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A STUDY TO DETERMINE

THE MOST COST EFFECTIVE METHOD FOR DELIVERY
OF A SELECTED INPATIENT MEDICAL SERVICE TO
CHAMPUS ELIGIBLE BENEFICIARIES IN
THE SILAS B. HAYS ARMY COMMUNITY HOSPITAL
CATCHMENT AREA

A Graduate Research Project
Submitted to the Faculty of
Baylor University
In Partial Fulfillment of the
Requirements for the Degree
of
Master of Health Administration
by

Captain Gary A. Condra
December 1988

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INTRODUCTION

The 1950s marked the beginning of a tremendous growth in the health care industry in the United States (Johnson and Johnson, 3). The rate of expansion accelerated with the introduction of Medicare and Medicaid in 1965 and has continued into the present decade (Johnson and Johnson, 3). By 1983, the industry's growth had reached a point where more than 10 percent of the country's gross national product was devoted to paying for health care services (Easterbrook, 44).

Additionally, much of the expansion in the health care industry has been accompanied by spiraling inflation (Johnson and Johnson, 3). During the period from 1980 to 1986, health care costs in the private sector grew at an annual rate of 11.2 percent (Kimble, 1987a). The magnitude of this inflation is even more apparent when you note that the inflation rate for the overall economy had dropped to 4.3 percent by 1984 (Califano, 59) and declined even further to 3.9 percent in 1985 (Rich, 1).

In recent years, the Department of Defense has been particularly hard hit by the escalating costs of health care. The greatest impact has been experienced through increases in the cost of providing health care services through the Civilian Health and Medical Program of the Uniformed Services, CHAMPUS (Kimble, 1987a). While overall federal spending for health care grew at an annual rate of 10.6 percent from 1980 to 1986, the total cost of providing medical care to family members of active duty soldiers and military retirees and their families through CHAMPUS grew at an annual rate of 17.4 percent (Kimble, 1987a). Total CHAMPUS expenditures for fiscal year (FY) 1987 have been estimated at \$2.1 billion

(Herald, 1), while FY 1985 expenditures were only \$1.36 billion (CHAMPUS Chartbook, III-3).

Colonel Jimmy D. Helton, Director, OCHAMPUS, attributes the rising costs of CHAMPUS not only to the general high rate of inflation within the health care industry, but also to an increase in the volume of care provided through the program (Kimble, 1987b). Dr. William E. Mayer, Assistant Secretary of Defense, Health Affairs, blames a reduction in services provided by military hospitals for the increase in the volume of CHAMPUS care ("Cost, Access Pose Problems," 1). With this reduction in services, the primary source of health care for many family members of active duty soldiers and military retirees and their families has shifted from military medical facilities to civilian physician's offices and non federal hospitals.

The magnitude of this shift from military facilities to CHAMPUS is well illustrated by the actual change in workload from FY 1985 to FY 1986. In ambulatory care, the total number of clinic visits to all military facilities decreased by 1.2 million; while CHAMPUS visits increased over 1.3 million (Kimble, 1987b). In the area of inpatient care, all three military services issued a greater number of Nonavailability Statements in FY 1986 than they had in FY 1985. The Army, for example, issued 19 percent more Nonavailability Statements in fiscal year 1986 (Kimble, 1987a). The end result of these actions was a 15.5 percent, or approximately 23,000, increase in the number of CHAMPUS admissions in FY 1986 (CHAMPUS Chartbook, III-7 and CHAMPUS Care FY 1987 vs FY 1985, 5).

CONDITIONS WHICH PROMPTED THE STUDY

A trend similar to that described for the entire CHAMPUS program has occurred in the Silas B. Hays Army Community Hospital catchment area. The total government cost for providing CHAMPUS services in the Fort Ord area increased 7.7 million dollars between FY 1985 and FY 1987 (CHAMPUS Care FY 1987 vs FY 1985, 1). This represented the twentieth highest increase among the 139 Department of Defense catchment areas (CHAMPUS Care FY 1987 vs FY 1985, 1-5). Specifically for this period, ambulatory clinic visits funded under the CHAMPUS program increased 72% from 17,849 to 30,780. Additionally, admissions under CHAMPUS grew 133% from 534 to 1,243 (CHAMPUS Health Care Summary, Oct 84-Sep 85 and Oct 86-Sep 87).

Reviewing workload figures for the Fort Ord hospital during this same period reflects a corresponding decrease in the utilization of the military facilities. Data from the Patient Administration and Biostatistical Activity (PASBA), Fort Sam Houston, Texas, indicates that ambulatory clinic visits by CHAMPUS eligible beneficiaries decreased 5%, from 251,130 visits to 237,852 visits. Inpatient workload also experienced a steady decline for this period. Admissions for CHAMPUS eligible beneficiaries decreased 18% from 7,396 to 6,041 between FY 1985 and FY 1987 (PASBA, 1987).

The Department of Defense and Congress are currently exploring a number of initiatives in an effort to bring the migration of workload to CHAMPUS and the associated increasing cost of providing health care services under control. The overall effort is known as Project RESTORE ("Cost, Access Pose Problems," 6). One Project Restore initiative that will significantly impact on the operation of military

hospitals concerns financial responsibility for the CHAMPUS program. The defense budget for FY 1988 includes provisions for CHAMPUS funds to be allocated to the individual military departments for management (Kimble, 1987b). Budgeting for CHAMPUS expenditures will be consolidated with the budget process for military medical treatment facilities (Mayer). This initiative will place considerably more responsibility on local military treatment facility commanders to manage the CHAMPUS workload in their catchment areas (Kimble, 1987b).

Project RESTORE also includes a new program which allows the commanders of military medical facilities to enter into agreements with civilian physicians and other health care professionals to provide services to CHAMPUS beneficiaries in military treatment facilities (MTF) ("Cost, Access Pose Problems," 6). This portion of Project RESTORE is known as the Military Civilian Health Services Partnership Program (Kimble 1987c).

Finally, Project RESTORE requires the military services to hold the number of Nonavailability Statements issued to CHAMPUS beneficiaries during FY 1988 to the number of statements issued during FY 1986 ("Cost, Access Pose Problems," 6). The Partnership Program provides MTF commanders with an additional tool to assist in meeting this requirement and in managing the CHAMPUS workload.

Effective utilization of such a tool will be extremely important if greater fiscal responsibility for the CHAMPUS program is assigned to the local commander. Although the ground rules for intraservice fund allocation and control have not yet been fully established, the potential exists for situations in which local hospitals, like Silas B. Hays, will be required to fund some CHAMPUS cost overruns from their normal operating budgets (Kimble, 1987b). The likelihood of such an occurrence is emphasized by the fact that for the last two years large budgetary supplements

have been necessary to pay for the CHAMPUS program (Mayer). Conversely, CHAMPUS funds can be utilized by hospital commanders through the implementation of Partnership Agreements to provide certain services in the military medical treatment facility at a lower cost (Mayer). To take full advantage of such opportunities and to effectively manage all of their medical resources, commanders must be totally familiar with the beneficiary population they serve and the particular health care needs of that population (Johnson and Johnson, 5).

A number of alternative arrangements are available to the commander for delivery of health care services. Some of these alternatives include the Military-Civilian Health Services Partnership Program, the contracting of specific providers for delivery of services through the Direct Health Care Provider Program (DHCPP), and Resource Sharing Agreements with Veterans Administration hospitals.

In order to reduce the cost of providing health care to CHAMPUS eligible beneficiaries in the Fort Ord catchment area, the most cost effective methods for providing medical services which are in keeping with the mission of the command need to be identified and pursued. Additionally, the bulk of management efforts must be concentrated on those areas which constitute the largest proportion of costs and over which the commander can exercise some control, such as non-emergency inpatient services.

PROBLEM STATEMENT

To determine the most cost effective method for delivery of a selected inpatient medical service to CHAMPUS eligible beneficiaries in the Silas B. Hays Army Community Hospital catchment area.

OBJECTIVES

The overall goal of the project was to contribute to the reduction of the cost of providing health care services to CHAMPUS beneficiaries in the Silas B. Hays Army Community Hospital catchment area. The major objectives of the study were the identification of high cost CHAMPUS services, selection of one such service for the primary focus of the study, identification of alternative methods for providing the service, evaluation of these identified alternatives, and making a recommendation to the command concerning the implementation of the dominant alternative.

In order to accomplish these major objectives, the following subordinate tasks were identified and completed:

1. A review of Army and Department of Defense regulations governing CHAMPUS, the Military-Civilian Health Services Partnership Program, Veterans Administration/DOD Sharing Agreements, and contracting for professional services was conducted.
2. A separate review was conducted of the current literature on CHAMPUS, the Military-Civilian Health Services Partnership Program, and alternative delivery methods for care in the selected clinical service.
3. The priorities of the local command for provision of health care services at Silas B. Hays Army Community Hospital were identified.

4. It was determined that no plans existed for changes at Fort Ord which would effect the size and/or demographics of the CHAMPUS beneficiary population.
5. Historical CHAMPUS workload data was analyzed to identify the high dollar value services for potential recapture or development of alternative delivery mechanisms.
6. The specific clinical services which were targets for potential change in their delivery mechanism were determined.
7. A single inpatient medical service which represented a large portion of CHAMPUS cost in the Silas B. Hays Army Community Hospital catchment area, which was highly controllable by the local command, and which was, therefore, well suited to consideration of alternative methods of delivery was identified.
8. Hospital and CHAMPUS workload data was analyzed to determine the specific historical demand for the selected service.
9. Department of Defense Resource Analysis Planning System (RAPS) projections were obtained for FY 89 workload for the targeted service.
10. The difference in support personnel, supplies, and equipment necessary to support agreements under the Military-Civilian Health Services Partnership Program or other alternatives for delivery of the service was determined.
11. The availability of appropriate space and resources to support additional providers through the Military-Civilian Health Services Partnership Program or contract was assessed.
12. Alternative provider resources in the Fort Ord catchment area were identified.
13. The significant costs and benefits of each alternative were identified.
14. The alternative delivery mechanisms for each identified clinical service were evaluated using cost effectiveness analysis techniques.

CRITERIA

1. Those clinical services which, when ranked by cost, cumulatively accounted for seventy percent of all inpatient CHAMPUS expenditures in the Fort Ord catchment area were identified as high cost CHAMPUS services. This criterion was based on a premise of inventory management which holds that a small number of items in an inventory account for a large part of the total dollar value of that inventory. It is, therefore, prudent for management to focus the majority of its attention on controlling those few items (Levin et al., 246).

2. The specific service which served as the major focus of study in this research project was selected from among the identified high cost CHAMPUS services utilizing the following criteria:

- a. the service accounted for a large percentage of total CHAMPUS costs in comparison to the other high cost CHAMPUS services;
- b. the majority of inpatient care obtained through CHAMPUS was non-emergency care and, therefore, controllable by the hospital commander;
- c. the service was consistently identified by the hospital commander, deputy commander for clinical services, and deputy commander for administration as appropriate for study; and
- d. provision of the service at Silas B. Hays Army Community Hospital was consistent with the mission of the organization.

3. Alternative methods for the delivery of healthcare services were considered for each group of diagnoses or single diagnosis identified by the staff of the clinical service as suitable for consideration as a discrete program.

4. Alternatives were evaluated on the basis of the following criteria listed in order of precedence:

a. The alternative could meet the demand for the selected service predicted by historical data.

b. The alternative could meet the demand at the lowest cost to the government.

c. The alternative could provide the service to CHAMPUS beneficiaries at a cost lower than that of the historical delivery method.

ASSUMPTIONS

The mix of inpatient services provided in the Silas B. Hays Army Community Hospital catchment area in FY 1987 was representative of the demand for inpatient medical services in the Silas B. Hays Army Community Hospital catchment area.

LIMITATIONS

1. This study was restricted to analysis of alternative methods for delivery of selected inpatient medical services to CHAMPUS beneficiaries at Silas B. Hays Army Community Hospital.

2. This study was restricted to analysis of those alternative providers which were serving the Silas B. Hays Army Community Hospital catchment area.

3. Consideration of alternatives for delivery of the selected service within the Silas B. Hays Army Community Hospital physical plant was limited to those for which sufficient space was available to support the alternative.

REVIEW OF THE LITERATURE

The Military-Civilian Health Services Partnership Program is a Department of Defense initiative which allows military medical treatment facility (MTF) commanders to bring civilian providers into their MTFs to provide needed services to CHAMPUS eligible beneficiaries (Kimble 1987c). Under this program, which replaced the Joint Health Benefits Delivery Program, the hospital commander is no longer limited to agreements for physicians (HSC Fact Sheet, 1). Although the primary Partnership Program agreement must be with a CHAMPUS authorized provider; the terms of the agreement may include support personnel, supplies, equipment, and anything else necessary to provide health services (HSC Fact Sheet, 1). The cost of any support personnel, supplies, or equipment included in a partnership agreement must be included in the provider's negotiated fee and be a CHAMPUS benefit (HSC Memorandum, 1). The program is designed to give commanders the necessary flexibility to ensure maximum utilization of their facilities, to increase access to their beneficiaries, and to reduce cost (HSC Fact Sheet, 2).

The partnership program will result in benefits for both the beneficiary and the government. The major incentive for beneficiaries to utilize services provided through these agreements and return to the military facility for care is reduced cost. Patients receiving care under Internal Partnership Agreements will not be required to meet a deductible or make a copayment as they currently do under the regular CHAMPUS program. Savings will result for the government through more efficient utilization of existing military facilities, elimination of civilian hospital

charges, and the reduction of CHAMPUS costs for ancillary services and overhead (OASDHA Fact Sheet, 2).

The Department of Defense Instruction which establishes the Military-Civilian Health Services Partnership Program requires Commanders of Military Medical Treatment Facilities who are considering implementing partnership agreements to make a determination of the utility of each potential agreement based on the following standards:

(1) That use of the Program in a particular instance will meet a need for health care services that is not adequately being met by, and cannot be met with, existing MTF resources.

(2) That use of the Program is more economical to the Government than referring the need to the civilian community under normal operation of the CHAMPUS program.

(3) That use of the Program is consistent with mission of the MTF.

(4) That use of the Program is consistent with high standards of quality of care (4a).

Medical treatment facility commanders are to consider appointment waiting times, the issuance of Nonavailability Statements, CHAMPUS utilization in their catchment area, cost comparisons, and the capability of the hospitals credentialing system to absorb the additional workload (DODI, 4b) The Director, Office of the Civilian Health and Medical Program of the Uniformed Services, has been directed to develop a standard agreement for use by medical treatment facility commanders in establishing partnership agreements (DODI, 3e).

Other Military Programs

The Direct Health Care Provider Program is another alternative available to military hospital commanders to reduce the cost of providing health care services. Under this program, contracts are made with providers to deliver medical services in the MTF. Proposed contracts under the Direct Health Care Provider Program are submitted to Health Services Command for approval. The necessary funding is provided by Health Services Command for approved contracts. This program offers potential savings by eliminating the cost of ancillary support and hospital services obtained from a civilian facility.

General Literature

Much of the process of evaluating the best method for providing inpatient services closely parallels the strategic planning process. Joseph P. Peters listed five types of information needed for strategic planning for hospitals: information about the area served, information about the patients served, information about the services performed, information about the medical staff, and information about other health care organizations serving the area (Peters, 20). Peters listed the first major task in conducting strategic planning as scrutinizing the hospital and its environment (Peters, 61). Some of the points considered in this area include review of the hospital's mission, evaluation of the population served, identification of needs that are not being met or are underserved, review of the services provided by the hospital and their utilization, staffing issues, and the hospital's financial position (Peters, 64-6). The sources of information he identified as necessary for this task were a patient origin study, reports from the Joint Commission on Accreditation of Hospitals and other inspecting agencies, hospital annual reports for several years, and patient opinion polls (Peters, 62-3).

The next applicable task which Peters discussed was the review of the hospital's mission statement (Peters, 69). This task involves review by a strategic planning committee of the hospital's major functions, its philosophy (ownership), the level of care it is to provide, the services or specialties intended, the population or area it plans to serve, and the hospital's relationship to other providers in the area (Peters, 70). The information obtained through this assessment is used to identify the new services and changes necessary to accomplish this mission (Peters, 72).

Berman, Weeks, and Kulka state that an assessment of the serviced community's needs and demands for health services provides the overall basis for a hospital's strategic plan (426). The focus of the plan is then narrowed through a thorough evaluation of the hospital's current situation (Berman et al., 426). This evaluation should include close examination of such factors as the adequacy of existing programs, staffing, and resources (Berman et al., 426-7). Patient attitudes are also considered in this evaluation (Berman et al., 427). Next the identified needs of the community are compared and contrasted with the particular hospital's capabilities (Berman et al., 427).

Kenneth R. Emery provides a format for use by managers to ensure that all the key issues in developing new or modified services are fully addressed (32). Emery's format consists of a series of questions, the answers to which provide managers with the critical information necessary to make sound decisions concerning the introduction of new or modified services (37). Emery divides these questions into five categories: service description and need; market information; operational information; success indicators; and financial plan and information verification (32-6).

In the first part of this framework, the proposed service is specifically defined, described, and evaluated for compatability with the organization's philosophy or mission (Emery, 33). Next the potential benefits of the services are identified (Emery, 33). Also in this step, the need for the service is explained along with a description of the method used for determining the existence of the need (Emery, 33). Finally, possible alternatives for serving the need are identified (Emery, 33).

The second portion of the model includes identification of the target market, the providers, and the competitors (Emery, 33). Specifics concerning the operation of the service such as physical location of its delivery, the hours of operation, and the price are also addressed (Emery, 33).

The third part of the analysis considers operational information such as requirements for support personnel, facilities, equipment, and supplies (Emery, 34). Additionally in this phase, all necessary coordination with effected areas of the hospital is accomplished and documented (Emery, 34).

In the fourth step of Emery's framework for decision making, the information necessary for evaluating the potential for success of the proposed service or program is gathered (Emery, 35). In this step all specific strengths and weakness of the service are identified, as well as areas of general concern (Emery, 35). Other considerations addressed in this step are: the identification of support that will be necessary from the medical staff and the proposed method for obtaining it, a description of how the service will be promoted, and a proposed implementation schedule (Emery, 35). Finally, the probability of success is estimated on a scale of one to ten, with ten representing the highest probability (Emery, 35).

For the final step in the analysis, Emery proposes the development and analysis of a three year financial plan considering all costs associated with the proposed service and a projected return on investment (36). The information used in this analysis should be reviewed and verified by all departments involved with any part of the service and its implementation, including the hospital financial services (Emery, 36).

Warner and Luce provide an extensive discussion of general principles of cost-benefit analysis (CBA) and cost-effectiveness analysis (CEA) and applications of CBA-CEA in the health care field. In the chapter of their book on methodology, they identify some basic steps that must be addressed in any cost-benefit or cost-effectiveness analysis. The first step in the analysis is to identify the general problem of interest and the objectives to be considered in addressing this problem (Warner and Luce, 59). Alternatives are then identified for addressing the problem. The next step involves the identification, measurement, and valuation of all cost and benefits for each alternative. A comparison of the alternatives is then conducted on the basis of criteria established during the first step and, if possible, a dominant alternative is identified. Finally, the information on the analysis should be presented and interpreted in a clearly understandable manner that fully discloses the limitations of the analysis (Warner and Luce, 60).

Harold Pincus, M.D. in a discussion of the use of cost-effectiveness analysis in the area of consultation-liaison psychiatry presents some general considerations for conducting such analyses. Pincus notes that the first step in the process of evaluating a particular program is to explicitly identify its health related objectives, the target group, and the specifics of how and where the program is to be provided. Once this step has been accomplished, the programs to be compared

should be selected based on the identified objectives. Next, it is necessary to identify and value all costs and benefits associated with each program. Care must be taken to ensure that such factors as travel time, waiting times, and impositions on the patient's family are also valued and considered as costs associated with the programs being evaluated. Pincus considers this process of identifying all possible costs and benefits associated with each alternative and, to the greatest extent possible, the measuring and assigning of a value to them the most important tasks in conducting a CEA. Some of the categories which he proposes have also been recommended by the Office of Technology Assessment to assist in this effort. They are: "personal benefits/effects, health resources benefits/effects, miscellaneous economic benefits/effects, and social equity benefits/effects". The bottom line in a successful analysis is its capability to measure the program's ability to meet the originally stated objectives (174-177).

Barbara McCrady (1986) conducted a study comparing the cost-effectiveness of partial hospitalization and extended inpatient rehabilitation programs in the treatment of alcoholics. 174 alcoholics were randomly assigned to one of the two programs following initial inpatient evaluation. 115 subjects continued in the study through the twelve month follow up period. At the end of that time, McCrady found little difference in the clinical outcomes for the two groups. Both groups reported results of more than 80% abstinent days and 70% full-time employment. Cost for the partial hospitalization group were significantly lower than the extended inpatient group.

Helen Annis (1986) in a discussion of the cost-effectiveness of inpatient rehabilitation of alcoholics stated that inpatient programs of a few weeks to several months had shown no higher success rates than hospitalizations of a few days. She

further stated that partial hospitalization programs had been shown to equal or exceed the success of inpatient programs at one half to one third the cost.

Peter Dick, et al., (1985) compared partial hospitalization (n=38) and full hospitalization (n=45) programs in the treatment of patients with diagnoses of neurosis, personality disorder, or adjustment reaction. Patients in both programs were followed for one year and evaluated using the Clinical Interview Schedule. Clinical outcomes for both groups were similar, but patient satisfaction was much higher among subjects assigned to the partial hospitalization group.

Mason, et al., (1982) in a review of the literature on partial hospitalization programs presented evidence to support the position that partial hospitalization programs are as effective as full hospitalization for treatment of certain psychiatric diagnoses, including personality disorders and affective disorders. Their evidence also supports the assertion that such programs are cost effective. Some of the disadvantages and problems with partial hospitalization programs, such as underutilization and selective admission, were also discussed. They identified one of the major shortcomings of studies on partial hospitalization programs as the failure to match subjects for symptoms and severity level prior to assignment to treatment programs.

METHODOLOGY

Collection of Data

1. All applicable DOD, DA, HSC, Ft. Ord and Silas B. Hays Army Community Hospital regulations and directives pertaining to the Military-Civilian Health Services Partnership Program, VA/DOD Sharing Agreements, and contracting for professional services were read.

2. Data on CHAMPUS costs in the Silas B. Hays Army Community Hospital catchment area was obtained from the CHAMPUS Health Care Summary by Primary Diagnosis.
3. Cost and utilization data by ICD9CM diagnostic and procedure codes for services provided in the Silas B. Hays Army Community Hospital Inpatient MHSS Catchment Area during FY 1987 was obtained from the Statistics Branch, OCHAMPUS.
4. The hospital commander, DCCS, and DCA were interviewed to determine local command priorities for provision of health care services at Silas B. Hays Army Community Hospital.
5. A profile of the beneficiary population served by Silas B. Hays Army Community Hospital based on DEERS enrollment data was obtained by writing to the Army Medical Department DEERS representative.
6. Security, Plans, and Operations; Public Affairs; and Retirement Services personnel were interviewed concerning planned events which would effect the CHAMPUS beneficiary population in the Silas B. Hays Army Community Hospital catchment area.
7. A letter was sent to PASBA to obtain hospital inpatient workload data for dispositions in the selected clinical service by beneficiary category for FY 1987.
8. Nonavailability Statements issued for the selected service were reviewed to determine the reasons for issuance.
9. The Resource Analysis and Planning System (RAPS) was utilized for an FY 89 projection of health care utilization and allocation between direct and nondirect care providers for the selected service.
10. Interviews were conducted with the Chief and other professional staff of the targeted service and alternative delivery methodologies for meeting the demand

indicated by RAPS projections and a review of historical utilization data were identified. The resources required to implement these alternatives and the benefits of each alternative were also identified.

11. Interviews were conducted with logistics, nursing, laboratory, radiology, and pharmacy personnel to determine the additional resources required to support the identified alternatives.

12. Interviews were conducted with the DCCS and quality assurance program staff to determine if staffing was sufficient to monitor credentialing and quality of care for proposed alternatives.

13. A letter was sent to the Mid Coast Health Services Agency requesting information concerning licensed providers by clinical specialty.

14. Listings of physicians by specialty in the Yellow Pages were reviewed and combined with data obtained in number 11.

15. An interview was conducted with MEPRS personnel to obtain in-house cost data for targeted services.

16. CHAMPUS data was utilized for costing Partnership alternatives.

17. VA/DOD Sharing Agreement data was utilized for costing this alternative.

Recording of Data

1. All documents, journals and books consulted were cited in the study as appropriate.

2. Workload data obtained from CHAMPUS and PASBA was cited in the discussion and included as an appendix to the study.

3. Results of interviews with Ft. Ord and Silas B. Hays Army Community Hospital staff were referenced in the study and quoted as appropriate.

4. Comparison of costs for alternative delivery methodologies for the targeted clinical service were presented in a cost-effectiveness analysis format as presented by Warner and Luce in Cost-Benefit and Cost-Effectiveness Analysis in Health Care.

Evaluation of the Data

1. Data gathered from regulation and directives was utilized to structure and evaluate options for legal compliance with established guidelines.
2. Data gathered from the literature review was utilized to determine current experience with alternative delivery methodologies.
3. CHAMPUS workload data was subjected to an ABC analysis to identify specific clinical specialties which were "A" items for evaluation of alternative delivery methodologies.
4. PASBA and CHAMPUS data were utilized to determine past demand for services from targeted clinical specialties.
5. Information obtained from staff interviews was used along with PASBA and CHAMPUS workload data to identify alternative methods for service delivery for evaluation. The alternative delivery methods considered for provision of the targeted service were selected based on a review of the historical CHAMPUS demand by ICD9-CM code.
6. Data from local professional organizations, hospitals, and the phone book was used to determine the local pool of providers for possible alternatives.
7. A cost effectiveness analysis was conducted of alternative delivery methodologies for targeted services with consideration given to: cost to the government, cost to the patient, availability of space and resources to support the

service, representation of a service not previously offered, improvement of access to services previously offered, and contribution to meeting command goals.

DISCUSSION

SERVICE SELECTION

The first part of this graduate research project dealt with the identification of one specific clinical service on which to focus the analysis of cost-effective delivery methods. The goal was to identify a single service which represented a large portion of CHAMPUS inpatient costs in the Silas B. Hays Army Community Hospital catchment area that was amenable to a change in its current methods of delivery. Considerable emphasis was placed on this portion of the research project to ensure that the recommendations made during the cost-effectiveness analysis portion could make a significant contribution to the reduction of CHAMPUS costs in this catchment area. The following discussion describes the steps completed to select one clinical service for the evaluation of alternatives for cost effective delivery.

Data on the total inpatient costs for twenty six clinical areas reported on the CHAMPUS Health Care Summary were ranked by the total dollar amount expended in the Silas B. Hays Army Community Hospital catchment area for fiscal years 1985, 1986, and 1987. The percentage of the total inpatient CHAMPUS cost accounted for by each clinical specialty area was then determined and the services were ranked in descending order by cost (Tables 1-3). The clinical services were then grouped into "A" items, "B" items, and "C" items according to the cumulative percentage of cost accounted for by the group. "A" items were defined as those clinical services whose cumulative costs accounted for at least 70% of the total CHAMPUS costs. These "A" items were selected for further analysis and discussion with members of the hospital command group.

Table 1

ABC Analysis of FY 1987 Inpatient CHAMPUS Costs in the Fort Ord Catchment Area

Clinical Specialty	CHAMPUS Cost	Percent of Total	Cumulative	
Obstetrics	3,418,574	31.38%	31.38%	
Psychiatry	1,415,902	13.00%	44.38%	
Cardiology	1,199,936	11.02%	55.40%	A Items
General Surgery	1,008,047	9.25%	64.65%	
Special Pediatrics	957,027	8.79%	73.44%	
Hematology	429,858	3.95%	77.38%	
Pulmonary/Respiratory	386,849	3.55%	80.94%	
Orthopedics	333,409	3.06%	84.00%	B Items
Gynecology	236,968	2.18%	86.17%	
Infectious Disease	216,203	1.98%	88.16%	
Neurosurgery	204,371	1.88%	90.03%	
Gastroenterology	190,139	1.75%	91.78%	
Other (Internal Medicine)	181,279	1.66%	93.44%	
Nephrology	126,834	1.16%	94.61%	
Neurology	110,919	1.02%	95.63%	
Ear, Nose, and Throat	96,671	0.89%	96.51%	
Urology	84,964	0.78%	97.29%	
Rheumatology	65,071	0.60%	97.89%	C Items
Adverse Reactions	52,175	0.48%	98.37%	
Allergy	50,516	0.46%	98.83%	
Endocrinology	46,777	0.43%	99.26%	
Thoracic Surgery	44,019	0.40%	99.67%	
Ophthalmology	19,427	0.18%	99.85%	
Nutritional	7,550	0.07%	99.91%	
Dental	6,778	0.06%	99.98%	
Dermatology	2,500	0.02%	100.00%	
Total	10,892,763			

Source: The inpatient cost data is from the CHAMPUS Health Care Summary, Jan. 1988

Psychiatry Group I and Psychiatry Group II were combined for this study.

Table 2

ABC Analysis of FY 1986 Inpatient CHAMPUS Costs in the Fort Ord Catchment Area

Clinical Specialty	CHAMPUS Cost	Percent of Total	Cumulative	
Obstetrics	1,017,409	18.50%	18.50%	
Psychiatry	634,242	11.53%	30.04%	
Cardiology	596,279	10.84%	40.88%	
General Surgery	505,139	9.19%	50.07%	A Items
Pulmonary/Respiratory	472,010	8.58%	58.65%	
Special Pediatrics	358,805	6.53%	65.18%	
Orthopedics	355,724	6.47%	71.65%	
Neurosurgery	329,038	5.98%	77.63%	
Gynecology	196,064	3.57%	81.20%	
Neurology	126,568	2.30%	83.50%	B Items
Hematology	125,401	2.28%	85.78%	
Ear, Nose, and Throat	111,418	2.03%	87.81%	
Rheumatology	97,759	1.78%	89.58%	
Gastroenterology	90,603	1.65%	91.23%	
Other (Internal Medicine)	78,943	1.44%	92.67%	
Nephrology	69,949	1.27%	93.94%	
Adverse Reactions	58,578	1.07%	95.01%	
Infectious Disease	57,199	1.04%	96.05%	
Urology	53,955	0.98%	97.03%	
Thoracic Surgery	49,439	0.90%	97.93%	C Items
Endocrinology	39,088	0.71%	98.64%	
Allergy	28,618	0.52%	99.16%	
Ophthalmology	18,526	0.34%	99.49%	
Dental	16,304	0.30%	99.79%	
Dermatology	9,548	0.17%	99.96%	
Nutritional	1,955	0.04%	100.00%	
5,498,561				

Source: The inpatient cost data is from the CHAMPUS Health Care Summary, Jan. 1987

Psychiatry Group I and Psychiatry Group II were combined for this study.

Table 3

ABC Analysis of FY 1985 Inpatient CHAMPUS Costs in the Fort Ord Catchment Area

Clinical Specialty	CHAMPUS Cost	Percent of Total	Cumulative	
=====				
Cardiology	812,431	15.99%	15.99%	
Psychiatry	800,082	15.75%	31.75%	
Special Pediatrics	698,905	13.76%	45.51%	
General Surgery	470,569	9.26%	54.77%	A Items
Orthopedics	341,089	6.72%	61.49%	
Neurosurgery	323,058	6.36%	67.85%	
Obstetrics	302,923	5.96%	73.81%	
=====				
Pulmonary/Respiratory	302,854	5.96%	79.77%	
Neurology	163,446	3.22%	82.99%	
Gynecology	129,981	2.56%	85.55%	B Items
Gastroenterology	125,877	2.48%	88.03%	
Other (Internal Medicine)	125,158	2.46%	90.49%	
=====				
Thoracic Surgery	89,168	1.76%	92.25%	
Adverse Reactions	80,774	1.59%	93.84%	
Urology	70,140	1.38%	95.22%	
Nephrology	41,637	0.82%	96.04%	
Ear, Nose, and Throat	37,514	0.74%	96.78%	
Allergy	33,166	0.65%	97.43%	
Dental	31,081	0.61%	98.04%	C Items
Endocrinology	30,871	0.61%	98.65%	
Rheumatology	26,590	0.52%	99.17%	
Hematology	16,397	0.32%	99.49%	
Ophthalmology	13,403	0.26%	99.76%	
Infectious Disease	11,040	0.22%	99.98%	
Dermatology	1,246	0.02%	100.00%	
Nutritional				
=====				
	5,079,400			

Source: The inpatient cost data is from the CHAMPUS Health Care Summary, Jan. 1986

Psychiatry Group I and Psychiatry Group II were combined for this study.

Separate personal interviews were conducted with Colonel Umberto D'Ambrosio, Commander, Silas B. Hays Army Community Hospital; Colonel Kenneth Black, Deputy Commander for Clinical Services; and Colonel John Reed, Deputy Commander for Administration. Data on CHAMPUS inpatient costs in the Silas B. Hays Army Community Hospital catchment area was presented in the ABC Analysis format described above to each individual interviewed. They were asked to review this data from the perspective of their position in the organization, considering their knowledge of its operations and goals, and to identify the service or services which they felt were best suited to a study of alternative delivery methods for CHAMPUS cost reductions.

Colonel D'Ambrosio identified general surgery, pulmonary/respiratory, and psychiatry as the clinical services among the "A" items that were most appropriate for a study of this nature. The high cost of CHAMPUS utilization for obstetrical care was also discussed, including the reasons for the rapid increase in this area between FY 85 and FY 87 and the actions that have been initiated to reverse this trend. Obstetrical cases were initially referred to CHAMPUS during this period because of a shortage of nursing personnel in the newborn nursery. Referral continued because of a subsequent shortage in labor and delivery. Efforts to resolve these shortages through recruitment of general schedule nurses and employing contract nurses have resolved the previous problems. Currently nonavailability statements are only issued on an individual exception basis. It was not felt that a study of this area was necessary at this time. Colonel D'Ambrosio also indicated that cardiology would not be an appropriate service for study because the majority of care obtained through CHAMPUS has been for cardiovascular surgery which is beyond the mission of this facility.

Colonel Black identified three services during his interview which would be amenable to a change in their mode of delivery to a more cost-effective alternative. The services identified were cardiology, pulmonary/respiratory, and psychiatry. Obstetrics was not recommended because former problems in this area have been resolved and it represented a very personnel intensive service. General surgery was likewise not recommended because of its high personnel and other resource requirements. Special pediatrics was not recommended because of the highly specialized requirements for neonatology which were beyond the scope of the mission of this MEDDAC.

Colonel Reed identified psychiatry as an ideal clinical service for evaluation of cost-effective methods for service delivery. In addition to the large portion of costs accounted for by this service, he stated that the department chief had indicated considerable interest in developing new programs and initiating resource sharing agreements to better serve our beneficiaries and to reduce the cost of CHAMPUS care. Finally, he reiterated the reasons mentioned by Colonel D'Ambrosio and Colonel Black for excluding the other "A" items from the study.

The next step in the process of selecting a specific clinical service for further study involved consideration of the degree of control the local command had been able to exercise over past CHAMPUS admissions. The clinical services which were "A" items for all three fiscal years evaluated were obstetrics, psychiatry, cardiology, general surgery, and special pediatrics. CHAMPUS Inpatient Reports were used to determine for each "A" item the percentage of CHAMPUS admissions which required nonavailability statements from Silas B. Hays Army Community Hospital for claims payment. The results, which are presented in Table 4, represent the percentage of care in each clinical area over which the hospital

Table 4

Percentage of Admissions in Civilian Facilities for High Cost Services
Requiring a Nonavailability Statement

Clinical Service	Percentage of Admissions Requiring an NAS
=====	
(FY 1987)	
OBSTETRICS	89%
PSYCHIATRY	80%
CARDIOLOGY	43%
GENERAL SURGERY	60%
SPECIAL PEDIATRICS	100%
(FY 1986)	
OBSTETRICS	80%
PSYCHIATRY	85%
CARDIOLOGY	45%
GENERAL SURGERY	49%
PULMONARY/RESPIRATORY	50%
SPECIAL PEDIATRICS	93%
ORTHOPEDICS	40%
(FY 1985)	
CARDIOLOGY	26%
PSYCHIATRY	56%
SPECIAL PEDIATRICS	65%
GENERAL SURGERY	35%
ORTHOPEDICS	36%
NEUROSURGERY	39%
OBSTETRICS	65%

Source: Raw data came from the CHAMPUS Inpatient Reports for FY 1985,
FY 1986, and FY 1987.

Psychiatry Group I and Psychiatry Group II were combined for this study.

commander could exercise control. The uncontrollable portion of the admissions represented emergency care, care obtained by individuals who had other forms of health insurance, or care obtained in institutions which under CHAMPUS regulations did not require nonavailability statements.

Cardiology and special pediatrics were eliminated from further consideration because of the type of care and diagnoses included in these clinical categories. In all three years reviewed, the hospital commander had control over 45% or less of the CHAMPUS cardiology admissions. Those admissions over which control could be exercised were primarily for cardiovascular surgery which is beyond the scope of this hospital's mission. Almost all special pediatrics cases required the issue of a nonavailability statement. However, the inpatient services included in the category of special pediatrics are neonatology and the treatment of congenital anomalies which are again beyond the scope of the mission of Silas B. Hays Army Community Hospital.

Of the remaining two services, the percentage of inpatient care for the three year period which was controllable by the hospital commander was 75% for psychiatry and 50% for general surgery. With regard to cost, psychiatry accounted for the second highest percentage of total CHAMPUS inpatient costs for all three years reviewed. Additionally, psychiatry was identified by the commander, deputy commander for clinical services, and deputy commander for administration as a service consistent with the mission of Silas B. Hays Army Community Hospital and appropriate for study. Psychiatry was therefore, selected as the clinical service for concentration in the remainder of the study.

General surgery on the other hand, consistently ranked as the fourth highest cost CHAMPUS inpatient service. Further, during interviews with the deputy commander for clinical services and deputy commander for administration, general surgery was identified as a highly resource intensive service and a lower priority for review. The fact that only 50% of the admissions to civilian hospitals could be controlled by the hospital commander decreased the potential savings from study of this service to roughly half those of the study of psychiatry. For these reasons, as well as to limit the scope of the analysis, general surgery was not included in this study.

COST-EFFECTIVENESS ANALYSIS

The remainder of this study will concentrate on conducting a cost-effectiveness analysis of alternative methods for providing psychiatric inpatient services to CHAMPUS eligible beneficiaries in the Silas B. Hays Army Community Hospital catchment area. To initiate this process it was necessary to identify those psychiatric services which have historically been obtained through CHAMPUS. To accomplish this task, data by ICD9-CM diagnostic code for inpatient care received in this catchment area during FY 1987 was obtained from the Statistics Branch, Office of the Civilian Health and Medical Program and the Uniformed Services. The specific data for psychiatry was extracted from this report and is presented in Table 5. One limitation of this data for analysis of psychiatric services is that admissions were not stratified by the age of the patient. In an attempt to overcome this shortcoming, data on age of psychiatric patients treated under CHAMPUS in FY 1987 was obtained from the CHAMPUS Cost and Workload Summary (Table 6). Finally, a review was conducted of all available

FY 1987 CHAMPUS Inpatient Psychiatric Workload by ICD9-CM Code

DX CODE	DESCRIPTION	TYPE OF SERVICE	CLAIMS	GOVERNMENT COST	BILLED AMOUNT	ADMISS	AVERAGE GOVERNMENT COST			ALOS
							PER ADMISSION	HOSPITAL DAYS	PER DAY	
296	AFFECTIVE PSYCHOSIS	HOSP PROF TOTAL	54 46 100	322,180 21,480 343,660	383,795 23,726 407,521	33 0 33	9,763 651 10,414	722 0 722	446 30 476	21.9 0 21.9
303	ALCOHOL DEPENDENCE SYNDROME	HOSP PROF TOTAL	40 26 66	187,607 12,937 200,544	267,584 16,172 283,756	40 0 40	4,690 323 5,014	736 0 736	255 18 272	18.4 0 18.4
300	NEUROTIC DISORDERS	HOSP PROF TOTAL	23 24 47	175,899 8,637 184,536	236,337 9,935 246,272	8 0 8	21,987 1,080 23,067	230 0 230	765 38 802	28.8 0 28.8
312	CONDUCT DISTURBANCE NEC	HOSP PROF TOTAL	24 2 26	126,342 864 127,206	153,436 1,164 154,600	6 0 6	21,057 144 21,201	611 0 611	207 1 208	101.8 0 101.8
304	DRUG DEPENDENCE	HOSP PROF TOTAL	17 5 22	113,522 2,129 115,651	130,309 2,609 132,918	15 0 15	7,568 142 7,710	348 0 348	326 6 332	23.2 0 23.2
309	ADJUSTMENT REACTION	HOSP PROF TOTAL	17 12 29	74,515 5,526 80,041	118,542 6,745 125,287	17 0 17	4,383 325 4,708	175 0 175	426 32 457	10.3 0 10.3
295	SCHIZOPHRENIC DISORDERS	HOSP PROF TOTAL	10 5 15	61,291 1,302 62,592	78,917 2,580 81,497	10 0 10	6,129 130 6,259	130 0 130	471 10 481	13 0 13
301	PERSONALITY DISORDERS	HOSP PROF TOTAL	5 1 6	49,033 334 49,366	65,313 445 65,758	2 0 2	24,516 167 24,683	134 0 134	366 2 368	67 0 67

Table 5 (Continued)

FY 1987 CHAMPUS Inpatient Psychiatric Workload by ICD9-CM Code

DX CODE	DESCRIPTION	TYPE OF SERVICE	CLAIMS	GOVERNMENT COST	BILLED AMOUNT	AVERAGE GOVERNMENT COST			HOSPITAL DAYS	AVERAGE GOVERNMENT COST	
						ADMISS	PER ADMISSION	PER DAY		PER DAY	ALOS
298	OTH NONORGANIC PSYCHOSES	HOSP PROF TOTAL	7 8 15	22,997 3,290 26,287	24,337 3,290 27,627	2 0 2	11,498 1,645 13,143	79 0 79	291 42 333	39.5 0 39.5	
305	NONDEPENDENT DRUG ABUSE	HOSP PROF TOTAL	2 1 3	10,975 15 10,990	12,792 15 12,807	2 0 2	5,488 8 5,495	42 0 42	261 0 262	21 0 21	
311	DEPRESSIVE DISORDER NEC	HOSP PROF TOTAL	0 11 11	0 1,381 1,381	0 2,377 2,377	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
291	ALCOHOLIC PSYCHOSES	HOSP PROF TOTAL	1 0 1	1,217 0 1,217	1,624 0 1,624	1 0 1	1,217 0 1,217	2 0 2	608 0 608	2 0 2	
307	SPECIAL SYMPTOM NEC	HOSP PROF TOTAL	1 0 1	100 0 100	2,390 0 2,390	1 0 1	100 0 100	3 0 3	33 0 33	3 0 3	
CATEGORY TOTALS			342	1,203,571	1,544,434	137	8,785.19	3,212	374.71	23.45	
HOSP TOTALS			201	1,145,678	1,475,376	137	8,362.61	3,212	356.69	23.45	

Source: OCHAMPUS, Statistics Branch, Aurora, Colorado

Table 6

FY 1987 CHAMPUS Inpatient Psychiatric Workload by Patient Age

	NUMBER OF ADMISSIONS	TOTAL HOSP DAYS	TOTAL GOV'T COST	AVG COST PER ADM	AVG COST PER HOSP DAY	ALOS	ADPL
ALL PATIENTS							
AGE LESS THAN 1	0	0	0				
1 THRU 4	0	0	0				
5 THRU 9	2	93	50,805	25,402.50	546.29	46.50	0.25
10 THRU 14	12	461	169,370	14,114.17	367.40	38.42	1.26
15 THRU 19	29	959	397,669	13,712.72	414.67	33.07	2.63
20 THRU 24	11	184	66,018	6,001.64	358.79	16.73	0.50
25 THRU 34	26	360	156,475	6,018.27	434.65	13.85	0.99
35 THRU 44	19	323	167,567	8,819.32	518.78	17.00	0.88
45 THRU 54	16	228	48,544	3,034.00	212.91	14.25	0.62
55 THRU 64	15	147	43,216	2,881.07	293.99	9.80	0.40
65 & OVER	0	0	0				
TOTAL	130	2,753	1,099,664	8,458.95	399.15	21.19	7.55

Source: CHAMPUS Cost and Workload Summary for Care Received From 1 October 1986 Thru 30 September 1987.
OCHAMPUS, Aurora, Colorado, 1988.

Nonavailability Statements issued in FY 1987 to determine the reasons patients were referred from this facility to CHAMPUS providers (Table 7). All of this data was then reviewed with Lieutenant Colonel Preece and Major Friedman of the Department of Psychiatry.

Four basic categories of admissions were identified which account for the psychiatric inpatient referrals to CHAMPUS providers: drug and alcohol dependency admissions, adolescent admissions, court ordered 72 hour admissions, and overflow admissions which occur when the psychiatric ward has reached its staffing dictated maximum capacity. Discussions with LTC Preece and MAJ Friedman concerning the CHAMPUS admissions data by primary diagnosis determined that the majority of the care provided through local civilian facilities could be provided at Silas B. Hays Army Community Hospital with additional nursing staff. However, assuming management of drug and alcohol dependence cases would require development of a specific treatment program.

Children under 15 years of age represent one group of admissions that could not be treated effectively on a general psychiatric ward. This group requires a separate ward specifically for child psychiatry. Adolescents 15 years and older could be effectively treated on a general adult psychiatric ward for short term acute care.

The 72 hour hold or involuntary admissions group is another segment of the CHAMPUS psychiatric workload that would present unique problems for the Silas B. Hays Army Community Hospital psychiatric ward. The involuntary nature of these admissions makes them ill suited to a open acute care ward. The psychiatric ward would have to be locked whenever an involuntary patient was admitted to ensure the patient remained on the ward for their own safety, for compliance with the

Table 7

**FY 1987 Nonavailability Statements for Psychiatric Inpatient Services:
Reasons for Issuance**

Reason	Number
Drug and Alcohol Detoxification/Rehabilitation	52
Adolescent Inpatient Psychiatric Services	29
Seventy-Two Hour Involuntary Admissions	15
Patient Referred for Lack of a Staffed Bed	9
"Emergency Admission" - Retroactive Issue	4
Patient Required Long Term Inpatient Care	2
Patient's Sponsor was a Staff Member	1
Patient's Residence was in Capitola, CA	1
Patient Admitted while Traveling Out of State	1
	114

Source: Silas B. Hays Army Community Hospital file copies of NASs issued during FY 1987

directions of the court, and to minimize the hospital's risk. It was the opinion of the Department of Psychiatry Staff that adding involuntary admissions to the Silas B. Hays Army Community Hospital psychiatric ward would excessively disrupt the operations of the normally open ward and would hinder efforts to increase the services to other categories of patients. Additionally, such admissions may mark the beginning of a long term chronic care episode that would require transfer of the patient to a civilian facility. The Monterey County hospital, Natividad Medical Center, operates a closed psychiatric ward better suited to involuntary admissions and currently manages the majority of these cases.

As a result of these discussions with the Department of Psychiatry staff, the areas identified for further analysis were the development of a drug and alcohol rehabilitation unit, methods of providing for adolescent short stays, and methods for supplementation of ward nursing personnel.

DRUG AND ALCOHOL REHABILITATION

Drug and alcohol dependency accounted for forty percent of all psychiatric admissions to CHAMPUS providers during FY 1987. Thus patients requiring treatment and rehabilitation for chemical dependency represented the largest single group of beneficiaries of psychiatric services who can not presently receive their care at Silas B. Hays Army Community Hospital. Possible alternatives for providing these services in a more cost effective manner than they are currently obtained include: the development of an inpatient rehabilitation unit at Silas B. Hays, development of a day treatment program, or contracting with a local facility to provide services at a reduced cost.

Major Friedman, Chief of Inpatient Psychiatry, is particularly interested in the development of an inpatient Drug and Alcohol Rehabilitation Unit to handle the dependency cases from the Fort Ord area. His interest is based on the established pattern of demand for the services, the availability of space on the inpatient psychiatric ward at Silas B. Hays Army Community Hospital, and his experiences with an inpatient rehabilitation program in Korea. There were 55 CHAMPUS patients and an additional 40 active duty soldiers who required rehabilitation services in FY 1987. The psychiatric ward has a capacity of 26 beds with an average census of 9 patients. Dedicating 12 beds to a drug and alcohol rehabilitation unit would serve the dual purpose of providing increased services to both active duty and CHAMPUS patients and increasing utilization of the existing space. Dr. Friedman proposed that the drug and alcohol rehabilitation mission could be taken on with the addition to his staff of a clinical director and 2 drug and alcohol counselors. He stated that patients in the program could be supervised on evening and night shifts by the nursing staff for the psychiatric ward. His experience with the rehabilitation program at the 121 Evacuation Hospital in Korea was that this recommended staffing would be sufficient to initiate a successful program at Fort Ord.

The Army regulation governing drug and alcohol programs, AR 600-85, was reviewed to determine the requirements for Residential Treatment Facilities and staffing requirements. The minimum staffing requirements are established by yardstick number 557-45.1 at 15 personnel. This staffing is sufficient to manage 20 occupied beds per day. The specific personnel requirements are listed in Table 8. Six of these requirements are for nursing personnel to staff the unit during evenings and nights. One requirement is for a physician medical director. Under

Table 8

Minimum Staffing for a Residential Treatment Facility (Covers 20 Occupied Beds)

Chief Residential Treatment Facility	Physician
Clinical Director	Social Worker, Clinical Psychologist, Drug/Alcohol Specialist or Clinical Nurse
Family Program Director	Clinical Psychologist or Social Worker
Head Nurse	
Occupational Therapist	
Behavioral Science Specialists	1 91G E6 or Drug/Alcohol Specialist 1 91G E5 or Drug/Alcohol Specialist 1 91G E4 or Drug/Alcohol Specialist 1 91G E3 or Drug/Alcohol Specialist 1 91F E4 or Nursing Assistant (Psychiatry) 1 91F E3 or Nursing Assistant (Psychiatry) 1 91C E6 or Practical Nurse 2 91C E5 or Practical Nurses 1 71C E5 or Secretary

Total Personnel Requirements - 15

Source: DA Pamphlet 570-557, Yardstick Number 557-45.1, 7 January 1988

Dr. Friedman's proposal, he would serve as the medical director and the requirement for nursing personnel would be eliminated. However, in calculating the cost of this alternative, consideration was given to the impact on the nursing staff of having these additional patients on the psychiatric ward. Additionally, the fact that the planned daily census would be 8 lower than that considered by the staffing guide would permit a reduction in the number of counselors required to staff the unit. The major obstacle identified to establishing an inpatient rehabilitation program was the statement in AR 600-85 that Residential Treatment Facilities would not be located with psychiatric wards (1986, 17).

The possibility of implementing an inpatient rehabilitation unit was discussed with Dr. Cross, the director of the drug and alcohol treatment unit at William Beaumont Army Medical Center, El Paso, Texas and Dr. Deal, the Health Services Command Consultant on drug and alcohol programs. Both individuals were enthusiastic about the possibilities. Dr. Cross indicated that there is a backlog of patients requiring treatment in his program with the average waiting time for enrollment exceeding 30 days. Additionally, he indicated that the cost per Medical Care Composite Unit, MCCU, for the unit is roughly 22 percent of the average cost per MCCU for the overall facility. Dr. Deal reiterated the need for additional facilities and indicated that Health Services Command would support an effort to initiate a new facility. However, he was not optimistic concerning our obtaining additional personnel authorizations for its operation. The issue of locating a facility with the inpatient psychiatric ward to permit utilization of ward nursing personnel for evening and night supervision was also discussed with Dr. Deal. He understood the rationale and indicated that it was not out of the realm of possibility.

The second alternative considered was a simple variation of Dr. Friedman's proposal. The review of the literature on the topic of drug and alcohol rehabilitation indicated that admissions of short duration followed by an extensive day treatment program have been demonstrated to be as effective in successfully rehabilitating patients as residential programs, and at a lower cost. Cost reductions are realized through the elimination of the need for nursing staff to supervise patients during evening and night shifts. These considerations combined with the fact that dedication of 12 psychiatric beds to drug and alcohol rehabilitation prevents their use for other patients led to the inclusion of a day treatment program in the possible alternatives. The patient would undergo initial detoxification and intervention on the psychiatric ward and then be entered into a full day treatment program.

The third alternative considered for drug and alcohol rehabilitation was to contract with a local facility to provide the necessary services. The two primary drug and alcohol rehabilitation facilities serving the Fort Ord area were contacted to determine the structure of their programs and their current charges. Both the Recovery Center operated by the Community Hospital of the Monterey Peninsula and the Steinbeck Center operated by the Community Hospital of Salinas provide both adolescent and adult programs. The adolescent programs consist of a 7 to 10 day evaluation period followed by a 35 to 38 day recovery period. The average cost is \$16,000. The adult programs run from 28 to 30 days and average \$11,000 per admission. Consideration was given to possible contracts at various discount rates from 10 to 30 percent for this alternative.

ADOLESCENT ADMISSIONS

There were a total of 29 CHAMPUS admissions for adolescent psychiatric patients. Of this total 14 admissions involved patients under 15 years of age. As stated previously, appropriate treatment of children under 15 requires a separate child psychiatric ward. The full time staffing of such a ward could not be supported by 14 annual admissions. Based on discussions with LTC Preece and MAJ Friedman, the remaining 15 admissions, primarily short term acute care, could be handled at Fort Ord with the part time support of a child psychiatrist. Because of the intermittent demand for this specialty support, a partnership agreement could be established with one or more local physicians to treat adolescent patients at Fort Ord whenever the need arose. This would eliminate the necessity for paying salary when the services of the child psychiatrist were not necessary while establishing the capability to provide the service at Fort Ord. There are currently 6 psychiatrists in the community practicing child and adolescent psychiatry. There are an additional 10 psychologists offering child and adolescent services. These professionals represent the pool of providers available for negotiation of partnership agreements to support adolescent services.

OVERFLOW ADMISSIONS

The primary limiting factor identified by LTC Preece and MAJ Friedman in the ability to provide increased inpatient services to CHAMPUS beneficiaries is nursing staffing. The decision of whether a CHAMPUS eligible beneficiary who is not in one of the previously discussed categories will be admitted to Silas B. Hays Army Community Hospital or provided a nonavailability statement for use at a civilian facility is based on nursing staff. The staffing requirements identified by

the Workload Management System for Nurses acuity system are compared to actual staffing and the decision is made on the basis of this comparison. To increase the patient census the nursing staff will have to be increased. The difficulty with the military system is that to justify increased personnel authorizations the workload must first be increased.

COSTING OF ALTERNATIVES

The costs and benefits for each alternative were calculated based on CHAMPUS workload data for FY 1987 and projections for FY 1989 psychiatric workload obtained through Vector Research. The projections were developed by utilizing the Defense Medical Systems Support Center Resource Analysis and Planning System model. The number of bed days for the specific categories of drug and alcohol rehabilitation patients, children under 15 years of age, all adolescents, involuntary admissions, and all others were estimated for FY 1989 by applying the percentage distribution experienced during FY 1987 to the cumulative projections obtained from the Resource Analysis and Planning System model. This data is presented in Table 9. Discussions with installation resources management division, force development, and retirement services personnel indicated there are no major changes projected for the Fort Ord area that would effect the size or demographics of the Silas B. Hays Army Community Hospital beneficiary population and, therefore, alter the demand for psychiatric services.

Nursing Requirements

In considering the possible alternatives for delivery of inpatient psychiatric services at Silas B. Hays Army Community Hospital, nursing staff represented not only a major limiting factor but also a large portion of the cost. It was, therefore,

Table 9

Psychiatric Workload Projection for FY 1989 Based on RAPS and CHAMPUS Claims for FY 1987

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Baseline Utilization of Psychiatric Services by CHAMPUS Beneficiaries in FY 1987

Total BD	D&A	Adolescent	<15 years	72 hour hold	
3212	1084	1050	554	45	479
	33.75%	32.69%	17.25%	1.40%	14.91%
Total Adm	D&A	Adolescent	<15 years	72 hour hold	Other
137	55	29	14	15	113
	40.15%	21.17%	10.22%	10.95%	82.48%

Workload Projection Based on FY 1987 Psychiatric Case Mix

Source of Aggregated Data:

RAPS

For:

FY 89

Total BD	D&A	Adolescent	<15 years	72 hour hold	Other
3263	1101	1067	563	46	487
Total Adm	D&A	Adolescent	<15 years	72 hour hold	
105	42	22	11	11	87
ALOS	26.12	47.99	52.45	3.98	5.62
ADPL	3.02	2.92	1.54	0.13	1.33

=====

Source: OCHAMPUS, Statistics Branch, Aurora, Colorado and Defense Medical Systems Support Center, Ann Arbor, Michigan.

important to assess as accurately as possible the nursing requirements for each alternative. Information concerning the average number of psychiatric patients by acuity category was obtained by month for FY 1987 and daily data was obtained for November 1987 through February 1988. This information was used to calculate an overall average number of patients by acuity category for Silas B. Hays Army Community Hospital. This acuity distribution was then applied to CHAMPUS patient bed day data for various alternatives. This was accomplished twice for each alternative: first using Resource Analysis and Planning System model projections for FY 1989 total psychiatric demand in the Fort Ord area, and secondly using actual CHAMPUS claims data for FY 1987. The number and mix of nursing personnel required for each alternative were then determined using the long term manpower standard for Inpatient Nursing-Psychiatry (CONUS). Copies of the standard and personnel requirements chart are provided in Appendix C. For alternatives involving residential treatment of drug and alcohol patients, nursing personnel requirements were calculated for two different assumptions: one that patients would be distributed to acuity categories in the same manner as all other patients and two that all drug and alcohol patients would require little nursing time and could be assigned to the lowest acuity category. Under Dr. Friedman's model based on experience with similar programs, the latter assumption holds true.

Personnel

The additional personnel requirements for each alternative were identified through the procedures discussed under nursing requirements, through specific discussions on various alternatives with Department of Psychiatry personnel and

support staff, or through pertinent staffing documents. The identified requirements were then costed in the following manner:

Civilian personnel requirements were costed using step 5 of the General Schedule pay tables which became effective 3 January 1988. Fringe benefits were calculated at 27.9 % of salary and MEDICARE tax was calculated at 1.35% of salary in accordance with guidance obtained from our Resources Management Division Budget Officer and Commercial Activities personnel.

Military personnel requirements were costed using the Composite Standard Rates for Costing Personnel Services issued by the Director, Finance and Accounting, Indianapolis, Indiana, in March 1988. Requirements for military registered nurses were allocated to captain, first lieutenant, and second lieutenant ranks in a pyramid fashion for costing purposes. Maximum and minimum costs were also calculated for each alternative by allocating all requirements to the highest and lowest rank structures.

Additional Ancillary and Support Services

Medical Expense and Performance Reporting System (MEPRS) expense data for the Department of Psychiatry and the Psychiatric Inpatient Ward for FY 1987 was obtained from Silas B. Hays Army Community Hospital Resources Management Division MEPRS office. The data was reviewed to assess the demand placed by the psychiatric ward on various support services. Based on this data and discussions with LTC Preece, MAJ Friedman, and CPT Moore, Head Nurse, it was determined that psychiatry places minimal demands on support services. The most heavily utilized service was Occupational Therapy. The expense data and allocation statistics were compared with the reported workload data for psychiatry to

determine if there was a readily identifiable relationship between them. However, because of the limited data available and the erratic pattern displayed, it was not possible to establish a clear relationship. Because of this limitation, the expenses reported were divided into two basic groups: those allocated to the work center on the basis of a patient care related variable measure, eg. weighted procedures, and those allocated on the basis of a fixed measure, eg. square footage. The average cost per bed day was calculated for those expenses allocated on the basis of a variable measure. This cost was then multiplied by the number of additional bed days proposed by an alternative to provide an estimate of the variable support costs associated with that alternative.

Opportunity Costs

The major emphasis of this project was to identify the most cost effective method for delivery of all required psychiatric inpatient services. To achieve this goal, opportunity costs were assigned to each specific section of the psychiatric demand equal to the government's cost for delivery of those services through CHAMPUS. These opportunity costs were assigned to any alternative that did not include delivery of that service. Two cost to benefit ratios were calculated for each alternative: one including the opportunity costs and one excluding the opportunity costs. This was done to ensure that alternatives which only partially addressed the psychiatric demand but were highly cost effective were not overlooked in the analysis.

ALTERNATIVES

The following specific alternatives were considered for delivery of psychiatric inpatient services to CHAMPUS beneficiaries in the Silas B. Hays Army Community Hospital catchment area.

1. Increase nursing staff sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care with the exception of children under 15 years of age and individuals requiring involuntary hospitalization.

A. Nursing requirements determined with all drug and alcohol rehabilitation patients allocated to patient acuity categories following the same distribution as all psychiatric patients treated at Silas B. Hays Army Community Hospital during FY 1987.

B. Nursing requirements determined with all drug and alcohol rehabilitation patients allocated to patient acuity category I.

2. Increase nursing staff sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care with the exception of children under 15 years of age, drug and alcohol rehabilitation patients, and individuals requiring involuntary hospitalization.

3. Increase nursing staff sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care with the exception of adolescents and individuals requiring involuntary hospitalization.

A. Nursing requirements determined with all drug and alcohol rehabilitation patients allocated to patient acuity categories following the same distribution as all psychiatric patients treated at Silas B. Hays Army Community Hospital during FY 1987.

B. Nursing requirements determined with all drug and alcohol rehabilitation patients allocated to patient acuity category I.

4. Increase nursing staff sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care with the exception of adolescents, drug and alcohol rehabilitation patients, and individuals requiring involuntary hospitalization.

5. Increase nursing staff sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all current patients plus individuals requiring drug and alcohol rehabilitation services.

A. Costs for a drug and alcohol rehabilitation unit determined based on the staffing recommended by Dr. Freidman.

B. Costs for a drug and alcohol rehabilitation unit determined based on the personnel requirements identified in the staffing guide.

6. Increase nursing staff sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all current patients plus adolescents 15 years of age or older.

7a. Utilize the existing Department of Defense/Veterans Administration Resources Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 inpatient days to be provided at the Veterans Administration Hospital, Menlo Park, California. All remaining care with the exception of inpatient care for children under 15 years of age and involuntary admissions to be provided at Silas B. Hays Army Community Hospital.

A. Nursing requirements determined with all drug and alcohol rehabilitation patients allocated to patient acuity categories following the same distribution as all psychiatric patients treated at Silas B. Hays Army Community Hospital during FY 1987.

B. Nursing requirements determined with all drug and alcohol rehabilitation patients allocated to patient acuity category I.

7b. Utilize the existing Department of Defense/Veterans Administration Resources Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 inpatient days to be provided at the Veterans Administration Hospital, Menlo Park, California. All remaining care with the exception of inpatient care for children under 15 years of age, drug and alcohol rehabilitation patients, and involuntary admissions to be provided at Silas B. Hays Army Community Hospital.

7c. Utilize the existing Department of Defense/Veterans Administration Resources Sharing Agreement to supplement the capability of Silas B. Hays Army Community

Hospital for treatment of individuals requiring psychiatric inpatient care. 720 inpatient days to be provided at the Veterans Administration Hospital, Menlo Park, California. All remaining care with the exception of inpatient care for adolescents and involuntary admissions to be provided at Silas B. Hays Army Community Hospital.

A. Nursing requirements determined with all drug and alcohol rehabilitation patients allocated to patient acuity categories following the same distribution as all psychiatric patients treated at Silas B. Hays Army Community Hospital during FY 1987.

B. Nursing requirements determined with all drug and alcohol rehabilitation patients allocated to patient acuity category I.

7d. Utilize the existing Department of Defense/Veterans Administration Resources Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 inpatient days to be provided at the Veterans Administration Hospital, Menlo Park, California. All remaining care with the exception of inpatient care for adolescents, drug and alcohol rehabilitation patients, and involuntary admissions to be provided at Silas B. Hays Army Community Hospital.

8a. Utilize the existing Department of Defense/Veterans Administration Resources Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 inpatient days to be provided at the Veterans Administration Hospital, Menlo Park,

California. All remaining care with the exception of inpatient care for children under 15 years of age, drug and alcohol rehabilitation patients, and involuntary admissions to be provided at Silas B. Hays Army Community Hospital. Drug and alcohol treatment to be provided by contract with a local facility.

8c. Utilize the existing Department of Defense/Veterans Administration Resources Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 inpatient days to be provided at the Veterans Administration Hospital, Menlo Park, California. All remaining care with the exception of inpatient care for adolescents, drug and alcohol rehabilitation patients, and involuntary admissions to be provided at Silas B. Hays Army Community Hospital. Drug and alcohol treatment to be provided by contract with a local facility.

9a. Increase nursing staff sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care with the exception of children under 15 years of age, drug and alcohol rehabilitation patients, and individuals requiring involuntary hospitalization. Drug and alcohol treatment to be provided by contract with a local facility.

9b. Increase nursing staff sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care with the exception of adolescents, drug and alcohol rehabilitation patients, and individuals requiring involuntary hospitalization. Drug and alcohol treatment to be provided by contract with a local facility.

9c. Initiate a contract for drug and alcohol rehabilitation services.

10a. Increase nursing staff sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care with the exception of children under 15 years of age and individuals requiring involuntary hospitalization. Drug and alcohol treatment to be provided in a Day Treatment program at Silas B. Hays Army Community Hospital.

10b. Increase nursing staff sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care with the exception of children under 15 years of age and individuals requiring involuntary hospitalization. Drug and alcohol treatment to be provided in a Day Treatment program at Silas B. Hays Army Community Hospital.

10c. Start a Drug and Alcohol Day Treatment Center at Silas B. Hays Army Community Hospital.

The cost effectiveness ratios for each alternative are presented in Table 10. The individual analysis of each alternative is provided in appendix B.

Table 10

Cost-Effectiveness Ratios for Considered Alternatives

ALTERNATIVE	RAPS PROJECTION FY 1989		CHAMPUS DATA FY 1987	
	Opportunity Costs Considered	Opportunity Costs Not Considered	Opportunity Costs Considered	Opportunity Costs Not Considered
1A	0.862	0.700	0.840	0.677
1B	0.782	0.620	0.783	0.621
2	1.081	0.492	1.094	0.498
3A	0.967	0.577	0.999	0.607
3B	0.867	0.477	0.894	0.501
4	1.593	0.440	1.612	0.436
5a	2.537	0.714	2.834	1.011
5b	2.647	0.717	2.947	1.017
6	5.038	0.923	4.245	0.807
7aA	0.791	0.626	0.821	0.656
7aB	0.708	0.543	0.734	0.568
7b	1.157	0.550	1.190	0.578
7c	1.028	0.629	1.061	0.660
7d	1.958	0.747	2.004	0.785
8a	1.199	0.949	1.381	1.130
8b	1.798	1.103	2.048	1.348
9a	1.121	0.880	1.280	1.036
9b	1.650	0.988	1.878	1.203
9c	2.931	0.899	3.467	1.234
10a	0.724	0.558	0.797	0.632
10b	0.796	0.394	0.813	0.412
10c	2.355	0.323	2.572	0.339

CONCLUSIONS

Of a total of twenty-two alternatives or variations of alternatives considered, eight produced cost-effectiveness ratios (cost/benefits) of less than one, with opportunity costs considered. This indicates that their implementation would produce positive benefits and achieve the goals of providing all care in a cost-effective manner. The alternative which produced the lowest ratio, 0.708, was alternative 7a. Utilize the existing Department of Defense/Veterans Administration Resources Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 inpatient days to be provided at the Veterans Administration Hospital, Menlo Park, California. All remaining care with the exception of inpatient care for children under 15 years of age and involuntary admissions to be provided at Silas B. Hays Army Community Hospital. This variation of the alternative was based on assignment of all drug and alcohol patients to the lowest nursing acuity category. Of these eight, this alternative also had a low cost-effectiveness ratio when opportunity costs were not considered, 0.543. Implementation of this particular alternative would yield a net benefit of \$640,169.

However, alternative 10b which had the fifth lowest cost-effectiveness ratio considering opportunity costs, 0.796, produced a much lower ratio when opportunity costs were excluded, 0.394, than any other alternative in the lowest five. The alternative provided for delivery of all services with the exception of adolescent psychiatric services and relies on development of a day treatment program for drug and alcohol rehabilitation. The net benefit from implementation of this alternative, should all potential savings be realized, would be \$673,251.

This is not only slightly higher than alternative 7a, but it would require \$322,127 less to achieve these savings. It would also provide a more convenient service to the patient by avoiding reliance on the Veterans Administration Hospital in Menlo Park.

Other cost effective alternatives included: alternative 10a, increase nursing staff to permit treatment of all individuals except children under 15 with drug and alcohol treatment provided in a day treatment setting; alternative 1a which allocated drug and alcohol rehabilitation inpatients in accordance with the acuity distribution for all psychiatric inpatients; and alternative 3 a and b, increase nursing staff to provide all care except adolescent psychiatry with drug and alcohol rehabilitation provided in an inpatient setting.

Three alternatives which did not have favorable cost-effectiveness ratios when opportunity costs were considered produced fairly low ratios when opportunity costs were excluded. The most cost-effective alternative in this category, 0.323, was to implement a day care program for drug and alcohol rehabilitation patients. The remaining two alternatives based their savings on increasing nursing staff to allow treatment of all other categories of psychiatric patients thus excluding adolescents, drug and alcohol, and involuntary admissions. A total of \$674,455 worth of benefits would be produced for an outlay of \$296,678, a ratio of 0.440. Implementation of this alternative would produce a net benefit of \$350,777.

The second alternative in this category was different only in the area of adolescent psychiatry. This alternative, number 2, would exclude only children under 15 years of age. The potential benefits of this alternative would be

\$954,561 for an outlay of \$469,993, a ratio of 0.492. Implementation of this alternative would produce a net benefit of \$484,568.

The difficulty with these alternatives is twofold. First, their potential saving come from recapturing a group of CHAMPUS admissions which includes the entire group of uncontrollable admission, those that did not require Nonavailability Statements to use a civilian facility. All of the adolescent admissions and all except 3 of the drug and alcohol admissions used in calculations of potential savings required Nonavailability Statements and, therefore, the location where they receive their care can be controlled. Second, they do not address major portions of the CHAMPUS workload and thus do not achieve the goal of overall reduction of CHAMPUS costs.

RECOMMENDATIONS

There are a number of ways to reduce the cost of providing inpatient psychiatric services to CHAMPUS beneficiaries in the Silas B. Hays Army Community Hospital catchment area that are worth consideration for implementation by the command. With the implementation of the CHAMPUS Reform Initiative test in the state of California, managers of military hospitals and the CHAMPUS Reform contract can combine their resources to maximize their mutual goal of cost reduction.

The primary recommendation from this study is to increase nursing staff sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care with the exception of adolescents and individuals requiring involuntary hospitalization and to implement a day treatment program for drug and alcohol rehabilitation. This could be accomplished

by obtaining the services of the following additional personnel: 3 registered psychiatric nurses, 3 psychiatric technicians, a nursing assistant, a clinical director for the day care program, 2 drug and alcohol counselors, and an occupational therapist. The CHAMPUS Reform Initiative Contractor should be approached concerning resource sharing for these identified personnel requirements since the potential reduction in CHAMPUS cost is \$794,889 for the government's portion of the cost and an additional \$269,471 for the patient.

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DEFINITIONS

CATCHMENT AREA: the geographical area surrounding a military medical treatment facility that constitutes its inpatient service area. "The catchment areas for facilities in CONUS, Alaska and Hawaii are defined by zip codes specified in Vol I of the Military Health Service System Catchment Area Directory." (AR 40-3, 77).

CHAMPUS AUTHORIZED PROVIDER: An institutional or individual provider who meets the specific requirements identified in chapter 6, DoD 6010.8-R. Provided they meet the specific requirements for participation outlined in the referenced regulation, the following are authorized individual CHAMPUS providers: Doctors of Medicine, Doctors of Osteopathy, Doctors of Dental Medicine, Doctors of Dental Surgery, Clinical Psychologists, Doctors of Optometry, Doctors of Podiatry or Surgical Chiropody, Certified Nurse Midwives, Certified Nurse Practitioners, Certified Clinical Social Workers, and Certified Psychiatric Nurse Specialists (DoD 6010.8-R 1986, 6-15 through 6-17).

EXTERNAL PARTNERSHIP AGREEMENT: "An agreement between an MTF Commander . . . and a CHAMPUS authorized institutional provider whereby health care personnel employed by a military MTF provide medical services to CHAMPUS beneficiaries in a civilian facility, with authorized costs associated with the use of the facility financed through CHAMPUS in accordance with cost sharing policies outlined in DdD 6010.8-R. . ."

INTERNAL PARTNERSHIP AGREEMENT: "An agreement executed between an MTF Commander (of both hospitals and/or clinics) and a CHAMPUS authorized civilian health care provider which will enable the use of civilian health care personnel or

other resources to provide medical services to beneficiaries on the premises of the MTF. Charges for this care will be paid through CHAMPUS with beneficiary cost shares computed as for MTF services." (DODI 6010.12 1987, 2-1).

MEDICAL EXPENSE AND PERFORMANCE REPORTING SYSTEM (MEPRS): the Department of Defense's standard system for reporting performance in medical treatment facilities and for allocating a facility's operating expenses to all of its work centers.

NONAVAILIBILITY STATEMENTS: certificates issued by military hospitals which grant permission to family members of active duty and retirees and their family members living within the catchment area of a military hospital to seek inpatient care from a civilian hospital (DOD 6010.8 R 1986, 4-3).

Alternative 1 RAPS Projections

Increase nursing staffing sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care on Ward 7 West with the exception of children under age 15 and individuals requiring involuntary hospitalization, "72 hour hold."

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

380 Admissions	5885 Bed Days	15.49 ALOS	16.12 ADPL
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Projected Demand from CHAMPUS Beneficiaries

153 Admissions	2654 Bed Days	17.35 ALOS	7.27 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$1,010,566.60

Potential Savings to Beneficiaries

\$319,863.64

Total Potential Savings

\$1,330,430.24

Potential Revenue for Silas B. Hays Army Community Hospital

4249 Annual MCCUs @ \$22.86 = \$97,132.14

Total Benefits: \$1,230,346

COSTS

Additional Staffing Requirements

Nursing:

A. Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
6 RNs GS9	\$231,343	5 RNs GS9	\$192,786
5 LPNs GS4	98,960	5 LPNs GS4	98,960
2 NAs GS3	<u>35,568</u>		<u></u>
	\$365,568		\$291,746

Using Military Staffing

Total Additional		Beyond Current Vacancies	
6 RNs	\$270,052	5 RNs	\$233,930
5 LPNs	141,830	5 LPNs	141,830
2 NAs	<u>47,623</u>		<u></u>
	\$479,700		\$375,760
High	\$554,755		\$450,815
Low	\$381,434		\$311,945

B. Requirements identified when all patient days, with the exception of drug and alcohol, are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix. All drug and alcohol patient days have been placed in category I.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
4 RNs GS9	\$154,229	3 RNs GS9	\$115,672
4 LPNs GS4	79,168	4 LPNs GS4	79,168
1 NAs GS3	<u>17,632</u>		<u></u>
	\$251,029		\$194,840

Using Military Staffing

Total Additional		Beyond Current Vacancies	
4 RNs	\$189,621	3 RNs	\$132,927
4 LPNs	113,464	4 LPNs	113,464
1 NAs	<u>23,623</u>		<u></u>
	\$326,708		\$246,391
High	\$384,725		\$303,958
Low	\$267,289		\$215,533

Other Staffing Requirements

Staffing for D&A	\$107,714
1 Occupational Therapist	33,557
Child Psychiatrist 1/2 time	<u>65,000</u>
	\$206,271

Unmet CHAMPUS Demand

Total Demand for Psychiatric Bed Days	6494
Drug & Alcohol Portion	<u>(1173)</u>
Other Demand	5321
Not Included in this Alternative	<u>(609)</u>
Remaining Demand for Regular Beds	4712
Available on a 12 Bed Ward	<u>(4380)</u>
CHAMPUS Demand Unmet by this Alternative	332
Cost of Unmet Demand	
\$386.70/day Government Cost	\$128,384
109.52/day Patient Cost	<u>36,361</u>
	\$164,475

Additional Ancillary and Support Costs

\$263,118

Opportunity Cost of Not Providing Treatment for:

Children under 15 \$230,914

Total Costs: A. \$1,230,346
B. \$1,115,807

Cost-Effectiveness Ratios

Part A.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.862	0.810
Military Staffing	0.942	0.869

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.700	0.648
Military Staffing	0.780	0.707

Part B.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.782	0.742
Military Staffing	0.835	0.778

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.620	0.581
Military Staffing	0.673	0.617

Alternative 1. CHAMPUS Historical Data

Increase nursing staffing sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care on Ward 7 West with the exception of children under age 15 and individuals requiring involuntary hospitalization, "72 hour hold."

FY 1987 Combined Historical Demand for CHAMPUS and SBHACH

458 Admissions	5793 Bed Days	12.65 ALOS	15.87 ADPL
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Historical Demand from CHAMPUS Beneficiaries

108 Admissions	2613 Bed Days	24.19 ALOS	7.15 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$964,130

Potential Savings to Beneficiaries

\$305,160

Total Potential Savings

\$1,269,290

Potential Revenue for Silas B. Hays Army Community Hospital

3693 Annual MCCUs @ \$22.86 = \$84,422

Total Benefits: \$1,353,712

COSTS

Additional Staffing Requirements

Nursing:

A. Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
5 RNs GS9	\$192,786	4 RNs GS9	\$154,229
5 LPNs GS4	98,960	5 LPNs GS4	98,960
2 NAs GS3	<u>35,265</u>		<u>\$253,189</u>
	\$327,011		

Using Military Staffing

Total Additional		Beyond Current Vacancies	
5 RNs	\$223,644	4 RNs	\$179,335
5 LPNs	141,830	5 LPNs	141,830
2 NAs	<u>47,246</u>		<u>\$368,411</u>
	\$412,720		
High	\$498,061		\$394,121
Low	\$347,411		\$277,922

B. Requirements identified when all patient days, with the exception of drug and alcohol, are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix. All drug and alcohol patient days have been placed in category I.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
4 RNs GS9	\$154,229	3 RNs GS9	\$115,672
4 LPNs GS4	79,168	4 LPNs GS4	79,168
1 NAs GS3	<u>17,632</u>		<u>\$194,840</u>
	\$251,029		

Using Military Staffing

Total Additional		Beyond Current Vacancies	
4 RNs	\$189,621	3 RNs	\$132,927
4 LPNs	113,464	4 LPNs	113,464
1 NAs	<u>23,623</u>		
	\$326,708		<u>\$246,391</u>
High	\$384,725		\$303,958
Low	\$267,289		\$215,533

Other Staffing Requirements

Staffing for D&A	\$107,714
1 Occupational Therapist	33,557
Child Psychiatrist 1/2 time	<u>65,000</u>
	\$206,271

Unmet CHAMPUS Demand

Total Demand for Psychiatric Bed Days	6392
Drug & Alcohol Portion	(1155)
Other Demand	5237
Not Included in this Alternative	<u>(599)</u>
Remaining Demand for Regular Beds	4638
Available on a 12 Bed Ward	<u>(4380)</u>
CHAMPUS Demand Unmet by this Alternative	258

Cost of Unmet Demand	
\$374.71/day Government Cost	\$96,675
106.12/day Patient Cost	<u>27,379</u>
	\$124,054

Additional Ancillary and Support Costs

\$259,053

Opportunity Cost of Not Providing Treatment for:

Children under 15 \$220,175

Total Costs: A. \$1,136,564 B. \$1,060,582

Cost-Effectiveness Ratios

Part A.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.840	0.785
Military Staffing	0.903	0.870

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.677	0.622
Military Staffing	0.740	0.708

Part B.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.783	0.742
Military Staffing	0.839	0.780

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.621	0.579
Military Staffing	0.677	0.617

Alternative 2. RAPS Projections

Increase nursing staffing sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care on Ward 7 West with the exception of children under age 15, drug and alcohol patients, and individuals requiring involuntary hospitalization, "72 hour hold."

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

338 Admissions	4784 Bed Days	14.15 ALOS	13.1 ADPL
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Projected Demand from CHAMPUS Beneficiaries

111 Admissions	1553 Bed Days	13.99 ALOS	4.25 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$679,139

Potential Savings to Beneficiaries

\$214,546

Total Potential Savings

\$893,685

Potential Revenue for Silas B. Hays Army Community Hospital

2663 Annual MCCUs @ \$22.86 = \$60,876

Total Benefits: \$954,561

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional

4 RNs GS9	\$154,229
4 LPNs GS4	79,168
1 NAs GS3	<u>17,632</u>
	\$251,029

Beyond Current Vacancies

3 RNs GS9	\$115,672
4 LPNs GS4	79,168
	<u>\$194,840</u>

Using Military Staffing

Total Additional

4 RNs	\$189,621
4 LPNs	113,464
1 NAs	<u>23,623</u>
	\$326,708

Beyond Current Vacancies

3 RNs	\$132,927
4 LPNs	113,464
	<u>\$246,391</u>

High	\$384,725
Low	\$267,289

\$303,958
\$215,533

Other Staffing Requirements

Child Psychiatrist 1/2 Time

\$65,000

Additional Ancillary and Support Costs

\$153,964

Opportunity Cost of Not Providing Treatment for:

Children under 15
Drug and alcohol patients

\$230,914
<u>331,428</u>
\$562,342

Total Costs: \$1,032,335

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.081	1.023
Military Staffing	1.161	1.077

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.492	0.434
Military Staffing	0.572	0.488

Alternative 2. CHAMPUS Historical Data

Increase nursing staffing sufficiently at SBHACH to permit treatment of all patients except children under age 15, drug and alcohol, and 72 hour hold patients.

Historical Demand Combined CHAMPUS and SBHACH

403 Admissions	4709 Bed Days	11.68 ALOS	12.90 ADPL
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Historical Demand from CHAMPUS Beneficiaries

53 Admissions	1529 Bed Days	28.25 ALOS	4.19 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$647,935

Potential Savings to Beneficiaries

\$204,681

Total Potential Savings

\$852,616

Potential Revenue for Silas B. Hays Army Community Hospital

2059 Annual MCCUs @ \$22.86 = \$47,069

Total Benefits: \$899,685

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

All patients distributed to acuity categories IAW Silas B. Hays patient mix

Total Additional		Beyond Current Vacancies	
4 RNs GS9	\$154,229	3 RNs GS9	\$115,672
3 LPNs GS4	59,376	3 LPNs GS4	59,376
1 NA GS3	<u>17,632</u>		<u></u>
	\$231,237		\$175,048

Using Military Staffing

Total Additional		Beyond Current Vacancies	
4 RNs	\$179,335	3 RNs	\$135,026
3 LPNs	85,098	3 LPNs	85,098
1 NA	<u>23,623</u>		<u></u>
	\$288,056		\$220,124
High	\$350,806		\$270,489
Low	\$238,923		\$187,167

Other Staffing Requirements

Child Psychiatrist 1/2 Time \$65,000

Additional Ancillary and Support Costs

\$151,585

Opportunity Cost of Not Providing Treatment for:

Children under 15	\$220,175
Drug and alcohol patients	<u>316,633</u>
	\$536,370

Total Costs: \$984,192

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.094	1.031
Military Staffing	1.157	1.082

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.498	0.435
Military Staffing	0.561	0.485

Alternative 3 RAPS Projections

Increase nursing staffing sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care on Ward 7 West with the exception of adolescents and individuals requiring involuntary hospitalization, "72 hour hold."

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

369 Admissions	5381 Bed Days	14.58 ALOS	14.74 ADPL
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Projected Demand from CHAMPUS Beneficiaries

142 Admissions	2150 Bed Days	15.14 ALOS	5.89ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$794,889

Potential Savings to Beneficiaries

\$269,471

Total Potential Savings

\$1,064,360

Potential Revenue for Silas B. Hays Army Community Hospital

3570 Annual MCCUs @ \$22.86 = \$81,610

Total Benefits: \$1,145,970

COSTS

Additional Staffing Requirements

A. Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
5 RNs GS9	\$192,786	4 RNs GS9	\$154,229
4 LPNs GS4	79,168	4 LPNs GS4	79,168
2 NA GS3	<u>35,219</u>		<u> </u>
	\$307,219		\$233,397

Using Military Staffing

Total Additional		Beyond Current Vacancies	
5 RNs	\$213,244	4 RNs	\$179,335
4 LPNs	113,464	4 LPNs	113,464
2 NA	<u>47,246</u>		<u> </u>
	\$373,954		\$292,799
High	\$417,348		\$360,652
Low	\$319,045		\$249,556

B. Requirements identified when all patient days, with the exception of drug and alcohol, are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix. All drug and alcohol patient days have been placed in category I.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
3 LPNs GS4	59,376	3 LPNs GS4	59,376
1 NA GS3	<u>17,632</u>		<u> </u>
	\$192,680		\$6,490

Using Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$88,618
3 LPNs	85,098	3 LPNs	85,098
1 NA	<u>23,623</u>		<u> </u>
	\$243,747		\$173,716

High	\$294,112	\$213,795
Low	\$204,900	\$153,144

Other Staffing Requirements

Staffing for D&A	\$107,714
1 Occupational Therapist	<u>33,557</u>
	\$141,271

Additional Ancillary and Support Cost

\$213,151

Opportunity Cost of Not Providing Treatment for:

Adolescents	\$446,591
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Total Costs: A. \$1,108,232
B. \$ 993,693

Cost-Effectiveness Ratios

Part A.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.967	0.903
Military Staffing	1.025	0.954

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.577	0.513
Military Staffing	0.636	0.565

Part B.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.867	0.818
Military Staffing	0.912	0.851

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.477	0.428
Military Staffing	0.522	0.461

Alternative 3. CHAMPUS Historical Data

Increase nursing staffing sufficiently at SBHACH to permit treatment of all patients except adolescents and 72 hour hold.

FY 1987 Combined Historical Demand for CHAMPUS and SBHACH

443 Admissions	5297 Bed Days	11.95 ALOS	14.51 ADPL
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Historical Demand from CHAMPUS Beneficiaries

93 Admissions	2117 Bed Days	22.76 ALOS	5.8 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$758,439

Potential Savings to Beneficiaries

\$257,103

Total Potential Savings

\$1,015,542

Potential Revenue for Silas B. Hays Army Community Hospital

3047 Annual MCCUs @ \$22.86 = \$69,654.42

Total Benefits: \$1,085,196

COSTS

Additional Staffing Requirement

Nursing:

A. Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
5 RNs GS9	\$192,786	4 RNs GS9	\$154,229
4 LPNs GS4	79,168	4 LPNs GS4	79,168
2 NA GS3	<u>35,265</u>		<u></u>
	\$307,219		\$233,397

Using Military Staffing

Total Additional		Beyond Current Vacancies	
5 RNs	\$213,244	4 RNs	\$179,335
4 LPNs	113,464	4 LPNs	113,464
2 NA	<u>47,246</u>		<u></u>
	\$373,954		\$292,799
High	\$417,348		\$360,652
Low	\$319,045		\$249,556

B. Requirements identified when all patient days, with the exception of drug and alcohol, are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix. All drug and alcohol patient days have been placed in category I.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
3 LPNs GS4	59,376	3 LPNs GS4	59,376
1 NA GS3	<u>17,632</u>		<u></u>
	\$192,680		\$136,490

Using Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$88,618
3 LPNs	85,098	3 LPNs	85,098
1 NA	<u>23,623</u>		<u></u>
	\$243,747		\$173,716

High	\$294,112	\$213,795
Low	\$204,900	\$153,144

Other Staffing Requirements

Staffing for Drug and Alcohol Occupational Therapist	\$107,714 <u>33,557</u> \$141,271
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Additional Cost Per Bed Day

\$209,879

Opportunity Cost of Not Providing Treatment for:

Adolescents	\$425,866
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Total Costs: A. \$1,084,235
B. \$ 969,696

Cost-Effectiveness Ratios

Part A.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.999	0.931
Military Staffing	1.061	0.986

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.607	0.539
Military Staffing	0.668	0.593

Part B.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.894	0.842
Military Staffing	0.941	0.876

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.501	0.449
Military Staffing	0.548	0.484

Alternative 4 RAPS Projections

Increase nursing staffing sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care on Ward 7 West with the exception of adolescents, drug and alcohol patients, and individuals requiring involuntary hospitalization, "72 hour hold."

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

327 Admissions	4280 Bed Days	13.09 ALOS	11.73 ADPL
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Projected Demand from CHAMPUS Beneficiaries

100 Admissions	1049 Bed Days	10.49 ALOS	2.87 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$463,461

Potential Savings to Beneficiaries

\$164,154

Total Potential Savings

\$624,615

Potential Revenue for Silas B. Hays Army Community Hospital

2049 Annual MCCUs • \$22.86 = \$46,840

Total Benefits: \$674,455

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
3 LPNs GS4	59,376	3 LPNs GS4	59,376
1 NA GS3	<u>17,632</u>		<u></u>
	\$192,680		\$136,490

Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$88,618
3 LPNs	85,098	3 LPNs	85,098
1 NA	<u>23,623</u>		<u></u>
	\$243,747		\$173,716
High	\$294,112		\$213,795
Low	\$204,900		\$153,144

Additional Ancillary and Support Costs

\$103,998

Opportunity Cost of Not Providing Treatment for:

Adolescents	\$446,591
Drug and alcohol patients	<u>331,428</u>
	\$778,019

Total Costs: \$1,074,697

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.593	1.510
Military Staffing	1.669	1.565

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.440	0.357
Military Staffing	0.516	0.412

Alternative 4 CHAMPUS Historical Data

Increase nursing staffing sufficiently at SBHACH to permit treatment of all patients except adolescents, drug and alcohol, and 72 hour hold patients.

FY 1987 Combined Historical Demand for CHAMPUS and SBHACH

388 Admissions	4213 Bed Days	10.86 ALOS	11.54 ADPL
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Historical Demand from CHAMPUS Beneficiaries

38 Admissions	1033 Bed Days	27.18 ALOS	2.83 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$442,244

Potential Savings to Beneficiaries

\$156,624

Total Potential Savings

\$598,868

Potential Revenue for Silas B. Hays Army Community Hospital

1413 Annual MCCUs @ \$22.86 = \$32,301

Total Benefits: \$631,169

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
2 LPNs GS4	39,584	2 LPNs GS4	39,584
1 NA GS3	<u>17,632</u>		<u>116,698</u>
	\$172,888		

Using Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$101,003
2 LPNs	56,732	2 LPNs	56,732
1 NA	<u>23,623</u>		<u>157,735</u>
	\$215,381		
High	\$260,643		\$180,326
Low	\$176,534		\$124,778

Additional Ancillary and Support Cost

\$102,412

Opportunity Cost of Not Providing Treatment for:

Adolescents	\$425,866
Drug and alcohol patients	<u>316,195</u>
	\$742,061

Total Costs: \$1,017,361

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.612	1.523
Military Staffing	1.679	1.588

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.436	0.347
Military Staffing	0.503	0.412

Alternative 5 A. RAPS Projections - Simple Staffing

Increase Department of Psychiatry and nursing staffing sufficiently to allow the treatment of drug and alcohol patients at Silas B. Hays Army Community Hospital.

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

269 Admissions	4332 Bed Days	16.10 ALOS	11.87 ADPL
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Projected Demand from CHAMPUS Beneficiaries for Drug and Alcohol Treatment

42 Admissions	1101 B. Days	26.21 ALOS	3.02 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$331,428

Potential Savings to Beneficiaries

\$105,317

Total Potential Savings

\$436,745

Potential Revenue for Silas B. Hays Army Community Hospital

CHAMPUS Demand Only

2184 Annual MCCUs @ \$22.86/MCCU = \$49,926

12 Bed Unit Operated at Capacity

5200 Annual MCCUs @ \$22.86/MCCU = \$118,872.00

100 Admissions for 42 days each

Total Benefits: \$486,671 (\$555,617)

COSTS

Staffing Costs

At Dr. Freidman's Staffing	
1 GS11 Clinical Director	\$40,600
2 GS9 Counselors	67,114
	<u>\$107,714</u>

Additional Nursing Staff Requirements

Requirements identified when all patient days, with the exception of drug and alcohol, are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix. All drug and alcohol patient days have been placed in category I.

Using Civilian Staffing

Total Additional	Beyond Current Vacancies
2 RNs GS9 \$77,114	1 RN GS9 \$38,557
1 LPN GS4 <u>19,792</u>	1 LPN GS4 <u>19,792</u>
\$96,906	\$58,349

Using Military Staffing

Total Additional	Beyond Current Vacancies
2 RNs \$101,003	1 RN \$44,000
1 LPN <u>28,366</u>	1 LPN <u>28,366</u>
\$129,369	\$72,675
High \$146,857	\$90,163
Low \$ 96,412	\$62,389

Additional Occupational Therapy Support

1 Occupational Therapist GS 9	\$33,557
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Additional Ancillary and Support Costs

\$109,153

Opportunity Cost of Not Providing Treatment for:

Other than drug and alcohol patients \$887,376

Total Costs: \$1,234,706

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	2.537 (2.220)	2.458 (2.153)
Military Staffing	2.604 (2.281)	2.487 (2.179)

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.714 (0.625)	0.634 (0.556)
Military Staffing	0.780 (0.684)	0.664 (0.582)

Alternative 5 A. CHAMPUS Historical Data - Simple Staffing

Increase Department of Psychiatry and nursing staffing sufficiently to allow the treatment of drug and alcohol patients at Silas B. Hays Army Community Hospital.

FY 1987 Combined Historical Demand from CHAMPUS and SBHACH

405 Admissions	4264 Bed Days	10.53 ALOS	11.68 ADPL
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Historical Demand from CHAMPUS

55 Admissions	1084 B. Days	19.71 ALOS	2.97 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$316,195

Potential Savings to Beneficiaries

\$100,479

Total Potential Savings

\$416,674

Potential Revenue for Silas B. Hays Army Community Hospital

CHAMPUS Demand Only

2860 Annual MCCUs @ \$22.86/MCCU = \$65,380

12 Bed Unit Operated at Capacity

5200 Annual MCCUs @ \$22.86/MCCU = \$118,872

100 Admission for 42 days each

Total Benefits: \$482,054 (\$535,546)

COSTS

Staffing Costs

At Dr. Freidman's Staffing

1 GS11 Clinical Director	\$40,600
2 GS9 Counselors	67,114
	\$107,714

Additional Nursing Staff Requirements

Requirements identified when all patient days, with the exception of drug and alcohol, are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix. All drug and alcohol patient days have been placed in category I.

Using Civilian Staffing

Total Additional

2 RNs GS9	\$77,114
1 LPN GS4	<u>19,792</u>
	\$96,906

Beyond Current Vacancies

1 RN GS9	\$38,557
1 LPN GS4	<u>19,792</u>
	\$58,349

Using Military Staffing

Total Additional

2 RNs	\$101,003
1 LPN	<u>28,366</u>
	\$129,369

Beyond Current Vacancies

1 RN	\$44,309
1 LPN	<u>28,366</u>
	\$72,675

High	\$146,857
Low	\$ 96,412

\$90,163
\$62,389

Additional Occupational Therapy Support

1 Occupational Therapist GS 9	\$33,557
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Additional Ancillary and Support Costs

\$107,468

Opportunity Cost of Not Providing Treatment for:

Other than drug and alcohol patients \$930,377

Total Costs: \$1,276,022

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	2.647 (2.383)	2.567 (2.311)
Military Staffing	2.714 (2.443)	2.597(2.337)

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.717 (0.645)	0.637 (0.573)
Military Staffing	0.784 (0.706)	0.667 (0.600)

Alternative 5 B. RAPS Projections - Staffing Guide

Increase Department of Psychiatry and nursing staffing sufficiently to allow the treatment of drug and alcohol patients at Silas B. Hays Army Community Hospital.

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

269 Admissions	4332 Bed Days	16.10 ALOS	11.87 ADPL
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Projected Demand from CHAMPUS Beneficiaries for Drug and Alcohol Treatment

42 Admissions	1101 B. Days	26.21 ALOS	3.02 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$311,103

Potential Savings to Beneficiaries

\$98,119

Total Potential Savings

\$409,222

Potential Revenue for Silas B. Hays Army Community Hospital

CHAMPUS Demand Only

2184 Annual MCCUs • \$22.86/MCCU = \$49,926

12 Bed Unit Operated at Capacity

5200 Annual MCCUs • \$22.86/MCCU = \$118,872.00

100 Admissions for 42 days each

Total Benefits: \$486,671 (\$555,617)

COSTS

Staffing Costs

At Staffing Guide Level

Clinical Director-GS11	\$40,600
Family Program Director-GS9	33,557
Head Nurse-GS9 plus \$5,000	38,557
Occupational Therapist-GS9	33,557
Counselors 2-GS9	67,114
2-GS7	54,859
Practical Nurses 3-GS4	59,376
Nursing Assistants 2-GS3	35,265
Secretary-GS4	<u>19,792</u>
	\$382,677

Additional Ancillary and Support Costs

\$109,153

Opportunity Cost of Not Providing Treatment for:

Other than drug and alcohol patients **\$887,376**

Total Costs: \$1,379,206

Cost-Effectiveness Ratios

Opportunity Costs Included	2.834 (2.482)
Opportunity Costs Excluded	1.011 (0.885)

Alternative 5 B. CHAMPUS Historical Data - Staffing Guide

Increase Department of Psychiatry and nursing staffing sufficiently to allow the treatment of drug and alcohol patients at Silas B. Hays Army Community Hospital.

FY 1987 Combined Historical Demand from CHAMPUS and SBHACH

405 Admissions	4264 Bed Days	10.53 ALOS	11.68 ADPL
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Historical Demand from CHAMPUS

55 Admissions	1084 B. Days	19.71 ALOS	2.97 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$316,195

Potential Savings to Beneficiaries

\$100,479

Total Potential Savings

\$416,674

Potential Revenue for Silas B. Hays Army Community Hospital

CHAMPUS Demand Only

2860 Annual MCCUs • \$22.86/MCCU = \$65,380

12 Bed Unit Operated at Capacity

5200 Annual MCCUs • \$22.86/MCCU = \$118,872

100 Admission for 42 days each

Total Benefits: \$482,054 (\$535,545)

COSTS

Staffing Costs

At Staffing Guide Level

Clinical Director-GS11	\$40,600
Family Program Director-GS9	33,557
Head Nurse-GS9 plus \$5,000	38,557
Occupational Therapist-GS9	33,557
Counselors 2-GS9	67,114
2-GS7	54,859
Practical Nurses 3-GS4	59,376
Nursing Assistants 2-GS3	35,265
Secretary-GS4	<u>19,792</u>
	\$382,677

Additional Ancillary and Support Cost

\$107,468

Opportunity Cost of Not Providing Treatment for:

Other than drug and alcohol patients **\$930,377**

Total Costs: \$1,420,522

Cost-Effectiveness Ratios

Opportunity Costs Included 2.947 (2.652)

Opportunity Costs Excluded 1.017 (0.915)

Alternative 6. RAPS Projections

Increase nursing staffing sufficiently at SBHACH to permit treatment of current patients plus adolescents 15 years and older.

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

238 Admissions	3735 Bed Days	15.69 ALOS	10.23 ADPL
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Projected Demand from CHAMPUS Beneficiaries for Adolescent Services

11 Admissions	504 Bed Days	45.82 ALOS	1.38 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$195,353

Potential Savings to Beneficiaries

\$43,194

Total Potential Savings

\$238,547

Potential Revenue for Silas B. Hays Army Community Hospital

614 Annual MCCUs @ \$22.86 = \$14,036

Total Benefits: \$250,583

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
2 RNs GS9	\$77,114	1 RN GS9	\$38,557
2 LPNs GS4	<u>39,584</u>	2 LPNs GS4	<u>39,584</u>
	\$116,698		\$78,141

Using Military Staffing

Total Additional		Beyond Current Vacancies	
2 RNs	\$101,003	1 RN	\$44,309
2 LPNs	<u>56,732</u>	2 LPNs	<u>56,732</u>
	\$157,735		\$101,041
High	\$180,326		\$126,632
Low	\$124,778		\$ 90,755

Other Staffing Requirements

Child Psychiatrist 1/2 Time \$65,000

Additional Ancillary and Support Costs

\$49,967

Opportunity Cost of Not Providing Treatment for:

Other than adolescents \$1,030,891

Total Costs: \$1,262,556

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	5.038	4.885
Military Staffing	5.202	4.976

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.925	0.771
Military Staffing	1.088	0.862

Alternative 6. CHAMPUS Historical Data

Increase nursing staffing sufficiently at SBHACH to permit treatment of current patients plus adolescents 15 years and older.

FY 1987 Combined Historical Demand for CHAMPUS and SBHACH

365 Admissions	3676 Bed Days	10.07 ALOS	10.07 ADPL
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Historical Demand from CHAMPUS

15 Admissions	496 Bed Days	33.07 ALOS	1.36 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$205,691

Potential Savings to Beneficiaries

\$48,057

Total Potential Savings

\$253,748

Potential Revenue for Silas B. Hays Army Community Hospital

1413 Annual MCCUs @ \$22.86 = \$32,301

Total Benefits: \$286,049

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
2 RNs GS9	\$77,114	1 RN GS9	\$38,557
2 LPNs GS4	<u>39,584</u>	2 LPNs GS4	<u>39,584</u>
	\$116,698		\$78,141

Using Military Staffing

Total Additional		Beyond Current Vacancies	
2 RNs	\$101,003	1 RN	\$44,309
2 LPNs	<u>56,732</u>	2 LPNs	<u>56,732</u>
	\$157,735		\$101,041
High	\$180,326		\$126,632
Low	\$124,778		\$ 90,755

PHYSICIAN:

Child Psychiatrist 1/2 Time \$65,000

Additional Ancillary and Support Cost

\$49,173

Opportunity Cost of Not Providing Treatment for:

Other than adolescents \$983,396

Total Costs: \$1,214,267

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	4.245	4.110
Military Staffing	4.388	4.190

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.807	0.672
Military Staffing	0.951	0.752

Alternative 7a. RAPS Projections

Utilize existing Department of Defense/Veterans Administration Resource Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 Days to be provided at the VA Medical Center. All remaining care, except children under 15 and involuntary admissions, to be provided at Silas B. Hays Army Community Hospital.

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

380 Admissions	5885 Bed Days	15.49 ALOS	16.12 ADPL
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Projected Demand from CHAMPUS Beneficiaries

153 Admissions	2654 Bed Days	17.35 ALOS	7.27 ADPL
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VA/DOD Sharing Agreement is for 720 Bed Days Annually

SBHACH

112 Admissions	1934 Bed Days
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BENEFITS

Potential Savings to CHAMPUS

\$1,010,567

Potential Savings to Beneficiaries

\$319,864

Total Potential Savings

\$1,330,430

Potential Revenue for Silas B. Hays Army Community Hospital

3054 Annual MCCUs @ \$22.86 = \$69,814

Total Benefits: \$1,400,245

COSTS

720 Bed Days @ \$250/day = \$180,000

Distance Penalty: 1-25.5 mile round trip for every 2 days of hospitalization

\$9,180

Additional Staffing Requirements

Nursing:

A. Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
5 RNs GS9	\$192,786	4 RNs GS9	\$154,229
4 LPNs GS4	79,168	4 LPNs GS4	79,168
1 NAs GS3	<u>17,632</u>		<u>233,397</u>
	\$289,586		

Using Military Staffing

Total Additional		Beyond Current Vacancies	
5 RNs	\$213,358	4 RNs	\$156,664
4 LPNs	56,732	4 LPNs	56,732
1 NAs	<u>23,623</u>		<u>213,396</u>
	\$293,713		
High	\$374,031		\$293,714
Low	\$244,580		\$192,824

B. Requirements identified when all patient days, with the exception of drug and alcohol, are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix. All drug and alcohol patient days have been placed in category I.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
2 LPNs GS4	39,584	2 LPNs GS4	39,584
1 NA GS3	<u>17,632</u>		<u>116,698</u>
	\$172,888		

Using Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$101,003
2 LPNs	56,732	2 LPNs	56,732
1 NA	<u>23,623</u>		<u>157,735</u>
	\$215,381		
High	\$260,643		\$180,326
Low	\$176,534		\$124,778

Other Staffing Requirements

Staffing for D&A	\$107,714
1 Occupational Therapist	33,557
Child Psychiatrist 1/2 time	<u>65,000</u>
	\$206,271

Additional Ancillary and Support Costs

\$191,737

Opportunity Cost of Not Providing Treatment for:

Children under 15	\$230,914
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Total Costs: A. \$1,107,688
B. \$990,990

Cost-Effectiveness Ratios

Part A.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.791	0.751
Military Staffing	0.794	0.737

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.626	0.586
Military Staffing	0.629	0.572

Part B.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.708	0.668
Military Staffing	0.738	0.697

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.543	0.503
Military Staffing	0.573	0.532

Alternative 7a. CHAMPUS Historical Data

Utilize existing Department of Defense/Veterans Administration Resource Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 Days to be provided at the VA Medical Center. All remaining care, except children under 15 and involuntary admissions, to be provided at Silas B. Hays Army Community Hospital.

FY 1987 Combined Historical Demand for CHAMPUS and SBHACH

458 Admissions	5793 Bed Days	12.65 ALOS	15.87 ADPL
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Historical Demand from CHAMPUS Beneficiaries

108 Admissions	2613 Bed Days	24.19 ALOS	7.15 ADPL
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VA/DOD Sharing Agreement is for 720 Bed Days Annually

SBHACH

78 Admissions	1893 Bed Days
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BENEFITS

Potential Savings to CHAMPUS

\$964,130

Potential Savings to Beneficiaries

\$305,160

Total Potential Savings

\$1,269,290

Potential Revenue for Silas B. Hays Army Community Hospital

2673 Annual MCCUs @ \$22.86 = \$61,105

Total Benefits: \$1,330,395

COSTS

720 Bed Days @ \$250/day = \$180,000

Distance Penalty: 1-25.5 mile round trip for every 2 days of hospitalization

\$9,180

Additional Staffing Requirements

Nursing:

A. Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
5 RNs GS9	\$192,786	4 RNs GS9	\$154,229
4 LPNs GS4	79,168	4 LPNs GS4	79,168
1 NAs GS3	<u>17,632</u>		
	\$289,586		\$233,397

Using Military Staffing

Total Additional		Beyond Current Vacancies	
5 RNs	\$213,358	4 RNs	\$156,664
4 LPNs	56,732	4 LPNs	56,732
1 NAs	<u>23,623</u>		
	\$293,713		\$213,396
High	\$374,031		\$293,714
Low	\$244,580		\$192,824

B. Requirements identified when all patient days, with the exception of drug and alcohol, are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix. All drug and alcohol patient days have been placed in category I.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
2 LPNs GS4	39,584	2 LPNs GS4	39,584
1 NA GS3	<u>17,632</u>		
	\$172,888		\$116,698

Using Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$101,003
2 LPNs	56,732	2 LPNs	56,732
1 NA	<u>23,623</u>		<u></u>
	\$215,381		\$157,735
High	\$260,643		\$180,326
Low	\$176,534		\$124,778

Other Staffing Requirements

Staffing for D&A	\$107,714
1 Occupational Therapist	33,557
Child Psychiatrist 1/2 time	<u>65,000</u>
	\$206,271

Additional Ancillary and Support Costs

\$187,672

Opportunity Cost of Not Providing Treatment for:

Children under 15 \$220,175

Total Costs: A. \$1,092,884
B. \$976,186

Cost-Effectiveness Ratios

Part A.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.821	0.779
Military Staffing	0.825	0.764

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.656	0.614
Military Staffing	0.659	0.599

Part B.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.734	0.692
Military Staffing	0.766	0.722

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.568	0.526
Military Staffing	0.600	0.557

Alternative 7b. RAPS Projections

Utilize existing Department of Defense/Veterans Administration Resource Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 Days to be provided at the VA Medical Center. All remaining care, except children under 15, drug and alcohol patients, and involuntary admissions, to be provided at Silas B. Hays Army Community Hospital.

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

338 Admissions	4784 Bed Days	14.15 ALOS	13.1 ADPL
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Projected Demand from CHAMPUS Beneficiaries

111 Admissions	1553 Bed Days	13.99 ALOS	4.25 ADPL
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VA/DOD Sharing Agreement is for 720 Bed Days Annually

SBHACH

59 Admissions	833 Bed Days
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BENEFITS

Potential Savings to CHAMPUS

\$679,139

Potential Savings to Beneficiaries

\$214,546

Total Potential Savings

\$893,685

Potential Revenue for Silas B. Hays Army Community Hospital

1423 Annual MCCUs @ \$22.86 = \$32,529.78

Total Benefits: \$926,215

COSTS

720 Bed Days • \$250/day = \$180,000

Distance Penalty: 1-25.5 mile round trip for every 2 days of hospitalization
\$9,180

Additional Staffing Requirements

Nursing:

Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
2 LPNs GS4	39,584	2 LPNs GS4	39,584
1 NA GS3	<u>17,632</u>		<u></u>
	\$172,888		\$116,698

Using Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$101,003
2 LPNs	56,732	2 LPNs	56,732
1 NA	<u>23,623</u>		<u></u>
	\$215,381		\$157,735
High	\$260,643		\$180,326
Low	\$176,534		\$124,778

Other Staffing Requirements

1 Occupational Therapist	33,557
Child Psychiatrist 1/2 time	<u>65,000</u>

Additional Ancillary and Support Costs

\$82,584

Opportunity Cost of Not Providing Treatment for:

Children under 15	\$230,914
Drug and alcohol patients	<u>331,428</u>
	\$562,342

Total Costs: \$1,071,994

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.157	1.097
Military Staffing	1.203	1.141

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.550	0.490
Military Staffing	0.596	0.534

Alternative 7b. CHAMPUS Historical Data

Utilize existing Department of Defense/Veterans Administration Resource Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 Days to be provided at the VA Medical Center. All remaining care, except children under 15, drug and alcohol patients, and involuntary admissions, to be provided at Silas B. Hays Army Community Hospital.

Historical Demand Combined CHAMPUS and SBHACH

403 Admissions	4709 Bed Days	11.68 ALOS	12.90 ADPL
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Historical Demand from CHAMPUS Beneficiaries

53 Admissions	1529 Bed Days	28.25 ALOS	4.19 ADPL
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VA/DOD Sharing Agreement is for 720 Bed Days Annually

SBHACH

27 Admissions	809 Bed Days
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BENEFITS

Potential Savings to CHAMPUS

\$647,935

Potential Savings to Beneficiaries

\$204,681

Total Potential Savings

\$852,616

Potential Revenue for Silas B. Hays Army Community Hospital

1079 Annual MCCUs @ \$22.86 = \$24,665.94

Total Benefits: **\$877,282**

COSTS

720 Bed Days • \$250/day = \$180,000

**Distance Penalty: 1-25.5 mile round trip for every 2 days of hospitalization
\$9,180**

Additional Staffing Requirements

Nursing:

Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
2 LPNs GS4	39,584	2 LPNs GS4	39,584
1 NA GS3	<u>17,632</u>		<u> </u>
	\$172,888		\$116,698

Using Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$101,003
2 LPNs	56,732	2 LPNs	56,732
1 NA	<u>23,623</u>		<u> </u>
	\$215,381		\$157,735
High	\$260,643		\$180,326
Low	\$176,534		\$124,778

Other Staffing Requirements

1 Occupational Therapist	33,557
Child Psychiatrist 1/2 time	<u>65,000</u>

Additional Ancillary and Support Costs

\$80,204

Opportunity Cost of Not Providing Treatment for:

Children under 15	\$220,175
Drug and alcohol patients	<u>316,195</u>
	\$536,370

Total Costs: \$1,043,642

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.190	1.126
Military Staffing	1.238	1.172

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.578	0.514
Military Staffing	0.627	0.561

Alternative 7c. RAPS Projections

Utilize existing Department of Defense/Veterans Administration Resource Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 Days to be provided at the VA Medical Center. All remaining care, except adolescents and involuntary admissions, to be provided at Silas B. Hays Army Community Hospital.

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

369 Admissions	5381 Bed Days	14.58 ALOS	14.74 ADPL
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Projected Demand from CHAMPUS Beneficiaries

142 Admissions	2150 Bed Days	15.14 ALOS	5.89ADPL
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VA/DOD Sharing Agreement is for 720 Bed Days Annually

SBHACH

94 Admissions	1430 Bed Days
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BENEFITS

Potential Savings to CHAMPUS

\$794,889

Potential Savings to Beneficiaries

\$269,471

Total Potential Savings

\$1,064,360

Potential Revenue for Silas B. Hays Army Community Hospital

2370 Annual MCCUs • \$22.86 = \$54,178

Total Benefits: \$1,118,538

COSTS

720 Bed Days • \$250/day = \$180,000

Distance Penalty: 1-25.5 mile round trip for every 2 days of hospitalization
\$9,180

Additional Staffing Requirements

Nursing:

A. Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
4 RNs GS9	\$154,229	3 RNs GS9	\$115,672
3 LPNs GS4	59,376	3 LPNs GS4	59,376
1 NA GS3	<u>17,632</u>		
	\$231,237		\$175,048

Using Military Staffing

Total Additional		Beyond Current Vacancies	
4 RNs	\$179,335	3 RNs	\$135,026
3 LPNs	85,098	3 LPNs	85,098
1 NA	<u>23,623</u>		
	\$288,056		\$220,124
High	\$350,806		\$270,489
Low	\$238,923		\$187,167

B. Requirements identified when all patient days, with the exception of drug and alcohol, are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix. All drug and alcohol patient days have been placed in category I.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
2 LPNs GS4	<u>39,584</u>	2 LPNs GS4	<u>39,584</u>
	\$153,790.70		\$116,698

Using Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$78,332
2 LPNs	<u>56,732</u>	2 LPNs	<u>56,732</u>
	\$ 91,758		\$135,064
High	\$237,020		\$180,326
Low	\$158,801		\$124,778

Other Staffing Requirements

Staffing for Drug and Alcohol	\$107,714
1 Occupational Therapist	<u>33,557</u>
	\$141,271

Additional Ancillary and Support Costs

\$141,770

Opportunity Cost of Not Providing Treatment for:

Adolescents	\$446,591
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Total Costs: A. \$1,150,049
B. \$1,074,068

Cost-Effectiveness Ratios

Part A.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.028	0.978
Military Staffing	1.079	1.018

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.629	0.579
Military Staffing	0.680	0.619

Part B.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.960	0.926
Military Staffing	0.993	0.942

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.561	0.527
Military Staffing	0.594	0.543

Alternative 7c. CHAMPUS Historical Data

Utilize existing Department of Defense/Veterans Administration Resource Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 Days to be provided at the VA Medical Center. All remaining care, except adolescents and involuntary admissions, to be provided at Silas B. Hays Army Community Hospital.

FY 1987 Combined Historical Demand for CHAMPUS and SBHACH

443 Admissions	5297 Bed Days	11.95 ALOS	14.51 ADPL
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Historical Demand from CHAMPUS Beneficiaries

93 Admissions	2117 Bed Days	22.76 ALOS	5.8 ADPL
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VA/DOD Sharing Agreement is for 720 Bed Days Annually

SBHACH

61 Admissions	1397 Bed Days
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BENEFITS

Potential Savings to CHAMPUS

\$758,439

Potential Savings to Beneficiaries

\$257,103

Total Potential Savings

\$1,015,542

Potential Revenue for Silas B. Hays Army Community Hospital

2007 Annual MCCUs @ \$22.86 = \$45,880

Total Benefits: \$1,061,422

COSTS

720 Bed Days @ \$250/day = \$180,000

**Distance Penalty: 1-25.5 mile round trip for every 2 days of hospitalization
\$9,180**

Additional Staffing Requirements

Nursing:

A. Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
4 RNs GS9	\$154,229	3 RNs GS9	\$115,672
3 LPNs GS4	59,376	3 LPNs GS4	59,376
1 NA GS3	<u>17,632</u>		
	\$231,237		\$175,048

Using Military Staffing

Total Additional		Beyond Current Vacancies	
4 RNs	\$179,335	3 RNs	\$135,026
3 LPNs	85,098	3 LPNs	85,098
1 NA	<u>23,623</u>		
	\$288,056		\$220,124
High	\$350,806		\$270,489
Low	\$238,923		\$187,167

B. Requirements identified when all patient days, with the exception of drug and alcohol, are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix. All drug and alcohol patient days have been placed in category I.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
2 RNs GS9	\$76,413.36	1 RN GS9	\$38,206.68
2 LPNs GS4	<u>39,170.66</u>	2 LPNs GS4	<u>39,170.66</u>
	\$115,584.02		\$77,377.34

Using Military Staffing

Total Additional		Beyond Current Vacancies	
2 RNs	\$101,003	1 RN	\$44,309
2 LPNs	<u>56,732</u>	2 LPNs	<u>56,732</u>
	\$157,735		\$101,041
High	\$180,326		\$126,632
Low	\$124,778		\$ 90,755

Other Staffing Requirements

Staffing for Drug and Alcohol	\$107,714
1 Occupational Therapist	<u>33,557</u>
	\$141,271

Additional Ancillary and Support Costs

\$138,499

Opportunity Cost of Not Providing Treatment for:

Adolescents	\$425,866
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Total Costs: A. \$1,126,053
B. \$1,011,514

Cost-Effectiveness Ratios

Part A.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.061	1.008
Military Staffing	1.114	1.050

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.660	0.607
Military Staffing	0.713	0.649

Part B.

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.953	0.917
Military Staffing	0.992	0.938

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.552	0.515
Military Staffing	0.590	0.537

Alternative 7d. RAPS Projections

Utilize existing Department of Defense/Veterans Administration Resource Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 Days to be provided at the VA Medical Center. All remaining care, except adolescents, drug and alcohol patients, and involuntary admissions, to be provided at Silas B. Hays Army Community Hospital.

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

327 Admissions	4280 Bed Days	13.09 ALOS	11.73 ADPL
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Projected Demand from CHAMPUS Beneficiaries

100 Admissions	1049 Bed Days	10.49 ALOS	2.87 ADPL
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VA/DOD Sharing Agreement is for 720 Bed Days Annually

SBHACH

31 Admissions	329 Bed Days
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BENEFITS

Potential Savings to CHAMPUS

\$463,461

Potential Savings to Beneficiaries

\$164,154

Total Potential Savings

\$624,615

Potential Revenue for Silas B. Hays Army Community Hospital

639 Annual MCCUs @ \$22.86 = \$14,608

Total Benefits: \$642,223

COSTS

720 Bed Days @ \$250/day = \$180,000

Distance Penalty: 1-25.5 mile round trip for every 2 days of hospitalization
\$9,180

Additional Staffing Requirements

Nursing:

Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
2 RNs GS9	\$77,114	1 RN GS9	\$38,557
2 LPNs GS4	<u>39,584</u>	2 LPNs GS4	<u>39,584</u>
	\$116,698		\$78,141

Using Military Staffing

Total Additional		Beyond Current Vacancies	
2 RNs	\$101,003	1 RN	\$44,309
2 LPNs	<u>56,732</u>	2 LPNs	<u>56,732</u>
	\$157,735		\$101,041
High	\$180,326		\$126,632
Low	\$124,778		\$ 90,755

Other Staffing Requirements

Staffing for Drug and Alcohol	\$107,714
1 Occupational Therapist	<u>33,557</u>
	\$141,271

Additional Ancillary and Support Costs

\$32,617

Opportunity Cost of Not Providing Treatment for:

Adolescents	\$446,591
Drug and alcohol patients	<u>331,428</u>
	\$778,019

Total Costs: \$1,257,785

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.958	1.898
Military Staffing	2.022	1.934

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.747	0.687
Military Staffing	0.811	0.723

Alternative 7d. CHAMPUS Historical Data

Utilize existing Department of Defense/Veterans Administration Resource Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 Days to be provided at the VA Medical Center. All remaining care, except adolescents, drug and alcohol patients, and involuntary admissions, to be provided at Silas B. Hays Army Community Hospital.

FY 1987 Combined Historical Demand for CHAMPUS and SBHACH

388 Admissions	4213 Bed Days	10.86 ALOS	11.54 ADPL
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Historical Demand from CHAMPUS Beneficiaries

38 Admissions	1033 Bed Days	27.18 ALOS	2.83 ADPL
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VA/DOD Sharing Agreement is for 720 Bed Days Annually

SBHACH

12 Admissions	313 Bed Days
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BENEFITS

Potential Savings to CHAMPUS

\$442,244

Potential Savings to Beneficiaries

\$156,624

Total Potential Savings

\$598,868

Potential Revenue for Silas B. Hays Army Community Hospital

433 Annual MCCUs @ \$22.86 = \$9,898

Total Benefits: \$608,766

COSTS

720 Bed Days • \$250/day = \$180,000

Distance Penalty: 1-25.5 mile round trip for every 2 days of hospitalization
\$9,180

Additional Staffing Requirements

Nursing:

Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
2 RNs GS9	\$77,114	1 RN GS9	\$38,557
2 LPNs GS4	<u>39,584</u>	2 LPNs GS4	<u>39,584</u>
	\$116,698		\$78,141

Using Military Staffing

Total Additional		Beyond Current Vacancies	
2 RNs	\$101,003	1 RN	\$44,309
2 LPNs	<u>56,732</u>	2 LPNs	<u>56,732</u>
	\$157,735		\$101,041
High	\$180,326		\$126,632
Low	\$124,778		\$ 90,755

Other Staffing Requirements

Staffing for Drug and Alcohol	\$107,714
1 Occupational Therapist	<u>33,557</u>
	\$141,271

Additional Ancillary and Support Costs

\$31,031

Opportunity Cost of Not Providing Treatment for:

Adolescents	\$425,866
Drug and alcohol patients	<u>316,195</u>
	\$742,061

Total Costs: \$1,220,241

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	2.004	1.941
Military Staffing	2.072	1.979

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.785	0.722
Military Staffing	0.853	0.760

Alternative 8a. RAPS Projections

Utilize existing Department of Defense/Veterans Administration Resource Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 Days to be provided at the VA Medical Center. All remaining care, except children under 15, drug and alcohol patients, and involuntary admissions, to be provided at Silas B. Hays Army Community Hospital. Drug and Alcohol Care to be provided by contract with local facility.

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

338 Admissions	4784 Bed Days	14.15 ALOS	13.1 ADPL
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Projected Demand from CHAMPUS Beneficiaries

111 Admissions	1553 Bed Days	13.99 ALOS	4.25 ADPL
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VA/DOD Sharing Agreement is for 720 Bed Days Annually

SBHACH

59 Admissions	833 Bed Days
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Drug and Alcohol Contract

42 Admissions	1101 Bed Days	26.21 ALOS	3.02 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$679,139

Potential Savings to Beneficiaries

\$214,546

Total Potential Savings

\$893,685

Potential Revenue for Silas B. Hays Army Community Hospital

1423 Annual MCCUs • \$22.86 = \$32,529.78

Total Benefits: \$926,215

COSTS

720 Bed Days @ \$250/day = \$180,000

Distance Penalty: 1-25.5 mile round trip for every 2 days of hospitalization
\$9,180

Additional Staffing Requirements

Nursing:

Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
2 LPNs GS4	39,584	2 LPNs GS4	39,584
1 NA GS3	<u>17,632</u>		
	\$172,888		\$116,698

Using Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$101,003
2 LPNs	56,732	2 LPNs	56,732
1 NA	<u>23,623</u>		
	\$215,381		\$157,735
High	\$260,643		\$180,326
Low	\$176,534		\$124,778

Other Staffing Requirements

1 Occupational Therapist	\$33,557
Child Psychiatrist 1/2 time	<u>65,000</u>
	\$98,557

Additional Ancillary and Support Costs

\$82,584

Contract Cost

Current Rate \$11,000	42¢	\$11,000	\$462,000
10% Discount	42¢	9,900	415,800
15% Discount	42¢	9,350	392,700
20% Discount	42¢	8,800	369,600
25% Discount	42¢	8,250	346,500
30% Discount	42¢	7,700	323,400

Opportunity Cost of Not Providing Treatment for:

Children under 15 years old	\$230,914
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Total Costs: \$1,110,166 (at 20%)

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.199	1.138
Military Staffing	1.244	1.182

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.949	0.889
Military Staffing	0.995	0.933

Alternative 8a. CHAMPUS Historical Data

Utilize existing Department of Defense/Veterans Administration Resource Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 Days to be provided at the VA Medical Center. All remaining care, except children under 15, drug and alcohol patients, and involuntary admissions, to be provided at Silas B. Hays Army Community Hospital. Drug and Alcohol care to be provided by contract with local facility.

Historical Demand Combined CHAMPUS and SBHACH

403 Admissions	4709 Bed Days	11.68 ALOS	12.90 ADPL
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Historical Demand from CHAMPUS Beneficiaries

53 Admissions	1529 Bed Days	28.25 ALOS	4.19 ADPL
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VA/DOD Sharing Agreement is for 720 Bed Days Annually

SBHACH

27 Admissions	809 Bed Days
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Drug and Alcohol Contract

55 Admissions	1084 Bed Days	19.71 ALOS	2.97 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$647,935

Potential Savings to Beneficiaries

\$204,681

Total Potential Savings

\$852,616

Potential Revenue for Silas B. Hays Army Community Hospital

1079 Annual MCCUs • \$22.86 = \$24,665.94

Total Benefits: \$877,282

COSTS

720 Bed Days @ \$250/day = \$180,000

Distance Penalty: 1-25.5 mile round trip for every 2 days of hospitalization
\$9,180

Additional Staffing Requirements

Nursing:

Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
2 LPNs GS4	39,584	2 LPNs GS4	39,584
1 NA GS3	<u>17,632</u>		
	\$172,888		\$116,698

Using Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$101,003
2 LPNs	56,732	2 LPNs	56,732
1 NA	<u>23,623</u>		
	\$215,381		\$157,735
High	\$260,643		\$180,326
Low	\$176,534		\$124,778

Other Staffing Requirements

1 Occupational Therapist	\$33,557
Child Psychiatrist 1/2 time	<u>65,000</u>
	\$98,557

Additional Ancillary and Support Costs

\$80,204

Contract Cost

Current Rate \$11,000	55¢ \$11,000	\$606,000
10% Discount	55¢ 9,900	544,500
15% Discount	55¢ 9,350	514,250
20% Discount	55¢ 8,800	484,000
25% Discount	55¢ 8,250	453,750
30% Discount	55¢ 7,700	423,500

Opportunity Cost of Not Providing Treatment for:

Children under 15 years old	\$220,175
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Total Costs: \$1,211,447 (at 20%)

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.381	1.317
Military Staffing	1.429	1.364

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	1.130	1.066
Military Staffing	1.178	1.113

Alternative 8b. RAPS Projections

Utilize existing Department of Defense/Veterans Administration Resource Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 Days to be provided at the VA Medical Center. All remaining care, except adolescents, drug and alcohol patients, and involuntary admissions, to be provided at Silas B. Hays Army Community Hospital. Drug and Alcohol Care to be provided by contract with local facility.

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

327 Admissions	4280 Bed Days	13.09 ALOS	11.73 ADPL
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Projected Demand from CHAMPUS Beneficiaries

100 Admissions	1049 Bed Days	10.49 ALOS	2.87 ADPL
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VA/DOD Sharing Agreement is for 720 Bed Days Annually

SBHACH

31 Admissions	329 Bed Days
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Drug and Alcohol Contract

42 Admissions	1101 Bed Days	26.21 ALOS	3.02 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$463,461

Potential Savings to Beneficiaries

\$164,154

Total Potential Savings

\$624,615

Potential Revenue for Silas B. Hays Army Community Hospital

639 Annual MCCUs @ \$22.86 = \$14,608

Total Benefits: \$642,223

COSTS

720 Bed Days @ \$250/day = \$180,000

**Distance Penalty: 1-25.5 mile round trip for every 2 days of hospitalization
\$9,180**

Additional Staffing Requirements

Nursing:

Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
2 RNs GS9	\$77,114	1 RN GS9	\$38,557
2 LPNs GS4	<u>39,584</u>	2 LPNs GS4	<u>39,584</u>
	\$116,698		\$78,141

Using Military Staffing

Total Additional		Beyond Current Vacancies	
2 RNs	\$101,003	1 RN	\$44,309
2 LPNs	<u>56,732</u>	2 LPNs	<u>56,732</u>
	\$157,735		\$101,041
High	\$180,326		\$126,632
Low	\$124,778		\$ 90,755

Other Staffing Requirements

1 Occupational Therapist \$33,557

Additional Ancillary and Support Costs

\$32,617

Contract Cost

Current Rate \$11,000	42¢ \$11,000	\$462,000
10% Discount	42¢ 9,900	415,800
15% Discount	42¢ 9,350	392,700
20% Discount	42¢ 8,800	369,600
25% Discount	42¢ 8,250	346,500
30% Discount	42¢ 7,700	323,400

Opportunity Cost of Not Providing Treatment for:

Adolescents **\$446,591**

Total Costs: \$1,154,686 (at 20%)

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.798	1.738
Military Staffing	1.862	1.774

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	1.103	1.043
Military Staffing	1.166	1.078

Alternative 8b CHAMPUS Historical Data

Utilize existing Department of Defense/Veterans Administration Resource Sharing Agreement to supplement the capability of Silas B. Hays Army Community Hospital for treatment of individuals requiring psychiatric inpatient care. 720 Days to be provided at the VA Medical Center. All remaining care, except adolescents, drug and alcohol patients, and involuntary admissions, to be provided at Silas B. Hays Army Community Hospital. Drug and Alcohol Care to be provided by contract with local facility.

FY 1987 Combined Historical Demand for CHAMPUS and SBHACH

388 Admissions	4213 Bed Days	10.86 ALOS	11.54 ADPL
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Historical Demand from CHAMPUS Beneficiaries

38 Admissions	1033 Bed Days	27.18 ALOS	2.83 ADPL
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VA/DOD Sharing Agreement is for 720 Bed Days Annually

SBHACH

12 Admissions	313 Bed Days
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Drug and Alcohol Contract

55 Admissions	1084 Bed Days	19.71 ALOS	2.97 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$442,244

Potential Savings to Beneficiaries

\$156,624

Total Potential Savings

\$598,868

Potential Revenue for Silas B. Hays Army Community Hospital

433 Annual MCCUs @ \$22.86 = \$9,898

Total Benefits: \$608,766

COSTS

720 Bed Days • \$250/day = \$180,000

Distance Penalty: 1-25.5 mile round trip for every 2 days of hospitalization
\$9,180

Additional Staffing Requirements

Nursing:

Requirements identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
2 RNs GS9	\$77,114	1 RN GS9	\$38,577
2 LPNs GS4	<u>39,584</u>	2 LPNs GS4	<u>39,584</u>
	\$116,698		\$78,141

Using Military Staffing

Total Additional		Beyond Current Vacancies	
2 RNs	\$101,003	1 RN	\$44,309
2 LPNs	<u>56,732</u>	2 LPNs	<u>56,732</u>
	\$157,735		\$101,041
High	\$180,326		\$126,632
Low	\$124,778		\$ 90,755

Other Staffing Requirements

1 Occupational Therapist	33,557
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Additional Ancillary and Support Costs

\$31,031

Contract Cost

Current Rate \$11,000	55¢ \$11,000	\$606,000
10% Discount	55¢ 9,900	544,500
15% Discount	55¢ 9,350	514,250
20% Discount	55¢ 8,800	484,000
25% Discount	55¢ 8,250	453,750
30% Discount	55¢ 7,700	423,500

Opportunity Cost of Not Providing Treatment for:

Adolescents \$425,866

Total Costs: \$1,246,775 (at 20%)

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	2.048	1.985
Military Staffing	2.115	2.022

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	1.348	1.285
Military Staffing	1.416	1.323

Alternative 9a. RAPS Projections

Increase nursing staffing sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care on Ward 7 West with the exception of children under age 15, drug and alcohol patients, and individuals requiring involuntary hospitalization, "72 hour hold." Drug and Alcohol Care to be provided by contract with local facility.

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

338 Admissions	4784 Bed Days	14.15 ALOS	13.1 ADPL
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Historical Demand from CHAMPUS Beneficiaries

111 Admissions	1553 Bed Days	13.99 ALOS	4.25 ADPL
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Drug and Alcohol Contract

42 Admissions	1101 Bed Days	26.21 ALOS	3.02 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$679,139

Potential Savings to Beneficiaries

\$214,546

Total Potential Savings

\$893,685

Potential Revenue for Silas B. Hays Army Community Hospital

2663 Annual MCCUs @ \$22.86 = \$60,876

Total Benefits: \$954,561

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
4 RNs GS9	\$154,229	3 RNs GS9	\$115,672
4 LPNs GS4	79,168	4 LPNs GS4	79,168
1 NAs GS3	<u>17,632</u>		<u></u>
	\$251,029		\$194,480

Using Military Staffing

Total Additional		Beyond Current Vacancies	
4 RNs	\$189,621	3 RNs	\$132,927
4 LPNs	113,464	4 LPNs	113,464
1 NAs	<u>23,623</u>		<u></u>
	\$326,708		\$246,391
High	\$384,725		\$303,958
Low	\$267,289		\$215,533.00

Other Staffing Requirements

Child Psychiatrist 1/2 Time	\$65,000
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Additional Ancillary and Support Costs

\$153,964

Contract Cost

Current Rate \$11,000	42●\$11,000	\$462,000
10% Discount	42● 9,900	415,800
15% Discount	42● 9,350	392,700
20% Discount	42● 8,800	369,600
25% Discount	42● 8,250	346,500
30% Discount	42● 7,700	323,400

Opportunity Cost of Not Providing Treatment for:

Children under 15 years old	\$230,914
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Total Costs: \$1,070,507 (at 20%)

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.121	1.063
Military Staffing	1.201	1.117

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.880	0.821
Military Staffing	0.959	0.875

Alternative 9a. CHAMPUS Historical Data

Increase nursing staffing sufficiently at SBHACH to permit treatment of all patients except children under age 15, drug and alcohol, and 72 hour hold patients. Drug and Alcohol Care to be provided by contract with local facility.

Historical Demand Combined CHAMPUS and SBHACH

403 Admissions	4709 Bed Days	11.68 ALOS	12.90 ADPL
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Historical Demand from CHAMPUS Beneficiaries

53 Admissions	1529 Bed Days	28.25 ALOS	4.19 ADPL
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Drug and Alcohol Contract

55 Admissions	1084 Bed Days	19.71 ALOS	2.97 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$647,935

Potential Savings to Beneficiaries

\$204,681

Total Potential Savings

\$852,616

Potential Revenue for Silas B. Hays Army Community Hospital

2059 Annual MCCUs • \$22.86 = \$47,069

Total Benefits: \$899,685

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

All patients distributed to acuity categories IAW Silas B. Hays patient mix

Total Additional		Beyond Current Vacancies	
4 RNs GS9	\$154,229	3 RNs GS9	\$115,672
3 LPNs GS4	59,376	3 LPNs GS4	59,376
1 NA GS3	<u>17,632</u>		<u></u>
	\$231,237		\$175,048

Using Military Staffing

Total Additional		Beyond Current Vacancies	
4 RNs	\$179,335	3 RNs	\$135,026
3 LPNs	85,098	3 LPNs	85,098
1 NA	<u>23,623</u>		<u></u>
	\$288,056		\$220,124
High	\$350,806		\$270,489
Low	\$238,923		\$187,167

Additional Ancillary and Support Costs

\$151,585

Contract Cost

Current Rate	\$11,000	55¢	\$11,000	\$606,000
10% Discount		55¢	9,900	544,500
15% Discount		55¢	9,350	514,250
20% Discount		55¢	8,800	484,000
25% Discount		55¢	8,250	453,750
30% Discount		55¢	7,700	423,500

Opportunity Cost of Not Providing Treatment for:

Adolescents	\$425,866
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Total Costs: \$1,151,997 (at 20%)

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.280	1.218
Military Staffing	1.344	1.268

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	1.036	0.973
Military Staffing	1.099	1.023

Alternative 9b. RAPS Projections

Increase nursing staffing sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care on Ward 7 West with the exception of adolescents, drug and alcohol patients, and individuals requiring involuntary hospitalization, "72 hour hold." Drug and alcohol care to be provided by contract with a local facility.

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

327 Admissions	4280 Bed Days	13.09 ALOS	11.73 ADPL
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Projected Demand from CHAMPUS Beneficiaries

100 Admissions	1049 Bed Days	10.49 ALOS	2.87 ADPL
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Drug and Alcohol Contract

42 Admissions	1101 Bed Days	26.21 ALOS	3.02 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$463,461

Potential Savings to Beneficiaries

\$164,154

Total Potential Savings

\$624,615

Potential Revenue for Silas B. Hays Army Community Hospital

2049 Annual MCCUs @ \$22.86 = \$46,840

Total Benefits: \$674,455

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Civilian Staffing

3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
3 LPNs GS4	59,376	3 LPNs GS4	59,376
1 NA GS3	<u>17,632</u>		
	\$192,680		<u>\$136,490</u>

Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$88,618
3 LPNs	85,098	3 LPNs	85,098
1 NA	<u>23,623</u>		
	\$243,747		<u>\$173,716</u>
High	\$294,112		\$213,795
Low	\$204,900		\$153,144

Additional Ancillary and Support Costs

\$103,998

Contract Cost

Current Rate	\$11,000	42●	\$11,000	\$462,000
10% Discount		42●	9,900	415,800
15% Discount		42●	9,350	392,700
20% Discount		42●	8,800	369,600
25% Discount		42●	8,250	346,500
30% Discount		42●	7,700	323,400

Opportunity Cost of Not Providing Treatment for:

Adolescents	\$446,591
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Total Costs: \$1,112,869 (at 20%)

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.650	1.567
Military Staffing	1.726	1.622

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.988	0.905
Military Staffing	1.064	0.960

Alternative 9b. CHAMPUS Historical Data

Increase nursing staffing sufficiently at SBHACH to permit treatment of all patients except adolescents, drug and alcohol, and 72 hour hold patients. Drug and Alcohol Care to be provided by contract with local facility.

FY 1987 Combined Historical Demand for CHAMPUS and SBHACH

388 Admissions	4213 Bed Days	10.86 ALOS	11.54 ADPL
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Historical Demand from CHAMPUS Beneficiaries

38 Admissions	1033 Bed Days	27.18 ALOS	2.83 ADPL
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Drug and Alcohol Contract

55 Admissions	1084 Bed Days	19.71 ALOS	2.97 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$442,244

Potential Savings to Beneficiaries

\$156,624

Total Potential Savings

\$598,868

Potential Revenue for Silas B. Hays Army Community Hospital

1413 Annual MCCUs @ \$22.86 = \$32,301

Total Benefits: \$631,169

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
2 LPNs GS4	39,584	2 LPNs GS4	39,584
1 NA GS3	<u>17,632</u>		<u></u>
	\$172,888		\$116,698

Using Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$101,003
2 LPNs	56,732	2 LPNs	56,732
1 NA	<u>23,623</u>		<u></u>
	\$215,381		\$157,735
High	\$260,643		\$180,326
Low	\$176,534		\$124,778

Additional Ancillary and Support Costs

\$102,412

Contract Cost

Current Rate	\$11,000	55¢	\$11,000	\$606,000
10% Discount		55¢	9,900	544,500
15% Discount		55¢	9,350	514,250
20% Discount		55¢	8,800	484,000
25% Discount		55¢	8,250	453,750
30% Discount		55¢	7,700	423,500

Opportunity Cost of Not Providing Treatment for:

Adolescents	\$425,866
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Total Costs: \$1,185,166 (at 20%)

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	1.878	1.789
Military Staffing	1.945	1.854

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	1.203	1.114
Military Staffing	1.270	1.179

Alternative 9c. RAPS Projections

Drug and alcohol rehabilitation services to be provided by a contract with a local facility

Projected Demand from CHAMPUS Beneficiaries

Drug and Alcohol Contract

42 Admissions	1101 Bed Days	26.21 ALOS	3.02 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$316,195

Potential Savings to Beneficiaries

\$100,479

Total Potential Savings

\$416,674

Total Benefits: \$436,745

COSTS

Contract Cost

Current Rate \$11,000	42 @ \$11,000	\$462,000
10% Discount	42 @ 9,900	415,800
15% Discount	42 @ 9,350	392,700
20% Discount	42 @ 8,800	369,600
25% Discount	42 @ 8,250	346,500
30% Discount	42 @ 7,700	323,400

Opportunity Cost of Not Providing Treatment for:

Other than drug and alcohol	\$887,376
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Total Costs: \$1,256,976 (at 20%)

Cost-Effectiveness Ratios

Opportunity Costs Included	2.878
Opportunity Costs Excluded	0.846

Alternative 9c. CHAMPUS Historical Data

Drug and Alcohol Care to be provided by contract with local facility.

FY 1987 Historical Demand from CHAMPUS Beneficiaries

Drug and Alcohol

55 Admissions	1084 Bed Days	19.71 ALOS	2.97 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$316,195

Potential Savings to Beneficiaries

\$100,479

Total Potential Savings

\$416,674

Total Benefits: \$416,674

COSTS

Contract Cost

Current Rate \$11,000	55 @ \$11,000	\$606,000
10% Discount	55 @ 9,900	544,500
15% Discount	55 @ 9,350	514,250
20% Discount	55 @ 8,800	484,000
25% Discount	55 @ 8,250	453,750
30% Discount	55 @ 7,700	423,500

Opportunity Cost of Not Providing Treatment for:

Other than drug and alcohol	\$930,377
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Total Costs: \$1,414,377 (at 20%)

Cost-Effectiveness Ratios

Opportunity Costs Included	3.394
Opportunity Costs Excluded	1.162

Alternative 10a. RAPS Projections

Increase nursing staffing sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care on Ward 7 West with the exception of children under age 15 and individuals requiring involuntary hospitalization, "72 hour hold." Treatment for drug and alcohol patients to be provided in a Day Treatment Center co-located with the ward..

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

338 Admissions	4784 Bed Days	14.15 ALOS	13.1 ADPL
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Projected Demand from CHAMPUS Beneficiaries

111 Admissions	1553 Bed Days	13.99 ALOS	4.25 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$1,010,566.60

Potential Savings to Beneficiaries

\$319,863.64

Total Potential Savings

\$1,330,430.24

Potential Revenue for Silas B. Hays Army Community Hospital

2663 Annual MCCUs @ \$22.86 = \$60,876

Total Benefits: \$1,391,307

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
4 RNs GS9	\$154,229	3 RNs GS9	\$115,672
4 LPNs GS4	79,168	4 LPNs GS4	79,168
1 NAs GS3	<u>17,632</u>		<u></u>
	\$251,029		\$194,840

Using Military Staffing

Total Additional		Beyond Current Vacancies	
4 RNs	\$189,621	3 RNs	\$132,927
4 LPNs	113,464	4 LPNs	113,464
1 NAs	<u>23,623</u>		<u></u>
	\$326,708		\$246,391
High	\$384,725		\$303,958
Low	\$267,289		\$215,533

Other Staffing Requirements

Day Treatment Staff	\$196,133
Clinical Director	\$ 40,600
4 Counselors	\$121,976
Occupational Therapist	\$ 33,557

Child Psychiatrist 1/2 Time \$65,000

Additional Cost of Ancillary Support, Nutrition Care Support, Laundry Service, etc., for 1553 Bed Days--\$153,964

Opportunity Cost of Not Providing Treatment for:

Children under 15 \$230,914

Total Costs: \$1,006,653

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.724	0.683
Military Staffing	0.778	0.720

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.558	0.517
Military Staffing	0.612	0.554

Alternative 10a. CHAMPUS Historical Data

Increase nursing staffing sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care on Ward 7 West with the exception of children under age 15 and individuals requiring involuntary hospitalization, "72 hour hold." Treatment for drug and alcohol patients to be provided in a Day Treatment Center co-located with the ward..

FY 1987 Combined Historical Demand for CHAMPUS and SBHACH

458 Admissions	5793 Bed Days	12.65 ALOS	15.87 ADPL
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Historical Demand from CHAMPUS Beneficiaries

108 Admissions	2613 Bed Days	24.19 ALOS	7.15 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$964,130

Potential Savings to Beneficiaries

\$305,160

Total Potential Savings

\$1,269,290

Potential Revenue for Silas B. Hays Army Community Hospital

2663 Annual MCCUs @ \$22.86 - \$60,876

Total Benefits: \$1,330,166

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Using Civilian Staffing

Total Additional		Beyond Current Vacancies	
4 RNs GS9	\$154,229	3 RNs GS9	\$115,672
4 LPNs GS4	79,168	4 LPNs GS4	79,168
1 NAs GS3	<u>17,632</u>		<u></u>
	\$251,029		\$194,840

Using Military Staffing

Total Additional		Beyond Current Vacancies	
4 RNs	\$189,621	3 RNs	\$132,927
4 LPNs	113,464	4 LPNs	113,464
1 NAs	<u>23,623</u>		<u></u>
	\$326,708		\$246,391
High	\$384,725		\$303,958
Low	\$267,289		\$215,533

Other Staffing Requirements

Day Treatment Staff	\$196,133
Clinical Director	\$ 40,600
4 Counselors	\$121,976
Occupational Therapist	\$ 33,557

Child Psychiatrist 1/2 Time \$65,000

Additional Cost of Ancillary Support, Nutrition Care Support, Laundry Service, etc., for 1553 Bed Days--\$153,964

Opportunity Cost of Not Providing Treatment for:

Children under 15 \$220,175

Total Costs: \$1,060,581

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.797	0.755
Military Staffing	0.854	0.794

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.632	0.590
Military Staffing	0.689	0.628

Alternative 10b. RAPS Projections

Increase nursing staffing sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care on Ward 7 West with the exception of adolescents and individuals requiring involuntary hospitalization, "72 hour hold." Treatment for drug and alcohol patients to be provided in a Day Treatment Center.

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

327 Admissions	4280 Bed Days	13.09 ALOS	11.73 ADPL
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Projected Demand from CHAMPUS Beneficiaries

100 Admissions	1049 Bed Days	10.49 ALOS	2.87 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$794,889

Potential Savings to Beneficiaries

\$269,471

Total Potential Savings

\$1,064,360

Potential Revenue for Silas B. Hays Army Community Hospital

2049 Annual MCCUs @ \$22.86 = \$46,840

Total Benefits: 1,111,200

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Civilian Staffing

3 RNs GS9	\$115,672
3 LPNs GS4	59,376
1 NA GS3	<u>17,632</u>
	\$192,680

2 RNs GS9	\$77,114
3 LPNs GS4	<u>59,376</u>
	\$136,490

Military Staffing

Total Additional

3 RNs	\$135,026
3 LPNs	85,098
1 NA	<u>23,623</u>
	\$243,747

Beyond Current Vacancies

2 RNs	\$88,618
3 LPNs	<u>85,098</u>
	\$173,716

High	\$294,112
Low	\$204,900

\$213,795
\$153,144

Additional Ancillary and Support Costs

\$103,998

Other Staffing

Day Treatment Center

\$141,271 (196,133)

Opportunity Cost of Not Providing Treatment for:

Adolescents

\$446,591

Total Costs: \$1,049,015

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.944	0.893
Military Staffing	0.990	0.927

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.542	0.492
Military Staffing	0.588	0.525

Alternative 10b. CHAMPUS Historical Data

Increase nursing staffing sufficiently at Silas B. Hays Army Community Hospital to permit treatment of all individuals requiring psychiatric inpatient care on Ward 7 West with the exception of adolescents and individuals requiring involuntary hospitalization, "72 hour hold." Treatment for drug and alcohol patients to be provided in a Day Treatment Center.

FY 1987 Combined Historical Demand for CHAMPUS and SBHACH

443 Admissions	5297 Bed Days	11.95 ALOS	14.51 ADPL
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Historical Demand from CHAMPUS Beneficiaries

93 Admissions	2117 Bed Days	22.76 ALOS	5.8 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$758,439

Potential Savings to Beneficiaries

\$257,103

Total Potential Savings

\$1,015,542

Potential Revenue for Silas B. Hays Army Community Hospital

2049 Annual MCCUs @ \$22.86 - \$46,840

Total Benefits: \$1,062,382

COSTS

Additional Staffing Requirements

Nursing:

The following requirements are identified when all patient days are distributed to acuity categories in accordance with Silas B. Hays Army Community Hospital's psychiatric patient mix.

Civilian Staffing

3 RNs GS9	\$115,672	2 RNs GS9	\$77,114
3 LPNs GS4	59,376	3 LPNs GS4	59,376
1 NA GS3	<u>17,632</u>		
	\$192,680		<u>\$136,490</u>

Military Staffing

Total Additional		Beyond Current Vacancies	
3 RNs	\$135,026	2 RNs	\$88,618
3 LPNs	85,098	3 LPNs	85,098
1 NA	<u>23,623</u>		
	\$243,747		<u>\$173,716</u>
High	\$294,112		\$213,795
Low	\$204,900		\$153,144

Additional Ancillary and Support Costs

\$103,998

Other Staffing

Day Treatment Center \$141,271 (196,133)

Opportunity Cost of Not Providing Treatment for:

Adolescents \$425,866

Total Costs: \$987,869

Cost-Effectiveness Ratios

Opportunity Costs Included

	Total	Beyond Vacancies
Civilian Staffing	0.930	0.877
Military Staffing	0.978	0.912

Opportunity Costs Excluded

	Total	Beyond Vacancies
Civilian Staffing	0.529	0.476
Military Staffing	0.577	0.511

Alternative 10c. RAPS Projections

Increase Department of Psychiatry sufficiently to allow the treatment of drug and alcohol patients in a Day Treatment Program at Silas B. Hays Army Community Hospital.

Combined CHAMPUS and SBHACH Demand Projected by RAPS for FY 1989

269 Admissions	4332 Bed Days	16.10 ALOS	11.87 ADPL
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Projected Demand from CHAMPUS Beneficiaries for Drug and Alcohol Treatment

42 Admissions	1101 B. Days	26.21 ALOS	3.02 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$331,428

Potential Savings to Beneficiaries

\$105,317

Total Potential Savings

\$436,745

Total Benefits: \$436,745

COSTS

Staffing Costs

At Dr. Freidman's Staffing

1 GS11 Clinical Director

\$40,600

2 GS9 Counselors

67,114

\$107,714

Additional Occupational Therapy Support

1 Occupational Therapist GS 9

\$33,557

Total Personnel Costs

\$141,271

Opportunity Cost of Not Providing Treatment for:

Other than drug and alcohol	\$887,376
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Total Costs: \$1,028,647

Cost-Effectiveness Ratios

Opportunity Costs Included	2.355
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Opportunity Costs Excluded	0.323
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Alternative 10c CHAMPUS Historical Data

Increase Department of Psychiatry sufficiently to allow the treatment of drug and alcohol patients in a Day Treatment Program at Silas B. Hays Army Community Hospital.

FY 1987 Combined Historical Demand from CHAMPUS and SBHACH

405 Admissions	4264 Bed Days	10.53 ALOS	11.68 ADPL
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Historical Demand from CHAMPUS

55 Admissions	1084 B. Days	19.71 ALOS	2.97 ADPL
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BENEFITS

Potential Savings to CHAMPUS

\$316,195

Potential Savings to Beneficiaries

\$100,479

Total Potential Savings

\$416,674

Total Benefits: \$416,674

COSTS

Staffing Costs

At Dr. Freidman's Staffing

1 GS11 Clinical Director

\$40,600

2 GS9 Counselors

67,114

\$107,714

Additional Occupational Therapy Support

1 Occupational Therapist GS 9

\$33,557

Total Personnel Costs

\$141,271

Opportunity Cost of Not Providing Treatment for:

Other than drug and alcohol	\$930,377
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Total Costs: \$1,071,648

Cost-Effectiveness Ratios

Opportunity Costs Included	2.572
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Opportunity Costs Excluded	0.339
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MANPOWER STANDARD AND TABLE

For use of this form, see AR 678-6; the preparing agency is DCSPER.

SECTION I - MANPOWER STANDARD

WORK CENTER TITLE/COGS

INPATIENT NURSING - Psych (CONUS)

CLASS OF STANDARD

☐ TYPE I

☒ TYPE II

SCOPE

☒ ARMY COMMON

☐ COMMAND UNIQUE

TYPE

☒ MILITARY

☒ CIVILIAN

APPLICABILITY STATEMENT

This staffing criteria applies to each Medical Treatment Facility (MTF) within the CONUS Army regardless of size. All staff requirements will be frozen at current levels until OTSG corrects stated deficiencies in the existing standard.

STANDARD APPLICABILITY MAN-HOUR RANGE IS 1717.96 - 8386.24.

APPLICATION INSTRUCTIONS

100% Measured Wards: When applying this standard, the minimum staffing requirement has been established at 12. If the computation results in requirements less than 12, disregard that computation. The staffing table for resource distribution begins with 12.

Mixed Wards, Measured & Unmeasured: Identify requirements which are covered by standards, and remove requirements which are not covered by standards. In cases where minimal staffing is not reached in the measured unit and that unit is colocated with an unmeasured unit (L&D, NBN), you will only recognize requirements in the unmeasured unit which exceeds 12 in the combined/mixed unit.

All Wards: Always use the latest 12 months data and be aware of any significant fluctuations in monthly data. Two standard deviations (SD) will be the limits for including monthly data. Outliers will be recorded and maintained but will initially be excluded from the averages.

NORMAL HOURS OF OPERATION

2300 - 0700

0645 - 1515

1445 - 2315

WORK WEEK

7 Days/Week

MANHOUR AVAILABILITY FACTOR

145.00

MANHOUR DATA SOURCE

☒ WORK SAMPLING

☐ MANPOWER FILES

☒ OPERATIONAL AUDIT

☐ TIME STUDY

☐ MANPOWER REPORTING

☒ Previous Nursing Studies

☒ OTHER (specify)

STANDARD

$$Y_c = 290.00 + 1.47X_1 + 4.645X_2 + 10.13X_3 + 16.89X_4 + 25.55X_5 + 43.07X_6$$

APPROVAL DATE

CURRENCY REVIEW DATE

WORKLOAD FACTOR IDENTIFICATION

TITLE

Average Patient Day in a given patient category.

DEFINITION

Monthly average number of days a hospital bed is occupied by a patient. To calculate the average patient day, obtain the monthly average number of patients within a given category. Multiply the average daily number of patients within a given category by the average monthly number of days that the unit is occupied. 30.44 is the outlier if the unit is occupied 24 hours per day, 7 days a week.)

SOURCE

Workload Management System for Nursing: Categories, Nursing Care Hours and Actual Assigned Staff and Staffing Worksheet required by letter DAGE-ON, subject: Workload Management System for Nursing, 13 Dec 65.

AS OF: 27-May-87

PSYCHIATRIC
PERSONNEL REQUIREMENTS CHART

TOT REQ	HN	WM	RNS	LPNS	NA
12	1	1	5	3	2
13	1	1	5	3	3
14	1	1	5	4	3
15	1	1	5	4	4
16	1	1	5	5	4
17	1	1	6	5	4
18	1	1	6	5	5
19	1	1	6	6	5
20	1	1	7	6	5
21	1	1	7	7	5
22	1	1	8	7	5
23	1	1	8	7	6
24	1	1	8	8	6
25	1	1	9	8	6
26	1	1	9	8	7
27	1	1	10	8	7
28	1	1	10	9	7
29	1	1	10	9	8
30	1	1	11	9	8
31	1	1	11	10	8
32	1	1	11	10	9
33	1	1	12	10	9
34	1	1	12	11	9
35	1	1	13	11	9
36	1	1	13	12	9
37	1	1	13	12	10
38	1	1	14	12	10
39	1	1	14	13	10
40	1	1	14	13	11
41	1	1	15	13	11
42	1	1	15	14	11
43	1	1	16	14	11
44	1	1	16	14	12
45	1	1	16	15	12
46	1	1	17	15	12
47	1	1	17	15	13
48	1	1	17	16	13
49	1	1	18	16	13
50	1	1	18	16	14
51	1	1	19	16	14
52	1	1	19	17	14
53	1	1	19	18	14
54	1	1	20	18	14
55	1	1	20	18	15
56	1	1	21	18	15
57	1	1	21	19	15
58	1	1	21	19	16
59	1	1	22	19	16
60	1	1	22	20	16
61	1	1	22	20	17
62	1	1	23	20	17
63	1	1	23	21	17
64	1	1	24	21	17
65	1	1	24	21	18
66	1	1	24	22	18
67	1	1	25	22	18
68	1	1	25	23	18
69	1	1	25	23	19
70	1	1	26	23	19

Silas B. Hays Army Community Hospital Inpatient Psychiatry Expense for FY 1987

Inpatient Psychiatry	Code	Allocation Statistic	1ST QTR	2ND QTR	3RD QTR	4TH QTR
Direct Expense			107,775	148,590	121,216	126,675
Pharmacy	DAYA	Weighted Proce	55,307	57,072	5,504	7,644
Pharmacy POM	DAYQ	Weighted Proce			42	14
Pathology	DBAA	Weighted Proce	647	634	899	1,134
Blood Bank	DBCA	Weighted Proce	67	77	129	91
Radiology	DCAA	Weighted Proce	303	129		45
EEG	DDBA	Procedures	526	141	151	
CMS	DEBA	Dollar Value	39	91	92	49
Occupational Therapy	DHBA	Weighted Proce	7,431	3,892	9,289	11,614
Physical Therapy	DHDA	Visit	41			20
Inpatient Depreciation	EAAA	S.OBD/Tot OBD	11,133	9,282	10,326	10,247
Command/Administration	EBAA	FTE Man Months	2,863	3,256	2,990	3,036
Special Staff	EBBA	FTE Man Months	1,262	1,791	1,521	1,525
Admin/USM IMD	EBCA	FTE Man Months	7,644	3,813	13,112	8,190
Maternal/Child Nursing	EBDL	FTE Man Months	111	24	49	61
Education/Training In-house	EBFA	FTE Man Months	60	151	459	223
Staff Medical Library	EBFG	FTE Man Months			85	
Utilities	ECBA	Square Feet	1,634	2,334	1,726	1,898
Maintenance Real Property	ECCA	Square Feet	10,563	4,580	2,382	5,842
Other Engineering Support	ECEA	Square Feet	66	150	250	155
Fire Protection	ECHA	Square Feet	23	18	23	21
Police Protection	ECIA	Square Feet	17	18	20	18
Communications	ECJA	FTE Man Months	672	1,102	653	809
Other Base Operations	ECKA	FTE Man Months	614	678	619	637
Electrical	ECKB	FTE Man Months	600	651	606	619
ADP	ECKC	FTE Man Months	286	415	346	349
Base Supply Expense	ECKE	Dollar Value	7	22	2	10
Base Laundry	ECKF	Pounds	439	326	367	428
Base Troop Issue	ECKG	Rations Served	60			
Minor Construction	EDDA	Square Feet	24	106	118	177
Other Engineering Funded	EDEA	Square Feet		16		
Communications Funded	EDJA	FTE Man Months		16	138	77
Log Division	EEYA	Service/Facility	109	208	17	111
Housekeeping	EFAA	Square Feet	586	707	690	661
Housekeeping	EFBA	FTE Man Months	6,454	7,058	11,731	6,297
Biomedical Maint. Hours	EGAA	Hours of Service	124	196	117	146
Laundry Service	EHAA	Pounds	1,369	699	1,291	1,507
Nutrition Care	EIAA	Rations Served	12,369	30,822	36,417	37,009
Subsistence	EIBA	Rations Served	224		21,015	5,982
Inpatient Affairs	EJYA	Occup Bed Day	29,310	23,156	30,917	28,309
Indirect Expenses			152,984	153,631	154,093	134,955
Total Expenses			260,759	302,221	275,309	261,630

Source: Silas B. Hays Army Community Hospital, Resource Management Division MEPRS Office

MEPERS PSYCHIATRY DATA FOR SILAS B. HAYS ARMY COMMUNITY HOSPITAL

	TOTAL EXPENSES	CLINICIAN SALARIES	OCCUPIED BED DAYS	COST PER OCCUPIED		TOTAL DISPOSITIONS	COST PER DISPOSITION	HCU's	COST PER HCU	ALOS	ADPL
				BED DAY							
FY 87 TOTAL	1,130,906	56,942	3,180	355.63		340	3,326.19	452	2,502	9.4	8.7
4TH QTR	275,866	14,236	807	341.84		87	3,170.87	115	2,398.83	9.3	8.8
3RD QTR	289,658	14,236	768	377.16		82	3,532.41	109	2,657.41	9.4	8.4
2ND QTR	316,609	14,236	740	427.85		92	3,441.40	110	2,878.26	8	8.2
1ST QTR	274,993	14,234	865	317.91		79	3,480.92	119	2,310.87	10.9	9.4

(EXCLUDING CLINICIAN SALARIES)

	TOTAL EXPENSES	CLINICIAN SALARIES	OCCUPIED BED DAYS	COST PER OCCUPIED		TOTAL DISPOSITIONS	COST PER DISPOSITION	HCU's	COST PER HCU	ALOS	ADPL
				BED DAY							
FY 87 TOTAL	1,073,964		3,180	337.72		340	3,158.72	452	2,502	9.4	8.7
4TH QTR	261,630		807	324.20		87	3,007.24	115	2,398.83	9.3	8.8
3RD QTR	275,422		768	358.62		82	3,358.80	109	2,657.41	9.4	8.4
2ND QTR	302,373		740	408.61		92	3,286.66	110	2,878.26	8	8.2
1ST QTR	260,759		865	301.46		79	3,300.75	119	2,310.87	10.9	9.4