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In 1956 Congress enacted the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) in order to improve health care for military dependents and retirees. In 1988, a number of modifications to the CHAMPUS program were authorized on a demonstration basis. For selected MTFs located in Europe, Congress authorized the U.S. European Command After Hours Demonstration Project which allows outlying health clinics to negotiate agreements with host nation medical facilities for acute medical care during specified hours of the day. The success of this project has resulted in recommendations to make it a permanent program. Plans are being made at 7th MEDCOM to request that Congress extend the project to include routine health care in remote sites which have no outpatient health clinics. Other outpatient care options available in Europe include the Military-Civilian Health Services Partnership Program and the traditional CHAMPUS program. With the ongoing draw-down of troops in Europe, selecting the most appropriate source of outpatient care has become a priority. The present study consists of an evaluation of the various sources of outpatient care available at the Frankfurt Medical Department Activity, using the criteria of cost, acceptability and accessibility.

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Submitted to the Faculty of
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In Partial Fulfillment of the
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of
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by
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Abstract

In 1956 Congress enacted the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) in order to improve health care for military dependents and retirees by supplementing the Military Treatment Facility (MTF) with civilian health services. In 1988, as a result of tremendous increases in CHAMPUS costs, a number of modifications to the CHAMPUS program were authorized on a demonstration basis. For selected MTFs located in Europe, Congress authorized a program called the U.S. European Command After Hours Demonstration Project (EUCOM Demonstration) which allows outlying health clinics to negotiate agreements with host nation medical facilities for acute medical care during specified hours of the day. The success of this project has resulted in recommendations to make it a permanent program. Moreover, plans are being made at the 7th MEDCOM to request that Congress extend the project to include routine health care in remote sites which have no outpatient health clinics. Other outpatient care options available in Europe include the Military-Civilian Health Services Partnership Program and the traditional CHAMPUS program. With the ongoing drawdown of troops in Europe, selecting the most appropriate source of outpatient care has become a priority for

decision-makers. In an attempt to contribute to this management issue, the present study consists of an evaluation of four sources of outpatient care available in the Frankfurt Medical Department Activity. Three evaluation criteria were utilized in the analysis: cost, accessibility and acceptability of care. A cost analysis and a patient satisfaction survey were conducted. Final outcomes were input into a decision matrix and a multiple-criteria decision analysis was conducted. Conclusions and recommendations were provided.

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CHAPTER I

INTRODUCTION

Conditions Which Prompted the Study

In 1956 Congress enacted what is now known as the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). The intent was to improve health care for military dependents and retirees by supplementing the Military Treatment Facility (MTF) with civilian health services. Prior to that time these beneficiaries received care in MTF's on a space-available basis. CHAMPUS is a cost-sharing health benefits payment program. Medicare eligibles, including retirees, and active duty members of the Armed Forces are not covered under CHAMPUS (Leahy and Mouritsen, 1990).

Since its inception there have been several problems associated with CHAMPUS. From the perspective of CHAMPUS beneficiaries, these problems include dissatisfaction with coverage limitations, cost-sharing requirements, and the bureaucratic complexity of the program. From the perspective of Congress, the last five years have fostered a growing concern with the increase in costs for providing this care.

CHAMPUS has a long history of steadily increasing costs. As reported by the Office of the Civilian Health and Medical Program of the Uniform Services (OCHAMPUS),

expenditures for the program escalated from \$1.3 billion in 1983 to \$2.4 billion in 1987 (OCHAMPUS 1,7). For Fiscal Year 1986 (FY86) to FY87 alone, there was a one year growth of 30.3% in expenditures. The annual average increase was 17.4% during the period 1980-1986. Between 1986 and 1987, there was a cost increase in excess of 50% (OCHAMPUS 1,7). In 1987, as a result of these alarming increases, the Department of Defense (DoD) proposed a set of modifications to CHAMPUS and in 1988 Congress authorized a number of demonstration projects.

According to the "Report to Congress on CHAMPUS Demonstration Projects", DoD's focus on developing workable CHAMPUS reforms has had three principle objectives: contain costs, enhance services and improve coordination (OASD-HA,1). Two major projects are the CHAMPUS Reform Initiative (CRI) and the Catchment Area Management Program (CAM). The CRI involves setting up preferred provider networks that provide health care services at lower costs for network users due to larger volume. Expanded utilization management and quality assurance programs are key features of the CRI. The CAM project gives a military hospital commander control over the purchase of health care services, to include CHAMPUS, for beneficiaries within his or her catchment area (Badgett, 1990). To date, neither of these trial programs are available in Europe.

However, another CHAMPUS reform initiative, the Military-Civilian Health Services Partnership Program, is available in Europe. This program is applicable when the MTF is unable to provide sufficient health care services for CHAMPUS beneficiaries using their own assigned resources (CHAMPUS Policy Manual 6010.47-M, 4.1.2.). When enrolled in this program, MTF commanders are authorized to negotiate Internal Partnership Agreements with local providers and institutions as a means of minimizing total government cost. The MTF commander provides MTF clinic space, support personnel, equipment, and ancillary services in support of a Partnership provider's practice. MTF commanders are responsible for ensuring that participating civilian providers meet credentialing, licensure, and quality review standards (7th MEDCOM Policy Memo No. 40-21-31, Implementation of Military-Civilian Health Services Partnership Program).

Internal Partnership Agreements allow CHAMPUS providers to provide care to CHAMPUS eligible beneficiaries in the premises of military treatment facilities and eliminate the requirement for the CHAMPUS deductible and copayment. This option provides an opportunity for cost savings by providing CHAMPUS care in the less expensive military setting, and also increases availability of services in MTFs (OASD-HA, 3). According to 7th MEDCOM

policy letter (1990), MTF Commanders are responsible for conducting an economic analysis to determine if use of the Partnership Program is more economical to the government than referral to the civilian community under the normal CHAMPUS program (7th MEDCOM Policy Memo No. 40-21-31, Implementation of Military-Civilian Health Services Partnership Program). Such analysis requires a cost comparison between local rates and proposed Partnership provider costs.

Although MTF Commanders in Europe utilize the traditional CHAMPUS program as well as the Partnership program, these Commanders experience some unique difficulties relative to availability, access and cost of health care. With regard to availability, military installations in Europe are limited in size due to restrictions under Host Nation agreements. This causes a dispersion of service members and their families in relatively small communities throughout the command, unlike the large concentrations of service members and their families in United States military communities. The result, for health care purposes, is the creation of a large number of small outpatient facilities designed to serve the routine primary outpatient care needs of each community (7th MEDCOM, EUCOM Demonstration Project for Outlying Health Clinics, 1989).

Since these facilities are staffed according to the size of the community served, many are assigned only one to three primary care physicians. However, the JCAHO Level III Emergency Care Standards for Ambulatory Patient Care Facilities require at least one physician to be available to the emergency care area within approximately 30 minutes through a medical staff call roster (Accreditation Manual for Hospitals, 1992). Given current resourcing limitations, it is usually not possible to meet this requirement at remote health clinics on a 24 hour basis. Congress addressed these issues by approving a program known as the U.S. European Command After Hours Emergency Care Demonstration Project (EUCOM Demonstration).

The EUCOM Demonstration Project is only available at selected locations. Military health clinics that have been selected lack the medical resources to operate 24 hours a day. They are normally located more than 20 miles or 30 minutes from a fully equipped 24-hour service military hospital and are usually within five miles of a 500-1,000 bed local national comprehensive community hospital that offers 24-hour-per-day medical care with local national physicians on-site, supporting paramedical staff and full ancillary services (7th MEDCOM, EUCOM Demonstration Project for Outlying Clinics, 1989).

Commanders of the selected military health clinics are authorized to negotiate agreements with their local host nation medical facility to provide after-hours, CHAMPUS authorized acute medical care to active duty service members and their families. Under the EUCOM Demonstration project, the 20% copayment normally associated with CHAMPUS is eliminated. The project provides total financial coverage for emergency (acute) care of these beneficiaries at a designated host nation medical facility after the normal operating hours of the MTF. While the EUCOM Demonstration agreements include active duty personnel for the same acute care coverage, separate funding procedures are used to account for and process payment for their care. In these agreements, acute care is defined as "that care required to alleviate a medical, surgical or psychological condition which is of such a nature that treatment cannot be deferred until the next time the military clinic is scheduled to be open" (7th MEDCOM Memorandum, dtd 20 Feb 91, AEMCL-APC, Subject: European Command After-Hours Emergency Care for Active duty Family Members Demonstration Project).

In accordance with DoD guidelines issued on 23 Oct 87, MTF Commanders have entered into agreements with host nation medical facilities. At present, 36 military communities are utilizing the program in Germany, Italy,

Spain and the Netherlands. Each must prepare and submit a written monthly report to the 7th MEDCOM EUCOM Demonstration Project Officer. The report contains statistics which enable the Project Officer to conduct a quarterly cost benefit analysis. A Quarterly Progress Report for the EUCOM Demonstration Project is then forwarded to DoD Health Affairs. The project was initially approved for one year, with two option years, based on the evaluation of the project. This time period has now been extended to 30 Sep 1992.

The hypothesis for the EUCOM demonstration is as follows: The provision of after-hours-acute outpatient medical care to active duty family members at selected sites, through the use of specified local national comprehensive acute care community hospitals, can be effectively accomplished at the same or higher level of quality, and at a lower per unit cost to the U.S. government (than providing that same care through the existing military outpatient facilities), even with the elimination of the legislatively mandated CHAMPUS cost share (7th MEDCOM, Executive Summary, EUCOM Demonstration Project for Outlying Health Clinics (1987)).

Thus far, reported data indicates that the EUCOM Demonstration project is a success. Access to after-hours emergency care at remote sites is available and, according

to quarterly reports, the average cost of such care (per visit) is lower than the cost of providing that 24-hour care through either the traditional CHAMPUS program or the MTF. The past two quarterly reports have included recommendations from the Command Surgeon, European Command, to make the project a permanently legislated program (7th MEDCOM, Quarterly Reports on the EUCOM Demonstration Project, AEAMD-APC, FY91). Current regulations limit the project to acute care in those communities that have existing small health clinics that are distant from U.S. hospitals. Areas with no military clinics must now use host nation facilities and be reimbursed with CHAMPUS Supplemental Care funds or embassy funds. Recently, a proposal was made to extend the EUCOM Demonstration program to include routine health care at remote sites which have no outpatient health clinic at all. This proposal is being referred to as the CHAMPUS Demonstration Project for Routine Health Care in Remote Sites.

The continued presence of U.S. troops in Europe is difficult to forecast due to the rapidly changing political climate in the Commonwealth of Independent States, the Middle East, and Central Europe. In the past two years, unprecedented political change has occurred in these regions resulting in a recent change of strategy for the U.S. military with regard to the mission in Europe.

According to current plans a rapid drawdown of forces in Europe will occur during the next three years, resulting in a much smaller American military presence in Europe. Consequently, the requirement for U.S. Army medical support in Europe will be diminished.

As a direct result of these changing world conditions the Frankfurt Army Regional Medical Center (FARMC) has already begun to experience the effects of downsizing. The hospital itself is located in Clarke Kaserne in the northeast section of Frankfurt, Germany. At the beginning of 1990, as depicted in Appendix A, FARMC consisted of the 97th General Hospital and 14 outlying health clinics, providing medical care to over 147,000 personnel stationed within a 5,446 square mile area. In the past 18 months, three of the outlying clinics have been closed or transferred to other regions, reducing the total number of outlying clinics to eleven. At least two more outlying clinics are likely to close in the near future.

In April 1992, the former FARMC changed its name to the Frankfurt Medical Department Activity (F-MEDDAC), reflecting a reduced size and mission. In 1993, the hospital will again experience a change when the 97th General Hospital is redesignated the 51st Combat Support Hospital. According to current drawdown figures, the Frankfurt area end-state (Oct 93) strength will consist of

a total beneficiary population of 110,400. Other regions in Germany are downsizing even more rapidly. Three Army hospitals in Germany closed in 1992. These rapid changes will require decisive action in terms of how to best provide adequate medical support for the remaining military population. Due to the geographical dispersion of the beneficiary population in Europe and the resource-intensive nature of outpatient services, ambulatory care activities have particular priority in these resourcing decisions.

Ambulatory patient care at the 97th General Hospital is defined as any treatment provided on an outpatient basis. The 1989 Medical Expense and Performance Reporting System (MEPRS) data for FARMC reveal that expenses for inpatient care for FY89 totaled \$31,266,346, while expenses for ambulatory care were somewhat higher totaling \$47,056,059 (DMIS Report, FY89, 1991a). That total outpatient expenses exceeded total inpatient expenses during FY89 reflects the changing health needs of patients. Additionally, the two greatest areas of increase in outpatient expenses from FY87 to FY89 were OB/GYN and Emergency Medical Care (DMIS Report, FY87, 1991b). In this respect, the F-MEDDAC mirrors the general trend in the civilian sector which has seen a rapid increase in demand during the last two decades for round-the-clock comprehensive ambulatory care services.

In attempting to meet this demand for ambulatory care for eligible beneficiaries in Europe, the F-MEDDAC Commander is authorized to offer several alternatives. In addition to the direct care system and traditional CHAMPUS program, the MEDDAC Commander has entered into agreements with seven civilian physicians utilizing the CHAMPUS Internal Partnership Program. Exercising an additional option, 8 of 11 outlying clinics are actively involved in the EUCOM Demonstration program.

Statement of the Management Problem

With the ongoing drawdown of forces in Europe, all indications are that reliance on host nation support will increase, utilizing such programs as the EUCOM Demonstration project, Internal Partnership Agreements, and traditional CHAMPUS. This situation will require informed management decisions focused on selecting the most appropriate form of outpatient care from among several available options. The problem is to evaluate each alternative and determine the most appropriate source of outpatient primary care from among those alternatives available for the Frankfurt Medical Department Activity.

Review of the Literature

Decision Making Theory

According to Warner and Holloway (1978), decision making involves choosing among alternative ways to meet

objectives. Once this issue has been addressed, other essential questions in the decision making process include: "What alternatives should be considered? What effect will each alternative have on achieving objectives? What should be measured to determine if objectives are being met?" (p.3).

Often there are many possible and varied responses to these questions, particularly in a field as complex as health care. Warner & Holloway (1973) aptly summarize the plight of the health care decision maker:

There are usually multiple objectives to be addressed, and usually these objectives conflict with one another. Individual alternative actions usually serve only a subset of the objectives (often only one), and are usually detrimental to another subset. Thus some scheme considering each alternative's effect on all important objectives is necessary (p.3)

An example given by Zeleny (1982) of multiple and conflicting objectives is that of "minimizing cost" and "maximizing the quality of service" (p.1). He states that "decision making can be loosely defined as a struggle to resolve the dilemma of conflicting objectives" (p.12). He argues that, by definition, making a decision means balancing multiple objectives.

Zeleny describes four basic modes of deciding that have become an integral part of decision theory. The first is the computation mode. This is the typical mode of conventional operations research and decision analysis. In this mode, one well-defined and quantitatively measurable criterion is used to assign each alternative a single number, and then the alternative with the best value is computed or searched out. This mode is utilized when there are clearly defined, certain alternatives, which are evaluated in terms of a single criterion. A cost analysis to determine which of three alternatives provides the same or similar service at the lowest cost is an example of this mode of deciding (1982, 23-4).

The second mode of deciding, according to Zeleny (1982), is the judgment mode. This is the dominant concern of social judgment theory and multi-attribute utility theory. This mode is utilized when there are poorly defined, uncertain alternatives, which are evaluated in terms of a single criterion. For example, the single criterion might be to maximize the quality of life, or to minimize patient dissatisfaction. With either criterion, we are typically uncertain which alternative will actually achieve the desired result. To try and define the causal relationship more accurately, this decision mode relies on empirical observation and evaluation of a large number of

decision situations and attempts a relatively precise formulation through statistical analysis. The criterion is usually single-dimensional, and clearly stated, but poorly measurable.

Compromise is the third mode of deciding discussed by Zeleny. It involves multiple criteria decisions where the decision-maker must balance well-defined competing objectives in a situation of clearly defined certain alternatives. An example of this mode is the selection of an alternative that minimizes cost and maximizes production time. Cost and production time are competing objectives since attaining shorter production time is possible only at a higher cost. Causation may be clear and each alternative may be easily described in terms of both time and cost, but a decision can be made only by some form of compromise (Zeleny, 1982).

The fourth mode of deciding is through use of inspiration or intuition. According to Zeleny (1982), this is the most common mode of decision making used at the highest executive levels. He states: "Typically the most complex strategic decisions involve a mixture of quantitative and qualitative multiple criteria as well as uncertain and only fuzzily defined causal relationships" (p.25). In such situations, political and implementational issues dominate, and the emphasis is on human factors and

their management. Zeleny emphasizes the importance of utilizing a multiple-criteria, decision making strategy in order to capture the complexity of real-life problems.

Contemporary Issues in Health Care

According to Larry Churchill (1987), Americans spent an estimated \$450 billion for health care in 1986. In that year health care costs comprised almost 11 percent of the Gross National Product, making health care the nation's second largest industry. There are several major factors that account for the rapid growth in health care costs. One such factor is the steady rise in the elderly population which in turn results in a corresponding rise in the prevalence of chronic illnesses. Currently, an estimated 80 percent of all health care resources in the United States are devoted to chronic disease (Churchill, 1987). The high cost of medical technology is another major factor contributing rising health care costs. This is partially due to increased federal legislation in the 1950s and 1960s, to include the Hill-Burton Act and Medicare and Medicaid. Such legislation promoted the use of technology-intensive, hospital-based services (Churchill, 1987).

Churchill (1987) includes two additional factors that have contributed to the escalating cost of health care. One is the fee-for-service/cost reimbursement method which

offers a financial incentive to the physician for increasing services and raises the issue of physician/supplier-induced demand. The other is the prevailing maximalist philosophy that permeates American medicine and reveals itself in the common expectation that every medical treatment available will be used regardless of the marginal benefits both to the individual concerned and to society at large.

The financial incentive relates to a supply issue that is not directly applicable to military physicians, although it is relevant to military contracts with civilian physicians. However, the maximalist philosophy that permeates American medicine engenders a demand issue that is an important concern in the military, one that may bear directly on the issue of patient satisfaction with military care.

All of the factors listed by Churchill (1987) have combined to produce what has been called our contemporary health care crisis. They have led to increased emphasis on cost containment measures and a heightened awareness of the need to provide health care in the most efficient and effective manner possible. Examples of this trend include the use of Diagnosis Related Groups and the emergence of managed care arrangements such as Health Maintenance Organizations and Preferred Provider Organizations. In the

military this trend is evidenced in the concept of coordinated care and programs such as "Gateway to Care" which focuses on greater efficiency and cost savings, while attempting to maintain quality care.

A significant result of the cost containment emphasis was that the form of health care delivery began to be scrutinized. According to Pascarelli (1982), "Traditional supporters of hospitals began looking to ambulatory care as a potentially more effective and less expensive means of caring for people and preventing illness" (p. xviii).

The History of Ambulatory Care

Ambulatory care has received increasing attention since the advent of prospective pricing and the decline in inpatient admissions. However, a review of the literature reveals a lack of consensus regarding a specific definition of ambulatory care. According to Howard and Pajor (1987), it is the arena of health care that provides access to the general health care system. They state: "In its broadest sense, it incorporates those areas where a person receives services and then leaves" (p.70). Thus, ambulatory care can include emergency departments, organized hospital clinics, private physicians' offices, free-standing urgent care centers, and ambulatory surgery facilities (Howard and Pajor, 1987).

Ambulatory care dates back to the 1500s when physicians visited patients in their homes. In the 1750s this form of ambulatory care was supplanted by hospital-based clinics for the efficiencies that it provided physicians (Howard and Pajor, 1987). At that time, such care was inaugurated as a service aimed primarily at serving the poor. However, in mid-nineteenth century England visits to free hospital clinics began to increase more rapidly than inpatient visits. This led, simultaneously, to financial concerns on the part of private medical practitioners and to an increasing concern with the quality of care received at the free hospital outpatient clinics (Pascarelli, 1987).

According to Pascarelli (1987), in the United States in the 1870s there were fewer than 200 hospitals in the entire country. Intense European immigration to the U.S. caused an immediate need for more hospitals. By 1909 there were 4,359 hospitals throughout the country. By 1916, 495 of the private voluntary hospitals in the U.S. had outpatient departments to care for the indigent and teach resident physicians. However, there was no doubt as to the second-class nature of these clinics (Pascarelli, 1987).

Around the turn of the century, with the establishment of the health-center movement, new emphasis was placed on preventive services. In 1904 in New York City, the first

clinic was established for the treatment of communicable pulmonary disease. Soon after this event health districts were created. Although organized medicine opposed the public approach to medical care, the movement persisted and by the 1920s health districts were established around public health centers in most larger cities. This movement played an important role in the development of ambulatory health care. It helped to shift the delivery of health care from a solo practice mode to more of a group centered, community health service approach. Other events that contributed to this shift in emphasis were the introduction of Workmen's Compensation legislation in the early 1900s and the development of school health clinics (Pascarelli, 1987).

In the 1940s, Hill-Burton legislation made additional funds available for the building of new hospitals and ambulatory health centers in both rural and urban areas. However, the Hill-Burton Act resulted primarily in better treatment for inpatients. But, in 1963 the Community Mental Health Centers Construction Act provided funds for ambulatory facilities and in 1964 civil rights reform and antipoverty programs provided more funds for the development of ambulatory care. A significant change occurred in 1965 with major amendments to the Social Security Act. Titles XVIII and XIX were enacted, providing

the benefits of Medicare and Medicaid legislation with provisions for certain outpatient services (Pascarelli, 1987).

Today, ambulatory care includes a diverse range of services and sites that vary greatly in terms of sophistication and services provided. All indications are that ambulatory care will continue to grow as long as emphasis continues to be placed on efficiency and health care cost containment (Howard and Pajor, 1987). Throughout its history, the themes of increasing access and providing high quality care have been recurring issues.

In the literature, some confusion exists regarding the distinction between ambulatory care and primary care. Primary care is a subset of ambulatory care. For purposes of this study, primary care is defined as the first contact care for episodic illness in a diverse set of disciplines (US, Cong., House, Com. on Appropriations, SIS 1987, 2). There are several forms of freestanding ambulatory care centers ranging from the emergency care center to the full service primary care center. However, according to Moxley and Roeder (1984), the most familiar and the most popular development is the urgent care center that provides episodic care for routine or minor emergency problems.

Military Ambulatory Care Issues

The AMEDD provides over 22 million outpatient visits per year making it the largest health maintenance organization in the world (Moon, Georgoulakis and Austin, 1990). While the military is unique in many of its financial and legal aspects, the current cost containment emphasis is forcing a change in military health care delivery that parallels many of the civilian changes. One very significant similarity is the shift in focus from inpatient treatment to ambulatory care.

An impetus for this shift to ambulatory care was the Department of Defense Authorization Act of 1984. This act directed the DoD and the AMEDD to conduct demonstration projects and studies to improve health care access, quality, efficiency, and cost-effectiveness (U.S. Cong., Hous, Com. on Appropriations, SIS 1987, 2, 5). As mentioned earlier, several projects were initiated to include the CHAMPUS Reform Initiative, the Catchment Area Management Program, and the CHAMPUS Partnership Program. Another major initiative, the Primary Medical Care for the Uniformed Services (PRIMUS) program, was initiated in 1985. The PRIMUS project merits some consideration here, and in any study of military primary care, since it provides important lessons learned regarding the laws of supply and demand in a military family member population.

The PRIMUS program was originally undertaken as a three year test program to expand the Services' primary care capabilities. The Services were directed to establish primary care centers in the civilian communities where it was cost-effective to contract with private health care providers (Hudak, 1988). Like CHAMPUS, PRIMUS is a health benefits program for DoD beneficiaries in a civilian-setting. However, unlike CHAMPUS, it provides only primary care and is available at no cost to the beneficiary (Leahy and Mouritsen, 1990).

PRIMUS clinics are located in the civilian community and are staffed with civilian physicians and support personnel. In the initial demonstration project, the AMEDD reimbursed the private contractor who owned and operated the clinic on a per visit basis. Due to this arrangement, the contractor had no incentive to keep visits to a minimum. The convenient location of the clinic, short waiting times, and the reimbursement method that was initially used resulted in utilization rates that were over five times the projected rates (Jensen, 1989). The reimbursement mechanism was changed in subsequent contracts by negotiating a capitation reimbursement system in which the contractor was paid for each visit up to a predetermined maximum number and was then required to

absorb the cost of all visits exceeding that maximum (Jensen, 1989).

PRIMUS clinics have improved health care accessibility, but there is considerable question about the cost-effectiveness of the program. The existence of PRIMUS clinics did not have a significant impact on the overcrowding of military clinics. According to Leahy and Mouritson (1990), there was an 8.9% decrease in visits to military clinics in close proximity to PRIMUS clinics, but an increase of 32.6% in total patient visits to military clinics and PRIMUS clinics combined. Thus, the PRIMUS clinics resulted in an overall increase in DoD's health care costs since they represent an additional service without any measurable decrease in total cost (Leahy and Mouritsen, 1990). As a result of this overall increase in costs, expansion of the PRIMUS program is now on hold.

Accessibility and Cost of Health Care

Andersen and Newman (1973) define access as "the means through which the patient gains entry into the system" (p.102). Prior to 1956 only active-duty military personnel were authorized medical treatment in a military facility. Non-active duty beneficiaries were treated at the discretion of the hospital commander. In 1956 access to health care was enlarged when Congress passed the

Dependents Medical Care Act, later renamed CHAMPUS. (Leahy and Mouritsen, 1990).

Hudak describes the three ways in which non-active duty military beneficiaries may now gain access to the military primary health care system (1990). One way is through the primary care clinic within each military hospital. Another way is through the free-standing primary care clinic located some distance from the supporting hospital. With both of these, care is given on the military installation by either a military provider (direct care) or a civilian provider (CHAMPUS partner). The third way is through a civilian ambulatory care provider or clinic with partial reimbursement provided by CHAMPUS (traditional CHAMPUS).

Although CHAMPUS has been viewed as the major method of improving access within the DoD health care system, several problems have made it the focus of reform efforts (Leahy and Mouritsen, 1990). As already mentioned, CHAMPUS has a long history of steadily increasing costs. In addition to spiraling costs, the high volume of claims causes delay in payments to providers, and beneficiary dissatisfaction has mounted regarding rising out-of-pocket expenses (Leahy and Mouritsen, 1990). These problems led to the search for CHAMPUS alternatives that could improve

accessibility while reducing overall costs and maintaining health care quality.

Applying the laws of supply and demand to the field of health care, there are two basic approaches to improving access in a health care delivery system. One is to intervene on the demand side by increasing the purchasing power of the consumer, thereby increasing demand. The other is to intervene on the supply side with resultant improvements in availability and organization of health care resources (Williams, 1987, 8-9). There is considerable discussion regarding the application of these economic principles to military health care.

According to Jensen (1989), the military health care system is facing a critical provider supply versus patient demand imbalance due to the overload of patients in its hospitals and outpatient facilities. Jensen states:

In their efforts to resolve the overload problem, military health care planners and policy makers have concentrated on three possible approaches:

- 1) increasing the efficiency of military care providers,
- 2) decreasing patient demand for services,
- 3) shifting workload to the civilian sector (contracting out) (p.395).

With the advent of managed care in the civilian sector, the contracting out option has received considerable attention.

Hudak (1988) states that it is the government's policy to make private, when feasible, governmental services including health care (p.282). This policy has expressed itself in recent efforts to contract out health care in the attempt to contain costs, improve access and convenience factors, and maintain quality.

Legislative efforts have given a financial incentive to civilian health care providers to increase efficiency in the provision of primary care. The emphasis on CRI and CAM indicate a legislative intent to promote the concept of managed care in the military health care system. By promoting economies of scale and by taking advantage of the recently developed civilian efficiencies the military can foster its own version of cost-containment known as "coordinated care". At issue is whether these civilian innovations can be applied effectively to military health care.

Quality and Patient Satisfaction

According to Donabedian (1979), quality of care provided can be considered from two perspectives - a technical perspective and a patient perspective. Donabedian defines the patient perspective of quality as being within the "interpersonal" domain while the technical arena refers to the application of the science and technology of medicine to the management of a defined

health problem (1979, p.277-78). In considering the technical aspect of quality, there are a variety of measures that can be used to indicate its presence or absence. For outpatient care, these include measures such as monitoring certain types of cases/diagnoses, peer review, risk management and utilization review.

With regard to the patient perspective of quality, there has been recent emphasis directed toward judging quality based on consumer feedback (Nelson, 1990). Donabedian gives this feedback considerable import stating that "patient satisfaction may be considered to be one of the desired outcomes of care, even an element in health status itself" (1988, p.173-92). He writes that "information about patient satisfaction should be as indispensable to assessments of quality as to the design and management of health care systems" (1988, p.173-92).

Use of Patient Satisfaction Surveys

Patient satisfaction surveys have received renewed emphasis in the health care marketplace. This is due in part to the belief that the perception of quality is an important factor in the demand for services and that survey results may have a significant effect on provider behaviors (Nelson, 1990). This emphasis on the use of patient satisfaction surveys has also been adopted by the military health care system. Health Services Command (HSC) requires

that military hospitals conduct an annual patient satisfaction survey. The 7th MEDCOM requires the same of military health care facilities located in Europe. Detailed analyses, based on survey results, are forwarded to the respective headquarters.

Corresponding with this emphasis on patient satisfaction surveys, the literature reflects a large body of research that is concerned with the validity and effectiveness of the survey instrument itself. In a recent study, Nelson and Niederberger (1990) conducted an analysis in which they identified deficiencies in the design and administration of patient satisfaction surveys. In order to determine if a survey instrument contains valid indicators of quality of care, they compared quality-of-care measurements against widely accepted quality-of-care criteria. They first reviewed research findings on what actually influences patient satisfaction.

Nelson and Niederberger cited numerous studies that have linked patient satisfaction to several critical variables. In a study by Woolley et al. (1978), researchers concluded that patient satisfaction could be determined by four variables - satisfaction with outcome, continuity of care, patient expectations, and doctor-patient communications. These findings built on the results of many previous studies (Korsch, Gozzi, and

Francis, 1968; Stimson and Webb, 1975; Kincey, Bradshq, and Ley, 1975). As a supplement to these findings, Carey and Posavac (1982) conducted a study in which they concluded that a patient's perception of nursing care is the most crucial aspect in determining overall satisfaction.

Several studies have identified continuity of care as an important patient satisfaction indicator (Hulka et al., 1970; Nelson-Wernick et al., 1981). Findings in the study conducted by Nelson-Wernick et al. (1981) suggested that there is a learning-curve that applies to repeated use of the same hospital and that once patients learn the system, anxiety is reduced and patients are more able to have their needs met. Weiss and Ramsey (1989) affirmed the importance of continuity concluding that "the greater the degree of continuity in the physician/patient relationship, the higher the level of patient satisfaction" (p.180)

Nelson and Niederberger (1990) reviewed the surveys used by 12 hospitals and 2 HMOs. They conducted a content analysis on each survey by matching the questions on the surveys with the quality indicators suggested by Donabedian (1980) and the JCAHO (1990 JCAHO Manual). Nelson and Niederberger concluded that there is a considerable gap between the actual content of many patient satisfaction surveys and what research has indicated to be important determinants of patient satisfaction. They state: "Most

attention is directed to the interpersonal skills of caregivers as opposed to satisfaction with technical competence, outcomes, continuity, or patient expectations" (p.414).

The German Health Care System

In attempting to understand the German health care system, it is useful to view it from an international perspective. There are a variety of health care structures among the developed nations. Three broad approaches to health care funding are identified in a recent report on international health care reforms by Ham, Robinson and Benzeval (1990). These systems include: 1) that system represented by Canada, Sweden and the United Kingdom which uses public funds raised through taxation to provide services for the whole population, 2) that system represented by Holland and West Germany, which has a mix of compulsory social insurance and private insurance, 3) that system represented by the U.S. which draws primarily on private finance, supported by a public safety net for the poor and the elderly (cited in Millar, 1990).

Southby and Hurley (1991) describe the Federal Republic of Germany's health care system as being "a decentralized network much like our own." (p.20). In this article, They assert that the West German model has more in common with the U.S. health care delivery system than any

other European system. Some of these common elements include: a decentralized structure, private physicians, a mix of private and public hospitals, an employer-based health insurance program, and high costs with high utilization (1991).

The West German medical system is considered the oldest modern health care system in the industrialized countries. In 1883, with the passage of the National Health Insurance Law, Germany instituted a mandatory health-insurance program for employers. This law had its roots in the West German social welfare system which dates back to the 1850s. At that time Germany's first chancellor, Otto van Bismarck, established retirement funds for workers and made citizen membership obligatory (Southby and Hurley, 1991). Today, workers pay approximately 6.3 percent of their wages for health insurance and their employers contribute an equal amount for a total of 12.6 percent (Rodrigue, 1992). Pension funds and public subsidies provide for the retired and unemployed (Southby and Hurley, 1991).

Today, the health-insurance system comprises eight statutory funds which cover 93 percent of the population. These sickness funds are known as the KV (Kassenarztliche Vereinigungen). After an initial contribution from the employee, there are no copayments for doctor or hospital

fees. Southby and Hurley (1991) describe the reimbursement method for the West German system:

Physicians must join an association of sickness funds in return for the right to treat a patient who belongs to one of those funds, while KVs must accept all qualified physicians who request membership. The sickness funds then reimburse the physicians through lump-sum payments to the state physician organizations. It is the responsibility of the state organizations to determine the reimbursement levels of the differing specialties each year. Actual payment for outpatient care is provided by the sickness funds through the state physician associations on a fee-for-service basis. Determined annually, the fee is based on negotiations between the state associations and the various medical specialties.

According to Southby and Hurley (1991), the fee-setting negotiations between hospitals and sickness funds, and the overall management of health policy, is typified by compromise and consensus-building.

Rodrigue (1992) also testifies to the sense of social solidarity and compromise that mark the German health care system and the annual negotiations. He states that because Germans regard health care historically as a right and not as a commodity, they reject America's market-oriented

approach to cost control. Instead, Germans have created a series of matched monopolies and require them to work within a government-determined cost ceiling (1992).

According to Rodrigue, Germans get more health care than Americans and at a lower cost. Further, they "suffer none of the waits, shortages or inadequate treatment often associated with socialized medicine" (1992, p.24A).

Epidemiologists often use objective factors such as longevity and infant-mortality rates as indicators of a nations' health and the status of its health system.

According to Rodrigue (1992), both of these rates are better in Germany than in the U.S. although he acknowledges that Germany suffers less from AIDS, drug abuse and violent crime.

Public Satisfaction with German Health Care

In a recent article (1991), Southby and Rakich present healthcare-expenditure data and satisfaction survey results from member nations of the Organization for Economic Cooperation and Development (OECD). With this data one can compare the level of satisfaction each country's citizens have with their healthcare system. West Germany and the U.S. are included in the study. Based on data from twenty-four OECD countries covering the period of 1960 to 1987, the U.S. and Germany are among the top spenders in terms of percentage of gross domestic product (GDP) spent on health

care. The U.S. is first with a total of 11.2 percent of GDP spent in 1987 for health care and Germany is seventh with a total of 8.2 percent GDP spent for the same period.

Southby and Rakich (1991) then present OECD data for 1960 to 1987 indicating that proportion of each country's aggregate healthcare expenditures that were paid for by public versus private funds. For Germany in 1987, 77 percent of the total health expenditure was paid for by public sources compared with 41.4 percent for the U.S. for the same period. Comparing per capita health spending, the U.S. exceeded that of all other countries with a 1987 per capita expenditure of \$2,051. German per capita expenditure was \$1,093 for the same period.

Given these aggregate healthcare expenditures, Southby and Rakich (1991) contrasted spending with the public's satisfaction and perception of its healthcare system. Based on a study by Blendon et al. (1990) the survey results of ten OECD countries were presented. The survey was conducted in 1989 in the U.S. and in 1990 in West Germany. Respondents were asked to select one of the following three statements as indicative of their perception of the healthcare system: 1) "On a whole, the health care system works pretty well, and only minor changes are necessary to make it work better", 2) "There are some good things in our health care system, but

fundamental changes are needed to make it work better", 3) "Our healthcare system has so much wrong with it that we need to completely rebuild it" (Blendon et al., 1990).

In response to this question, 41 percent of West German respondents indicated that only minor changes were necessary while 35 percent responded that fundamental changes are needed. Only 13 percent responded that the system needs to be completely rebuilt. The U.S. respondents were much more critical with 10 percent indicating that only minor changes are necessary and 60 percent responding that fundamental changes are needed. Of the U.S. respondents, 29 percent indicated that the health care system has so much wrong with it that it needs to be completely rebuilt (Blendon et al., 1990).

These results indicate that although the per capita healthcare expenditures are substantially higher in the U.S. than in all the other OECD countries, U.S. respondents are the most dissatisfied with their healthcare system. In sharp contrast, of the ten nations surveyed, respondents from West Germany appeared to be the most satisfied with their healthcare system, a system with almost half the per capita healthcare expenditures as the U.S. These results lead to many interesting questions regarding the cultural and political factors that contribute to health care demand, expectations, and public satisfaction with a health

care system. Of particular interest is the satisfaction of American citizens, such as U.S. military members, with health care they receive from the German system while living in Europe.

Purpose of the Study

The purpose of this study was to conduct a comparative analysis of available sources of outpatient primary care at F-MEDDAC so that an informed decision could be made regarding the most effective alternative. The available sources of care at the F-MEDDAC include direct care, the Internal CHAMPUS partnership program, the traditional CHAMPUS program, and the EUCOM Demonstration project. In the terminology of decision theory, these alternatives are also referred to as strategies. The first two alternatives are available at the military clinic itself while the latter two are available through various German facilities/physicians in the F-MEDDAC area of responsibility.

The F-MEDDAC consists of the 97th General Hospital and 11 outlying health clinics, 8 of which are included in the EUCOM Demonstration project. The particular site that was selected as the focus of this study was the 209th General Dispensary in Hanau (the Hanau Health Clinic). This clinic was selected because it has a beneficiary population that is representative of the F-MEDDAC population as a whole,

and because all of the four alternative sources of outpatient care are available to eligible beneficiaries within the Hanau Health Clinic area of responsibility.

After a thorough review of the literature, three evaluation criteria emerged as reflective of the substantial interests of the government. These included cost of care, acceptability of care, and accessibility of care. These evaluation criteria were defined and a measurement mechanism was identified for each criteria/alternative.

A cost analysis was conducted for each alternative to determine the respective cost of care per patient visit. A survey was conducted at the Hanau Health Clinic and the local German hospital (Stadtkrankenhaus) to obtain patient perceptions regarding the accessibility and acceptability of care for the direct care, CHAMPUS Partner and EUCOM Demonstration alternatives. To obtain CHAMPUS information, a telephonic survey was conducted.

After quantifying each alternative form of care in accordance with the evaluation criteria, the final results were compiled in a decision matrix format. Since the three evaluation criteria were not equal in importance, relative weights were then assigned by utilizing the sensitivity analysis program of the Military Application Program Package (MAPP). Finally, the results of the data

collection process were input into the decision matrix program of MAPP. A final analysis was conducted, and conclusions and recommendations were made.

CHAPTER II

METHODS AND PROCEDURES

Study Design

This study was a comparative analysis. It analyzed four alternative means of delivering outpatient primary care to the beneficiary population in the Hanau Health Clinic area of responsibility.

In order to conduct the comparative analysis, it was necessary to select appropriate evaluation criteria. This was accomplished by reviewing the literature to determine major trends in military health care as well as expressed policy intent for each of the four alternatives. The criteria that emerged as those reflecting substantial interests of the government were: cost of care, acceptability of care, and accessibility of care.

Overall system design for this project was in the form of a decision matrix. The matrix contained four alternative sources of outpatient primary care available at the Hanau Clinic - the military clinic itself, the traditional CHAMPUS program, the CHAMPUS Partnership program, and the EUCOM Demonstration project, and three evaluation criteria - cost of care, acceptability of care, and accessibility of care. Figure 1 depicts the outpatient alternatives that are the subject matter of this analysis.

Figure 2 depicts the criteria used in evaluating the four alternatives.

Figure 1. OUTPATIENT ALTERNATIVES

A	B	C	D
HANAU HEALTH CLINIC	CHAMPUS PARTNER	TRADITIONAL CHAMPUS	EUCOM DEMONSTRATION

Figure 2. EVALUATION CRITERIA

Cost of Care
Acceptability of Care
Accessibility of Care

This process resulted in a four by three decision matrix containing a total of 12 data sets. Figure 3 depicts the decision matrix with data sets displayed by number.

Figure 3. DECISION MATRIX

Alternative	A	B	C	D
Criteria				
Cost of Care	Data Set 1	Data Set 2	Data Set 3	Data Set 4
Acceptability of Care	Data Set 5	Data Set 6	Data Set 7	Data Set 8
Accessibility of Care	Data Set 9	Data Set 10	Data Set 11	Data Set 12

Specific data was collected and analyzed for each data set and presented in the decision matrix format. A final

comparative analysis was made and conclusions and recommendations were provided.

The research methodology for this project was conducted in three phases: 1) the preliminary phase, 2) the data collection phase, and 3) the computation phase.

Preliminary Phase

The first phase of the study involved an extensive review of the literature to obtain background information and specific policy statements for each of the four alternative sources of outpatient care available to F-MEDDAC beneficiaries. During this phase of the study the objective was to become thoroughly familiar with each alternative from both the policy and the practical level. The following techniques were used in obtaining information relevant to each of the four alternatives:

1. Review of pertinent reference materials and current literature (e.g. DoD policy letters, Army Regulations, 7th MEDCOM Regulations and Memos regarding CHAMPUS, EUCOM Demonstration and CHAMPUS Partnership program).

2. Discovery and review of existing studies and reports containing data relevant to present study (e.g. the internal audit conducted in FY90 which studied the cost effectiveness of the Frankfurt CHAMPUS Partnership program, the Quarterly Reports prepared by the 7th MEDCOM EUCOM

Demonstration Project Officer for use in the evaluation of that program, the claims data base collected and maintained by the OCHAMPUSEUR office in Heidelberg, and the MEPRS data base at F-MEDDAC).

3. Interviews with key personnel to include: Director and NCOIC at OCHAMPUSEUR; 7th MEDCOM EUCOM Demonstration Project Officer; F-MEDDAC Health Benefits Advisor; Executive Officer, Chief Nurse and Health Benefits Advisor at Hanau Health Clinic.

4. Direct observation was used to gain familiarity with the practical aspects of each of the four alternatives. This included observations of the direct care and CHAMPUS partner alternatives and, for the CHAMPUS and EUCOM demonstration alternatives, a visit to two German facilities to tour the facility, observe patient care in progress, and participate in an interview with German physicians and administrators.

Data Collection Phase

The second phase of the study involved defining the evaluation criteria, identifying an appropriate measurement mechanism for each criterion/alternative, determining the period of time to be studied, and conducting the actual data collection. Definitions, measurement mechanisms and the data collection process for each criterion/alternative are as follows.

Cost of Care

Cost of care was defined as the measurement in dollars per unit of output, i.e. the dollar cost per outpatient visit. The data collection mechanism for capturing this data varied according to the alternative being considered since there is no single source for cost data for all four alternatives. Wherever possible, attempts were made to include all direct and indirect costs of producing the outpatient service for each of the four alternatives.

Hanau Health Clinic

For the Hanau Health Clinic direct care alternative, a comprehensive mechanism for capturing cost data is already in place, the Medical Expense and Performance Reporting System (MEPRS). MEPRS contains a detailed cost assignment methodology. Using a step down approach, MEPRS allows for the tracking of expenses and manpower resources within an MTF. It defines a set of functional work centers and applies a uniform performance measurement system to each work center based on reported information for each fixed medical treatment facility (MEPRS Manual, 1991).

The MEPRS Manual (DOD 6010.13-M, Jan 1991) contains a chart of accounts in which all expenses and corresponding workload data has been grouped into six functional categories. The functional category of interest for purposes of this study is ambulatory care. This is a final

operating expense account. Ancillary services and support services accounts are intermediate operating expense accounts. Expenses for the ancillary and support services accounts are reassigned to the final operating expense accounts.

Each of the functional accounts is further divided into summary accounts and subaccounts. Within the functional category of ambulatory care is the summary account of primary medical care, and the subaccount of primary care clinics (coded BHA). The primary care clinic work center account is charged with all operating expenses incurred in operating and maintaining the clinics. The performance factor utilized for this final operating expense account is the patient visit. Since the most recent complete MEPRS data was for FY91, it was decided that quarters 1 through 4 of FY 91 would be the time period of consideration for this study.

Unfortunately, MEPRS data for cost per visit for that time period was not broken down by specific outlying clinic. Although the BHA account provides a total cost per primary care clinic visit, this figure includes all the primary care clinics at the 97th General Hospital - all of the in-house primary care clinics as well as the total primary care visits at the 11 outlying clinics. Since MEPRS did not separate out the cost per visit of a

particular outlying clinic, this cost data had to be derived from the existing data. This was accomplished by utilizing the data provided in the computation summary and the SAS3 Report of MEPRS. Both of these reports provide separate data for primary care visits at each of the 11 outlying clinics. The four digit account of interest here, BHAX, is the specific cost information for the Hanau Health Clinic.

The computation summary shows, for each four digit account, the direct expenses, support costs, ancillary costs and purified expenses after the stepdown process has been accomplished. The page display of the SAS3 report shows the total number of outpatient visits per quarter, also by four digit account. As a control measure, the MED 302 reports for this time period were reviewed to ensure accuracy for total number of primary care visits. To derive cost per visit per quarter for the Hanau Health Clinic, it was necessary to divide the figure found in the purified expense column for Hanau (BHAX) by the utilization figure found in the SAS3 report for Hanau.

CHAMPUS Partner

For the CHAMPUS Partner alternative, a similar method was initially employed. In this instance, a four digit code for CHAMPUS Partners, BHAE, is reported in MEPRS and in the SAS3 report. This code includes support costs and

uses the step-down method to allocate those costs and arrive at a purified expense. Additionally, MEPRS uses the four digit code FCCE to capture all CHAMPUS Partnership Support costs. This code includes direct expenses and support and ancillary costs and also arrives at a purified expense using the step-down method. Normally, one can arrive at a cost per visit per quarter for CHAMPUS Partners by adding the BHAE and FCCE purified expenses to arrive at total CHAMPUS partner expenses and then dividing that figure by the utilization figure found in the SAS3 report for CHAMPUS Partners.

However, a problem was encountered in this process. Complete data was available for the 4th quarter of FY91 only. Quarters 1, 2 and 3 had either incomplete data or no data for CHAMPUS Partners. An inquiry at 7th MEDCOM revealed that this was due to some confusion at the outlying clinics as to how the data should be reported. As a result, all or most expenses that should have been attributed to CHAMPUS Partners were rolled up into the direct care total costs. Although the data is now being reported correctly, for the time period in question it was not. Fortunately, an extensive internal audit of the CHAMPUS Partner program was conducted during this time period and resulted in the availability of detailed cost information regarding CHAMPUS Partners at Hanau. This

information, combined with direct care MEPRS data, the SAS3 reports, and the MED 302 reports, made it possible to derive the CHAMPUS Partner information.

In order to make a comparable cost analysis for the CHAMPUS Partner alternative, the following steps were taken. First, the purified (total) expenses and the direct expenses for the direct care alternative already analyzed above were set out by quarter. The direct expenses include all physician salaries at the Hanau Health Clinic except CHAMPUS Partner salaries. The latter are not included since they are a CHAMPUS expense. By subtracting direct expenses from purified (total) expenses, total ancillary and support costs were derived.

Second, the utilization figures for the direct care alternative were again set out by quarter. These figures included visits to both direct care physicians and to CHAMPUS Partners. Total ancillary and support costs were divided by total primary care visits to arrive at the ancillary and support cost per visit.

Third, data provided by the internal audit and the 7th MEDCOM MEPRS office was compiled by quarter for actual claims paid to CHAMPUS partners at Hanau and actual visits attributed to those partners per quarter. The amount in claims was divided by the number of visits to arrive at a CHAMPUS Partner direct expense per visit. Finally, this

figure was added to the total ancillary and support costs per visit to derive the total CHAMPUS Partner cost per visit.

EUCOM Demonstration

For the EUCOM demonstration alternative, cost data was obtained from a combination of sources. Each military community that participates in the EUCOM project is required to submit a written monthly report to the 7th MEDCOM EUCOM Demonstration Project Officer. The report contains cost information that, combined with CHAMPUS and MEPRS data, assists the Project Officer in conducting a quarterly cost benefit analysis. The Project Officer completes a Quarterly Progress Report for the EUCOM Demonstration Project which is then forwarded to DoD Health Affairs.

At the Hanau Health Clinic this monthly report is prepared by the Health Benefits Advisor (HBA) at the clinic. The monthly report contains the total number of family member outpatient visits under the EUCOM project, the total cost of the project in deutschmarks (DM) and the average monthly outpatient cost in DMs. The HBA obtains the utilization and cost information from patient logs and the actual billing forms received from the German facility.

For purposes of this project, the EUCOM cost data has been obtained from the monthly reports submitted by the

Hanau HBA. The time period covered was the same as that used for the direct care and CHAMPUS Partner alternatives, Quarters 1 to 4 of FY91. The DM figure was converted to dollars using the annual exchange rate established by finance. For FY91 the exchange rate conversion figure was 2.03.

CHAMPUS

The cost data for the CHAMPUS alternative was obtained from OCHAMPUSEUR in Heidelberg. Since CHAMPUS outpatient users in Europe are not required to submit a DD Form 2161 (Referral for Civilian Medical Care) requesting that they be allowed to use a civilian physician, there is no data available at the clinic or hospital level to determine how many beneficiaries are using outpatient CHAMPUS care. The patient simply goes directly to an approved German physician for outpatient care and the bill is sent to the patient and to the billing office in Landstuhl. OCHAMPUSEUR maintains a claims data base and compiles data regarding payment of bills by region, provider, diagnosis, and cost.

Since the inception of the EUCOM Demonstration project, OCHAMPUSEUR is required quarterly to pull a random sample of 35 active duty family member CHAMPUS claims from each of the five countries participating in the project (Belgium, Italy, Germany, The Netherlands and Spain). From

this random sample, OCHAMPUSEUR calculates an arithmetic average and reports it to the EUCOM Demonstration Project Officer. The figure reported by OCHAMPUSEUR as the average cost per quarter for outpatient CHAMPUS care is the figure used in this study.

It is important to note that before the random selection of claims occurs, the CHAMPUS data must be corrected or made comparable to primary care visits. This is done by eliminating from consideration those claims that are obviously secondary or tertiary types of care. Examples of these include obstetrics, neurological services, cardiovascular services. While these are categorized as outpatient, they are clearly high cost services not typical to primary care settings.

Acceptability of Care

Acceptability of care was defined as the provision of an appropriate standard of treatment as evidenced by a variety of quality and patient satisfaction measurements. These two measurements, quality and patient satisfaction, were used to analyze the criterion of acceptability of care for each of the alternatives. It is important to note that the first measurement, quality, consisted of determining whether formal quality assurance indicators existed. To evaluate these indicators for validity and depth was beyond the scope of this study. The quality component consisted

of two elements: 1) Is there a formal QA system in place in the facility? 2) Is there some control or ability for the U.S. military to oversee the quality of care provided in the facility? This information was obtained through direct observation, interviews, and a review of the existing policy statements for each alternative.

Patient satisfaction information for the direct care, EUCOM Demonstration and CHAMPUS Partner alternatives was obtained through a patient satisfaction survey administered from 1 to 10 Mar and 1 to 10 July 1992. For the traditional CHAMPUS alternative, it was necessary to conduct the survey telephonically. Prior to 1992, 7th MEDCOM required that a patient satisfaction survey be conducted annually. Since the 7th MEDCOM survey instrument was used to survey outpatients in Frankfurt in FY89 and FY90, it provided useful baseline data. For this reason, it was used in the present study with some necessary modifications. The 7th MEDCOM survey instrument, without modifications, is found in Appendix B.

Since this instrument was used to survey outpatients in Frankfurt in FY89 and FY90, findings from the prior surveys were reviewed. This review of the prior survey findings substantiated the face validity of the instrument. The review revealed that there were no major ambiguities in the questions nor was there difficulty in obtaining the

desired response rates. In order to verify the content validity of the survey instrument, a content analysis was performed by comparing the use of quality indicators in the survey with those suggested by Donabedian (1980) and the JCAHO (1992 JCAHO Manual). This method replicated that used by Nelson and Niederberger (1990) as a means of determining whether the survey instrument utilizes accepted quality indicators. This analysis revealed the use of established quality indicators in the 7th MEDCOM survey instrument.

To conduct a comparative analysis it was necessary to revise the survey instrument somewhat so that it could be administered to four separate groups - Direct care users, CHAMPUS Partner users, EUCOM Demonstration users and traditional CHAMPUS users. This revision was accomplished without any significant change in the content of the survey questions. However, six items from the original survey (numbers 2, 3, 9, 12, 13, and 16) were omitted in the revisions since they either did not refer to relevant access or acceptability issues or they referred to issues that were not common to all four alternatives and thus did not contribute to a uniform comparison.

Item number four on the original survey asked respondents if a list of various health care personnel were responsive to their needs. There were eight groups of

personnel listed but a review of the previous survey results show a high rate of NA/missing responses to this item. In keeping with the literature, this question was revised so that it inquired about the responsiveness of only three groups - nurses, physicians and clerical personnel. In addition, two items from the original survey (numbers 11 and 14) were combined and rephrased in the form of an overall satisfaction with care rating. These changes made it possible to address the same issues in an identical manner for all four alternatives, and to compare and contrast the various responses to determine if there were any significant differences.

Finally, some changes were made in the format of the original survey in order to refine the responses and elicit additional information. In the original survey there were 16 questions with a three point (Yes/No/Not Applicable) response field. In the revised survey the question format was changed to a positive statement that elicited respondent agreement, disagreement, or neutrality by utilizing a five point Likert scale. This change was in keeping with the literature that suggests that the Likert scale is the preferred response format. It offers greater discrimination in the strength of respondents' feelings about a specific issue. Further, the Likert scale format was found to produce scores that were consistently more

reliable than scores computed using other methods (Zyzanski, 1974). See Appendices C, D, E, and F for the four revised surveys used in this study.

The revised surveys for the direct care and CHAMPUS partners were administered to beneficiaries who were present at the Hanau Health Clinic during the survey period. Direct care surveys were placed in front of the reception desk used by recipients of military providers. The CHAMPUS Partner surveys were placed in front of the desk of the nurse registering beneficiaries of CHAMPUS Partners. As patients initially signed into the clinic, at the respective desks, they were notified of the survey and asked to return a completed survey prior to their departure from the clinic.

The EUCOM survey was administered to EUCOM users by a medic assigned to the Hanau clinic who was on duty at the German facility after the Hanau clinic was closed. The Hanau clinic customarily utilizes one of its medics in this manner in order to assist EUCOM Demonstration users and ease potential language and cultural barriers.

The CHAMPUS survey was conducted telephonically since there is no requirement for the beneficiary to come to the Hanau Clinic either before or after a visit to a German outpatient care provider. The names and phone numbers of CHAMPUS outpatient care users were obtained from the

patient logs maintained in the offices of the HBAs at the 97th General Hospital and the Hanau Health Clinic. Signing the log is strictly voluntary and, as indicated above, outpatient CHAMPUS users are not required to come to either the 97th General Hospital or the Hanau Health Clinic. Although names were obtained for the entire preceding year, there was some difficulty in obtaining the desired number of responses. After calling all the available numbers, a quota sample of 20 CHAMPUS outpatient care users was obtained.

Accessibility of Care

Accessibility of care is defined as the ability of the beneficiary to obtain primary care quickly and conveniently. The data collection mechanism used for evaluating this criterion consisted of analyzing convenience factors to include waiting time, distance to the treatment facility, difficulty in locating the treatment facility and potential language barriers. Again, these factors were based on responses to requests for this information in the patient satisfaction survey administered in March 1992 and described above.

Computation Phase

This phase of the study involved the following significant steps:

1. Appropriate cost data for each of the four outpatient alternatives was compiled and a thorough cost analysis and validation of input data was conducted. Various sources were used to obtain the cost/validation data depending on the alternative being analyzed. Sources included MEPRS data (with corrections from MED 302's when inaccuracies or inconsistencies appeared), the FY91 internal audit conducted at the 97th General Hospital to analyze CHAMPUS Partner costs, and cost data obtained from the Hanau HBA, the EUCOM Demonstration Project Officer at 7th MEDCOM, and OCHAMPUSEUR office in Heidelberg.

2. Responses to the patient satisfaction surveys were compiled and a statistical analysis was conducted using MICROSTAT (version 4) to compute descriptive statistics. These computations were then compared and contrasted for each alternative.

3. The overall study results were then quantified and compiled into a decision matrix format depicting the three evaluation criteria and four alternative forms of care being analyzed. This process resulted in a decision matrix composed of 12 data sets. Since the evaluation criteria were not equal in value, appropriate weights were assigned to each criterion using the criteria weighting program of the Military Application Program Package (MAPPS).

With the input of all data sets compiled and quantified, and the assignment of weights reflecting the relative significance of the criteria, the decision matrix was complete. Utilizing the decision matrix program of MAPPS, a final computation was made and one of the four alternatives was selected as the best means of providing outpatient primary care in the Hanau area of responsibility.

CHAPTER III

RESULTS

Cost Data

Results of the cost data are reported separately for each of the four alternatives. Final computations include an overall comparison.

Hanau Health Clinic

The results of the cost analysis for direct care at the Hanau Health Clinic for FY91 are displayed in Tables 1 and 2. Table 1 depicts the total primary care expenses by quarter and includes direct expenses, support costs, ancillary costs and a purified expense after the step-down process has been accomplished.

Table 2 depicts quarterly figures for three items. The first column of Table 2 depicts total expenses. This figure was taken from the purified expense column of Table 1. The second column reflects total primary care visits to the Hanau clinic. This information was obtained from the SAS3 report and, as a control measure, was verified against the MED 302 report for the same time period as discussed earlier.

In the 4th quarter a discrepancy was found to exist between the SAS3 report and the MED 302 report. The SAS3 report showed total primary care visits to be 10,504 which is significantly lower than in the three previous quarters.

An inquiry was made at the 97th General Hospital Resource Management Division and it was determined that the MED 302 report reflects the more accurate information in this case. During the time in question, the MEPRS Branch had attributed a part of the utilization figures elsewhere. Thus, the utilization figures from the SAS3 report were corrected using the MED 302 figures. This also allowed for a more consistent comparison with the figures found in the three previous quarters.

The third column of Table 2 depicts the average cost per primary care visit at the Hanau Clinic. It was derived by dividing the total expenses found in column one by the total visits found in column two. As depicted in this table, the annual cost per patient visit at the Hanau clinic is \$51.66.

CHAMPUS Partner

The CHAMPUS Partner cost data for quarters 1, 2 and 3 was found to contain obvious inconsistencies and errors. An inquiry was made to the MEPRS Branch of 7th MEDCOM and it was explained that the inconsistencies were due to general confusion at many of the outlying clinics regarding the proper information to report as a CHAMPUS Partner expense. The 7th MEDCOM confirmed that only 4th quarter CHAMPUS Partner data could be deemed reliable.

Fortunately, sufficient data existed in other forms to enable researcher to derive the CHAMPUS Partner data.

Table 3 depicts the total ancillary and support costs for the direct care alternative which is used as the starting point for deriving CHAMPUS Partner data. In Table 4 these total ancillary and support costs are divided by total visits (this includes all primary visits in Hanau whether from a military provider or a CHAMPUS Partner provider). The third column is the resulting ancillary and support cost per visit. Table 5 depicts the claims paid to CHAMPUS Partners in the Hanau Health Clinic. This figure is divided by CHAMPUS Partner primary care visits in Hanau to arrive at the CHAMPUS Partner direct expenses per visit.

In Table 6 the final figure from Table 5 is added to the total ancillary and support costs per visit from Table 4 to determine CHAMPUS Partner total cost per visit by quarter. In Table 7 CHAMPUS Partner total cost per visit is divided by CHAMPUS Partner visits in order to derive the total cost per quarter for CHAMPUS Partner visits. The annual cost per visit for a CHAMPUS Partner provider in FY91 was \$59.31.

EUCOM Demonstration

EUCOM Demonstration cost data is portrayed in Table 8. This Table depicts, by quarter, the total number of EUCOM Demonstration visits, total EUCOM Demonstration costs, and

the average EUCOM Demonstration cost per visit. These figures only include visits by family members since active duty users have a different funding procedure. (If an active duty member uses the German hospital for after-hours acute care, the costs are taken from Supplemental Care funds and are not attributed to EUCOM Demonstration costs.) Data for the 2nd quarter was not reported to the 7th MEDCOM EUCOM Project Officer, nor was it available at the Hanau Health Clinic itself. As a result, 2nd quarter data was omitted from consideration.

Actual cost figures were reported in deutschmarks. They were converted to dollars using the FY91 finance exchange rate of 2.03. As shown in Table 8, the annual cost per visit for the EUCOM Demonstration program in Hanau was \$83.46.

CHAMPUS

Table 9 depicts the total number of CHAMPUS outpatient visits in the Hanau area during FY91, with corresponding total costs and average cost per visit. These figures include all outpatient visits for the given time period since the CHAMPUS database does not have the capacity to separate out only primary care visits. The final figure is total cost and does not exclude the 20 percent copayment.

Table 10 depicts the average cost per visit by quarter for a randomly selected sample of 35 CHAMPUS primary care

visits. This was accomplished by DoD directive in order to support the cost analysis requirement for the EUCOM Demonstration project. Reported figures reflect the cost to the U.S. government, i.e. the cost after beneficiary copayment has been made. The Table shows quarterly cost per visit for a random sample of 35 primary care CHAMPUS visits in Europe and a final annual cost per visit for FY91 of \$73.89.

Finally, Table 11 depicts the overall results of the cost analysis for each of the four alternatives by quarter as well as annually. Comparison of these figures for each of the four alternatives available to beneficiaries in Hanau reveals that the direct care alternative is the least expensive form of delivery, with the CHAMPUS Partnership second, the traditional CHAMPUS program third and the EUCOM Demonstration fourth.

Table 1

COST DATA
Direct Care Hanau Military Clinic
FY91 Primary Care
Total Costs

	DIRECT EXPENSES	SUPPORT COSTS	ANCILLARY COSTS	AFTER STPDN	NET PURIF	PURIFIED EXPENSE
QTR 1	\$331,640	\$183,494	\$135,854	\$650,988	\$159,288	\$810,276
QTR 2	\$207,444	\$180,722	\$116,763	\$504,933	\$168,389	\$673,322
QTR 3	\$250,006	\$201,448	\$138,040	\$589,494	\$188,272	\$777,766
QTR 4	\$287,098	\$202,303	\$148,453	\$637,854	\$217,440	\$855,294

Table 2

COST DATA
DIRECT CARE HANAU MILITARY CLINIC
FY91 AVERAGE COST PER VISIT

	TOTAL EXPENSES	TOTAL VISITS	AVERAGE COST PER VISIT
QTR 1	\$810,276	14,710	\$51.84
QTR 2	\$673,322	14,223	\$47.34
QTR 3	\$777,766	15,140	\$51.37
QTR 4	\$855,294	16,254	\$52.62
ANNUAL	\$3,116,658	60,327	\$51.66
DIRECT CARE ANNUAL COST PER VISIT: \$51.66			

Table 3

COST DATA
CHAMPUS Partner
FY91 Primary Care
Total Costs

	PURIFIED EXPENSES	DIRECT EXPENSES	TOTAL ANCILLARY AND SUPPORT COSTS
QTR 1	\$810,276	\$331,640	\$478,636
QTR 2	\$673,322	\$207,444	\$465,875
QTR 3	\$777,766	\$250,006	\$527,760
QTR 4	\$855,294	\$287,098	\$568,196

Table 4

COST DATA
CHAMPUS Partner
Ancillary and Support Costs Per Visit

	TOTAL ANCILLARY AND SUPPORT COSTS	TOTAL VISITS	ANCILLARY AND SUPPORT COST PER VISIT
QTR 1	\$478,636	14,710	\$32.54
QTR 2	\$465,875	14,223	\$32.75
QTR 3	\$527,760	15,140	\$34.86
QTR 4	\$568,196	16,254	\$34.96

Table 5

COST DATA
CHAMPUS Partner Claims - Direct Expenses

	CHAMPUS PARTNER CLAIMS PAID	CHAMPUS PARTNER PRIMARY CARE VISITS	CHAMPUS PARTNER DIRECT EXPENSES PER VISIT
QTR 1	\$12,842.30	401	\$32.03
QTR 2	\$25,552.00	1,482	\$17.24
QTR 3	\$63,975.00	3,170	\$20.18
QTR 4	\$88,746.40	2,544	\$34.88

Table 6

COST DATA
CHAMPUS Partner
CHAMPUS Partner Total Cost Per Visit

	TOTAL ANCILLARY AND SUPPORT COSTS PER VISIT	CHAMPUS PARTNER DIRECT EXPENSES PER VISIT	CHAMPUS PARTNER TOTAL COST PER VISIT
QTR 1	\$32.54	\$32.03	\$64.57
QTR 2	\$32.75	\$17.24	\$49.99
QTR 3	\$34.86	\$20.18	\$54.54
QTR 4	\$34.96	\$34.88	\$69.84

Table 7

COST DATA
CHAMPUS Partner
Annual Cost Per Visit

	CHAMPUS PARTNER TOTAL COST PER VISIT	CHAMPUS PARTNER PRIMARY CARE VISITS	CHAMPUS PARTNER TOTAL COST PER QUARTER
QTR 1	\$64.57	401	\$25,892.57
QTR 2	\$49.99	1,482	\$74,085.18
QTR 3	\$54.54	3,170	\$172,891.80
QTR 4	\$69.84	2,544	\$177,672.96
ANNUAL		7,597	\$450,542.51
CHAMPUS PARTNER ANNUAL COST PER VISIT: \$59.31			

Table 8

COST DATA
FY91
EUCOM Demonstration Project

	TOTAL EUCOM VISITS	TOTAL EUCOM COSTS	EUCOM AVERAGE COST PER VISIT
QTR 1	168	\$13,948	\$83.02
QTR 2	NA	NA	NA
QTR 3	109	\$7,963	\$73.06
QTR 4	122	\$11,503	\$94.29
ANNUAL	399	\$33,414	\$83.74
EUCOM ANNUAL COST PER VISIT: \$83.74			

Table 9

COST DATA
CHAMPUS FY91
Summary of Hanau Outpatient Claims by Service

SERVICE	TOTAL CLAIMS	TOTAL COST
ALLERGY	1	72.67
CARDIOLOGY	1	40.13
DERMATOLOGY	17	7,592.14
ENDOCRINOLOGY	1	256.30
NEUROLOGY	3	217.74
PULMONARY/RESPIRATORY	5	933.35
RHEUMATOLOGY	1	90.14
INTERNAL MEDICINE	176	38,184.24
OBSTETRICS	1,072	299,136.73
GYNECOLOGY	167	34,753.25
OPHTHALMOLOGY	6	980.12
PSYCHIATRY	1	217.35
SPEC. PEDIATRICS	23	14,976.27
EAR, NOSE, THROAT	89	26,367.73
ORTHOPEDICS	20	2,922.60
UROLOGY	3	237.47
TOTAL	1,586	426,978.23

ANNUAL COST PER VISIT: \$269.22

Table 10

COST DATA
CHAMPUS FY91
Random Sample of 35 Outpatient Claims

COST PER VISIT (To Government)	
QTR 1	\$68.00
QTR 2	\$93.00
QTR 3	\$89.66
QTR 4	\$44.90
CHAMPUS ANNUAL COST PER VISIT: \$73.89	

Table 11

COST DATA
Four Alternative Forms of Outpatient Care
Average Cost Per Outpatient Visit
FY91

	DIRECT CARE HANAU	CHAMPUS PARTNER	EUCOM DEMONSTRATION	TRADITIONAL CHAMPUS
QTR 1	\$51.84	\$64.57	\$83.02	\$68.00
QTR 2	\$47.34	\$49.99	NA	\$93.00
QTR 3	\$51.37	\$54.54	\$73.06	\$73.06
QTR 4	\$52.62	\$69.84	\$94.29	\$94.29
ANNUAL COST PER OUTPATIENT ALTERNATIVE				
	\$51.66	\$59.31	\$83.74	\$73.29

Survey Results

The survey results are portrayed in Tables 12 to 26. Table 12 shows the survey return rates by category and the overall response rate. Table 13 displays the demographics of survey respondents. Table 14 shows the results of the quality assurance program comparison.

Results of the patient satisfaction survey are displayed in Tables 15 through 26. Table 15 depicts the descriptive statistics for each of the survey questions by alternative. Table 16 shows the results of the one way analysis of variance that was conducted comparing responses to each of the nine survey questions for all four alternatives.

For variables that resulted in significant F-Ratios at the .01 level, a t-test was conducted for each possible pairwise comparison. Results of these t-tests are displayed in Tables 17 through 23. Table 24 portrays a decision matrix quantifying the results of the eight acceptability variables. Table 25 discloses the results of the health care preference question, and Table 26 depicts a decision matrix quantifying the three acceptability measures.

Tables 27 and 28 show the survey results pertaining to access questions, which are then quantified in Table 29.

Table 30 depicts the weights given to the evaluation criteria after conducting a selection and sensitivity analysis. Table 31 depicts the final overall decision analysis comparing the four alternatives using the three weighted evaluation criteria with respective data input.

Table 12

SURVEY RETURN RATES

OUTPATIENT CARE ALTERNATIVE	SURVEYS PROVIDED	SURVEYS RETURNED	PERCENT RETURNED
DIRECT CARE	150	88	58.7
CHAMPUS PARTNER	60	32	53.3
EUCOM DEMONSTRATION	50	30	60.0
CHAMPUS*	60	20	33.3
OVERALL	320	170	53.1

*CHAMPUS survey was telephonic, numbers represent calls attempted and responses received.

Table 13

DEMOGRAPHIC DATA

OUTPATIENT CARE ALTERNATIVE	GENDER	STATUS	YEARS LIVED IN GERMANY	RESPONDENT OR FAMILY MEMBER SPEAKS GERMAN
DIRECT CARE N = 88	M: 41 (46%) F: 35 (40%) NA: 12 (14%)	AD: 45 (51%) FM: 40 (45%) NA: 3 (3%)	UNDER 1: 23 (26%) 2 TO 3: 43 (49%) OVER 3: 21 (24%) NA: 1 (1%)	YES: 9 (10%) NO: 76 (86%) NA: 3 (3%)
CHAMPUS PARTNER N = 32	M: 2 (6%) F: 29 (91%) NA: 1 (3%)	RET: 2 (6%) FM: 29 (91%) NA: 1 (3%)	UNDER 1: 4 (12%) 2 TO 3: 19 (60%) OVER 3: 7 (22%) NA: 2 (6%)	YES: 3 (9%) NO: 28 (88%) NA: 1 (3%)
EUCOM DEMONSTRATION N = 30	M: 15 (50%) F: 13 (43%) NA: 2 (7%)	AD: 13 (43%) FM: 16 (53%) NA: 1 (3%)	UNDER 1: 13 (43%) 2 TO 3: 11 (37%) OVER 3: 6 (20%) NA: 0 (0%)	YES: 5 (17%) NO: 25 (83%) NA: 0 (0%)
CHAMPUS N = 20	M: 4 (20%) F: 16 (80%)	AD: 0 (0%) FM: 19 (95%) RET: 1 (5%)	UNDER 1: 7 (35%) 2 TO 3: 7 (35%) OVER 3: 6 (30%)	YES: 3 (15%) NO: 17 (85%) NA: 0 (0%)
OVERALL N = 170	M: 62 (36%) F: 93 (55%) NA: 15 (9%)	RET: 3 (2%) AD: 58 (34%) FM: 104 (61%) NA: 5 (3%)	UNDER 1: 47 (28%) 2 TO 3: 80 (47%) OVER 3: 40 (23%) NA: 3 (2%)	YES: 20 (12%) NO: 146 (86%) NA: 4 (2%)

Table 14

RESULTS OF THE QUALITY ASSURANCE
PROGRAM COMPARISON

QA MECHANISM:	DIRECT CARE	CHAMPUS PARTNER	EUCOM DEMONSTRATION	CHAMPUS
MONITORS	YES	YES	NO	NO
PEER REVIEW	YES	YES	NO	NO
UTILIZATION REVIEW	YES	YES	NO	NO
RISK MANAGEMENT	YES	YES	NO	NO
SUPERVISION/CONTROL	YES	YES	SOME	NONE

Table 15

SURVEY FINDINGS
DESCRIPTIVE STATISTICS

SURVEY VARIABLE	DIRECT CARE		CHAMPUS PARTNER		EUROM DEMONSTRATION		CHAMPUS	
	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
1. COURTEOUS RECEPTION	4.540	.674	4.625	.553	4.266	.784	4.100	.718
2. OVERALL SATISFACTION	4.505	.654	4.727	.500	4.445	.723	4.050	.887
3. LOCATED FACILITY	4.829	.407	4.643	.863	4.166	1.085	3.894	.552
4. CLERICAL SUPPORT	4.453	.811	4.562	.669	4.366	.614	3.941	.510
5. NURSES' RESPONSIVENESS	4.555	.587	4.870	.335	4.287	.734	4.000	.858
6. PHYSICIANS' RESPONSIVENESS	4.616	.590	4.795	.391	4.583	.542	4.100	.640
7. EXPLANATIONS GIVEN REGARDING TREATMENT	4.418	.808	4.706	.399	4.190	.831	3.842	1.136
8. CLEAR AND ACCURATE INSTRUCTIONS	4.605	.644	4.702	.423	4.351	.521	3.355	.834
9. EXAMINED IN PRIVACY	4.619	.709	4.775	.386	4.237	.706	3.842	.874

Table 16

RESULTS OF ONE WAY ANALYSIS OF VARIANCE
COMPARING ALL FOUR ALTERNATIVES

NO.	VARIABLE	F-RATIO	PROBABILITY = *
1.	COURTEOUS AND UNDERSTANDING RECEPTION IN CLINIC	3.710	.0128
2.	OVERALL SATISFACTION WITH MEDICAL CARE RECEIVED TODAY	4.235	6.484E-03*
3.	LOCATED FACILITY WITHOUT DIFFICULTY	14.357	2.319E-08*
4.	CLERICAL SUPPORT PERSONNEL WERE RESPONSIVE TO MY NEEDS	3.394	.0193
5.	NURSES WERE RESPONSIVE TO MY NEEDS	9.667	6.460E-06*
6.	PHYSICIANS WERE REPSONSIVE TO MY NEEDS	6.676	2.780E-04*
7.	CLINIC PERSONNEL EXPLAINED WHAT THEY WERE DOING FOR ME	5.386	1.459E-03*
8.	RECEIVED CLEAR AND ACCURATE INSTRUCTIONS ON USING PRESCRIBED MEDICATIONS	25.013	1.900E-13*
9.	I WAS EXAMINED IN PRIVACY	10.281	3.031E-06*

*Significant difference, alpha = .01

Table 17

RESULTS OF T-TEST BY VARIABLE

VARIABLE #2: OVERALL SATISFACTION WITH MEDICAL CARE RECEIVED TODAY		
PAIRWISE COMPARISON OF ALTERNATIVES	T-VALUE	PROBABILITY = *
1. DIRECT CARE and CHAMPUS PARTNER	-1.740	.042
2. DIRECT CARE and EUCOM DEMONSTRATION	.424	.336
3. DIRECT CARE and CHAMPUS	2.621	5.002E - 03*
4. CHAMPUS PARTNER and EUCOM DEMONSTRATION	1.7959	.0388
5. CHAMPUS PARTNER and CHAMPUS	3.527	4.551E - 04*
6. EUCOM DEMONSTRATION and CHAMPUS	1.728	.045

* Significant difference, alpha = .01

Table 18

RESULTS OF T-TEST BY VARIABLE

VARIABLE #3: LOCATED FACILITY WITHOUT DIFFICULTY		
PAIRWISE COMPARISON OF ALTERNATIVES	T-VALUE	PROBABILITY = *
1. DIRECT CARE and CHAMPUS PARTNER	1.595	.056
2. DIRECT CARE and EUCOM DEMONSTRATION	4.843	1.989E - 06*
3. DIRECT CARE and CHAMPUS	8.639	1.000E - 13*
4. CHAMPUS PARTNER and EUCOM DEMONSTRATION	1.921	.029
5. CHAMPUS PARTNER and CHAMPUS	3.458	5.601E - 04*
6. EUCOM DEMONSTRATION and CHAMPUS	1.033	.1533

* Significant difference, alpha = .01

Table 19

RESULTS OF T-TEST BY VARIABLE

VARIABLE #5: NURSES' WERE REPSONSIVE TO MY NEEDS		
PAIRWISE COMPARISON OF ALTERNATIVES	T-VALUE	PROBABILITY = *
1. DIRECT CARE and CHAMPUS PARTNER	-2.864	2.470E - 03*
2. DIRECT CARE and EUCOM DEMONSTRATION	2.022	.022
3. DIRECT CARE and CHAMPUS	3.483	3.607E - 04*
4. CHAMPUS PARTNER and EUCOM DEMONSTRATION	4.064	7.110E - 05*
5. CHAMPUS PARTNER and CHAMPUS	5.167	2.082E - 06*
6. EUCOM DEMONSTRATION and CHAMPUS	1.267	.105

* Significant difference, alpha = .01

Table 20

RESULTS OF T-TEST BY VARIABLE

VARIABLE #6: PHYSICIANS' WERE RESPONSIVE TO MY NEEDS		
PAIRWISE COMPARISON OF ALTERNATIVES	T-VALUE	PROBABILITY = *
1. DIRECT CARE and CHAMPUS PARTNER	-1.589	.057
2. DIRECT CARE and EUCOM DEMONSTRATION	.269	.393
3. DIRECT CARE and CHAMPUS	3.475	3.704E - 04*
4. CHAMPUS PARTNER and EUCOM DEMONSTRATION	1.771	.040
5. CHAMPUS PARTNER and CHAMPUS	4.866	5.879E - 06*
6. EUCOM DEMONSTRATION and CHAMPUS	2.869	3.048E - 03*

* Significant difference, alpha = .01

Table 21

RESULTS OF T-TEST BY VARIABLE

VARIABLE #7: CLINIC PERSONNEL EXPLAINED WHAT THEY WERE DOING FOR ME		
PAIRWISE COMPARISON OF ALTERNATIVES	T-VALUE	PROBABILITY = *
1. DIRECT CARE and CHAMPUS PARTNER	-1.923	.028
2. DIRECT CARE and EUCOM DEMONSTRATION	1.323	.094
3. DIRECT CARE and CHAMPUS	2.655	4.571E - 03*
4. CHAMPUS PARTNER and EUCOM DEMONSTRATION	3.143	1.299E - 03*
5. CHAMPUS PARTNER and CHAMPUS	3.948	1.233E - 04*
6. EUCOM DEMONSTRATION and CHAMPUS	1.253	.108

* Significant difference, alpha = .01

Table 22

RESULTS OF T-TEST BY VARIABLE

VARIABLE #8: RECEIVED CLEAR AND ACCURATE INSTRUCTIONS ON USING PRESCRIBED MEDICATIONS		
PAIRWISE COMPARISON OF ALTERNATIVES	T-VALUE	PROBABILITY = *
1. DIRECT CARE and CHAMPUS PARTNER	-.786	.216
2. DIRECT CARE and EUCOM DEMONSTRATION	1.951	.026
3. DIRECT CARE and CHAMPUS	7.399	1.705E - 11*
4. CHAMPUS PARTNER and EUCOM DEMONSTRATION	2.916	2.485E - 03*
5. CHAMPUS PARTNER and CHAMPUS	7.714	2.302E - 10*
6. EUCOM DEMONSTRATION and CHAMPUS	5.200	1.979E - 06*

* Significant difference, alpha = .01

Table 23

RESULTS OF T-TEST BY VARIABLE

VARIABLE #9: I WAS EXAMINED IN PRIVACY		
PAIRWISE COMPARISON OF ALTERNATIVES	T-VALUE	PROBABILITY = *
1. DIRECT CARE and CHAMPUS PARTNER	-1.183	.119
2. DIRECT CARE and EUCOM DEMONSTRATION	2.547	6.085E - 03*
3. DIRECT CARE and CHAMPUS	4.228	2.501E - 05*
4. CHAMPUS PARTNER and EUCOM DEMONSTRATION	3.974	9.347E - 05*
5. CHAMPUS PARTNER and CHAMPUS	5.292	1.343E - 06*
6. EUCOM DEMONSTRATION and CHAMPUS	1.761	.042

* Significant difference, alpha = .01

Table 24

 DECISION MATRIX
 Responses to Eight Acceptability Variables

WEIGHT:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
VARIABLE:	#1	#2	#4	#5	#6	#7	#8	#9	TOTALS
ALTERNATIVE									
DIRECT CARE	2.5	2.0	2.5	2.5	2.0	1.5	1.5	1.5	16.0
CHAMPUS PARTNER	2.5	2.0	2.5	1.0	2.0	1.5	1.5	1.5	14.5
EUCOM DEMONSTRATION	2.5	2.0	2.5	2.5	2.0	3.0	3.0	3.5	21.0
CHAMPUS	2.5	4.0	2.5	4.0	4.0	4.0	4.0	3.5	28.5

(lowest figure is best)

Table 25 RESULTS OF HEALTH CARE PREFERENCE
QUESTION - #14

IF YOU WERE TO NEED OUTPATIENT CARE AGAIN AND IF THE COSTS TO YOU WERE EQUAL, WHICH SOURCE OF CARE WOULD YOU PREFER?				
A. MILITARY B. CIVILIAN (GERMAN) C. CIVILIAN (AMERICAN)				
SOURCE OF CARE	MILITARY	CIVILIAN (GERMAN)	CIVILIAN (AMERICAN)	NO RESPONSE
DIRECT CARE N = 88	44 (50%)	6 (7%)	30 (34%)	8 (9%)
CHAMPUS PARTNER N = 32	10 (31%)	1 (3%)	16 (50%)	5 (16%)
EUCOM DEMONSTRATION N = 30	9 (30%)	11 (37%)	6 (20%)	4 (13%)
CHAMPUS N = 20	4 (20%)	6 (30%)	10 (50%)	0
OVERALL N = 170	67 (39.5%)	24 (14.0%)	62 (36.5%)	17 (10%)

Table 26

DECISION MATRIX
The Three Measures of Acceptability

WEIGHT:	1.00	1.00	1.00	
MEASUREMENT:	QA	Eight Acceptability Variables	Health Care Preference Question	TOTALS
ALTERNATIVE				
DIRECT CARE	1.5	2.0	2.0	5.5
CHAMPUS PARTNER	1.5	1.0	2.0	4.5
EUCOM DEMONSTRATION	3.0	3.0	2.0	8.0
CHAMPUS	4.0	4.0	4.0	12.00

Table 27

RESULTS OF LENGTH OF WAIT
QUESTION - #10

HOW LONG DID YOU WAIT IN THE CLINIC BEFORE BEING SEEN?							
A. 1 - 15 MINS B. 16 - 30 MINS C. 31 - 45 MINS D. 46 - 60 MINS E. 1 - 2 HRS F. OVER 2 HRS							
SOURCE OF CARE	1 - 15 MINS	16 - 30 MINS	31 - 45 MINS	46 - 60 MINS	1 - 2 HRS	OVER 2 HRS	NO RESPONSE
DIRECT CARE N = 88	49 (56%)	16 (18%)	4 (5%)	4 (5%)	3 (3%)	2 (2%)	10 (11%)
CHAMPUS PARTNER N = 32	18 (56%)	5 (16%)	2 (6%)	0	0	1 (3%)	6 (19%)
EUCOM DEMONSTRATION N = 30	17 (56%)	8 (27%)	0	2 (7%)	0	2 (7%)	1 (3%)
CHAMPUS N = 20	8 (40%)	7 (35%)	2 (10%)	1 (5%)	2 (10%)	0	0
OVERALL N = 170	92 (54%)	36 (21%)	8 (5%)	7 (4%)	5 (3%)	5 (3%)	17 (10%)

Table 28

RESULTS OF TRAVEL TIME TO CLINIC
QUESTION - #13

TRAVEL TIME FROM MY HOME TO THE CLINIC IS:				
	A. 1 - 15 MINS	B. 16 - 30 MINS	C. OVER 30 MINS	
SOURCE OF CARE	1 - 15 MINS	16 - 30 MINS	OVER 30 MINS	NO RESPONSE
DIRECT CARE N = 88	65 (74%)	17 (19%)	5 (6%)	1 (1%)
CHAMPUS PARTNER N = 32	25 (78%)	5 (16%)	1 (3%)	1 (3%)
EUCOM DEMONSTRATION N = 30	23 (79%)	6 (20%)	1 (3%)	0
CHAMPUS N = 20	13 (65%)	7 (35%)	0	0
OVERALL N = 170	126 (74%)	35 (20%)	7 (4%)	3 (2%)

Table 29

DECISION MATRIX
The Four Access Issues

WEIGHT:	1.00	1.00	1.00	1.00	
CRITERIA:	Question #10 Waiting Time	Question #13 Travel Time	Question #3 Locate Clinic	Increase Avenue of Access	TOTALS
ALTERNATIVE					
DIRECT CARE	2.0	3.0	1.5	4.0	10.5
CHAMPUS PARTNER	3.0	4.0	1.5	3.0	11.5
EUCOM DEMONSTRATION	1.0	2.0	3.0	1.0	7.0
CHAMPUS	4.0	1.0	3.0	2.0	10.0

Table 30

SELECTING WEIGHTS/SENSITIVITY ANALYSIS

COST OF CARE = 1.0
ACCEPTABILITY OF CARE = 2.0
ACCESSIBILITY OF CARE = 4.0

Consistency ratio - 100.00%

Table 31

DECISION MATRIX
Overall Results

WEIGHT	1.00	2.00	4.00	
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CRITERIA:	COST	ACCEPTABILITY	ACCESSIBILITY	TOTAL
ALTERNATIVE:				

DIRECT CARE	1.00	2.00	3.00	17.00
CHAMPUS PARTNER	2.00	1.00	4.00	20.00
EUCOM DEMONSTRATION	4.00	3.00	1.00	14.00
CHAMPUS	3.00	4.00	2.00	19.00

The optimal alternative is EUCOM Demonstration
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CHAPTER IV

DISCUSSION

Background Information

The city of Hanau, Germany, located approximately 11 miles east of Frankfurt, has a population of approximately 90,000. There are nine U.S. Army installations located in the Hanau area, with housing areas located on two of these nine installations. Pioneer Kaserne has 787 sets of family quarters and Fliegerhorst Kaserne has 192 sets. For health care purposes, the Hanau beneficiary population is approximately 44,473. This consists of a total military population of 21,936 and a total family member population of 17,242. The remaining population is made up of Department of the Army Civilians (405), Local Nationals (3,702), and Other Civilians (1,188).

The Hanau Health Clinic

Ambulatory health care for the Hanau military community is provided primarily by the 209th General Dispensary in Hanau (the Hanau Health Clinic), located on the New Argonner Kaserne. The 209th General Dispensary provides the following services: urgent care, pediatrics, family practice, RN, optometry, physical therapy, pharmacy, X-ray, lab, adult health, immunization and youth health. The hours of operation for the Hanau Health Clinic are: Monday through Friday, 7:30 a.m. through 4:00 p.m. Any

procedure that requires specialized care generates a consult and is referred to the 97th General Hospital for further evaluation/treatment. Beneficiaries in Hanau can also receive outpatient care during clinic operating hours from a German physician through the CHAMPUS program. However, interviews with the Hanau and 97th General Hospital HBAs reveal that CHAMPUS is seldom used for primary outpatient care in either area.

Claims data from OCHAMPUSEUR substantiates this assertion. While all outpatient care is compiled into a single category, an analysis of the claims by treatment reveals that most outpatient care covered by CHAMPUS is related to more specialized types of procedures, i.e. not first contact primary care as defined in this study.

Beneficiaries located in Hanau can obtain urgent after-hours care from one of two sources: the nearby German hospital (Stadtkrankenhaus) located approximately five miles from the health clinic through the EUCOM Demonstration project, or the 97th General Hospital Emergency Room located approximately 21 miles from the clinic. The EUCOM Demonstration project has been in effect in Hanau since 1989. Currently about 130 patients per month are seen at the Stadtkrankenhaus through the EUCOM Demonstration project. Interviews with the HBAs at Hanau, Fulda and Frankfurt reveal a high degree of satisfaction

with this program from an administrative perspective. This enthusiasm is apparently shared by German physicians and administrators, as revealed in interviews conducted in February 1992 at the Hanau Stadtkrankenhaus.

Reasons for their enthusiasm include: the timely payment of claims (they stated that this is in contrast with the payment of CHAMPUS claims, particularly the beneficiary copayment), the close coordination with the local clinic commander and staff, the ability to communicate with a German-speaking liaison (the HBA), and the presence of a military medic at the Stadtkrankenhaus to ease any administrative/cultural difficulties that may arise.

Cost Data

With regard to cost data, the most difficult aspect of the cost analysis was attempting to match the data i.e. ensuring that comparable data was collected for each of the four alternatives. Since alternatives exist within different health care systems - the military system, the civilian system, and the German health care system - the reporting requirements, automation capabilities, and existing cost data are often compiled in a different format with slightly different variables. Thus, cost data had to be collected somewhat differently for each outpatient care alternative. Comparing data from different sources, with

various differences in categorization of the data, contributed to several limitations in the cost analysis.

Hanau Health Clinic

For the Hanau Health Clinic direct care alternative, the researcher relied primarily on the MEPRS report for FY91. Since at that time MEPRS did not include a cost per visit figure for primary care visits at Hanau, this figure was derived by using the computation summary for Hanau and the SAS3 report. The computation summary showed the direct expenses and support and ancillary cost for Hanau and a purified expense per quarter after the stepdown process had been accomplished. The purified expense was divided by the number of primary care outpatient visits at Hanau to arrive at an average cost per primary care visit.

The source of utilization data was the SAS3 report of MEPRS. As a control measure, this figure was validated by comparing it with the Hanau MED 302 report utilization figure. The resulting average cost per primary care visit in Hanau was \$51.66.

CHAMPUS Partner

For the CHAMPUS Partner alternative a similar problem with MEPRS data was encountered. Fortunately, detailed cost information was available from another source - an internal audit of the CHAMPUS Partner program during the time period in question. This information was used as a

corrective figure reflecting actual claims paid and number of visits per CHAMPUS Partner per quarter. By supplementing this data with MEPRS data for direct care, SAS3 reports, and MED 302 reports, cost per primary care visit to CHAMPUS Partners was derived. The resulting annual cost per visit was \$59.31.

The model used here is necessarily simplistic. Actual variations in CHAMPUS Partner contracts make strict cost comparisons difficult. Some CHAMPUS Partners at Hanau are required to provide their own administrative support and one provides his own nurse who also acts as an administrative assistant. Additionally, the existence of reporting errors make it very likely that certain ancillary costs for CHAMPUS Partners are being attributed to direct care costs. If this is true, it would result in a CHAMPUS Partner cost that is somewhat higher than that found here and a direct care cost that is somewhat lower. Nevertheless, the results are in keeping with the literature that suggests that direct care is slightly less expensive than that care provided by a CHAMPUS Partner.

EUCOM Demonstration

For the EUCOM Demonstration alternative, the researcher utilized cost data obtained primarily from the quarterly report that is submitted by the Hanau HBA to the 7th MEDCOM EUCOM Demonstration Project Officer. These

figures came directly from actual claims paid per quarter. It does not include claims that were disqualified because they represented care that was not deemed "acute care" in accordance with EUCOM Demonstration requirements.

For the most part, this problem has been rare. This is true, not because only real emergencies are seen in the EUCOM project, but because acute care has been patient-defined to a great extent. This fact is probably a result of the utilization controls that are built into the EUCOM Demonstration project design. EUCOM Demonstration utilization figures reflect a much lower actual rate of utilization for EUCOM Demonstration than was anticipated in the original design in 1986. There are many possible reasons for low utilization of the EUCOM Demonstration project, to include the fear of a CHAMPUS cost-sharing requirement if the visit is not deemed acute care, cultural and language barriers, and the apprehension about using a foreign medical system. Had over-utilization been a problem in the EUCOM Demonstration project, it is likely that a more stringent definition of acute care would have been employed.

The annual cost per visit for EUCOM Demonstration is \$83.74. However, in comparing EUCOM Demonstration costs with direct care costs (at \$51.66) and CHAMPUS Partner costs (at \$59.31), one must take into account the fact that

EUCOM Demonstration is designed for acute care, which is a more urgent and generally more expensive subset of primary care. For example, according to FY91 MEPRS data, the annual cost per visit for the 97th General Hospital Emergency Room was approximately \$140.62 (MEPRS Report, FY91). EUCOM Demonstration costs are considerably less than that figure. However, as alluded to earlier, the EUCOM Demonstration project cannot be compared strictly with emergency care, since the urgency of the visit is primarily self-defined.

CHAMPUS

There is considerable difficulty in obtaining CHAMPUS cost data that is comparable to cost data in the other alternatives. CHAMPUS claims are categorized in three ways - inpatient care, outpatient care and care for the handicapped. Thus, all outpatient care claims comprise a single category. There is no division for primary care (first contact visits) or other subaccounts within the outpatient category. In order to derive this information from existing CHAMPUS data it is necessary to compile all outpatient claims for a given region (collected by city codes) over a specified period of time and review the diagnosis/treatment section of each claim, subjectively determining whether the claim should be placed in the category of primary care.

Table 9 depicts FY91 claims by service for the Hanau city code with corresponding costs and a calculated cost per visit. However, it is important to note that this figure represents total cost not actual cost to the government, since the CHAMPUS deductible has not been excluded. This amount should be estimated by deducting 20 percent from the total cost and then dividing by the number of claims. One would then arrive at a total cost per visit of \$215.37. However, this figure cannot be compared with the cost figure for the other alternatives because, as can be seen from only a cursory review of the services provided, these are not all primary care claims.

For the period of time considered in this study, FY91, OCHAMPUSEUR was required to pull a random sample of 35 active duty family member claims and report them to the 7th MEDCOM EUCOM Demonstration Project Officer so that a cost analysis could be performed. These claims were randomly pulled from a data base of outpatient claims that had been "corrected" (i.e. made comparable to the primary care services in the other alternatives). These calculations were used in the present study since they are the most accurate available representation of CHAMPUS cost for outpatient primary care.

Overall Cost Data

The overall cost analysis provides a comparison of cost per visit for each of the four alternatives. Direct Care is the least expensive of the four alternatives. This is not surprising since it is consistent with previous research. However, the cost of providing care through a CHAMPUS Partner is surprisingly close to the direct care alternative. A more narrow study that focuses on the accuracy of the MEPRS reporting system at the Hanau Health Clinic would provide a more specific analysis and a valuable supplement to this study.

EUCOM Demonstration and CHAMPUS costs per visit are both higher than the other two alternatives, but are quite close to each other when one considers that there is no copayment with the EUCOM Demonstration alternative because it is a demonstration project. If the 20 percent copayment were deducted from the annual average cost per EUCOM visit, one would arrive at an average cost to the government per visit of \$67.00, slightly less than the average cost of \$73.89 for the random sample of CHAMPUS visits. This close range lends validity to the accuracy of the data and provides a rough estimate for gauging the cost of a primary care visit to a German physician.

While the cost per visit figure provides the common element required for a comparative analysis, there is a

danger in placing too much weight on this unit of measurement. For example, while the cost per visit for EUCOM is considerably higher than that for direct care, other cost factors may outweigh this difference. Utilization figures show that approximately two to four individuals per night are treated at the Hanau Stadtkrankenhaus through the EUCOM Demonstration Project. To provide a physician and support staff, and maintain a 24-hour clinic for an additional utilization of four outpatient visits is a costly alternative. Factors such as these are not captured in the cost per visit analysis. This highlights the benefit of using a multiple criteria approach where other values are included in the overall analysis.

Survey Results

The overall survey return rate was 53.1 percent. The rate was considerably higher for EUCOM Demonstration users. This may be due to the fact that there are only two to four EUCOM Demonstration visits per night, and the environment provided the space and time to complete the survey.

The demographic data reveal that slightly over 50 percent of EUCOM Demonstration respondents were male, and 43 percent were active duty (who are funded by Supplemental Care funds). This most closely approximates the direct care users which is understandable since these two

alternatives are available to both active duty and family member beneficiaries. The CHAMPUS Partner and CHAMPUS alternatives, available only to family members, have significantly more females and are comprised exclusively of family members and retirees.

Most respondents in all four alternatives have lived less than three years in Germany. The great majority (86 percent) of all respondents do not speak German. However, a larger percent (17 percent) of EUCOM Demonstration users speak German than the average (12 percent). CHAMPUS also has a higher percentage of German-speakers (15 percent) than the Direct Care (10 percent) and CHAMPUS Partner (9 percent) alternatives. This could indicate a greater willingness on the part of German-speakers to receive care in a German facility. However, the overall low number of German-speakers in both the EUCOM Demonstration and CHAMPUS alternatives indicates that this is not a significant deterrent to access.

Acceptability Data

Acceptability data consisted of two basic measurements: 1) The existence of mechanisms in place to monitor the quality of care provided at the facility, 2) Responses to the eight survey (5-point scale) questions dealing with issues of acceptability, and 3) Responses to survey question #14 regarding health care preference.

The results of the first acceptability measurement, the existence of mechanisms for monitoring quality of care, are depicted in Table 14. This measurement was arrived at through direct observation, a review of existing policy statements, and a formal interview with the two HBA's assigned to the Hanau Health Clinic and F-MEDDAC.

Both the direct care and CHAMPUS Partner alternatives have rigorous quality assurance mechanisms in place. In addition to a well-documented credentialing review process for all military and CHAMPUS Partner providers, other JCAHO-required QA mechanisms are in place. At the Hanau Health Clinic, these include monitoring some 15 categories of treatment such as asthma, obstetrics, and chest pain. Other QA mechanisms at the Hanau Health Clinic include procedures for peer review, risk management and utilization review.

The German health care system has a reputation for delivering high quality health care; this fact is not in issue. However, the importance of having a mechanism to monitor quality was reemphasized in a recent case involving a military dependent who was harmed while receiving inpatient care at a host nature hospital in Italy. The legal holding reiterated previous law by affirming that the U.S. military is responsible for ensuring that its beneficiaries residing in Europe receive the same standard

of care as that provided by health care facilities in the U.S. Also included in the QA analysis was the ability to supervise or have some control such as a feedback mechanism regarding quality.

Based on observations and interviews with the HBAs at the Hanau Health Clinic and F-MEDDAC, the researcher has concluded that those QA mechanisms mentioned above either do not exist or are not in place in a comparable manner in German health care facilities. With regard to the QA supervision or control issue, however, the EUCOM Demonstration project is superior to the CHAMPUS alternative. As a requirement of the EUCOM Demonstration Program, quality assurance reviews of care received in the German facility have been implemented. As a follow-up to their visit to the Stadtkrankenhaus, the recipient of care must be notified by either the Hanau Health Clinic QA nurse or a QA physician at the clinic. A review of the patient's satisfaction, chief complaint and treatment is conducted and this document is filed with the HBA in the Hanau Health Clinic. A copy of the QA Checklist that is utilized for this review is included at Appendix G.

With regard to the second acceptability measurement, responses to survey questions dealing with access, the descriptive statistics are depicted in Table 15. These figures indicate a higher positive response rate for

CHAMPUS Partner users on all acceptability variables. The issue of location is considered an access variable and is not considered here. Responses are consistent across all variables: Direct care is rated more positively on all variables when compared to EUCOM Demonstration users, and EUCOM Demonstration is rated more favorably on all variables than CHAMPUS.

To determine if any of these differences were significant, an analysis of variance was conducted for each survey variable comparing responses in all four alternatives. With regard to the eight access questions (variables) significant differences were found at the .01 level for six variables (2, 5, 6, 7, 8, and 9). Variables concerning courteous and understanding reception in the clinic, and responsiveness of clerical support, were not significantly different among the four alternatives. For the remaining variables, a student's t-test was conducted for each of the six possible pairwise combinations, as depicted in Tables 17 to 23, to determine significant differences among the alternatives.

For variable two, overall satisfaction with medical care received, there was a significantly lower satisfaction rating for users of the CHAMPUS program when compared to both CHAMPUS Partner and Direct Care responses, as there was for EUCOM Demonstration users when compared to the

CHAMPUS Partner alternative. However, it is interesting to note that there was no significant difference in overall satisfaction with medical care received among respondents of the Direct Care, CHAMPUS Partner and EUCOM Demonstration alternatives. Consequently, the order of priority for this variable was: CHAMPUS Partner/Direct Care/EUCOM Demonstration (equal in ranking), and CHAMPUS last in the ranking process.

For variable five, responsiveness of nurses to the patients' needs, there was a significant difference between CHAMPUS Partner respondents and all other alternatives, and also a significant difference when comparing Direct Care and CHAMPUS alternatives. However, there was no significant difference between Direct Care and EUCOM Demonstration respondents for this variable. Thus, for purposes of input into the acceptability decision matrix, the order of priority for variable five is: CHAMPUS Partner first, Direct Care/EUCOM Demonstration next and, CHAMPUS last.

The t-tests for variable six, responsiveness of physicians to the patients' needs, reveal a significant difference for the CHAMPUS alternative and all other alternatives. However, there were no significant differences among the other three alternatives. Therefore, the order of priority for variable six is: Direct

Care/CHAMPUS Partner/EUCOM Demonstration first, and CHAMPUS last.

For variable seven, whether or not clinic personnel explained what they were doing, the t-tests resulted in significant differences for CHAMPUS as compared with responses from both Direct Care and CHAMPUS Partner respondents. However, while there was a significant difference between EUCOM Demonstration and CHAMPUS Partner respondents, there was not a significant difference between EUCOM Demonstration and Direct Care respondents. This is an interesting finding given that the language barrier and cultural differences are the most likely reasons for any difference. A possible explanation is the presence of a medic at the Stadtkrankenhaus. Having the medic there was cited most often in write-in responses by users complimenting the EUCOM Demonstration program. Thus, the order of priority for this variable is: Direct Care/CHAMPUS Partner first, EUCOM Demonstration next, and CHAMPUS last.

For variable eight, whether or not the patient received clear and accurate instructions on using prescribed medications, there was again an interesting finding in that there was no significant difference between the Direct Care and EUCOM Demonstration alternatives. The fact that there was a significant difference between the

EUCOM Demonstration and CHAMPUS alternatives again points to the presence of the medic. Another possible explanation is that any uncertainties in the use of medications are clarified during the QA check that is made by the clinic on the day following use of the EUCOM Demonstration alternative. Neither was there a significant difference between the Direct Care and CHAMPUS Partner alternatives. The order of priority for this variable is: Direct Care/CHAMPUS Partner first, EUCOM Demonstration next, and CHAMPUS last.

For variable nine, privacy in examinations, t-tests showed significant differences in all but the Direct Care/CHAMPUS Partner and EUCOM Demonstration/CHAMPUS comparisons. The lack of privacy in German health care is sometimes cited as a cultural difference and is offered as a possible explanation for this difference. The order of priority for variable nine is: Direct Care/CHAMPUS Partner first, EUCOM Demonstration/CHAMPUS last.

In order to quantify the eight acceptability variables, a decision matrix was utilized using the order of priority resulting from the t-tests. All eight variables were considered equal in weight. Variables one and four were included in the analysis. For these variables all four alternatives were given an equal ranking since there were no significant differences in the t-tests

for these variables. The results of this process resulted in a rank ordering of the alternatives according to responses on the eight acceptability variables. As depicted in Table 24, the CHAMPUS Partner alternative was rated highest, followed by the Direct Care, EUCOM Demonstration, and CHAMPUS alternatives.

Finally, an analysis of the third acceptability measurement is portrayed in Table 25. The variable consists of responses to a health care preference question: If you were to need outpatient care again and if the costs to you were equal, which source of care would you prefer? Overall results indicate a preference for military care. However, it is interesting to note the breakdown of responses within each alternative. For the Direct Care, CHAMPUS Partner and EUCOM Demonstration alternatives, the majority of respondents prefer to stay within the category of care from which they came, i.e. most Direct Care respondents (50 percent) prefer military care while most CHAMPUS Partner respondents (50 percent) prefer Civilian American care, and most (37 percent) EUCOM Demonstration respondents prefer civilian German care.

This finding presents a strong argument for the importance of continuity in patient satisfaction with health care and supports the findings presented in the literature review. Particularly applicable is the study

conducted by Nelson-Wernick et al. (1981) suggesting that there is a learning curve that applies to repeated use of the same hospital since, when anxiety is reduced, patients are more likely to have their needs met.

Accessibility Data

Accessibility data consisted of two measurements: 1) a content analysis of responses to three survey items dealing with the issue of access, and 2) a determination as to whether the alternative being considered increased the avenues of access for beneficiaries.

With regard to the first measurement, the first question was: How long did you wait in the clinic before being seen? Responses indicate that 74 percent of Direct Care respondents were seen in 1 to 30 minutes, while 72 percent of CHAMPUS Partner respondents and 83 percent of EUCOM Demonstration respondents were seen in the same amount of time. Seventy-five percent of CHAMPUS respondents stated that they were seen within 30 minutes. At the other extreme, 2 percent of Direct Care and 3 percent of CHAMPUS Partner respondents waited over two hours while 7 percent EUCOM Demonstration respondents reported waiting times of over two hours. No CHAMPUS respondent reported waiting more than two hours.

For purposes of quantifying this data, a rank order prioritization was conducted using a 45 minute waiting time

standard. Since 84 percent of EUCOM Demonstration respondents were seen within 45 minutes, this alternative was ranked highest. Direct Care was ranked second, CHAMPUS Partner third and CHAMPUS fourth.

The second survey question concerning access was with regard to travel time to the clinic/provider's office. Ninety seven percent of EUCOM Demonstration respondents stated that they were within 30 minutes of the Stadtkrankenhaus, followed by 94 percent and 93 percent for the Direct Care and CHAMPUS Partner alternatives respectively. One hundred percent of CHAMPUS users stated they were within 30 minutes of the German provider. Based on these responses, the rankings were: CHAMPUS, EUCOM Demonstration, Direct Care/CHAMPUS Partner.

With regard to the third access question - I was able to locate the clinic without difficulty - an analysis of variance showed a significant difference among the alternatives. A t-test for each possible pairwise comparison was conducted as depicted in Table 18. There was a significant difference found for three of the six combinations of alternatives: Direct Care and EUCOM Demonstration, Direct Care and CHAMPUS, and CHAMPUS Partner and CHAMPUS. These differences are addressed by several write-in respondents who complained that once inside the Stadtkrankenhaus they could not read the signs or obtain

directions. The resulting order of priority is: Direct Care/CHAMPUS Partner first, and EUCOM Demonstration/CHAMPUS last.

The second measurement for access consisted of answering the question - does the alternative being considered increase the avenues of access for beneficiaries. Since the Direct Care system serves as the standard and the other alternatives are considered supplements to it, the Direct Care system was ranked lowest meaning simply that it is the most basic means of access.

The CHAMPUS Partner alternative was ranked third since it increases access by allowing family members and retirees another avenue of access for health care during clinic operating hours. The CHAMPUS alternative was ranked second since it further increases a beneficiaries choice of primary care alternatives, also during standard working hours. The EUCOM Demonstration alternative was given the highest ranking since it increases access even further by providing for after-duty hours acute care at a conveniently located, full-service medical facility.

The overall results of the four access issues were quantified in the decision matrix displayed in Table 29. This resulted in a total ranking, with regard to access issues, of EUCOM Demonstration first, followed by CHAMPUS, Direct Care and CHAMPUS Partner.

Overall Results

The overall results of the data collection process are displayed in Tables 30 to 31. Based on the results of the data collection analysis for each criterion, the results were quantified using a numerical ranking of 1 to 4 with 1 being high priority in terms of value the government and 4 being lower in value. For cost data, the quantification was relatively straightforward with the least expensive form of care being ranked number 1 and the most expensive form of care ranked number 4. The rankings for acceptability and accessibility issues were made in accordance with the decision matrices discussed above and depicted in Tables 26 and 29.

To an extent, the criteria weighting process involved the subjective/intuitive mode of analysis as discussed previously in the literature review. An individual assessment of value is ultimately necessary to interpret data pertaining to complex issues. To minimize the subjectivity of this analysis, the criteria weighting process was accomplished by utilizing the Select Program of MAPP with its corresponding sensitivity analysis.

Table 27 depicts the sensitivity analysis that was conducted to arrive at a final criteria weighting decision. In accordance with the MAPP program, the researcher responded to three pairwise comparisons of the three

criteria, rating them in order of relative importance to each other. Access was considered to be the fundamental value in military health care. This is particularly true for the U.S. military in Germany as described in the conditions that prompted this study. In a downsizing environment with rapidly changing political conditions, a disperse beneficiary population and a resource-intensive concern such as outpatient primary care, access to this care is the essential issue.

Second only to access is the issue of acceptability of care. While cost containment is an important and timely issue, many are now asserting that cost containment measures have reached their limit and have, at best, resulted in a one-time cost savings. Regardless of the outcome of this debate, it is asserted that cost containment does not outweigh the importance of obtaining an acceptable standard of primary care for military beneficiaries residing in Europe.

Table 31 shows the final decision matrix with the four outpatient care alternatives, the three weighted criteria, and the final data quantifications in place. The resulting optimal strategy was selected utilizing the MAPPS Decision-Theory Program. The optimal strategy selected was the EUCOM Demonstration alternative.

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

In order to provide adequate and comprehensive health care to its beneficiaries in Europe, the AMEDD currently relies on host nation health care resources as a supplement to its health care system. As previously noted, military beneficiaries in the U.S. have access to a dual health care system (i.e. direct care or U.S. civilian care). Recent years have seen increased reliance on the civilian health care system in the form of increasing use of CHAMPUS and CHAMPUS Partners, and creation of PRIMUS clinics. As a result, military health policy experts have conducted research studies in which they compare cost, efficiency and patient satisfaction in the direct care system with military contracted care from the civilian sector. However, there have been relatively few studies conducted in Europe that attempt such an analysis.

Recent historic events have caused a major shift in focus for the U.S. military, particularly effecting strategy and consequent troop strength in Western Europe. As a direct result of these changes, new possibilities are being discussed for providing health care services to U.S. troops and their family members located in Europe. Hospital Commanders are faced with the difficult decision of how to best serve a disperse, rapidly changing military

community. Several alternative forms for providing primary care have already been implemented in Europe and others have been proposed. As discussed herein, this study evaluates the success of the four primary care alternatives as they now exist in Hanau, a military community within the Frankfurt Medical Department Activity area of responsibility.

The results of this study include detailed findings with regard to these four alternatives in terms of cost, acceptability and accessibility of primary care. The cost analysis findings were consistent with the literature and resulted in the following order of merit: Direct Care delivery at \$51.66 per visit is the least expensive mechanism, followed by the Internal CHAMPUS Partner (\$59.31), CHAMPUS (\$73.29) and the EUCOM Demonstration program (\$83.74). However, as the previous discussion indicates, there are many critical considerations that are not captured in a cost per visit analysis, a fact which emphasizes the need for a multiple-criteria evaluation. These considerations include the resource-intensive nature of primary care, the highly disperse beneficiary population in Europe, and the difficulty of obtaining essential personnel for the delivery of health care services.

Overall survey results indicate a fairly high degree of satisfaction for all alternatives. However, a statistical

analysis for eight variables relating to acceptability of care revealed greater satisfaction with the CHAMPUS Partner and Direct Care alternatives than with the EUCOM Demonstration and CHAMPUS alternatives. Further, in response to a health care preference question, all costs being equal, there was an overall expressed preference for Direct Care. This appears to be a difference that may be unique to Europe. In the U.S., one might predict a preference for CHAMPUS care, all costs being equal. Modderman (1990) states that "the patient generally sees CHAMPUS-provided care as having more convenience, greater continuity, better amenities, and, perhaps, higher quality" (p.64). A possible explanation supported by write-in comments is that other inconvenience factors associated with seeking health care in a foreign country, such as cultural differences and language barriers, outweigh the conveniences normally found in care provided by CHAMPUS providers in the U.S.

A related finding was that when the health care preference question was analyzed by category, a majority of respondents in all alternatives, except CHAMPUS, would prefer to again receive care from the same alternative that they utilized when they were surveyed. This finding is consistent with the literature in that there is a very high value placed on continuity of care both for the same

provider and the same health care system. The CHAMPUS exception is again singled out by significantly lower satisfaction ratings in several areas as discussed herein. Particularly relevant is the difference in responses to the question regarding overall satisfaction with medical care received. There were no significant differences in satisfaction among Direct Care, CHAMPUS Partner and EUROM Demonstration respondents. However, CHAMPUS respondents were significantly less satisfied when compared to Direct Care and CHAMPUS Partner respondents. The CHAMPUS and EUROM Demonstration differences for these two questions indicate some important possibilities in terms of improving military beneficiary satisfaction with German health care. Relative to this issue, positive aspects of the EUROM Demonstration program, that are not present in the CHAMPUS alternative, were discussed.

With regard to the issue of access, several areas were addressed to include waiting time, travel time and whether the alternative increased the available avenues of access for primary care. Findings resulted in the following order of merit with regard to access: The EUROM Demonstration Project was first, followed by the CHAMPUS, Direct Care and CHAMPUS Partner alternatives.

Military readiness is paramount to the U.S. Army mission in Europe. The health care mission must always be

guided by the strategic mission. Given the European scenario and the downsizing actions of the U.S. military, access was deemed the most critical issue in this study. It was weighted much more important than cost and slightly more important than acceptability, given that both of these factors are now within acceptable parameters. In the European environment with a disperse beneficiary population, upcoming facility closures, and the overriding issue of readiness, the health care problem for commanders is how to most effectively balance all of these needs. As discussed previously, complex decision-making means balancing multiple objectives and this includes considering both quantitative and qualitative factors. In health care particularly, the subjective element is a major factor since it plays a significant role in defining need. Managed care and cost-containment efforts in the past few years have provided the military with several lessons learned. One of these is the difficulty of providing not only necessary but convenient primary care to military beneficiaries without tapping into a ghost population or inadvertently increasing health care demand.

In that regard, an interesting finding in this study is that there is no significant difference in satisfaction with medical care among Direct Care, CHAMPUS Partner and EUCOM Demonstration respondents. Further, although the

EUCOM Demonstration program offers a necessary supplement to primary care access, there has not been a significant increase in demand associated with it. This is perhaps due to the built-in inconvenience factors often mentioned by those seeking health care in a foreign system. While this study does not suggest that these inconveniences are positive, it does provide support for the argument that implementing or expanding programs such as the EUCOM Demonstration will not lead to an overall cost increase for primary care, which was the major difficulty associated with the PRIMUS program.

More important, the difference already mentioned between EUCOM Demonstration and CHAMPUS respondents indicates that certain measures that have been taken in the EUCOM Demonstration project may lead to increased acceptability of German-provided health care. This study supports the continued use or expansion of these measures should the need arise for increased reliance on host nation medical support. Existing measures in Hanau include: a quality check conducted by a medical officer or QA nurse at the military clinic following receipt of care at a German facility to ensure that basic standards of care have been met; continuous coordination as well as fee negotiations between the local commander and the German facility administrator; German-speaking Health Benefits Advisors who

are present at the military clinic to handle billing problems and administrative questions; a military medic present at the German facility after duty hours to ease any cultural or administrative difficulties that military beneficiaries may encounter.

As the need for reliance on the German health care system increases, these measures provide important lessons regarding how to best facilitate this arrangement.

Continuing these practices could serve to minimize some of the built-in inconveniences of using a foreign health care system, while capitalizing on the many positive aspects of a quality health care system already in place in Germany.

Finally, one additional measure is recommended: The program should include authorization for a German-speaking liaison who is familiar with the German health insurance industry (as well as legal restrictions), who can advise Commanders as to the legal parameters and options that are available to them in negotiating the price of care.

In conclusion, a decision analysis was conducted considering all three evaluation criteria. This resulted in a final recommendation to the F-MEDDAC Commander regarding the most appropriate means of delivering outpatient primary care in the Hanau community. According to the findings contained herein, the most appropriate alternative was the EUCOM Demonstration alternative. On a

policy level, these findings support a recommendation to extend the EUCOM Demonstration program to full-time routine care in remote sites without an outlying health clinic or to enact similar modifications to the standard CHAMPUS program, if the EUCOM Demonstration project is discontinued.

CHAPTER VI

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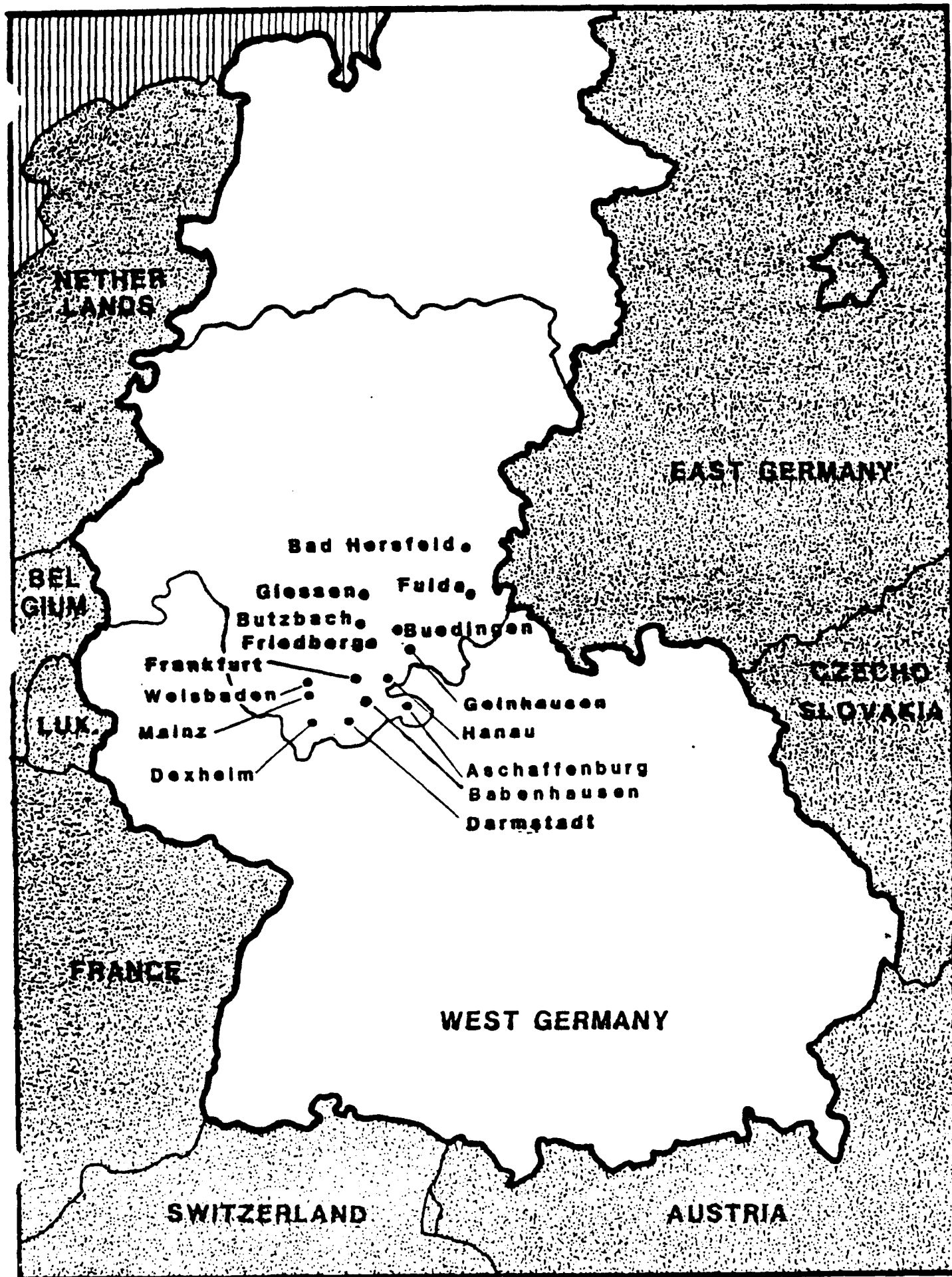
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APPENDIX A

FARMC AREA OF RESPONSIBILITY FY90



APPENDIX B

FARMC OUTPATIENT QUESTIONNAIRE PRIOR TO REVISIONS

FARMC OUTPATIENT QUESTIONNAIRE

WE ARE INTERESTED IN YOUR OPINION AS A MEANS OF EVALUATING OUR WORK. PATIENTS HAVE CONTRIBUTED MANY WORKABLE SUGGESTIONS WHICH HAVE HELPED CLINICS SUCH AS OURS TO IMPROVE SERVICE TO OUR PATIENTS. PLEASE COMPLETE THIS QUESTIONNAIRE BY PLACING AN 'X' IN THE COLUMN FOR THE RESPONSE THAT BEST REPRESENTS YOUR EXPERIENCE IN THE CLINIC TODAY.

00002271		YES	NO	DOES NOT APPLY							
1.	Was your reception in the clinic handled in a courteous and understanding manner?	☐	☐	☐							
2.	Did you have an appointment today?	☐	☐	☐							
3.	Did you understand what you were supposed to do before your appointment?	☐	☐	☐							
4.	Were the following clinic personnel responsive to your needs?										
a.	Clerical Support Personnel (receptionists, clerical, appointment personnel).	☐	☐	☐							
b.	Nurses	☐	☐	☐							
c.	Enlisted Corpsmen	☐	☐	☐							
d.	Civilian Medical Technicians	☐	☐	☐							
e.	Physicians	☐	☐	☐							
f.	Laboratory Technicians	☐	☐	☐							
g.	X-ray Technicians	☐	☐	☐							
h.	Red Cross Volunteers	☐	☐	☐							
i.	Other (specify) _____	☐	☐	☐							
5.	Did the clinic personnel explain what they were doing for you (procedures, findings, future treatment)?	☐	☐	☐							
6.	Did you receive clear and accurate directions and instructions on using prescribed medications?	☐	☐	☐							
7.	Do you feel that you received the same attention and care that other patients in the clinic received? If not, please explain why. _____	☐	☐	☐							
8.	Do you feel that you were examined in privacy?	☐	☐	☐							
9.	Did you receive any pamphlets explaining clinic hours, appointment procedures, etc?	☐	☐	☐							
10.	Please circle one of the below to indicate how long you waited in the clinic before being seen?										
a.	1-15 mins	b.	15-30 mins	c.	31-45 mins	d.	36-60 mins	e.	1-2 hrs	f.	over 2 hr
11.	How would you rate the care you received today in comparison to your past experience in other military clinics?										
a.	Excellent	b.	Good	c.	Fair	d.	Poor				
12.	How many times have you used a GERMAN medical facility in the past year? _____										
13.	How would you rate the inpatient care you received at the GERMAN facilities?										
a.	Excellent	b.	Good	c.	Fair	d.	Poor	e.	Non Applicable		
14.	How would you rate the outpatient care you received at the GERMAN facilities?										
a.	Excellent	b.	Good	c.	Fair	d.	Poor	e.	Non Applicable		
15.	Are you? Active Duty _____ Family Member _____ Retired _____ Other (specify) _____										
16.	Male _____ Female _____										
Your age?	11-17	18-24	25-30	31-40	41-45						
	46-55	56-64	65 or over								

If you wish to add anything to the answers you have given above, or make any additional comments, please use the space provided on the reverse side of this form.

APPENDIX C

DIRECT CARE QUESTIONNAIRE

Hanau Outpatient Questionnaire

We are interested in learning your opinion as a means of improving our services to you. With regard to the services that you received today, please complete this questionnaire by marking the response that best represents your opinion. Your response will be kept in strict confidence. Thank you for your help.

Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2
Strongly Disagree = 1 Not Applicable = NA

1. My reception in the clinic was handled in a courteous and understanding manner. 5 4 3 2 1 NA
2. Overall, I was satisfied with the medical care I received today. 5 4 3 2 1 NA
3. I was able to locate the Hanau clinic without difficulty. 5 4 3 2 1 NA
4. The clerical support personnel were responsive to my needs. 5 4 3 2 1 NA
5. The nurses were responsive to my needs. 5 4 3 2 1 NA
6. The physicians were responsive to my needs. 5 4 3 2 1 NA
7. The clinic personnel explained what they were doing for me (procedures, findings, future treatment). 5 4 3 2 1 NA
8. I received clear and accurate instructions on using prescribed medication. 5 4 3 2 1 NA
9. I was examined in privacy. 5 4 3 2 1 NA
10. How long did you wait in the clinic before being seen:
 a. 1-15 mins b. 16-30 mins c. 31-45 mins
 d. 45-60 mins e. 1-2 hrs f. over 2 hrs
11. Are you? Active Duty _____ Male _____
 Family Member _____ Female _____
12. Do you or your family members speak German? Yes _____ No _____
13. Travel time from my home to the Hanau clinic is:
 a. 1-15 mins b. 16-30 mins c. over 30 mins
14. If you were to need outpatient care again and if the costs to you were equal, which source of care would you prefer?
 a. Military b. Civilian (German) c. Civilian (American)
15. How many years have you lived in Germany?
 a. Less than one b. Two to three years c. Over three years

Please add any additional comments on the reverse side of this form.

APPENDIX D

CHAMPUS PARTNER QUESTIONNAIRE

CHAMPUS Partner Questionnaire

We are interested in learning your opinion as a means of improving our services to you. With regard to the services that you received today, please complete this questionnaire by marking the response that best represents your opinion. Your response will be kept in strict confidence. Thank you for your help.

Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2
Strongly Disagree = 1 Not Applicable = NA

1. My reception in the clinic was handled in a courteous and understanding manner. 5 4 3 2 1 NA
2. Overall, I was satisfied with the medical care I received today. 5 4 3 2 1 NA
3. I was able to locate the Hanau clinic without difficulty. 5 4 3 2 1 NA
4. The clerical support personnel were responsive to my needs. 5 4 3 2 1 NA
5. The nurses were responsive to my needs. 5 4 3 2 1 NA
6. The physicians were responsive to my needs. 5 4 3 2 1 NA
7. The clinic personnel explained what they were doing for me (procedures, findings, future treatment). 5 4 3 2 1 NA
8. I received clear and accurate instructions on using prescribed medication. 5 4 3 2 1 NA
9. I was examined in privacy. 5 4 3 2 1 NA
10. How long did you wait in the clinic before being seen:
 - a. 1-15 mins b. 16-30 mins c. 31-45 mins
 - d. 45-60 mins e. 1-2 hrs f. over 2 hrs
11. Are you? Active Duty _____ Male _____
 Family Member _____ Female _____
12. Do you or your family members speak German? Yes _____ No _____
13. Travel time from my home to the Hanau clinic is:
 - a. 1-15 mins b. 16-30 mins c. over 30 mins
14. If you were to need outpatient care again and if the costs to you were equal, which source of care would you prefer?
 - a. Military b. Civilian (German) c. Civilian (American)
15. How many years have you lived in Germany?
 - a. Less than one b. Two to three years c. Over three years

Please add any additional comments on the reverse side of this form.

APPENDIX E

EUROM DEMONSTRATION PROJECT QUESTIONNAIRE

EUCOM Demonstration Project Outpatient Questionnaire

We are interested in learning your opinion as a means of improving our services to you. With regard to the services that you received today, please complete this questionnaire by marking the response that best represents your opinion. Your response will be kept in strict confidence. Thank you for your help.

Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2
Strongly Disagree = 1 Not Applicable = NA

1. My reception in the German facility was handled in a courteous and understanding manner. 5 4 3 2 1 NA
2. Overall, I was satisfied with the medical care I received today. 5 4 3 2 1 NA
3. I was able to locate the German facility without difficulty. 5 4 3 2 1 NA
4. The clerical support personnel were responsive to my needs. 5 4 3 2 1 NA
5. The nurses were responsive to my needs. 5 4 3 2 1 NA
6. The physicians were responsive to my needs. 5 4 3 2 1 NA
7. The clinic personnel explained what they were doing for me (procedures, findings, future treatment). 5 4 3 2 1 NA
8. I received clear and accurate instructions on using prescribed medication. 5 4 3 2 1 NA
9. I was examined in privacy. 5 4 3 2 1 NA
10. How long did you wait in the German facility before being seen:
a. 1-15 mins b. 16-30 mins c. 31-45 mins
d. 46-60 mins e. 1-2 hrs f. over 2 hrs
11. Are you? Active Duty _____ Male _____
 Family Member _____ Female _____
12. Do you or your family members speak German? Yes _____ No _____
13. Travel time from my home to the German facility is:
a. 1-15 mins b. 16-30 mins c. over 30 mins
14. If you were to need outpatient care again and if the costs to you were equal, which source of care would you prefer?
a. Military b. Civilian (German) c. Civilian (American)
15. How many years have you lived in Germany?
a. Less than one b. Two to three years c. Over three years

Please add any additional comments on the reverse side of this form.

APPENDIX F

CHAMPUS OUTPATIENT QUESTIONNAIRE

CHAMPUS Outpatient Questionnaire

We are interested in learning your opinion as a means of improving our services to you. With regard to the services that you received today, please complete this questionnaire by marking the response that best represents your opinion. Your response will be kept in strict confidence. Thank you for your help.

Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2
Strongly Disagree = 1 Not Applicable = NA

- | | | | | | | | |
|-----|--|-----------------------|------------------------|---|---|---|----|
| 1. | My reception in the German facility was handled in a courteous and understanding manner. | 5 | 4 | 3 | 2 | 1 | NA |
| 2. | Overall, I was satisfied with the medical care I received today. | 5 | 4 | 3 | 2 | 1 | NA |
| 3. | I was able to locate the German facility without difficulty. | 5 | 4 | 3 | 2 | 1 | NA |
| 4. | The clerical support personnel were responsive to my needs. | 5 | 4 | 3 | 2 | 1 | NA |
| 5. | The nurses were responsive to my needs. | 5 | 4 | 3 | 2 | 1 | NA |
| 6. | The physicians were responsive to my needs. | 5 | 4 | 3 | 2 | 1 | NA |
| 7. | The clinic personnel explained what they were doing for me (procedures, findings, future treatment). | 5 | 4 | 3 | 2 | 1 | NA |
| 8. | I received clear and accurate instructions on using prescribed medication. | 5 | 4 | 3 | 2 | 1 | NA |
| 9. | I was examined in privacy. | 5 | 4 | 3 | 2 | 1 | NA |
| 10. | How long did you wait in the German facility before being seen: | | | | | | |
| | a. 1-15 mins | b. 16-30 mins | c. 31-45 mins | | | | |
| | d. 45-60 mins | e. 1-2 hrs | f. over 2 hrs | | | | |
| 11. | Are you? Active Duty_____ | | Male_____ | | | | |
| | Family Member_____ | | Female_____ | | | | |
| 12. | Do you or your family members speak German? Yes_____ No_____ | | | | | | |
| 13. | Travel time from my home to the German facility is: | | | | | | |
| | a. 1-15 mins | b. 16-30 mins | c. over 30 mins | | | | |
| 14. | If you were to need outpatient care again and <u>if the costs to you were equal</u> , which source of care would you prefer? | | | | | | |
| | a. Military | b. Civilian (German) | c. Civilian (American) | | | | |
| 15. | How many years have you lived in Germany? | | | | | | |
| | a. Less than one | b. Two to three years | c. Over three years | | | | |

Please add any additional comments on the reverse side of this form.

APPENDIX G

EUCOM DEMONSTRATION PROJECT QUALITY ASSURANCE CHECKLIST

**EUCOM AFTER HOUR CARE DEMONSTRATION PROJECT
QUALITY ASSURANCE CHECKLIST**

**TO BE COMPLETED BY LOCAL MILITARY MEDICAL OFFICER OR QUALITY ASSURANCE NURSE COORDINATOR
(CHECK APPROPRIATE COLUMN FOR EACH QUESTION BELOW)**

	YES	NO
1. WAS THE PATIENT SATISFIED WITH THE CARE?	☐	☐
2. WAS INFORMATION ON THE PATIENT'S CHIEF COMPLAINT, DIAGNOSIS, TREATMENT RENDERED, PROVIDED TO THE MEDICAL OFFICER FROM THE LOCAL KRANKENHAUS?	☐	☐
3. IS THE CHIEF COMPLAINT ADEQUATELY ADDRESSED AND UNDERSTANDABLE IN TERMS OF DIAGNOSIS?	☐	☐
4. AS A RESULT OF THE PATIENT'S TREATMENT, DID THE PATIENT'S CONDITION (CHECK YES FOR ONE):		
IMPROVE	☐	☐
REMAIN STATUS QUO	☐	☐
DETERIORATE	☐	☐
5. BASED ON THE LIMITED INFORMATION RECEIVED, WOULD IT APPEAR THAT THE STANDARD OF CARE WAS APPROPRIATE?	☐	☐
6. WAS THIS INTERVIEW CONDUCTED IN PERSON:	☐	☐
BY TELEPHONE:	☐	☐

DATE _____