$1,217,684	\$3,138,029

Table 6

FY93 CHAMPUS Outpatient Visits and Costs

		NO. OF VISITS	PATIENT COST	3RD PARTY PAYMENTS	GOVERNMENT COST	NO. OF VISITS	PATIENT COST	3RD PARTY PAYMENTS	GOVERNMENT COST
		ZIP 150				ZIP 161			
DofAD	ARMY	1632	\$54,346	\$3,066	\$142,566	781	\$26,738	\$2,800	\$60,655
	OTHER	1545	\$49,921	\$278	\$119,382	788	\$25,446	\$1,283	\$62,614
	Sub Total	3177	\$104,267	\$3,344	\$261,937	1569	\$52,184	\$4,083	\$123,270
RET/DofR/SV	ARMY	1401	\$63,263	\$26,403	\$148,304	645	\$38,260	\$23,209	\$80,741
	OTHER	2111	\$101,795	\$64,563	\$256,369	946	\$58,900	\$21,424	\$137,484
	Sub Total	3512	\$165,058	\$90,966	\$404,693	1591	\$97,160	\$44,633	\$218,225
Total Army		3033	\$117,610	\$29,469	\$290,859	1426	\$64,998	\$26,009	\$141,396
Total Other		3656	\$161,716	\$64,841	\$376,771	1734	\$84,346	\$22,708	\$200,098
GRAND TOTAL		6689	\$269,326	\$94,310	\$666,630	3160	\$149,344	\$48,716	\$341,494
		ZIP 151				ZIP 162			
DofAD	ARMY	1336	\$43,295	\$2,406	\$116,338	286	\$8,773	\$1,110	\$20,840
	OTHER	1400	\$48,843	\$2,634	\$150,545	213	\$6,974	\$0	\$14,951
	Sub Total	2736	\$92,139	\$5,040	\$266,883	499	\$15,746	\$1,110	\$35,791
RET/DofR/SV	ARMY	1163	\$58,052	\$30,872	\$122,085	438	\$26,385	\$4,849	\$51,732
	OTHER	1702	\$75,339	\$77,480	\$192,131	427	\$18,220	\$5,986	\$35,598
	Sub Total	2865	\$133,391	\$108,352	\$314,216	865	\$44,605	\$10,835	\$87,330
Total Army		2499	\$101,347	\$33,278	\$238,423	724	\$35,158	\$6,960	\$72,671
Total Other		3102	\$124,183	\$80,114	\$342,677	640	\$26,193	\$6,986	\$50,549
GRAND TOTAL		6601	\$225,530	\$113,392	\$581,099	1364	\$60,351	\$11,946	\$123,121
		ZIP 162				ZIP 163			
DofAD	ARMY	2104	\$71,051	\$1,404	\$170,163	620	\$16,171	\$728	\$37,153
	OTHER	2413	\$74,300	\$5,006	\$182,437	615	\$17,143	\$2,940	\$40,186
	Sub Total	4517	\$145,351	\$6,410	\$352,600	1235	\$33,314	\$3,668	\$77,339
RET/DofR/SV	ARMY	1752	\$74,133	\$77,284	\$182,187	761	\$34,824	\$23,804	\$82,380
	OTHER	2199	\$116,757	\$81,899	\$258,696	1268	\$54,645	\$41,611	\$132,132
	Sub Total	3951	\$190,890	\$159,183	\$450,883	2029	\$89,469	\$65,415	\$214,512
Total Army		3856	\$145,183	\$78,688	\$362,350	1381	\$50,995	\$24,532	\$119,533
Total Other		4612	\$191,067	\$86,905	\$441,133	1883	\$71,789	\$44,551	\$172,318
GRAND TOTAL		8468	\$336,241	\$165,593	\$803,483	3264	\$122,783	\$69,083	\$291,850
		ZIP 163				ZIP 164			
DofAD	ARMY	869	\$32,144	\$1,153	\$81,548	343	\$10,506	\$0	\$22,634
	OTHER	574	\$19,328	\$4,769	\$50,507	319	\$11,678	\$74	\$26,372
	Sub Total	1443	\$51,471	\$5,922	\$132,054	662	\$22,184	\$74	\$49,007
RET/DofR/SV	ARMY	648	\$36,012	\$6,071	\$74,366	460	\$15,398	\$26,892	\$38,722
	OTHER	537	\$33,985	\$18,861	\$81,116	617	\$30,911	\$9,307	\$67,651
	Sub Total	1185	\$69,997	\$24,932	\$155,482	1077	\$46,309	\$36,199	\$106,373
Total Army		1517	\$68,156	\$7,224	\$155,914	803	\$26,904	\$26,892	\$61,356
Total Other		1111	\$53,313	\$23,631	\$131,623	936	\$42,589	\$9,381	\$94,023
GRAND TOTAL		2628	\$121,468	\$30,855	\$287,536	1739	\$68,493	\$36,274	\$155,379
		ZIP 164				ZIP 165			
DofAD	ARMY	483	\$15,945	\$115	\$43,894	738	\$22,278	\$391	\$50,309
	OTHER	320	\$9,873	\$235	\$22,517	551	\$14,824	\$211	\$30,114
	Sub Total	803	\$25,818	\$350	\$66,411	1289	\$37,103	\$602	\$80,423
RET/DofR/SV	ARMY	739	\$29,635	\$23,763	\$71,078	391	\$12,540	\$16,019	\$27,323
	OTHER	1000	\$56,076	\$13,143	\$135,165	775	\$39,817	\$13,315	\$74,027
	Sub Total	1739	\$85,712	\$36,907	\$206,243	1166	\$52,357	\$29,334	\$101,349
Total Army		1222	\$45,681	\$23,878	\$114,972	1129	\$34,819	\$16,410	\$77,632
Total Other		1320	\$65,949	\$13,379	\$157,682	1326	\$54,641	\$13,627	\$104,140
GRAND TOTAL		2542	\$111,530	\$37,257	\$272,654	2455	\$89,460	\$29,936	\$181,772

Table 6 Continued

		NO. OF VISITS	PATIENT COST	3RD PARTY PAYMENTS	GOVERNMENT COST	NO. OF VISITS	PATIENT COST	3RD PARTY PAYMENTS	GOVERNMENT COST
ZIP 155						ZIP 260			
DofAD	ARMY	218	\$7,098	\$43	\$16,509	524	\$16,730	\$962	\$36,317
	OTHER	195	\$6,093	\$59	\$13,460	743	\$23,905	\$94	\$62,155
	Sub Total	413	\$13,192	\$102	\$29,969	1267	\$40,636	\$1,057	\$98,473
RET/DofR/SV	ARMY	295	\$18,746	\$4,558	\$44,744	462	\$20,740	\$9,125	\$48,491
	OTHER	963	\$28,427	\$12,413	\$67,214	964	\$44,091	\$29,462	\$178,075
	Sub Total	1258	\$47,174	\$16,971	\$111,958	1426	\$64,831	\$38,587	\$226,566
Total Army		513	\$25,845	\$4,601	\$61,253	986	\$37,470	\$10,088	\$84,808
Total Other		1158	\$34,521	\$12,472	\$80,674	1707	\$67,997	\$29,556	\$240,230
GRAND TOTAL		1671	\$60,365	\$17,073	\$141,927	2693	\$105,467	\$39,644	\$325,039
ZIP 156						ZIP 439			
DofAD	ARMY	946	\$26,354	\$1,014	\$75,177	960	\$30,551	\$984	\$85,219
	OTHER	1116	\$29,571	\$370	\$89,169	695	\$25,730	\$558	\$53,653
	Sub Total	2062	\$55,924	\$1,384	\$164,347	1655	\$56,280	\$1,442	\$138,872
RET/DofR/SV	ARMY	1041	\$48,871	\$9,572	\$105,837	690	\$32,410	\$9,600	\$74,321
	OTHER	1905	\$83,471	\$33,865	\$193,949	1177	\$54,415	\$35,446	\$133,010
	Sub Total	2946	\$132,342	\$42,437	\$299,786	1867	\$86,825	\$45,046	\$207,331
Total Army		1987	\$75,224	\$9,586	\$181,015	1650	\$62,960	\$10,484	\$159,540
Total Other		3021	\$113,042	\$34,235	\$283,118	1872	\$86,145	\$36,004	\$186,663
GRAND TOTAL		5008	\$188,266	\$43,821	\$464,133	3522	\$143,105	\$46,488	\$346,203
ZIP 157						ZIP 444			
DofAD	ARMY	454	\$15,234	\$1,242	\$40,646	1205	\$43,410	\$1,175	\$103,954
	OTHER	363	\$9,096	\$238	\$18,351	1636	\$52,233	\$510	\$117,690
	Sub Total	817	\$24,329	\$1,479	\$58,997	2841	\$95,644	\$1,685	\$221,644
RET/DofR/SV	ARMY	490	\$27,648	\$4,379	\$69,837	1143	\$40,432	\$33,050	\$85,273
	OTHER	784	\$46,231	\$12,746	\$110,196	1631	\$72,834	\$72,325	\$155,568
	Sub Total	1274	\$73,879	\$17,125	\$180,034	2774	\$113,266	\$105,375	\$240,840
Total Army		944	\$42,882	\$5,620	\$110,483	2348	\$83,843	\$34,225	\$189,227
Total Other		1147	\$56,326	\$12,984	\$128,547	3267	\$125,067	\$72,835	\$273,257
GRAND TOTAL		2091	\$99,208	\$18,604	\$239,030	5615	\$208,910	\$107,060	\$462,484
ZIP 160						ALL ZIPS			
DofAD	ARMY	459	\$11,653	\$131	\$25,090	13958	\$452,277	\$18,622	\$1,129,003
	OTHER	598	\$17,731	\$441	\$40,999	14074	\$442,689	\$19,703	\$1,095,103
	Sub Total	1047	\$29,384	\$573	\$66,089	28032	\$894,966	\$38,326	\$2,224,105
RET/DofR/SV	ARMY	534	\$58,934	\$14,607	\$42,453	13053	\$636,283	\$343,059	\$1,359,873
	OTHER	1123	\$63,900	\$32,865	\$133,864	20129	\$979,816	\$576,733	\$2,342,265
	Sub Total	1657	\$122,834	\$47,492	\$176,317	33182	\$1,616,099	\$919,791	\$3,702,138
Total Army		993	\$70,687	\$14,739	\$67,544	27011	\$1,088,561	\$361,681	\$2,488,876
Total Other		1711	\$81,631	\$33,326	\$174,863	34203	\$1,422,505	\$596,436	\$3,437,367
GRAND TOTAL		2704	\$152,218	\$48,065	\$242,407	61214	\$2,511,066	\$958,117	\$6,926,243

Table 7

FY93 CHAMPUS Hospital Admissions, Bed Days, and Costs

		ADMIS- SIONS	BED DAYS	PATIENT COST	3RD PARTY PAYMENTS	GOVERNMENT COST
ZIP 150						
DofAD	ARMY	104	456	\$4,506	\$0	\$236,452
	OTHER	81	347	\$5,553	\$2,847	\$233,607
	Sub Total	185	803	\$10,059	\$2,847	\$470,059
RET/DofR/SV	ARMY	59	395	\$98,706	\$5,702	\$147,957
	OTHER	75	555	\$136,628	\$137,415	\$152,397
	Sub Total	134	950	\$235,334	\$143,117	\$300,354
Total Army		163	851	\$103,212	\$5,702	\$384,409
Total Other		156	902	\$142,181	\$140,262	\$386,004
GRAND TOTAL		319	1753	\$245,393	\$145,964	\$770,412
ZIP 151						
DofAD	ARMY	71	392	\$4,858	\$2,561	\$206,458
	OTHER	56	308	\$5,964	\$4,529	\$238,366
	Sub Total	127	700	\$10,822	\$7,090	\$444,824
RET/DofR/SV	ARMY	41	336	\$68,648	\$29,727	\$129,072
	OTHER	57	437	\$107,438	\$100,332	\$176,759
	Sub Total	98	773	\$176,086	\$130,059	\$305,830
Total Army		112	728	\$73,506	\$32,288	\$335,530
Total Other		113	745	\$113,402	\$104,861	\$415,124
GRAND TOTAL		225	1473	\$186,909	\$137,149	\$750,654
ZIP 152						
DofAD	ARMY	117	665	\$18,880	\$8,707	\$470,010
	OTHER	72	557	\$5,770	\$2,292	\$309,652
	Sub Total	189	1222	\$24,650	\$10,998	\$779,661
RET/DofR/SV	ARMY	85	667	\$130,597	\$49,257	\$276,508
	OTHER	72	734	\$205,310	\$137,785	\$191,448
	Sub Total	157	1401	\$335,907	\$187,042	\$467,957
Total Army		202	1332	\$149,477	\$57,964	\$746,518
Total Other		144	1291	\$211,080	\$140,077	\$501,100
GRAND TOTAL		346	2623	\$360,557	\$198,041	\$1,247,618
ZIP 153						
DofAD	ARMY	59	289	\$2,815	\$264	\$168,455
	OTHER	19	75	\$931	\$0	\$74,757
	Sub Total	78	364	\$3,746	\$264	\$243,212
RET/DofR/SV	ARMY	26	125	\$27,455	\$9,092	\$53,741
	OTHER	17	142	\$33,289	\$0	\$65,487
	Sub Total	43	267	\$60,744	\$9,092	\$119,228
Total Army		85	414	\$30,270	\$9,356	\$222,196
Total Other		36	217	\$34,220	\$0	\$140,244
GRAND TOTAL		121	631	\$64,490	\$9,356	\$362,440

Table 7 Continued

		ADMIS- SIONS	BED DAYS	PATIENT COST	3RD PARTY PAYMENTS	GOVERNMENT COST
ZIP 154						
DofAD	ARMY	22	91	\$935	\$0	\$50,008
	OTHER	10	40	\$2,003	\$0	\$30,278
	Sub Total	32	0	\$2,938	\$0	\$80,286
RET/DofR/SV	ARMY	23	191	\$66,549	\$10,074	\$88,056
	OTHER	26	292	\$70,047	\$42,388	\$276,479
	Sub Total	49	483	\$136,596	\$52,462	\$364,535
Total Army		45	191	\$67,484	\$10,074	\$138,064
Total Other		36	292	\$72,049	\$42,388	\$306,757
GRAND TOTAL		81	483	\$139,534	\$52,462	\$444,821
ZIP 155						
DofAD	ARMY	19	53	\$546	\$694	\$30,610
	OTHER	17	93	\$919	\$0	\$88,639
	Sub Total	36	146	\$1,465	\$694	\$119,249
RET/DofR/SV	ARMY	17	141	\$32,302	\$7,814	\$71,164
	OTHER	13	195	\$13,138	\$2,702	\$30,395
	Sub Total	30	336	\$45,440	\$10,517	\$101,559
Total Army		36	194	\$32,849	\$8,509	\$101,774
Total Other		30	288	\$14,057	\$2,702	\$119,034
GRAND TOTAL		66	482	\$46,905	\$11,211	\$220,809
ZIP 156						
DofAD	ARMY	53	312	\$2,881	\$1,063	\$138,686
	OTHER	39	221	\$2,566	\$1,815	\$112,118
	Sub Total	92	533	\$5,447	\$2,879	\$250,804
RET/DofR/SV	ARMY	46	309	\$88,823	\$17,664	\$146,807
	OTHER	62	551	\$153,264	\$61,254	\$179,601
	Sub Total	108	860	\$242,087	\$78,919	\$326,408
Total Army		99	621	\$91,704	\$18,728	\$285,493
Total Other		101	772	\$155,830	\$63,070	\$291,719
GRAND TOTAL		200	1393	\$247,534	\$81,797	\$577,212
ZIP 157						
DofAD	ARMY	33	150	\$1,373	\$3,298	\$83,040
	OTHER	20	121	\$3,342	\$0	\$85,882
	Sub Total	53	271	\$4,715	\$3,298	\$168,922
RET/DofR/SV	ARMY	20	274	\$28,741	\$8,307	\$101,978
	OTHER	24	131	\$25,021	\$31,451	\$76,691
	Sub Total	44	405	\$53,762	\$39,758	\$178,668
Total Army		53	424	\$30,114	\$11,605	\$185,018
Total Other		44	252	\$28,363	\$31,451	\$162,573
GRAND TOTAL		97	676	\$58,476	\$43,056	\$347,591

Table 7 Continued

		ADMIS- SIONS	BED DAYS	PATIENT COST	3RD PARTY PAYMENTS	GOVERNMENT COST
ZIP 160						
DofAD	ARMY	15	52	\$553	\$0	\$52,077
	OTHER	26	141	\$1,804	\$0	\$92,104
	Sub Total	41	193	\$2,357	\$0	\$144,180
RET/DofR/SV	ARMY	10	55	\$12,954	\$1,890	\$26,313
	OTHER	41	277	\$78,329	\$37,907	\$139,611
	Sub Total	51	332	\$91,283	\$39,797	\$165,924
Total Army		25	107	\$13,507	\$1,890	\$78,390
Total Other		67	418	\$80,133	\$37,907	\$231,715
GRAND TOTAL		92	525	\$93,640	\$39,797	\$310,105
ZIP 161						
DofAD	ARMY	41	146	\$1,214	\$0	\$60,408
	OTHER	24	204	\$1,997	\$0	\$85,257
	Sub Total	65	350	\$3,211	\$0	\$145,665
RET/DofR/SV	ARMY	32	196	\$32,106	\$9,485	\$74,035
	OTHER	39	258	\$42,479	\$24,461	\$102,268
	Sub Total	71	454	\$74,585	\$33,946	\$176,303
Total Army		73	342	\$33,321	\$9,485	\$134,443
Total Other		63	462	\$44,476	\$24,461	\$187,525
GRAND TOTAL		136	804	\$77,796	\$33,946	\$321,968
ZIP 162						
DofAD	ARMY	20	121	\$895	\$2,123	\$92,312
	OTHER	11	111	\$1,072	\$0	\$66,402
	Sub Total	31	232	\$1,966	\$2,123	\$158,713
RET/DofR/SV	ARMY	16	112	\$15,524	\$0	\$30,368
	OTHER	21	137	\$36,570	\$9,983	\$50,431
	Sub Total	37	249	\$52,094	\$9,983	\$80,799
Total Army		36	233	\$16,418	\$2,123	\$122,679
Total Other		32	248	\$37,642	\$9,983	\$116,833
GRAND TOTAL		68	481	\$54,061	\$12,107	\$239,512
ZIP 163						
DofAD	ARMY	36	272	\$2,115	\$0	\$129,626
	OTHER	42	164	\$1,853	\$0	\$128,696
	Sub Total	78	436	\$3,968	\$0	\$258,322
RET/DofR/SV	ARMY	38	277	\$49,997	\$20,701	\$140,916
	OTHER	54	317	\$90,271	\$41,249	\$103,355
	Sub Total	92	594	\$140,268	\$61,950	\$244,272
Total Army		74	549	\$52,113	\$20,701	\$270,542
Total Other		96	481	\$92,123	\$41,249	\$232,051
GRAND TOTAL		170	1030	\$144,236	\$61,950	\$502,593

Table 7 Continued

		ADMIS- SIONS	BED DAYS	PATIENT COST	3RD PARTY PAYMENTS	GOVERNMENT COST
ZIP 164						
DofAD	ARMY	22	96	\$623	\$8,404	\$39,460
	OTHER	12	38	\$599	\$1,836	\$24,009
	Sub Total	34	134	\$1,222	\$10,240	\$63,469
RET/DofR/SV	ARMY	9	52	\$27,435	\$8,531	\$18,472
	OTHER	10	52	\$12,312	\$2,277	\$16,757
	Sub Total	19	104	\$39,748	\$10,808	\$35,229
Total Army		31	148	\$28,058	\$16,934	\$57,932
Total Other		22	90	\$12,911	\$4,114	\$40,766
GRAND TOTAL		53	238	\$40,970	\$21,048	\$98,698
ZIP 165						
DofAD	ARMY	58	181	\$1,372	\$0	\$86,147
	OTHER	35	93	\$1,031	\$99	\$66,605
	Sub Total	93	274	\$2,403	\$99	\$152,753
RET/DofR/SV	ARMY	15	162	\$39,238	\$6,552	\$89,087
	OTHER	24	561	\$79,312	\$11,930	\$424,785
	Sub Total	39	723	\$118,549	\$18,482	\$513,872
Total Army		73	343	\$40,610	\$6,552	\$175,235
Total Other		59	654	\$80,343	\$12,029	\$491,390
GRAND TOTAL		132	997	\$120,953	\$18,581	\$666,625
ZIP 260						
DofAD	ARMY	33	126	\$1,266	\$0	\$65,970
	OTHER	46	144	\$1,549	\$84	\$106,180
	Sub Total	79	270	\$2,815	\$84	\$172,150
RET/DofR/SV	ARMY	24	122	\$17,780	\$17,281	\$67,336
	OTHER	58	483	\$123,269	\$68,299	\$123,155
	Sub Total	82	605	\$141,049	\$85,580	\$190,490
Total Army		57	248	\$19,046	\$17,281	\$133,306
Total Other		104	627	\$124,818	\$68,383	\$229,335
GRAND TOTAL		161	875	\$143,864	\$85,665	\$362,640
ZIP 439						
DofAD	ARMY	60	191	\$1,939	\$708	\$145,482
	OTHER	52	151	\$1,488	\$367	\$98,974
	Sub Total	112	342	\$3,427	\$1,075	\$244,457
RET/DofR/SV	ARMY	20	187	\$50,208	\$9,634	\$35,188
	OTHER	53	405	\$67,410	\$36,519	\$133,669
	Sub Total	73	592	\$117,618	\$46,153	\$168,857
Total Army		80	378	\$52,147	\$10,343	\$180,670
Total Other		105	556	\$68,898	\$36,886	\$232,644
GRAND TOTAL		185	934	\$121,045	\$47,228	\$413,313

Table 7 Continued

		ADMIS- SIONS	BED DAYS	PATIENT COST	3RD PARTY PAYMENTS	GOVERNMENT COST
ZIP 444						
DofAD	ARMY	82	378	\$11,237	\$2,765	\$202,511
	OTHER	100	382	\$5,744	\$7,564	\$220,361
	Sub Total	182	760	\$16,981	\$10,328	\$422,872
RET/DofR/SV	ARMY	33	252	\$42,216	\$45,703	\$63,981
	OTHER	64	461	\$68,389	\$92,973	\$102,854
	Sub Total	97	713	\$110,605	\$138,676	\$166,834
Total Army		115	630	\$53,453	\$48,468	\$266,492
Total Other		164	843	\$74,133	\$100,537	\$323,214
GRAND TOTAL		279	1473	\$127,586	\$149,005	\$589,706
ALL ZIPS						
DofAD	ARMY	845	3880	\$58,008	\$30,587	\$2,257,712
	OTHER	662	3150	\$44,186	\$21,432	\$2,061,887
	Sub Total	1507	7030	\$102,193	\$52,019	\$4,319,599
RET/DofR/SV	ARMY	514	3853	\$829,281	\$257,416	\$1,560,979
	OTHER	710	5988	\$1,342,474	\$838,926	\$2,346,141
	Sub Total	1224	9841	\$2,171,755	\$1,096,342	\$3,907,120
Total Army		1359	7733	\$887,289	\$288,003	\$3,818,690
Total Other		1372	9138	\$1,386,660	\$860,358	\$4,408,028
GRAND TOTAL		2731	16871	\$2,273,948	\$1,148,361	\$8,226,718

Table 8

FY93 CHAMPUS Inpatient Professional Services and Cost

		NO. OF SVCS	PATIENT COST	3RD PARTY PAYMENTS	GVRNMNT COST	NO. OF SVCS	PATIENT COST	3RD PARTY PAYMENTS	GVRNMNT COST
				150				161	
DofAD	ARMY	626	\$2,538	\$385	\$84,628	256	\$805	\$109	\$29,196
	OTHER	551	\$4,467	\$1,841	\$111,906	209	\$337	\$103	\$40,808
	Sub Total	1177	\$7,005	\$2,328	\$196,533	465	\$1,142	\$212	\$70,002
RET/DofR/SV	ARMY	666	\$23,660	\$11,807	\$63,321	358	\$11,260	\$12,375	\$29,174
	OTHER	1070	\$32,588	\$26,107	\$85,343	445	\$16,860	\$19,920	\$42,716
	Sub Total	1736	\$56,248	\$37,914	\$148,663	803	\$28,120	\$32,295	\$71,890
Total Army		1292	\$26,198	\$12,191	\$147,948	614	\$12,065	\$12,484	\$58,371
Total Other		1621	\$37,055	\$28,049	\$197,248	654	\$17,197	\$20,023	\$83,622
GRAND TOTAL		2913	\$63,254	\$40,240	\$345,197	1268	\$29,262	\$32,507	\$141,892
				151				162	
DofAD	ARMY	537	\$1,398	\$1,329	\$65,602	182	\$1,691	\$0	\$25,843
	OTHER	565	\$9,313	\$2,512	\$89,414	157	\$3,075	\$2,049	\$20,999
	Sub Total	1102	\$9,711	\$3,841	\$155,016	339	\$4,765	\$2,049	\$46,732
RET/DofR/SV	ARMY	666	\$23,660	\$11,807	\$63,321	85	\$5,472	\$4,140	\$0
	OTHER	562	\$24,447	\$14,277	\$58,731	278	\$7,752	\$2,907	\$20,509
	Sub Total	1228	\$48,108	\$26,083	\$122,052	363	\$13,224	\$7,048	\$20,509
Total Army		1203	\$25,058	\$13,136	\$128,923	267	\$7,163	\$4,140	\$25,843
Total Other		1127	\$32,760	\$16,788	\$148,145	435	\$10,827	\$4,957	\$41,398
GRAND TOTAL		2330	\$57,818	\$29,924	\$277,068	702	\$17,990	\$9,097	\$67,241
				152				163	
DofAD	ARMY	829	\$7,750	\$5,381	\$131,085	267	\$1,083	\$0	\$45,933
	OTHER	791	\$8,816	\$427	\$134,317	390	\$2,558	\$387	\$47,639
	Sub Total	1620	\$16,566	\$5,808	\$265,401	657	\$3,641	\$387	\$93,573
RET/DofR/SV	ARMY	408	\$13,041	\$15,777	\$83,986	368	\$16,380	\$8,418	\$44,773
	OTHER	976	\$24,804	\$30,729	\$71,058	755	\$28,836	\$17,706	\$66,834
	Sub Total	1384	\$37,845	\$46,506	\$155,044	1123	\$45,216	\$26,124	\$111,606
Total Army		1237	\$20,790	\$21,168	\$215,071	635	\$17,463	\$8,418	\$90,706
Total Other		1767	\$33,420	\$31,156	\$205,375	1145	\$31,394	\$18,092	\$114,473
GRAND TOTAL		3004	\$54,211	\$52,314	\$420,446	1780	\$48,857	\$26,511	\$205,179
				153				164	
DofAD	ARMY	411	\$3,323	\$0	\$47,776	112	\$259	\$0	\$19,822
	OTHER	160	\$1,611	\$137	\$35,921	119	\$1,754	\$0	\$21,037
	Sub Total	571	\$4,934	\$137	\$83,698	231	\$2,014	\$0	\$40,859
RET/DofR/SV	ARMY	209	\$8,094	\$6,365	\$21,696	114	\$4,540	\$8,072	\$15,354
	OTHER	541	\$12,581	\$8,413	\$75,520	121	\$8,300	\$11,493	\$18,282
	Sub Total	750	\$20,674	\$14,777	\$97,216	235	\$12,839	\$19,565	\$33,636
Total Army		620	\$11,417	\$6,365	\$69,472	226	\$4,799	\$8,072	\$35,176
Total Other		701	\$14,191	\$8,549	\$111,441	240	\$10,054	\$11,493	\$39,318
GRAND TOTAL		1321	\$25,608	\$14,914	\$180,913	466	\$14,853	\$19,565	\$74,495

Table 8 Continued

		NO. OF SVCS	PATIENT COST	3RD PARTY PAYMENTS	GVRNMNT COST	NO. OF SVCS	PATIENT COST	3RD PARTY PAYMENTS	GVRNMNT COST
		154				165			
DofAD	ARMY	152	\$752	\$0	\$22,543	319	\$3,637	\$0	\$36,550
	OTHER	187	\$10	\$0	\$19,759	182	\$1,233	\$0	\$39,004
	Sub Total	319	\$762	\$0	\$42,302	501	\$4,870	\$0	\$75,554
RET/DofR/SV	ARMY	421	\$13,919	\$5,031	\$45,490	101	\$6,727	\$16,768	\$14,507
	OTHER	401	\$13,464	\$2,120	\$35,932	316	\$11,139	\$3,564	\$20,370
	Sub Total	822	\$27,383	\$7,151	\$81,422	417	\$17,866	\$20,332	\$34,878
Total Army		573	\$14,671	\$5,031	\$68,033	420	\$10,365	\$16,768	\$51,057
Total Other		568	\$13,474	\$2,120	\$55,692	498	\$12,372	\$3,564	\$59,374
GRAND TOTAL		1141	\$28,145	\$7,151	\$123,724	918	\$22,736	\$20,332	\$110,431
		155				260			
DofAD	ARMY	119	\$1,415	\$1,032	\$15,853	251	\$932	\$0	\$33,300
	OTHER	136	\$632	\$0	\$20,711	482	\$2,414	\$306	\$56,102
	Sub Total	255	\$2,046	\$1,032	\$36,364	733	\$3,346	\$306	\$89,402
RET/DofR/SV	ARMY	271	\$8,391	\$4,167	\$37,209	244	\$8,572	\$4,338	\$25,585
	OTHER	105	\$6,826	\$3,992	\$17,314	822	\$26,821	\$9,599	\$68,749
	Sub Total	376	\$15,217	\$8,159	\$54,523	1066	\$35,393	\$13,937	\$94,334
Total Army		390	\$9,806	\$5,198	\$52,862	495	\$9,504	\$4,338	\$58,885
Total Other		241	\$7,458	\$3,992	\$38,025	1304	\$29,236	\$9,905	\$124,850
GRAND TOTAL		631	\$17,264	\$9,190	\$90,887	1799	\$38,739	\$14,243	\$183,735
		156				439			
DofAD	ARMY	434	\$1,133	\$1,316	\$56,755	396	\$4,873	\$1,470	\$51,486
	OTHER	474	\$3,014	\$371	\$56,613	343	\$2,515	\$1,194	\$52,640
	Sub Total	908	\$4,148	\$1,686	\$113,368	739	\$7,389	\$2,664	\$104,106
RET/DofR/SV	ARMY	338	\$20,610	\$9,505	\$61,682	340	\$7,207	\$7,831	\$24,747
	OTHER	685	\$23,788	\$24,593	\$56,599	758	\$23,747	\$8,521	\$64,327
	Sub Total	1023	\$44,398	\$34,097	\$118,281	1098	\$30,953	\$16,352	\$89,074
Total Army		772	\$21,743	\$10,821	\$118,437	736	\$12,080	\$9,301	\$76,213
Total Other		1169	\$26,803	\$24,963	\$113,212	1101	\$26,262	\$9,715	\$116,967
GRAND TOTAL		1931	\$48,546	\$35,784	\$231,649	1837	\$38,342	\$19,016	\$193,180
		157				444			
DofAD	ARMY	180	\$253	\$0	\$30,312	779	\$3,992	\$0	\$75,159
	OTHER	119	\$2,822	\$0	\$21,794	715	\$12,605	\$0	\$90,590
	Sub Total	299	\$3,075	\$0	\$52,107	1494	\$16,597	\$0	\$165,749
RET/DofR/SV	ARMY	341	\$5,625	\$7,505	\$29,515	440	\$15,236	\$12,367	\$38,953
	OTHER	263	\$11,548	\$5,509	\$33,494	824	\$28,651	\$21,684	\$74,818
	Sub Total	604	\$17,173	\$13,013	\$63,009	1264	\$43,887	\$34,051	\$113,571
Total Army		621	\$5,878	\$7,505	\$69,828	1219	\$19,228	\$12,367	\$114,112
Total Other		382	\$14,370	\$5,509	\$55,288	1539	\$41,266	\$21,684	\$165,208
GRAND TOTAL		903	\$20,247	\$13,013	\$115,116	2758	\$60,483	\$34,051	\$279,321
		160				ALL ZIPS			
DofAD	ARMY	127	\$4,757	\$0	\$19,648	5977	\$40,592	\$11,022	\$791,271
	OTHER	269	\$2,868	\$1,989	\$44,476	5829	\$59,043	\$11,415	\$903,619
	Sub Total	396	\$7,625	\$1,989	\$64,124	11806	\$99,635	\$22,437	\$1,694,890
RET/DofR/SV	ARMY	136	\$6,942	\$1,501	\$12,315	5508	\$199,335	\$147,773	\$611,629
	OTHER	866	\$46,070	\$12,626	\$78,312	9588	\$348,021	\$223,759	\$888,708
	Sub Total	802	\$53,012	\$14,127	\$90,627	15094	\$547,356	\$371,531	\$1,500,336
Total Army		263	\$11,699	\$1,501	\$31,963	11483	\$239,927	\$158,794	\$1,402,899
Total Other		936	\$48,938	\$14,616	\$122,789	15417	\$407,064	\$235,174	\$1,792,327
GRAND TOTAL		1198	\$60,637	\$16,116	\$154,751	26900	\$646,991	\$393,969	\$3,195,226

Figure Caption

Figure 1. Map indicating zip code areas included in
the analysis.

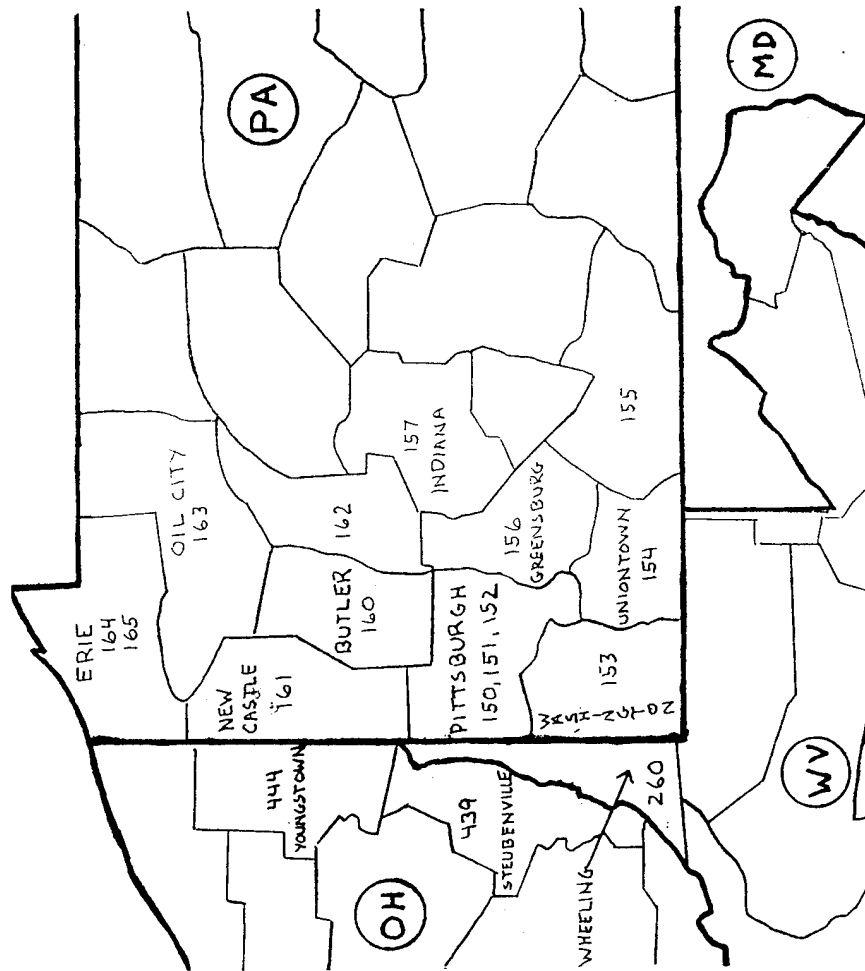


Table 9

Location and Access Routes for Zip Codes Included in the Analysis

ZIP CODE AREA	ORIENTATION TO DOWNTOWN PITTSBURGH	PRINCIPAL ACCESS ARTERIES	
		INTERSTATES	ROUTES
150, 151 152, 260 439	Surrounding, West, & North West	79, 279 376	8, 22, 28, 51, 60, 65
153	South & South West	70, 79	19, 40
156	East, North East, & South East	76	22, 28, 30, 56, 380
160	North	79	8, 19, 28

Table 10

Military Units by Zip Codes

150

- 99th Army Readiness Command
- U.S. Army Readiness Group Pittsburgh
- Charles E. Kelly Support Facility
- 99th U.S. Army Reserve Command

151

- Navy Reserve Center
- Army ROTC -- Penn State University-McKeesport

152

- 911th Tactical Air Group
- Army ROTC
 - University of Pittsburgh
 - Carnegie-Mellon University
 - Duquesne University
- Pittsburgh District, U.S. Army Corps of Engineers
- Headquarters, U.S. Army Recruiting Battalion Pittsburgh
- U.S. Marine Corps Recruiting Station
- U.S. Navy Recruiting District
- 3511th U.S. Air Force Recruiting Squadron
- Military Entrance Processing Station
- 171st Air Refueling Wing
- 112th Tactical Fighter Group
- Defense Contract Administration Services Management Area
- U.S. Coast Guard
- Naval and Marine Corps Reserve Center
- Joint Program Office, Software Engineering Institute
- Inspector General, 2nd Military Police Company

153

- Army ROTC -- Washington-Jefferson College

160

- Army ROTC -- Indiana University of Pennsylvania

Table 11

Aggregate Population, Open Allotment, and CHAMPUS Data for Area of Study

POPULATION

	OA	CHAMPUS DofAD	CHAMPUS RET/DofR/SV	CHAMPUS Sub-Total	DIR/Non- CHAMPUS	GRAND TOTAL
Army	1,169	2,625	4,038	6,663	1,810	9,642
Other	930	2,700	6,710	9,410	1,840	12,180
TOTAL	2,099	5,325	10,748	16,073	3,650	21,822

OPEN ALLOTMENT

	PHARMACY CLAIMS	PHYSICIAN CLAIMS	LAB & RAD CLAIMS	MENTAL HEALTH	HOSPITAL CLAIMS	OTHER CLAIMS	TOT PAID CLAIMS
Army	\$41,638	\$193,284	\$26,224	\$41,464	\$474,435	\$492,722	\$1,269,767
Other	\$33,125	\$153,768	\$20,862	\$32,986	\$377,438	\$391,986	\$1,010,165
TOTAL	\$74,764	\$347,052	\$47,086	\$74,450	\$851,872	\$884,707	\$2,279,932

CHAMPUS OUTPATIENT VISITS AND COSTS

	NO. OF VISITS	PATIENT COST	3RD PARTY PAYMENTS	GOVERNMENT COST
DofAD				
Army	8,830	\$286,124	\$11,019	\$732,408
Other	9,074	\$289,329	\$14,152	\$748,848
SUBTOTAL	17,904	\$575,453	\$25,171	\$1,481,255
RET/DofR/SV				
Army	7,691	\$392,415	\$182,536	\$808,045
Other	11,718	\$573,754	\$374,461	\$1,427,231
SUBTOTAL	19,409	\$966,169	\$556,997	\$2,235,276
Total Army	16,521	\$678,538	\$193,555	\$1,540,452
Total Other	20,792	\$863,083	\$388,613	\$2,176,079
GRAND TOTAL	37,313	\$1,541,622	\$582,168	\$3,716,531

CHAMPUS HOSPITAL ADMISSIONS, BED DAYS, AND COSTS

	ADMIS- SIONS	BED DAYS	PATIENT COST	3RD PARTY PAYMENTS	GOVERNMENT COST
DofAD					
Army	512	2,483	\$37,697	\$13,303	\$1,483,590
Other	391	1,944	\$25,627	\$11,934	\$1,265,757
SUBTOTAL	903	4,427	\$63,324	\$25,237	\$2,749,347
RET/DofR/SV					
Army	311	2,196	\$495,172	\$140,249	\$882,921
Other	435	3,584	\$904,936	\$579,512	\$1,162,127
SUBTOTAL	746	5,780	\$1,400,107	\$719,760	\$2,045,048
Total Army	823	4,679	\$532,869	\$153,552	\$2,366,511
Total Other	826	5,528	\$930,562	\$591,445	\$2,427,884
GRAND TOTAL	1,649	10,207	\$1,463,431	\$744,997	\$4,794,395

Table 11 Continued

CHAMPUS INPATIENT PROFESSIONAL SERVICES AND COSTS

	NO. OF SVCS	PATIENT COST	3RD PARTY PAYMENTS	GOVERNMENT COST
DofAD				
Army	3,611	\$26,705	\$9,881	\$490,260
Other	3,635	\$34,018	\$8,876	\$581,389
SUBTOTAL	7,246	\$60,723	\$18,757	\$1,071,648
RET/DofR/SV				
Army	3,007	\$111,785	\$68,930	\$356,652
Other	6,080	\$214,646	\$134,864	\$558,639
SUBTOTAL	9,087	\$326,431	\$203,794	\$915,291
Total Army	6,618	\$138,490	\$78,811	\$846,912
Total Other	9,715	\$248,664	\$143,740	\$1,140,027
GRAND TOTAL	16,333	\$387,155	\$222,551	\$1,986,940

Table 12

Criteria

Governmental Criteria

- 1) Cost
- 2) Control and Flexibility
- 3) Unit Command and Control

Customer Satisfaction Criteria

- 1) Cost to Patient
- 2) Geographic Convenience & Availability of Care
- 3) Adjustment Required and Complexity
- 4) Freedom to Choose

Table 13

Annual Reimbursement Rates by Gender and Age for the
Baltimore, Maryland U.S. Family Health Plan

<u>AGE GROUP</u>	<u>MALE</u>	<u>FEMALE</u>
<2	\$3,254	\$3,254
2 - 14	\$ 942	\$ 942
15 - 24	\$1,027	\$2,141
25 - 34	\$1,113	\$1,969
35 - 44	\$1,370	\$2,141
45 - 54	\$1,712	\$2,141
55 - 64	\$2,654	\$2,654
65 - 69	\$5,728	\$4,953
70 - 74	\$6,935	\$5,944
75 - 79	\$8,264	\$6,605
80 - 84	\$8,818	\$7,603
85+	\$9,263	\$8,049

Table 14

Government Cost Calculations -- Contract Option - Open Allotment Population

Total Population:	2099		
	Population	Cost per Beneficiary	TOTAL
Age Group:			
15-24 (33.33%)	700		
Male (70%)	490		
Enrolled (100%)	490	\$1,027	\$502,990
Female (30%)	210		
Enrolled (100%)	210	\$2,141	\$449,396
25-34 (33.33%)	700		
Male (70%)	490		
Enrolled (100%)	490	\$1,113	\$545,110
Female (30%)	210		
Enrolled (100%)	210	\$1,969	\$413,293
35-44 (33.33%)	700		
Male (70%)	490		
Enrolled (100%)	490	\$1,370	\$670,980
Female (30%)	210		
Enrolled (100%)	210	\$2,141	\$449,396
GRAND TOTAL			\$3,031,166

Table 15

Government Cost Calculations -- Contract Option -- Dependents of Active Duty Population

Total Population:		5325	
Number of Dependent Children (66.66%)		3550	
Number of Spouses (33.33%)		1775	
Children:			
		Population	Cost per Beneficiary
			TOTAL
Age Group			
<2 (9.1%)		323	
Male (50%)		162	
Enrolled (50%)		81	3254
Female (50%)		162	
Enrolled (50%)		81	3254
2-14 (59.1%)		2098	
Male (50%)		1049	
Enrolled (50%)		525	942
Female (50%)		1049	
Enrolled (50%)		525	942
15-24 (31.8%)		1129	
Male (50%)		564	
Enrolled (50%)		282	1027
Female (50%)		564	
Enrolled (50%)		282	1541
Total -- Children			\$2,238,538
Age Group			
15-24 (33.33%)		592	
Male (30%)		177	
Enrolled (50%)		89	1,027
Female (70%)		414	
Enrolled (50%)		207	1,541
25-34 (33.33%)		592	
Male (30%)		177	
Enrolled (50%)		89	1,113
Female (70%)		414	
Enrolled (50%)		207	2,141
35-44 (33.33%)		592	
Male (30%)		177	
Enrolled (50%)		89	1,370
Female (70%)		414	
Enrolled (50%)		207	1,969
Total -- Spouses			\$1,481,740

Total -- Children and Spouses \$3,720,278

CHAMPUS Costs for 50% of Population not Joining Plan

Inpatient Professional	\$535,824
Out Patient Professional	\$740,628
Hospital	\$1,374,674
Total -- CHAMPUS Costs Remaining	\$2,651,125
GRAND TOTAL	\$6,371,403

Table 17

Government Cost for Contract Option

\$3,031,166	Total Cost for Open Allotment Beneficiaries
\$6,371,403	Total Cost for Dependents of Active Duty
\$28,109,109	Total Cost for Retirees, Dependents of Retirees, and Survivors
\$37,511,678	TOTAL COST ALL CATEGORIES
Total 3rd Party Payments	
\$222,551	CHAMPUS Inpatient Professional Fees Paid by 3rd Parties
\$582,168	CHAMPUS Out Patient Fees Paid by 3rd Parties
\$744,997	CHAMPUS Hospital Charges Paid by 3rd Parties
\$1,549,716	TOTAL CHAMPUS COSTS PAID BY 3rd PARTIES
(\$774,858) 3rd PARTY PAYMENTS FOR 50% OF ENROLLED POPULATION	
\$36,736,820	GOVERNMENT COST FOR CONTRACT OPTION

Table 18

Government Cost Calculations -- Clinic Option -- Open Allotment Population

	Costs	Recapture Percent	Recapture
Pharmacy	\$74,764	100	\$74,764
Physician	\$347,052	70	\$242,936
Lab & Rad	\$47,086	80	\$37,669
Mental	\$74,450	0	\$0
Hospital	\$851,872	0	\$0
Other	\$884,707	25	\$221,177
	Total Recapture		\$576,546
	Total Remaining		\$1,703,385

Table 19

Government Cost for Clinic Option

\$1,174,500	Cost of Clinic
\$9,568,733	Cost of CHAMPUS Remaining
\$1,703,385	Cost of Open Allotment Remaining
\$100,718	Cost for Direct Care Remaining
\$123,480	Cost of TDY Remaining
\$12,670,816	Total Cost for Health Care

Table 20

Government Cost for VA Option

Inpatient

Interagency Rates

Male		Female	
\$728.00	Medical Care	\$728.00	Medical Care
\$958.00	Surgical Care	\$958.00	Surgical Care
\$826.00	Orthopedic Care	\$826.00	Orthopedic Care
\$671.00	Family Practice Care	\$671.00	Family Practice Care
\$448.00	Same Day Surgery	\$448.00	Same Day Surgery
		\$931.00	OB/GYN
\$726.20	Average Cost	\$760.33	Average Cost

Required Bed Days

2099	Population
0.1338	Admissions per Beneficiary
3	Average Length of Stay per Admission
843	Total Bed Days Required

Inpatient Cost

590	Male Bed Days Required (@ 70%)
\$726.20	Male Average Cost per Bed Day
\$428,403	Cost for Male Bed Days
253	Female Bed Days Required (@ 30%)
\$760.33	Female Average Cost per Bed Day
\$192,231	Cost for Female Bed Days
\$620,634	Total Inpatient

Out Patient

5.14	Visits per Beneficiary per Year
2099	OA Population
10789	Total Visits Required
\$94.00	Cost per Visit
\$1,014,153	Total Out Patient

Total Costs

\$620,634	Inpatient
\$1,014,153	Out Patient
\$1,634,787	Total Inpatient and Out Patient
\$245,218	15% Incentive and Administrative Overhead "Bonus"
\$10,497,866	CHAMPUS Costs
\$12,377,871	GRAND TOTAL

Table 21

Development of Option Weights by Beneficiary Category

	OA		DofAD		RET/DofR/SV	
	Out Patient		Out Patient		Out Patient	
	Visits	Admissions	Visits	Admissions	Visits	Admissions
Number	10789	281	17904	903	19409	745
% of Total	97.46%	2.54%	95.20%	4.80%	96.30%	3.70%
Percent of Care Available by Option for Out Patient Visits and Admissions:						
CONTRACT	100.00%	100.00%	50.00%	50.00%	50.00%	50.00%
CLINIC	75.00%	0.00%	25.00%	0.00%	0.00%	0.00%
VA	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
CURRENT	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Product of Demand and Care Available by Option for Out Patient Visits and Admissions:						
CONTRACT	0.97	0.03	0.49	0.01	0.49	0.01
CLINIC	0.73	0.00	0.24	0.00	0.00	0.00
VA	0.97	0.03	0.00	0.00	0.00	0.00
CURRENT	0.97	0.03	0.97	0.03	0.97	0.03
Sum of Products for Out Patient Care and Admissions:						
CONTRACT	1.00		0.50		0.50	
CLINIC	0.73		0.24		0.00	
VA	1.00		0.00		0.00	
CURRENT	1.00		1.00		1.00	

Factors to be Applied to Rankings:

CONTRACT		
Option Factor	1	0.5
Current System Factor	0	0.5
CLINIC		
Option Factor	0.73	0.24
Current System Factor	0.27	0.76
VA		
Option Factor	1	0
Current System Factor	0	1
CURRENT		
Option Factor	1	1
Current System Factor	0	0

Table 22

Control and Flexibility Decision Matrix

	CONTRACT			CLINIC			VA			CURRENT		
	OA	DofAD	Other	OA	DofAD	Other	OA	DofAD	Other	OA	DofAD	Other
Weights:	1.00	0.50	0.50	0.73	0.24	0.00	1.00	0.00	0.00	1.00	1.00	1.00
Sub-Criteria -- Monitor and Influence Quality and Customer Satisfaction												
-Rank for Option	3	3	3	1	1	1	2	2	2	4	4	4
-Score for Population Covered by Plan	3	1.5	1.5	0.73	0.24	0	2	0	0	4	4	4
-Score for Pop. not Covered by Plan (@ rank of 4)	0	2	2	1.08	3.04	4	0	4	4	0	0	0
-Total Score by Beneficiary Category	3	3.5	3.5	1.81	3.28	4	2	4	4	4	4	4
-Rank Order by Beneficiary Category	3	2	1	1	1	3	2	3.5	3	4	3.5	3
-Total Score all Categories	10.00			9.09			10.00			12.00		
-Rank Order all Categories	2.5			1			2.5			4		
Sub-Criteria -- Adjust Services												
-Rank for Option	3	3	3	1	1	1	2	2	2	4	4	4
-Score for Population Covered by Plan	3	1.5	1.5	0.73	0.24	0	2	0	0	4	4	4
-Score for Pop. not Covered by Plan (@ rank of 4)	0	2	2	1.08	3.04	4	0	4	4	0	0	0
-Total Score by Beneficiary Category	3	3.5	3.5	1.81	3.28	4	2	4	4	4	4	4
-Rank Order by Beneficiary Category	3	2	1	1	1	3	2	3.5	3	4	3.5	3
-Total Score all Categories	10.00			9.09			10.00			12.00		
-Rank Order all Categories	2.5			1			2.5			4		
Sub-Criteria -- Future Cost Control												
-Rank for Option	2.5	2.5	2.5	1	1	1	2.5	2.5	2.5	4	4	4
-Score for Population Covered by Plan	2.5	1.25	1.25	0.73	0.24	0	2.5	0	0	4	4	4
-Score for Pop. not Covered by Plan (@ rank of 4)	0	2	2	1.08	3.04	4	0	4	4	0	0	0
-Total Score by Beneficiary Category	2.5	3.25	3.25	1.81	3.28	4	2.5	4	4	4	4	4
-Rank Order by Beneficiary Category	2.5	1	1	1	2	3	2.5	3.5	3	4	3.5	3
-Total Score all Categories	9.00			9.09			10.50			12.00		
-Rank Order all Categories	1			2			3			4		
Sum of Scores by Beneficiary Category												
Option Ranking for OA Population	8.50	5.00	3.00	3.00	4.00	9.00	6.50	10.50	9.00	12.00	10.50	9.00
Option Ranking for DofAD Population	3	2	2	1	1	3	2	3.5	3	4	3.5	3
Option Ranking for RET/DofR/SV Population			1									
Total Sum of Scores for All Beneficiary Categories	6			4			8			12		
OPTION RANKING (Combined Populations)	2			1			3			4		

Table 23

Unit Command and Control Decision Matrix

	Weight:	CONTRACT 1	CLINIC 0.73	VA 1	CURRENT 1
Sub-Criteria -- Accountability					
Measure -- Number of Sites		3	1.5	1.5	4
Measure -- Number of Providers		3	1	2	4
Measure -- Mixing of Populations		3	1.5	1.5	4
Sum of Scores for all Measures		9	4	5	12
-Score for Population Covered by Plan		9.00	2.92	5.00	12.00
-Score for Population not Covered by Plan (@ rank of 4)		0.00	1.08	0.00	0.00
-Total Score		9.00	4.00	5.00	12.00
-Ranking for Sub-Criteria		3	1	2	4
Sub-Criteria -- Dedicated Care					
-Un-Weighted Ranking for Sub-Criteria		3	1	2	4
-Score for Population Covered by Plan		3.00	0.73	2.00	4.00
-Score for Population not Covered by Plan (@ rank of 4)		0.00	1.08	0.00	0.00
-Total Score		3.00	1.81	2.00	4.00
-Ranking for Sub-Criteria		3	1	2	4
Sub-Criteria -- Military Medical Requirements					
-Un-Weighted Ranking for Sub-Criteria		2.5	1	2.5	4
-Score for Population Covered by Plan		2.50	0.73	2.50	4.00
-Score for Population not Covered by Plan		0.00	1.08	0.00	0.00
-Total Score		2.50	1.81	2.50	4.00
-Ranking for Sub-Criteria		2.5	1	2.5	4
Sum of Rankings for all Sub-Criteria		8.5	3	6.5	12
OPTION RANKING		3	1	2	4

Table 24

Cost to Patient Decision Matrix

	CONTRACT		CLINIC		VA		CURRENT	
	DofAD	Other	DofAD	Other	DofAD	Other	DofAD	Other
Weights:	0.50	0.50	0.24	0.00	1.00	0.00	1.00	1.00
-Rank for Option	2.00	2.00	1.00	1.00	3.50	3.50	3.50	3.50
-Score for Population Covered by Plan	1.00	1.00	0.24	0.00	3.50	0.00	3.50	3.50
-Score for Pop. not Covered by Plan (@ rank of 3.5)	1.75	1.75	2.66	3.50	0.00	3.50	0.00	0.00
Sum of Scores by Beneficiary Category	2.75	2.75	2.90	3.50	3.50	3.50	3.50	3.50
Option Ranking for DofAD Population	1.0		2.0		3.5		3.5	
Option Ranking for RET/DofR/SV Population		1.0		3.0		3.0		3.0
Total Sum of Scores for All Beneficiary Categories	5.50		6.40		7.00		7.00	
OPTION RANKING (Combined Populations)	1.00		2.00		3.50		3.50	

Table 25

Geographic Convenience Decision Matrix

WEIGHTS:	CONTRACT			CLINIC			VA			CURRENT		
	OA	DofAD	Other	OA	DofAD	Other	OA	DofAD	Other	OA	DofAD	Other
	1.00	0.50	0.50	0.73	0.24	0.00	1.00	0.00	0.00	1.00	1.00	1.00
-Rank for Option	2	2	2	3.5	3.5	3.5	3.5	3.5	3.5	1	1	1
-Score for Population Covered by Plan	2	1	1	2.555	0.84	0	3.5	0	0	1	1	1
-Score for Pop. not Covered by Plan (@ rank of 1)	0	0.5	0.5	0.27	0.76	1	0	1	1	0	0	0
Sum of Scores by Beneficiary Category	2	1.5	1.5	2.825	1.6	1	3.5	1	1	1	1	1
Option Ranking for OA Population	2			3			4			1		
Option Ranking for DofAD Population	3			4				1.5			1.5	
Option Ranking for RET/DofR/SV Population		4				2			2			2
Total Sum of Scores for All Beneficiary Categories	5.00			5.43			5.50			3.00		
OPTION RANKING (Combined Populations)	2			3			4			1		

Table 26

Simplicity Decision Matrix

	CONTRACT			CLINIC			VA			CURRENT		
	OA	DofAD	Other	OA	DofAD	Other	OA	DofAD	Other	OA	DofAD	Other
Weights:	1.00	0.50	0.50	0.73	0.24	0.00	1.00	0.00	0.00	1.00	1.00	1.00
-Rank for Option	2	2	2	2	2	2	2	2	2	4	4	4
-Score for Population Covered by Plan	2	1	1	1.46	0.48	0	2	0	0	4	4	4
-Score for Pop. not Covered by Plan (@ rank of 4)	0	2	2	1.08	3.04	4	0	4	4	0	0	0
Sum of Scores by Beneficiary Category	2	3	3	2.54	3.52	4	2	4	4	4	4	4
Option Ranking for OA Population	1.5			3			1.5			4		
Option Ranking for DofAD Population		1			2			3.5			3.5	
Option Ranking for RET/DofR/SV Population			1			3			3			3
Total Sum of Scores for All Beneficiary Categories		8.00			10.06			10.00			12.00	
OPTION RANKING (Combined Populations)		1			3			2			4	

Table 27

Freedom of Choice Decision Matrix

	CONTRACT			CLINIC			VA			CURRENT		
	OA	DofAD	Other	OA	DofAD	Other	OA	DofAD	Other	OA	DofAD	Other
WEIGHTS:	1.00	0.50	0.50	0.73	0.24	0.00	1.00	0.00	0.00	1.00	1.00	1.00
Sub-Criteria – Freedom of Provider												
-Rank for Option	2.5	2.5	2.5	4	4	4	2.5	2.5	2.5	1	1	1
-Score for Population Covered by Plan	2.5	1.25	1.25	2.92	0.96	0	2.5	0	0	1	1	1
-Score for Pop. not Covered by Plan (@ rank of 1)	0	0.5	0.5	0.27	0.76	1	0	1	1	0	0	0
-Total Score by Beneficiary Category	2.5	1.75	1.75	3.19	1.72	1	2.5	1	1	1	1	1
-Rank Order by Beneficiary Category	2.5	3	4	4	3	2	2.5	1.5	2	1	1.5	2
-Total Score all Categories		6.00			5.91			4.50			3.00	
-Rank Order all Categories		4			3			2			1	
Sub-Criteria – Freedom of Location of Care												
-Rank for Option	2	2	2	3.5	3.5	3.5	3.5	3.5	3.5	1	1	1
-Score for Population Covered by Plan	2	1	1	2.555	0.84	0	3.5	0	0	1	1	1
-Score for Pop. not Covered by Plan (@ rank of 1)	0	0.5	0.5	0.27	0.76	1	0	1	1	0	0	0
-Total Score by Beneficiary Category	2	1.5	1.5	2.825	1.6	1	3.5	1	1	1	1	1
-Rank Order by Beneficiary Category	2	2	4	3	3	2	4	1.5	2	1	1.5	2
-Total Score all Categories		5.00			5.43			5.50			3.00	
-Rank Order all Categories		2			3			4			1	
Sum of Scores by Beneficiary Category	4.50	5.00	8.00	7.00	6.00	4.00	6.50	3.00	4.00	2.00	3.00	4.00
Option Ranking for OA Population	2			4			3			1		
Option Ranking for DofAD Population		3			4			1.5			1.5	
Option Ranking for RET/DofR/SV Population			4			2			2			2
Total Sum of Scores for All Beneficiary Categories		6			6			6			2	
OPTION RANKING (Combined Populations)		3			3			3			1	

Table 28

Master Decision Matrix – Combined Beneficiary Categories – Un-Weighted

	CONTRACT	CLINIC	VA	CURRENT
Government Criteria:				
Cost	4.00	2.00	1.00	3.00
Control and Flexibility	2.00	1.00	3.00	4.00
Unit Command and Control	3.00	1.00	2.00	4.00
-Sum of Government Criteria	9.00	4.00	6.00	11.00
-Rank Order	3.00	1.00	2.00	4.00
Customer Satisfaction Criteria:				
Patient Cost	1.00	2.00	3.50	3.50
Geographic Convenience	2.00	3.00	4.00	1.00
Simplicity	1.00	3.00	2.00	4.00
Freedom of Choice	3.00	4.00	1.50	1.50
-Sum of Customer Satisfaction Criteria	7.00	12.00	11.00	10.00
-Rank Order	1.00	4.00	3.00	2.00
Sum of Criteria Ranks	16.00	16.00	17.00	21.00
Rank Order	1.00	2.00	3.00	4.00

Table 29

Pair-Wise Judgements for Criterion Weighting

	Government Cost	Control & Flexibility	Unit Command & Control	Patient Cost	Geographic Convenience	Simplicity
Control & Flexibility	3					
Unit Command & Control	4	3				
Patient Cost	3	2	-2			
Geographic Convenience	4	4	2	3		
Simplicity	4	4	2	3	1	
Freedom of Choice	4	4	2	3	1	1

Legend: 1=Equally Important; 2=Slightly Favored; 3=Favored; 4=Strongly Favored
A positive number indicates that the criterion above the number was favored.
A negative number indicates that the criterion to the left of the number was favored.

WEIGHTS

Government Cost	5.80	Control & Flexibility	3.84	Unit Command & Control	1.64	Patient Cost	2.63	Geographic Convenience	1.00	Simplicity	1.00	Freedom of Choice	1.00
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Table 30

Master Decision Matrix -- Combined Beneficiary Categories -- Weighted

	Weight	CONTRACT	CLINIC	VA	CURRENT
		Raw	Weighted	Raw	Weighted
Government Criteria:					
Cost	5.80	4.00	23.20	1.00	5.80
Control and Flexibility	3.84	2.00	7.68	3.00	11.52
Unit Command and Control	1.64	3.00	4.92	2.00	3.28
-Sum of Governmental Criteria			35.80		20.60
-Rank Order			3.00		2.00
Customer Satisfaction Criteria:					
Patient Cost	2.63	1.00	2.63	3.50	9.21
Geographic Convenience	1.00	2.00	2.00	4.00	4.00
Simplicity	1.00	1.00	1.00	2.00	2.00
Freedom of Choice	1.00	3.00	3.00	3.00	3.00
-Sum of Customer Satisfaction Criteria			8.63		18.21
-Rank Order			1.00		4.00
Sum of Criteria Ranks		44.43	31.34	38.805	54.53
Rank Order		3	1	2	4.00

Consistency Ratio for Weights is 92.29%

Criteria 1 is not sensitive.

Criteria 2 changes the optimal option to VA at a weight of .84.

Criteria 3 is not sensitive.

Criteria 4 is not sensitive.

Criteria 5 is not sensitive.

Criteria 6 is not sensitive.

Criteria 7 is not sensitive.

Table 31

Scoring Methodology for Government Cost Criterion

Option	Cost	Change from Current	Precent Change	Score
VA	\$12,377,871	\$673,973	5.16%	-1
Clinic	\$12,670,816	\$381,028	1.04%	-1
Contract	\$36,736,820	(\$23,684,976)	-64.47%	+6
Current	\$13,051,844	\$0	0.00%	0

Table 32

Master Decision Matrix -- Combined Beneficiary Categories -- Weighted -- Using Score Versus Ranking for the Government Cost Criterion

	Weight	CONTRACT		CLINIC		VA		CURRENT	
		Raw	Weighted	Raw	Weighted	Raw	Weighted	Raw	Weighted
Government Criteria:									
Cost	5.80	6.00	34.80	-1.00	-5.80	-1.00	-5.80	0.00	0.00
Control and Flexibility	3.84	2.00	7.68	1.00	3.84	3.00	11.52	4.00	15.36
Unit Command and Control	1.64	3.00	4.92	1.00	1.64	2.00	3.28	4.00	6.56
-Sum of Governmental Criteria			47.40		-0.32		9.00		21.92
-Rank Order			3.00		1.00		2.00		4.00
Customer Satisfaction Criteria:									
Patient Cost	2.63	1.00	2.63	2.00	5.26	3.50	9.21	3.50	9.21
Geographic Convenience	1.00	2.00	2.00	3.00	3.00	4.00	4.00	1.00	1.00
Simplicity	1.00	1.00	1.00	3.00	3.00	2.00	2.00	4.00	4.00
Freedom of Choice	1.00	3.00	3.00	3.00	3.00	3.00	3.00	1.00	1.00
-Sum of Customer Satisfaction Criteria			8.63		14.26		18.21		15.21
-Rank Order			1		2		4		3
Sum of Criteria Ranks			56.03		13.94		27.205		37.13
Rank Order			4		1		2		3.00

Consistency Ratio for Weights is 92.29%

- Criteria 1 is not sensitive.
- Criteria 2 is not sensitive
- Criteria 3 is not sensitive.
- Criteria 4 is not sensitive
- Criteria 5 is not sensitive.
- Criteria 6 is not sensitive.
- Criteria 7 is not sensitive.

Table 33

Option Ranking Comparison of Un-Weighted and Weighted Criteria and Weighted Criteria
with Government Cost Score Versus Rank

	CONTRACT	CLINIC	VA	CURRENT
Un-Weighted Criteria/Option Ranks				
Un-Weighted Scores	15.50	16.00	18.00	20.50
Ranking	1	2	3	4
Weighted Criteria/Option Ranks				
Weighted Scores	43.93	32.34	38.31	54.53
Ranking	3	1	2	4
Weighted Criteria/Score for Government Cost				
Weighted Scores	55.53	14.94	26.71	37.13
Ranking	4	1	2	3

Table 34

Master Decision Matrix -- OA Beneficiary Category -- Weighted
(Includes the Criteria Unit Command and Control)
(Excludes the Criteria Patient Cost)

	Weight	CONTRACT		CLINIC		VA		CURRENT	
		Raw	Weighted	Raw	Weighted	Raw	Weighted	Raw	Weighted
Government Criteria:									
Cost (All Beneficiary Categories)	5.10	4.00	20.40	2.00	10.20	1.00	5.10	3.00	15.30
Control and Flexibility	2.90	3.00	8.70	1.00	2.90	2.00	5.80	4.00	11.60
Unit Command and Control	1.60	3.00	4.80	1.00	1.60	2.00	3.20	4.00	6.40
-Sum of Government Criteria			33.90		14.70		14.10		33.30
-Rank Order			4.00		2.00		1.00		3.00
Customer Satisfaction Criteria:									
Geographic Convenience	1.00	2.00	2.00	3.00	3.00	4.00	4.00	1.00	1.00
Simplicity	1.00	1.50	1.50	3.00	3.00	1.50	1.50	4.00	4.00
Freedom of Choice	1.00	2.00	2.00	4.00	4.00	3.00	3.00	1.00	1.00
-Sum of Customer Satisfaction Criteria			5.50		10.00		8.50		6.00
-Rank Order			1.00		4.00		3.00		2.00
Sum of Criteria Ranks			39.40		24.70		22.60		39.30
Rank Order			4.00		2.00		1.00		3.00

Consistency Ratio for Weights is 93.32%.

Criteria 1 changes the optimal option to the clinic at a weight of 2.14.

Criteria 2 changes the optimal option to the clinic at a weight of 5.94.

Criteria 3 changes the optimal option to the clinic at a weight of 4.59.

Criteria 4 changes the optimal option to the clinic at a weight of 4.00.

Criteria 5 is not sensitive.

Criteria 6 is not sensitive.

Table 35

Master Decision Matrix -- DofAD Beneficiary Category -- Weighted
(Excludes the Criteria Unit Command and Control)
(Includes the Criteria Patient Cost)

	Weight	CONTRACT		CLINIC		VA		CURRENT	
		Raw	Weighted	Raw	Weighted	Raw	Weighted	Raw	Weighted
Government Criteria:									
Cost (All Beneficiary Categories)	4.90	4.00	19.60	2.00	9.80	1.00	4.90	3.00	14.70
Control and Flexibility	2.70	2.00	5.40	1.00	2.70	3.50	9.45	3.50	9.45
-Sum of Government Criteria			25.00		12.50		14.35		24.15
-Rank Order			4.00		1.00		2.00		3.00
Customer Satisfaction Criteria:									
Patient Cost	1.80	1.00	1.80	2.00	3.60	3.50	6.30	3.50	6.30
Geographic Convenience	1.00	3.00	3.00	4.00	4.00	1.50	1.50	1.50	1.50
Simplicity	1.00	1.00	1.00	2.00	2.00	3.50	3.50	3.50	3.50
Freedom of Choice	1.00	3.00	3.00	3.00	4.00	1.50	1.50	1.50	1.50
-Sum of Customer Satisfaction Criteria			8.80		13.60		12.80		12.80
-Rank Order			1.00		4.00		2.50		2.50
Sum of Criteria Ranks			33.80		26.10		27.15		36.95
Rank Order			3.00		1.00		2.00		4.00

Consistency Ratio for Weights is 96.13%.

Criteria 1 changes the optimal option to VA at a weight of 6.90.

Criteria 2 changes the optimal option to VA at a weight of 1.70.

Criteria 3 changes the optimal option to VA at a weight of 0.80.

Criteria 4 changes the optimal option to VA at a weight of 2.00.

Criteria 5 is not sensitive.

Criteria 6 changes the optimal option to VA at a weight of 2.00.

Table 36

Master Decision Matrix -- RET/DofR/SV Beneficiary Category -- Weighted
(Excludes the Criteria Unit Command and Control)
(Includes the Criteria Patient Cost)

	Weight	CONTRACT	CLINIC	VA	CURRENT
		Raw	Raw	Raw	Raw
		Weighted	Weighted	Weighted	Weighted
Government Criteria:					
Cost (All Beneficiary Categories)	4.90	4.00	19.60	2.00	9.80
Control and Flexibility	2.70	1.00	2.70	3.00	8.10
-Sum of Government Criteria		22.30	17.90	13.00	22.80
-Rank Order		3.00	1.00	2.00	4.00
Customer Satisfaction Criteria:					
Patient Cost	1.80	1.00	1.80	3.00	5.40
Geographic Convenience	1.00	4.00	4.00	2.00	2.00
Simplicity	1.00	1.00	1.00	3.00	3.00
Freedom of Choice	1.00	4.00	4.00	2.00	2.00
-Sum of Customer Satisfaction Criteria		10.80	12.40	12.40	12.40
-Rank Order		1.00	3.00	3.00	3.00
Sum of Criteria Ranks		33.10	30.30	25.40	35.20
Rank Order		3.00	2.00	1.00	4.00

Consistency Ratio for Weights is 96.13%.

Criteria 1 changes the optimal option to contract at a weight of 1.90.

Criteria 2 is not sensitive.

Criteria 3 is not sensitive.

Criteria 4 is not sensitive.

Criteria 5 is not sensitive.

Criteria 6 is not sensitive.

Table 37

Master Decision Matrix -- Sum of Weighted Individual Beneficiary Category Option Rankings

	Weight	CONTRACT Raw Weighted	CLINIC Raw Weighted	VA Raw Weighted	CURRENT Raw Weighted
OA Population	5.2	4.00	20.80	2.00	10.40
DofAD Population	2.3	3.00	6.90	1.00	2.30
RET/DofR/SV Population	1.00	3.00	3.00	2.00	2.00
Sum of Rankings		30.70	14.70	10.80	28.80
Rank Order		4.00	2.00	1.00	3.00

Consistency Ratio for Weights is 93.18%.

Criteria 1 is not sensitive.

Criteria 2 is not sensitive.

Criteria 3 is not sensitive.

Table 38

Comparison of Rankings for All Weighted Decision Matrices

	CONTRACT	CLINIC	VA	CURRENT
Combined Beneficiary Categories				
Score	43.93	32.34	38.31	54.53
Ranking	3	1	2	4
Individual Beneficiary Categories				
OA Beneficiary Category				
Score	39.40	24.70	22.60	39.30
Ranking	4	2	1	3
DofAD Beneficiary Category				
Score	33.80	26.10	27.15	36.95
Ranking	3	1	2	4
RET/DofR/SV Beneficiary Category				
Score	33.10	30.30	25.40	35.20
Ranking	3	2	1	4
Combined Individual Beneficiary Categories				
Score	30.70	14.70	10.80	28.80
Ranking	4	2	1	3