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**A MANAGEMENT PROJECT TO DETERMINE THE POTENTIAL COST AVOIDANCE  
DUE TO THE APPLICATION OF MANAGED CARE MECHANISMS  
ON CHAMPUS INPATIENT MENTAL HEALTH CARE IN  
COLORADO SPRINGS, COLORADO**

**A Graduate Management 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. Herschberger, MS  
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### Abstract

#### Managed Care of CHAMPUS Mental Health Inpatient Services

Mental health services encompass the treatment for psychoses and substance abuse diagnoses. The demand for mental health services in this country is growing at an annual rate of 15 percent and now represents one quarter of total national health care expenditures. In the military system, CHAMPUS expenditures for mental health services have increased from 19.0 percent of the CHAMPUS budget in FY 1987 to 23.3 percent of the total budget in FY 1988. This total increase reflects a 30 percent increase in inpatient costs and a 19 percent increase in inpatient days in 1988. In FY 1988 alone, CHAMPUS spent over 8 million dollars for mental health care in the Colorado Springs area. To control mental health care costs, many third-party payers have begun to actively apply managed care mechanisms, with positive results. This study examines the current models of managed care mechanisms developed and employed in the civilian sector and the potential cost avoidance that may be realized by their application to CHAMPUS inpatient mental health care in Colorado Springs, Colorado.

A MANAGEMENT PROJECT TO DETERMINE THE POTENTIAL COST AVOIDANCE  
DUE TO THE APPLICATION OF MANAGED CARE MECHANISMS ON CHAMPUS  
INPATIENT MENTAL HEALTH CARE IN COLORADO SPRINGS, COLORADO

Conditions Which Prompted the Study

Military Health Services

Two major components make up the U.S. Military Health Services System: A direct care system of approximately 1,968 treatment facilities and more than 800 clinics worldwide; and the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), a health insurance plan for eligible beneficiaries modeled after high-option benefit packages, such as Blue Cross and Blue Shield (Honiberg, 1990).

This system is currently suffering from several fiscal problems. First, the demand for health care services created by almost 9.2 million eligible beneficiaries has outstripped the capabilities of the military direct care system. The excess demand that cannot be met within the military system eventually receives care under CHAMPUS. This has intensified the problem of upwardly spiraling health care costs. The cost to the government for the CHAMPUS program has ballooned from \$850 million in FY 1981 to \$2.4 billion in FY 1988 (Gisin and Sewell, 1989). This

explosive growth in CHAMPUS expenses has lead to a recent trend of CHAMPUS budget overruns - an amount estimated by the Federal government to total \$200 million in FY 1989 (Honeberg, 1990).

#### Catchment Area Management

The Department of Defense (DoD) serves as the bill-payer for the CHAMPUS program. Despite the explosive growth in CHAMPUS expenditures, DoD found itself to be shouldering the financial burden of the program without much control over expenditures. In response to pleas from the services, Congress provided the Uniformed Services an opportunity to conduct demonstration projects to test the effectiveness of managed care techniques in the containment of CHAMPUS costs.

One of these projects is a program called Catchment Area Management (CAM). A catchment area is defined as all eligible beneficiaries residing within a 40-mile radius (defined by zip codes) around a military medical treatment facility (MTF). Under catchment area management, the local facility continues to receive the appropriated funds with which to provide direct care, but added to that figure is an amount projected by DoD that is approximately equal to the previous year's CHAMPUS expenditures for that locale. At this point the local commander assumes responsibility for all care in the catchment area (direct and CHAMPUS) to DoD beneficiaries, while operating within given



statutory constraints. The commander has considerable latitude in deciding which services will be provided within his facility and which will be directed out to providers in the local community in order to develop the most cost-effective combination of services while satisfying beneficiary needs (Gisin et al., 1989).

Fort Carson, located in Colorado Springs, Colorado, is one of five CAM test sites selected by DoD. The military treatment facility at Fort Carson, Evans U.S. Army Community Hospital (EACH), is a 195-bed general, acute-care facility. With an average daily inpatient census of approximately 100 patients, EACH is a medical facility, like many in DoD, that holds potential for the expansion of inpatient services.

The benefit of the provision that allows the local commander to expand MTF inpatient services is demonstrated by the fact that in FY 1987 the average cost of an inpatient admission in a military facility was about half (50.9 percent) the cost of an average admission reimbursed under CHAMPUS. In addition, the average length of stay for all categories of admissions within the military direct care system was 30 percent shorter than the average length of stay for admissions under CHAMPUS (CHAMPUS Chartbook of Statistics, 1989).

CHAMPUS Mental Health

A major contributor to total CHAMPUS costs is mental health care. In fiscal year 1988, mental health services accounted for 23.3 percent of the CHAMPUS budget. In addition, the cost and demand for mental health services is increasing at an alarming rate within the CHAMPUS system. From 1987 to 1988 mental health inpatient days increased 19 percent, inpatient costs increased 30 percent, and total admissions for mental health services increased almost 13 percent (Ms. Kathy Wert, Chief, OCHAMPUS Mental Health Unit, personal communication, 12 May 1989).

In FY 1988, CHAMPUS paid \$8.25 million for inpatient mental health services in the Colorado Springs metropolitan area (CHAMPUS Health Care Summary By Primary Diagnoses report, 1988). This ranks Colorado Springs in the top three metropolitan areas in the nation for utilization of CHAMPUS mental health services (Ms. Kathy Wert, Chief, OCHAMPUS Mental Health Unit, personal communication, 12 October 1989). Moreover, civilian mental health care providers in the Colorado Springs metropolitan area have estimated that CHAMPUS purchases between 25-30 percent of all mental health services in the local market (Mr. Morris Roth, Vice President, Programs and Services, Pikes Peak Mental Health, personal communication, 7 September, 1989). In view of these statistics, Colorado Springs appears to be a prime target for

increased management attention of inpatient mental health services.

Despite the volume of inpatient mental health services that CHAMPUS is purchasing in the community, the government is clearly not enjoying reduced unit costs. In fact, in FY 1988 the average CHAMPUS cost per mental health admission in the Colorado Springs area was \$14,249.84. This is 29 percent higher than the national average CHAMPUS cost per mental health inpatient admission of \$10,145 (CHAMPUS Chartbook of Statistics, 1989).

There also exists a significant disparity in lengths of stay between participating CHAMPUS inpatient mental health providers and the DoD direct care system. In FY 1987 the CHAMPUS national average for an inpatient mental health length of stay was 32.7 days. Within the military direct care system the average length of stay was 19.4 days for the same care. In other words, the average length of stay under CHAMPUS is almost 60 percent longer than in the military system (CHAMPUS Chartbook of Statistics, 1989).

Improved management of the mental health care delivery system is a necessary direction for evolution within the field if costs are to be controlled. The high cost of mental health care, increased access, and growing Congressional emphasis on cost containment requires that military health care managers must

deliver the same level of care or more with a shrinking pool of resources. While the growth of most inpatient costs have been slowed in the private sector by the introduction of Diagnosis Related Groups (DRGs) and the closer scrutiny of services (primarily in the form of utilization management) that has accompanied their implementation, inpatient mental health services have largely escaped this close scrutiny. Intensified medical management of inpatient mental health diagnoses could reasonably be expected to result in a reduction in admissions and lengths of stay, with a corresponding reduction in total health care costs to the government. Increased management of mental health services is especially warranted in light of the rapid growth in this sector of health care.

#### Problem Statement

CHAMPUS inpatient mental health admissions, lengths of stay and costs per diagnosis are increasing at significant annual rates. Although managed care mechanisms designed to control the costs of inpatient mental health services have demonstrated their efficacy in civilian settings, they have been largely overlooked in DoD. Therefore, the focus of this study is to determine the feasibility of applying managed care techniques to CHAMPUS inpatient mental health diagnoses as a strategy to reduce total costs.

### Literature Review

Currently, one in every five adults suffers some type of mental-emotional illness, according to the National Mental Health Association (NMHA), an advocacy group for mental health, based in Alexandria, Virginia. The range of disorders includes schizophrenia and anxiety as well as other cognitive, emotional, or behavioral problems that can seriously interfere with an individual's life and productivity. In addition to adults, the American Psychiatric Association (APA) estimates that in any six-month period, 7.5 million children under the age of 18 will have some form of psychiatric illness. According to figures from the National Institute of Mental Health, adolescent admissions to private psychiatric hospitals increased 159 percent from 1970 to 1980 and admissions to private residential treatment centers increased 133 percent during the same period. The APA places the annual cost in health care and lost productivity due to mental illness at \$249 billion (Westbrook, 1988).

The pervasiveness and growing utilization of mental health services has been compounded by the soaring costs of behavioral health care, mental health and chemical dependence treatment. Mental health care currently constitutes one quarter of health care expenditures and is increasing by more than 15 percent per year (George-Perry, 1988). Data from the American Psychiatric

Association indicate that mental health inpatient care alone accounted for approximately \$25 billion in 1987 (Kim, 1988).

Many third-party payers are currently finding that inpatient mental health claims account for a disproportionate share (as high as 25 percent) of paid hospital claims. This is primarily because these admissions have significantly longer lengths of stay than medical or surgical claims (Trauner, 1987). This demand for a greater amount of mental health services and increased lengths of stay suggests that cost containment mechanisms are essential to control the upward spiraling costs of mental health care.

#### Managed Care

Managed care is based upon a concept where a third party (non-patient and non-provider) intervenes in the health care process by establishing mechanisms to contain costs. Managed care providers do not simply do less of what they have always done while expecting to achieve results sooner. They use clearly defined strategies designed to solve specific problems within a certain period of time.

Fueled by an era of runaway health care costs, managed care has emerged as an effective strategy to contain health care expenditures. Growth in this sector of the health care market has been spurred by the participation and urging of the major

payers of health care - industry. Early development and successes were primarily in the physical health arena, with only recent emergence in the mental health sector.

The management mechanisms that are most frequently employed under the umbrella term of "managed care" are the various forms of utilization management, that is, utilization review, case management, and protocols. From a crude management sense, one may view these various forms of utilization management as a continuum of restrictive management with utilization review being relatively least restrictive, followed by case management, and finally with protocols the most restrictive utilization management technique.

#### Utilization Review

Utilization review can be defined as the planning, organizing, directing, and controlling of the health care product in a cost-effective manner while maintaining high quality care and contributing to the overall goals of the institution. This is accomplished through the judicious use of resources to control inappropriate admissions, lengths of stay, and use of ancillary services. Utilization review encompasses all those internal hospital activities that focus upon delivering high-quality, cost-effective care that neither over-utilizes nor under-utilizes services. Like under-utilization, over-utilization of tests and

treatments can have deleterious effects upon outcomes.

Therefore, utilization review translates into checking that the medical care prescribed and delivered is in accordance with institutional policies, is appropriate for the diagnosis, and that it results in the maximum benefit for all parties concerned.

Utilization review can be further dissected to yield prospective review or preadmission screening, concurrent review, and retrospective review. Concurrent review is focused primarily upon inpatient cases and the appropriateness of continued hospital stays and the appropriateness and timeliness of clinical services.

Preadmission screening is the process of evaluating patients prior to admission to determine if inpatient level of care is medically necessary. Evaluations are done face-to-face through clinical interviews or by telephone with other clinicians who know the patients. The prescreening process determines the most appropriate intervention in the least restrictive environment and arranges treatment interventions for patients within a network of contracted services (Langman-Dorwart and Peebles, 1988). This review process often includes monitoring of treatment protocols and, when necessary, comparison of protocols with actual medical records (Trauner, 1987).

Retrospective utilization review typically involves the



auditing of hospital bills and medical records, with a focus on problems or areas of concern revealed through utilization review activities. Retrospective review requires professionally trained people to review patient medical records and evaluate the appropriateness of the medical care delivered. This may be accomplished by committee(s), clinical staff and/or administrative support staff. It examines topics with generic, problem, or disease-specific or patient-specific concerns to determine whether health care utilization is effective.

All forms of utilization review employ the process of evaluating the use of professional medical care, services, procedures, and facilities against pre-established criteria that are designed to provide high-quality and efficient patient care. With mental health admissions this review process is normally undertaken by psychiatric nurses backed by board-certified psychiatrists. A well-designed utilization review program provides the tools necessary to evaluate the impact of cost containment activities on the quality of care rendered to patients and to determine the point where quality may be compromised.

Success in reducing costs using utilization review requires that specific goals and objectives be established. These goals and objectives must be of sufficiently narrow scope and must

target resource intensive operational areas. Payne (1987) outlines several guidelines for managers to consider when deciding on utilization review targets. First, subject targets must be meaningful and appropriate to the facility. Second, categories must be able to undergo review with relative ease and economy. Third, there must be pronounced differences in the costs of suspect targets. Fourth, categories must be able to support the review effort by providing sufficient numbers of records. These guidelines provide management parameters within which potential focused targets of utilization review can be identified. Focusing efforts of utilization review on particular operational areas has potential for significant cost reduction. Examples of specific utilization review targets include certain types of patients, specific diagnoses, and particular departments. Experience gained in such specific reviews will give clear patterns to allow managers to quantify cost accelerators.

#### Case Management

First generation utilization review programs commonly consisted of referring patients to specific providers, establishing the appropriate setting (inpatient or outpatient) for approved services, determining the necessity of inpatient hospital admissions and defining the probable length of stay, and

monitoring length of stay. While these functions of utilization review remain essential to any successful program, the evolution of utilization review has come to include the identification of potential high cost patients for focused case management, as defined by dollar thresholds or diagnostic categories.

Case management, one of the newest managed care approaches, is essentially a hybrid of prospective and concurrent utilization review that takes a systematic approach to identifying high-cost patients prior to admission. Case management is designed to identify and substitute lower-cost alternatives to hospitalization by conducting case-by-case review of admissions before they incur catastrophic costs (Fisher, 1987). Therefore, a screen of medical records for specific categories of hospital patients is conducted as the first step in identifying potential catastrophic diagnoses. Intervention strategies vary but usually include a combination of peer review and supervision to assess potential opportunities to coordinate care, negotiation with providers to ensure optimum outcomes, and developing treatment plans that improve quality and control costs. These strategies require the identification of cost-effective options, coordination of outpatient care, benefit waivers and redesigns, and preferred provider channeling (Goldstein et al, 1988).

A delivery system utilizing case management can encourage

the use of specific hospitals and physicians, with whom favorable rates may have been negotiated and quality care has been demonstrated. For mental health services, the emphasis in case management has shifted from long-term support, such as the services provided to the chronically mentally ill, to rehabilitative services that assist clients in functioning adequately and returning to the work force. As an example, case management has been used to facilitate less costly and more effective treatments for clients such as adolescents who stay for long periods in acute-care settings or alcoholics who are treated in inpatient facilities.

Case management's recent advent is explained largely by the differences in the delivery systems for physical health, where case management has been employed for a number of years, and the mental health system. The case management process is most effectively implemented within a service delivery system, and mental health care has traditionally not been delivered through organized systems. Only with the advent of preferred provider organizations, health maintenance organizations, and other structures for organizing service delivery has there been an appropriate context for the case management process (Shueman, 1987).

### Protocols and Treatment Screens

Physicians control approximately 70 percent of the dollars spent on inpatient care. To insure optimal utilization management of resources systems have been developed to track, and when necessary, modify physicians' practice patterns. Protocols and treatment screens have emerged as a system of providing a diagnosis-specific length of stay benchmark, as well as a recommended, and clinically acceptable treatment plan. Therefore, protocols can serve as a review guideline to identify the extent of inappropriate admissions and patient days. Ideally, protocols are objective, criteria-based, valid and reliable screening tools employed in chart reviews by utilization review coordinators (Restuccia, Payne, Lenhart, Constantine, & Fulton, 1987).

### Focused Utilization Review

Research has demonstrated that as few as 5 or 6 percent of health care claims may account for more than 50 percent of expenditures (LeBrun & Keener, 1988). The Center On Performance Evaluation (COPE), a division of UniHealth America, oversees and integrates finance with its system-wide case-mix management plan. COPE's experience is that approximately 25 to 30 diagnosis related groups (DRGs) account for an estimated 70 percent of total volume (Kazahaya & Masters, 1988).

Intuitively then, it may be reasonable to assume that a

minority of the major mental health diagnostic categories representing high-cost diagnoses and high-volume diagnoses could be responsible for a disproportionately high percentage of total CHAMPUS mental health inpatient costs. Focus on high-cost diagnoses is a natural first step in the management review process. However, a select group of diagnoses may be large contributors to total cost in an aggregate sense. That is to say, they may be relatively low cost diagnoses, but their volume is such that they are large contributors to total costs and therefore warrant closer management.

#### Management of Mental Health Services

The mental health care field is undergoing rapid change. Not only are researchers learning more about effective kinds of treatment, they are learning more about the effects of where that care is given. While managed care is firmly entrenched in the physical health arena, it is still in a fledgling state in mental health. Trauner (1987) cites the following managed care mechanisms most frequently employed in mental health services; referral services linking up beneficiaries to community resources and mental health professionals; preadmission/concurrent utilization review for inpatient mental health services; retrospective review of mental health care claims, with audit of hospital bills and medical records; preferred provider contracts

with mental health professionals and facilities offering specialized mental health or substance abuse programs as well as use of selective contracting to channel patients to providers identified as cost-efficient or offering discounted rates; and high-cost, high-risk, and high-volume diagnoses targeted for intensified case management.

As mental health managed care organizations gain experience with managed care mechanisms, many have developed review criteria appropriate for mental health diagnoses and treatments and are gaining sophistication in their utilization. At the national level, the American Psychiatric Association has codified standards for all levels of hospital admissions. Physicians are then asked to use these standards as guidelines. However, there is not an industry-wide consensus on goals or standards of care, there is a great deal of variance in treatment models, and none have been clearly established as superior.

#### Effectiveness of Managed Care

Research conducted by Schultz et al. (1983) addressed the question of the effect of management practices on the cost of care. This study indicated that management practices have the largest association with outcome of direct cost per day and perceived quality of care. Differences in costs and quality were found to be related more to management than to patient, staff,

environmental, or institutional characteristics of these units. The findings of this study suggested that proactive management that focuses on organizational outcomes, that makes consequences of operation visible, and that promotes mutual coordination will achieve higher quality and efficient performance (Schultz et al., 1983). Indeed, these findings imply that management improvements may hold potential for containing inpatient psychiatric services costs, as well as improving the quality of this care.

The effectiveness of utilization review on health care use and expenditures was discussed by Feldstein, Wickizer, and Wheeler (1988). Their study, based on all hospital admissions regardless of diagnoses, indicated that, on average, utilization review resulted in a 12.3 percent reduction in hospital admissions per 1000 insured patients. In addition, total expenditures for hospital inpatients were 12 percent lower for groups with utilization review. The effect of utilization review appeared more pronounced in organizations with high admission rates and long lengths of stay.

The First National Bank of Chicago, the tenth largest bank in the U.S., instituted a concurrent utilization review program for their mental health services in 1984. Their plan covers 12,500 beneficiaries. In short, through the careful conduct of this program, both total inpatient days (which reflects reduced



admissions), and average length of stay fell 43 percent in a 12-month period. The average cost per admission fell 32 percent during a period when the average cost per hospital day rose 17 percent (Burton et al, 1989). A Massachusetts HMO demonstrated significant savings by avoiding medically unnecessary admissions, actively managing cases in hospitals through concurrent utilization review efforts, and active discharge planning. Additional savings of 20-40 percent were experienced by sending admissions to contracted facilities that had demonstrated reduced average lengths of stay (Langman-Dorwart et al, 1988). In fact, according to George-Perry (1988), carefully managed care programs are demonstrating that they can effectively reduce both the direct costs of treating behavioral health problems and the indirect costs of not treating them.

#### Purpose Statement

The purpose of this management project was to determine the potential cost avoidance in CHAMPUS inpatient mental health care expenditures due to the application of managed care mechanisms in the CAM Demonstration Project catchment area.

#### Objectives

1. Calculate from CHAMPUS data the demand for inpatient mental health diagnoses in the USAF Academy and Fort Carson catchment areas, hereafter referred to as the "CAM catchment

area."

2. Analyze fiscal year (FY) 1988 CHAMPUS inpatient mental health diagnoses data to identify high-cost and high-volume mental health diagnoses that account for a disproportionately high percentage of total costs.

3. Determine from the selected high-volume and high-cost mental health diagnoses targeted for increased management those diagnostic categories most suitable for recapturing for treatment within an inpatient psychiatric ward at EACH.

4. Determine the size and cost of opening an inpatient mental health ward based on current excess capacity within EACH.

5. Calculate the required staff size and mix to support the estimated inpatient mental health work load.

6. Calculate the costs associated with staffing a mental health ward based upon projected work load.

7. Calculate the impact, in volume and cost, of the recaptured work load on ancillary and support services within the hospital.

8. Calculate annual cost avoidance based on the recaptured CHAMPUS inpatient mental health work load.

9. Identify the critical elements of an integrated military and civilian managed care program.

10. Determine the costs of administering a managed care

program for inpatient mental health diagnoses.

11. Calculate the annual cost avoidance based on the application of managed care mechanisms to the inpatient mental health work load that remains in the private sector.

### Methods and Procedures

#### Calculation of Demand

The first step in the development of a managed care program for inpatient mental health care was to gain an overview of the diagnostic case-mix and volume in the CAM catchment area. Neither the Air Force Academy hospital nor EACH has inpatient mental health capabilities. To determine the volume and mix of CHAMPUS mental health diagnoses in the catchment areas, CHAMPUS inpatient work load reports were examined for the respective catchment areas.

Fiscal year 1988 CHAMPUS inpatient mental health work load data was examined via the FY 1988 Total CHAMPUS Inpatient Care by Diagnosis Code report to determine basic statistical information on inpatient mental health demand in the FT Carson and Air Force Academy catchment areas. The Total CHAMPUS Inpatient Care by Diagnosis Code report reflects total claims, admissions, average lengths of stay, and average government cost per admission by 4-digit International Classification of Diseases-9th-Revision-Clinical Modification (ICD-9-CM) diagnosis code for a designated

catchment area. This coding information on diseases and disorders allows classification of patients according to major diagnosis and mode of treatment.

Fiscal year 1988 was selected as the study period because it was the most recent complete set of data available at the time this management project was initiated. For the purposes of this study, future demand for inpatient mental health services was assumed to remain at the FY 1988 level. Recognizing the recent trend of an annual 15 percent increase in inpatient mental health admissions, it was posited that projecting future demand based on past demand would yield a conservative estimate of potential cost avoidance due to the application of various managed care strategies (George-Perry, 1988).

The CHAMPUS population studied was all CHAMPUS beneficiaries in the FT Carson and U.S. Air Force Academy catchment areas. The sample consisted of all CHAMPUS inpatient mental health care recipients during the 1988 fiscal year. Active duty demand for inpatient mental health services was estimated by examining the most recent fiscal year information on active duty referrals to Fitzsimmons Army Medical Center (FAMC) for mental health inpatient diagnoses. Confidentiality was not an issue since the reported data did not indicate service affiliation, name or social security number.

### Identifying High-Cost and High-Volume Diagnoses

Success in reducing costs using managed care mechanisms required that specific goals and objectives be established. These goals and objectives needed to be of sufficiently narrow scope while targeting resource intensive operational areas. Focusing management efforts on particular operational areas was hypothesized to hold potential for reductions in CHAMPUS expenditures for this care. Therefore, initial efforts in the development of a managed care program were devoted to the identification of high-cost and high-volume diagnoses for focused management.

To determine high-cost and high-volume inpatient mental health diagnoses, FY 1988 admission information from the USAF Academy and FT Carson catchment areas was combined and entered into a database management computer program. High-volume diagnoses were defined on the basis of total admissions per 4 digit ICD-9M diagnoses categories. Because CHAMPUS reimbursement for inpatient mental health diagnoses is on a per diem basis, the definition for high-cost diagnoses was based upon average length of stay (ALOS) per 4 digit ICD-9M category. An inpatient hospital admission, or episode of care, rather than an individual patient was the unit of analysis since the study sought to examine costs associated with discrete hospital stays, not with

an individual's history of mental health hospitalizations.

The data set was sorted in descending order based on the parameters of admissions (high-volume) and average length of stay (high-cost). Of the potential diagnostic categories, a group of diagnostic categories was selected for targeting based upon their inclusion in the subsets of high-volume and high-cost diagnoses. The final number of diagnostic categories selected for targeting were determined to represent a group of diagnoses sufficient in scope to maximize the opportunity for cost avoidance, yet small enough to enable effective management. These selected diagnoses were presented to the Chief, Department of Psychiatry at Evans U.S. Army Community Hospital, Colonel Newman M.D., for a professional determination of the diagnostic categories that would be suitable for recapturing within Evans. This selection process was primarily based upon the specialties represented within the EACH professional psychiatric staff. For example, certain diagnoses specific to an adolescent category of patient would not be appropriate for recapturing due to the lack of staff with specialty training in the area of adolescent mental health care. In the same vein, certain substance abuse diagnoses that would require staff with specialized training would not initially be targeted for recapturing within EACH.

The reliability or the consistency of the results was based

upon the assumption that the FY 1988 historical data generated by the CHAMPUS beneficiary population in the Colorado Springs area were representative of future utilization of mental health services in the study area. Validity was addressed in the assumption that any seasonal variations in the incidence of substance abuse and/or psychotic inpatient treatment would be smoothed by examining a one year cycle. Fiscal year 1988 was assumed to be representative of the general case-mix in Colorado Springs, Colorado for any given year. However, based on recent trends in the use of inpatient mental health services, it is acknowledged that annual increases in total volume can be anticipated.

#### EACH Mental Health Ward

Military treatment facilities have demonstrated their ability to provide care for approximately 50 percent less than their civilian counter parts (CHAMPUS Chartbook of Statistics, 1989). In view of this, efforts toward increasing management of inpatient mental health diagnoses were directed toward quantifying the volume and mix of patients that could be recaptured within EACH. Quantifying the number of recapturable annual bed days was dependent upon the proposed inpatient mental health ward size. Optimum ward size was based upon existing facilities that met the needs of such a ward, taking into account

required expenditures for construction and any capital equipment investments necessary to occupy a ward. These requirements were determined through conference with LTC Denis Rosnick, Chief, Logistics Branch (personal communication, 6 March 1990), COL Newman, M.D., Chief, Department of Psychiatry (personal communication, 8 January 1990), and LTC Gary Naleski, Chief, Medical-Surgical Division (personal communication, 2 March 1990).

#### Staff Requirements

Ward size and projected inpatient work load, in turn, determined ward staffing requirements. Psychiatric unit staffing requirements for nurses were based on Army Regulation 570-5, Manpower Staffing Standards System (MS3). Professional staff requirements were delineated in Department of the Army Pamphlet 570-557, Staffing Guide for United States Army Medical Department Activities, and confirmed by Colonel Fagan, M.D., Psychiatric Consultant to The Surgeon General, US Army (personal communication, 26 March 1990).

The Manpower Staffing Standards System delineates the nursing staff composition by ward size. These positions were converted to their civil service equivalent grades and levels by LTC Gary Naleski, Chief, Medical-Surgical Division (personal communication, 2 March 1990). The direct cost to EACH for these additional positions was a combination of their respective annual



salaries plus a percentage of the base salary to account for the projected cost of benefits (Mr. Jeff Nygaard, Chief, Resource Branch, EACH Resource Management Division, personal communication, 15 February 1990).

#### Projection of Work Load

Integral to the process of determining the costs associated with recapturing work load to EACH was quantifying the cost of providing that care. Where a service is already offered in a military hospital, the costs related to providing that service at that specific hospital are accounted for by the Medical Expense and Performance Evaluation Report (MEPRS) cost accounting system. But because an inpatient mental health ward is not currently in operation at EACH, historical data were not available to quantify the costs of providing that type of care. Therefore, to determine the cost of providing inpatient mental health care and the associated impact on ancillary and support services within EACH, historical MEPRS data were sought from a military treatment facility where these services were currently being offered.

Historical inpatient mental health MEPRS data were obtained from Walter Reed Army Medical Center via a 1989 General Accounting Office (GAO) study, (GAO Methodology for Determining Staffing Needs and Variable Costs Associated with Recapturing CHAMPUS Workload, unpublished report). In addition, the

methodology used by the GAO established a model for determining incremental or variable costs at EACH that would result from an increase (or introduction) of inpatient mental health work load.

In the GAO report, WRAMC Medical Expense and Performance Reporting System (MEPRS) data quantified the impact, in work load, experienced in the select ancillary and support centers based on a known number of occupied bed days (OBDs) that were recaptured. This provided a model that was adapted to quantify the work unit impact on EACH's ancillary and support work centers that would be affected by the recapturing of inpatient mental health work load. Based upon the impact on WRAMC ancillary and support work centers as a result of recapturing a known number of bed days, a ratio was derived that reflected the number of work units per OBD for each work center. These ratios were then used to extrapolate the increased work load that could be expected in EACH's ancillary and support centers based on a projected number of mental health OBDs recaptured in a twelve-month period.

Calculation of Cost Avoidance due to Recapturing

Total cost to the organization associated with recapturing work load is represented by the total unit costs as a result of the additional work load together with the costs incurred as a result of staff additions that are required to handle the new work load levels. Evans Army Community Hospital's total cost for

the additional work load was calculated by summing the products of the ratios of work units per OBD times the facility-specific costs per work unit. This unit cost information was provided by the EACH MEPRS report. To insure that the most recent cost information was used for projections, cost per work unit information was extracted from the EACH 1st quarter FY90 MEPRS report.

To determine the impact of the recaptured work load on staffing in the various work centers, the projected work load was added to the current work load in each of the impacted ancillary and support areas. Available slack in the staffing levels was determined by adding the projected work load to the current work load levels. This new figure was compared to the staff size-correlated productivity benchmarks delineated by the Department of the Army Pamphlet 570-577, Staffing Guide for United States Army Medical Department Activities. If the new work load figures fell below the benchmarks outlined in DA Pam 570-577, the conclusion would be that no additional staffing was required to accommodate the additional work load.

Active duty patients are not eligible CHAMPUS beneficiaries. As a result the demand for inpatient mental health care by this group is not reflected in CHAMPUS data. Also because they are not CHAMPUS beneficiaries, care provided to this

category of patients in the proposed EACH inpatient mental health ward will not represent cost avoidance to the government. To account for this debit to the maximum recapturable bed days available to CHAMPUS beneficiaries, the annual bed days consumed by the active duty population at FT Carson was estimated.

Currently all active duty inpatient mental health patients are referred to Fitzsimmons Army Medical Center (FAMC). To estimate this category's consumption of bed days, the most recent three months data on diagnoses and length of stay of soldiers referred to FAMC were selected as a sample. This was used as a base line for predicting the annual bed days consumed by the active duty component. To quantify the cost savings represented by recapturing inpatient mental health to EACH, the number of occupied bed days potentially recapturable to EACH were multiplied by the current average per diem rate for inpatient mental health services on the local economy. Subtracted from this figure were the cost estimates associated with providing this quantity of care within EACH and the number of bed days that would be devoted to active duty care. The difference represented the projected annual savings as a result of recapturing inpatient mental health care to EACH.

Determination of Components and Cost of a Managed Care Program

The primary purpose for developing an integrated managed care framework for inpatient mental health diagnoses was to successfully control total expenditures for this care in the CAM catchment area. The methodology for formulating a managed care plan was an integrative process that initially focused on the selected diagnoses for targeting. Following the process of identifying diagnoses for targeted management and quantifying the work load that could be recaptured to EACH, attention was turned to the mental health work load that would, by necessity, remain in the private sector. Current literature was referenced to determine the managed care mechanisms that are most successfully employed in the private sector. The military managed care program was then modeled after these civilian templates.

Staff requirements to provide management overview, such as conducting utilization review, for the projected average daily census of inpatient mental health cases within the CAM catchment area were determined through guidance provided by local managed health care organizations. This staff was designed to provide the review function for inpatients within EACH as well as the inpatients in private facilities in Colorado Springs. Salary data were provided by the Fort Carson CPO and the Resource Management Division, EACH. Proposals delineating the structure

and function of the utilization review personnel at EACH were reviewed by the Chief, Catchment Area Management Project, LTC Arthur Badgett and the Chief, Department of Psychiatry, COL Newman M.D. (personal communication, 24 March, 1990).

#### Calculation of Cost Avoidance

This section of the study included quantifying the anticipated savings that could be realized as a result of the introduction of managed care mechanisms for the remaining inpatient care demand in the CAM catchment area, specifically that CHAMPUS inpatient mental health care that will remain within the civilian mental health system. The estimation of these potential savings was determined by applying a percentage reduction in length of stay of inpatient mental health episodes of care. The reduced percentage rate applied to average lengths of stay was based upon results of managed mental health care mechanisms as noted in the literature review. The percentage rate was deliberately selected to yield a conservative estimate. Subtracted from the cost avoidance attached to the reduced lengths of stay were the additional costs of administering the managed care program for the CAM catchment area.

## Results

### Demand for Mental Health Care

From the FY 1988 Total CHAMPUS Inpatient Care by Diagnosis Code report, the CAM catchment area accounted for 579 mental health admissions representing 18,922 bed days (Tables 1 and 2). This equates to an average daily inpatient load of 51.84 patients for mental health services (Table 3). Fifty-seven percent of these admissions were Category II (substance abuse) diagnoses versus 43 percent for Category I (psychoses) diagnoses.

Table 1.

#### CHAMPUS Demand for Inpatient Mental Health Care: Admissions

Catchment Area	Category I	Category II
FT Carson	178	219
USAF Academy	99	83
	----	---
Subtotal	277	302

Total Admissions = 579

Table 2.

#### CHAMPUS Demand for Inpatient Mental Health Care: Hospital Days

Catchment Area	Category I	Category II
FT Carson	5,133	7,689
USAF Academy	3,081	3,019
	-----	-----
Subtotal	8,214	10,708

Total for all categories = 18,922 hospital days.

Table 3.

CHAMPUS Demand for Inpatient Mental Health Care: Average Daily Census

Catchment Area	Category I	Category II
FT Carson	14.06	21.07
USAF Academy	8.44	8.27
	-----	-----
Subtotal	22.50	29.34

Total for all Categories = 51.84 patients.

To estimate the demand for mental health services by active duty personnel, FY 1989 data from EACH was employed. In FY 1989, 108 soldiers were referred to Fitzsimmons Army Medical Center (FAMC), the military regional referral center. Based upon all 4th quarter 1989 referrals to FAMC, the computed average length of stay was 24.56 days (Table 4). Of this population, all admitting diagnoses fell within one of three diagnostic categories. Of the total, 81.25 percent of admissions fell within one category, Adjustment Reaction.



Table 4.

Active Duty Inpatient Mental Health Demand

(4th Quarter, FY 1989)

DX	Description	Volume Percent		Bed Days Percent	
309	Adjustment React.	13	81.25	340	86.51
3050	Alcohol Abuse	2	12.50	28	7.12
3098	Post-traumatic S.	1	6.25	25	6.36

\* Average length of stay = 24.56 days.

\*\* Percentage with lengths of stay greater than 10 days = 81.25 %

Analysis of Data Set for High-Volume/High-Cost Diagnoses

The analysis of the combined data set for the USAF Academy and Fort Carson catchment areas identified 65 distinct admitting mental health ICD-9M diagnostic categories in FY 1988. After sorting for high-volume diagnoses, defined as number of admissions per diagnostic category, and high-cost diagnoses, defined as average length of stay per diagnostic category, the top five diagnoses in each category were selected as candidates for initial focused management efforts. The number selected, five, was based upon the assumption that a total of ten diagnoses accounted for a significant proportion of resources, yet presented a manageable number of diagnoses for increased attention. The top five volume and cost diagnoses are listed in Tables 5 and 6, respectively.

Table 5.

Top Five Volume Diagnoses

Diagnoses Code (DX)	Description
3004	Neurotic Depression
2962	Depression Psych.
2963	Depr Psych, Recur
3090	Brief Depr React
3120	Unsocial Aggress

Table 6.

Top Five Cost Diagnoses

Diagnoses Code (DX)	Description
3018	Personality Disorder
2968	Manic Depress.
3130	Overanxious Disorder
3129	Conduct Disturbance
2954	Schizophrenic Episode

High-Volume Diagnoses

The impact of the top five volume diagnoses on total admissions is illustrated in Table 7. While these five diagnostic categories only accounted for 7.69 percent of the 65 potential diagnostic categories, they represented 43.34 percent of total admissions. As previously mentioned, the average length of stay for all mental health diagnoses was 32.68 days, while the ALOS for this group was 29.0 days. All diagnoses in this subset were Category I diagnoses, or psychotic diagnoses.

Table 7.

Impact of Top Five Volume Diagnoses on Total Admissions

DX	Description	Admissions	Percent	ALOS
3004	Neurotic Depression	71	12.26	40.61
2962	Depression Psych.	55	9.49	25.71
2963	Depr Psych, Recur	48	8.29	17.79
3090	Brief Depr React	39	6.74	10.64
3120	Unsocial Aggress	38	6.56	45.08

Aggregate percentage of total admissions= 43.34%

This high-volume subset of all inpatient mental health diagnoses admitted in the CAM catchment area in fiscal year 1988 accounted for \$3,354,292.22 worth of care, or 38.66 percent of total CHAMPUS expenditures for inpatient mental health services in FY 1988 (Table 8). Although this group's average cost per admission of \$13,363.26 was below the average cost of a CHAMPUS mental health admission in the CAM catchment area of \$14,249.84, it was still significantly greater than the national CHAMPUS average for all inpatient mental health diagnoses of \$10,145 for the same fiscal year. Simply stated, the average cost per admission for this high-volume group area exceeded the national average by 25 percent.

Table 8.

Impact of Top Five Volume Diagnoses on Total Cost

DX Code	Description	Average Cost per Diagnoses	Total Cost per Diagnostic Category	Percent of Total Cost
3004	Neurotic Depression	\$18,713	1,328,629.25	15.32
2962	Depression Psych	11,847	651,594.24	7.51
2963	Depr Psych, Recur .	8,197	393,486.34	4.54
3090	Brief Depr React	4,902	191,213.57	2.20
3120	Unsocial Aggress	20,772	789,368.83	9.09
			-----	-----
			\$3,354,292.22	38.66%

High-Cost Diagnoses

The five highest cost mental health inpatient diagnoses accounted for 4.32 percent of total admissions in FY 1988 for the CAM catchment area with only 25 admissions (Table 9). However, their average length of stay of 105.6 days was more than three times the catchment area average of 32.68 days.

Table 9.

Impact of Top Five Cost Diagnoses on Total Admissions

DX Code	Description	Admissions	Percent	ALOS
3018	Personality Dis	4	0.69	138.50
2968	Manic Depress	3	0.52	114.33
3130	Overanxious Dis	3	0.52	104.67
3129	Conduct Disturbance	12	2.07	98.58
2954	Schizophrenic Episode	3	0.52	82.00
		-----	-----	
		25	4.32 %	

Although representing only 4.32 percent of total admissions, this group accounted for 14.06 percent of total costs for all inpatient mental health care (Table 10). This sub-group had an average cost per admission of \$48,659.74, or almost five times more than the CHAMPUS national average of \$10,145 for all mental health admissions in FY 1988 and three times the CAM catchment area average cost per admission of \$14,249.84.

Table 10.

Impact of Top Five Cost Diagnoses on Total Cost

DX Code	Description	Average Cost per Admission	Total Cost per Category	Percent of Total Cost
3018	Personality Dis	63,820.80	255,283.20	2.94
2968	Manic Depress.	52,683.26	158,049.79	1.82
3130	Overanxious Dis.	48,231.94	144,695.81	1.67
3129	Conduct Disturbance	45,425.66	545,107.97	6.28
2954	Schizophrenic Episode	37,785.60	113,356.80	1.31
			-----	-----
			\$1,216,493.67	14.02%

Together, these top ten diagnoses constituted 15 percent of the diagnoses assigned during FY 1988 while accounting for 47.66 percent of all admissions and 52.68 percent of total costs for inpatient mental health services in the focus catchment area. Together these ten diagnoses had an average cost per admission of \$16,560.82, or 39 percent higher than the national average for all inpatient mental health diagnoses (Table 11).

Table 11.

Average Cost for Top Ten Diagnoses (Cost and Volume)

	Admissions	Cost
High Volume DX	251	\$3,354,292.22
High Cost DX	25	\$1,216,493.67
Average Cost per Admission for top 10 diagnoses = \$16,560.82		

Diagnoses Targeted for Recapturing

Following identification of the top cost and volume diagnoses, the list was referred to the Chief, Department of Psychiatry at Evans Army Community Hospital, Colonel Newman, M.D. Based upon staff and facility considerations, Colonel Newman determined which of the ten target diagnoses would be appropriate for recapturing within EACH, assuming an inpatient mental health ward were established. Tables 12 and 13 identifies the high-volume and high-cost diagnoses, respectively, that were determined to be appropriate for recapturing within EACH.

Table 12.

High-Volume Diagnoses Targeted for Recapturing

Diagnoses Code (DX)	Description
3004	Neurotic Depression
2962	Depression Psych.
2963	Depr Psych, Recur
3090	Brief Depr React

Table 13.

High-Cost Diagnoses Targeted for Recapturing

Diagnoses Code (DX)	Description
3018	Personality Disorder
2968	Manic Depress.
2954	Schizophrenic Episode

The four high-volume diagnoses targeted for recapturing accounted for 36.78 percent of total admissions and 29.42 percent of total mental health bed days in FY 1988 (Table 14).

Additionally, this group accounted for 29.57 percent of total mental health inpatient costs for FY 1988 in the CAM catchment area (Table 15).

Table 14.

Impact of Targeted High-Volume Diagnoses on Admissions

DX	Description	Admissions	Percent	ALOS	OBD
3004	Neurotic Depression	71	12.26	40.61	2883
2962	Depression Psych	55	9.49	25.71	1414
2963	Depr Psych, Recur	48	8.29	17.79	854
3090	Brief Depr React	39	6.74	10.64	415
			-----		
			36.78%		

Table 15.

Impact of Targeted High-Volume Diagnoses on Total Cost

DX Code	Description	Average Cost Per Admission	Total Cost Per Diagnostic Category	Percent of Total Cost
3004	Neurotic Depression	\$18,713	1,328,629.25	15.32
2962	Depression Psych	11,847	651,594.24	7.51
2963	Depr Psych, Recur	8,197	393,486.34	4.54
3090	Brief Depr React	4,902	191,213.57	2.20
			-----	-----
			\$2,564,923.40	29.57%

The three high-cost diagnoses targeted for recapturing within EACH accounted for only 1.73 percent of total admissions, but 6.04 percent of total bed days (Table 16), and 6.07 percent of total costs (Table 17). These three diagnostic categories had an average cost per admission of \$52,668.98.

Table 16.

Impact of Targeted High-Cost Diagnoses on Admissions

DX	Description	Admissions	Percent	ALOS	OBD
3018	Personality Dis	4	0.69	138.50	554
2968	Manic Depress	3	0.52	114.33	343
2954	Schizophrenic Epi	3	0.52	82.00	246
			-----		-----
			1.73%		1143



Table 17.

Impact of Targeted High-Cost Diagnoses on Cost

DX	Description	Average Cost per Admission	Cost per Category	Percent of Total Cost
3018	Personality Dis	63,820.80	255,283.20	2.94
2968	Manic Depress	52,683.26	158,049.79	1.82
2954	Schizophrenic Epi	37,785.60	113,356.80	1.31
			-----	----
			\$ 526,689.79	6.07

Finally, this group of seven diagnostic categories, or 11 percent of the 65 potential categories, jointly accounted for 38.51 percent of total admissions and 35.64 percent of the FY 1988 expenditures for mental health care in the CAM catchment area. The average cost per admission for the seven targeted diagnoses was \$13,863.74 (Table 18).

Table 18.

Aggregate Impact of Targeted Diagnostic Categories

	Admissions	Cost
High Volume DX	213	\$2,564,923.40
High Cost DX	10	\$526,689.79
	---	-----
	223	\$3,091,613.19
Average Cost per Admission for targeted diagnoses = \$13,863.74		

### EACH Mental Health Ward

Evans Army Community Hospital was constructed in 1986 without a psychiatric ward. However, in early 1987 a retrofit to the original design converted part of the 32-bed light care ward, designated as 3 West, to a 12-bed psychiatric ward. These modifications were completed at a cost to EACH of approximately \$30,000. Therefore, no minor construction or equipment funds are required to open the 12-bed ward in Evans Army Community Hospital (G.Naleski, Chief, Medical-Surgical Division, personal communication, 2 March 1990).

Based on a 12-bed ward, EACH has the capability to recapture 4,380 bed days per annum. The seven diagnostic categories targeted for recapturing represent 6,709 bed days. Therefore, 65 percent of the projected annual bed days from these targeted diagnoses can potentially be recaptured within the proposed EACH mental health ward.

Because of provisions of the CAM Project and the absence of authorizations for military staffing for a mental health ward, staffing for the proposed inpatient mental health ward has been based on civil service positions and pay scales (LTC Arthur Badgett, CAM Project Officer, personal communication, 23 February 1990). The requirements for staffing an inpatient mental health ward (Table 23) were determined by consulting the psychiatric

unit MS3 staffing standards for nursing personnel (Army Regulation 570-5, Manpower Staffing Standards System), and Department of the Army (DA) Pamphlet 570-557 for the professional staff.

Estimates of the direct annual cost to the organization for staffing are comprised of the totals for salaries plus a factor of 29.55 percent of the respective annual base salaries to account for the cost of employee benefit packages (Mr. Jeff Nygaard, Resource Branch, Resource Management Branch, EACH, personal communication, 12 March 1990). Salary information and position coding was based upon Civilian Personnel Office (CPO), Fort Carson guidance and the January 1990 General Schedule Pay Chart (Federal Employees' News Digest, September 1989). The total direct cost to EACH for ward staffing is reflected in Table 19.

Table 19.

Annual Cost of Staffing a 12-Bed Mental Health Ward at EACH

REQ	Position	Grade/Level	Salary	Benefits (base x 29.55%)	Total
1	Head Nurse	GS-11 STEP 4	\$32,879	\$9715.74	\$42,594.74
1	Ward Master	GS-7 STEP 4	\$22,214	6564.24	28,778.24
5	RN	GS-9 STEP 4	\$27,177	8030.80	176,039.00
2	LPN	GS-6 STEP 4	\$19,992	5907.64	51,799.28
3	Nurse Asst	GS-4 STEP 4	\$16,031	4737.16	62,304.48
					-----
Total Salary Costs					\$361,515.74

In accordance with DA Pamphlet 570-577, current mental health professional (ie. psychiatrists, psychologists, social workers) staffing levels are sufficient to cover a 12-bed inpatient ward. COL Fagan, M.D., Psychiatry Consultant to the Army Surgeon General, verified this by stating that one psychiatrist can generally cover between 15 and 30 inpatient beds. Furthermore, no additional augmentation of social workers or psychologists is mandatory (Colonel Fagan, M.D., personal communication, 26 March 1990).

Impact of Recaptured Work Load on Ancillary and Support Centers

The cost and volume estimates for providing ancillary and support services to an inpatient mental health ward were derived, in part, from the previously referenced inpatient psychiatric recapturing initiative conducted at Walter Reed Army Medical Center (WRAMC) and evaluated by the GAO. In this study the GAO examined the impact of 27,953 recaptured inpatient psychiatric bed days on ancillary and support centers (GAO, unpublished report, 1990). Tables 20 - 23 display the calculations performed to quantify the volume and cost impact of the recaptured work load at EACH.

From the work load generated at WRAMC as a result of the recapturing initiative (Table 20), a ratio representing the number of work units per occupied bed day (OBD) was derived.

This factor was used in predicting the work load in the impacted ancillary and support centers at EACH based on a maximum of 4380 annual bed days. Again, these calculations are based upon the capacity of a proposed 12-bed inpatient ward.

Table 20.

Impact of Recaptured Psychiatric Work Load on Ancillary and Support Services at Walter Reed Army Medical Center

MEPRS Code	Work Center	Work Load	Work Units/OBD (derived ratio)
DAAA	Pharmacy	52579	1.88/OBD
DBAA	Pathology	95480	3.42
DCAA	Radiology	9088	.33
DEAA	Sterile Supply	62	.002
DFAA	Anesthesiology	5963	.21
DFCA	Recovery Room	4740	.17
DDAA	EKG	178	.0064
DDBA	EEG	80	.0029
DDCA	EMG	21	.00075
DHBA	Occ. Therapy	15125	.54
DHCA	Phys. Medicine	26	.0009
DHDA	Phys. Therapy	452	.016
ECKE	Logistics	46553	1.77
ECKF	Laundry Contract	243058	8.69
EEAA	Logistics	46553	1.77

Table 21 reflects EACH's cost per performance work unit for each of the ancillary and support work centers affected by the introduction of inpatient mental health care. EACH unit cost information was extracted from the EACH MEPRS fourth quarter, FY 1989 report. Health Services Command (HSC) MEPRS information was extracted from the fourth quarter, fiscal year 1989 Average

Inpatient Cost by Facility report. This information was provided for comparative purposes.

In Table 21, several EACH work center's unit costs are listed as not applicable (NA). Two services, electroneuromyography (EMG), MEPRS code DDCA, and Physical Medicine, MEPRS code DHCA, are not provided at EACH. Therefore site-specific cost information was not available. To account for the cost of purchasing the predicted quantities of this care, an estimate was produced by taking the unit cost from the regional military referral center, Fitzsimmons Army Medical Center (FAMC) and multiplying it by the expected work load and a factor of 1.5 (see Table 23) to account for the average difference in the cost of providing a service within a DoD treatment facility and the cost of purchasing that service on the local economy (CHAMPUS Chartbook of Statistics, 1989). The FAMC cost figure, as opposed to the HSC average, was employed to account for regional similarities in economic forces that dictate the cost of a service.

Table 21.

Ancillary and Support Center Unit Costs (EACH)

MEPRS Code	Work Center	Unit Cost	HSC AVE Cost
DAAA	Pharmacy	9.18 /WTD PRO	8.59 /WTD PRO
DBAA	Pathology	.40 /WTD PRO	.65 /WTD PRO
DCAA	Radiology	4.92 /WTD PRO	5.83 /WTD PRO
DEAA	Sterile Supply	28.42 /HRS SER	4.07 /HRS SER
DFAA	Anesthesiology	2.38 /MIN SER	1.53 /MIN SER
DFCA	Recovery Room	1.17 /MIN SER	1.39 /MIN SER
DDAA	EKG	9.46 /PROCED	9.96 /PROCED
DDBA	EEG	57.07 /PROCED	79.05 /PROCED
DDCA	EMG	NA	15.00 /PROCED
DHBA	Occ. Therapy	22.77 /VISIT	25.52 /VISIT
DHCA	Phys. Medicine	NA	72.87 /VISIT
DHDA	Phys. Therapy	19.10 /VISIT	17.33 /VISIT
ECKE	Logistics	NA	NA
ECKF	Laundry Contract	NA	NA
EEAA	Logistics	.34 \$ SUPP/MIN	NA

Two other codes listed in Table 20 as NA were Logistics, code ECKE, and code ECKF, laundry contract costs. Logistics code ECKE defines installation level, or other base support logistics that WRAMC reflects due to their status as a separate installation. MEPRS code ECKF, laundry contract, was reflected as not applicable (NA) because laundry services are an installation function provided at no cost to Evans Army Community Hospital (LTC Denis Rosnick, Chief, EACH Logistics Division, personal communication, 20 March 1990). Because these two accounts have no impact on the direct costs to Evans of providing inpatient mental health services, they will be disregarded in

future discussions.

Table 22 illustrates the work load anticipated in the various ancillary and support centers impacted by capturing mental health work load in EACH. The projected work load figures for EACH were obtained by multiplying the ratio of work units per occupied bed day derived from the WRAMC data by the maximum number of bed days available in a 12 bed ward, or 4380 bed days per year.

Table 22.

Annual Impact of Recaptured Inpatient Mental Health Work Load on EACH Ancillary and Support Work Centers (in Work Units)

MEPRS Code	Work Center	Units/OBD Ratio	Projected Work Load
DAAA	Pharmacy	1.88	8234.40 WTD PRO
DBAA	Pathology	3.42	14979.60 WTD PRO
DCAA	Radiology	.33	1445.40 WTD PRO
DEAA	Sterile Supply	.002	8.76 HRS SER
DFAA	Anesthesiology	.21	919.80 MIN SER
DFCA	Recovery Room	.17	744.60 MIN SER
DDAA	EKG	.0064	28.03 PROCED
DDBA	EEG	.0029	12.70 PROCED
DDCA	EMG	.00075	3.29 PROCED
DHBA	Occ. Therapy	.54	2365.20 VISITS
DHCA	Phys. Medicine	.0009	3.94 VISITS
DHDA	Phys. Therapy	.016	70.08 VISITS
EEAA	Logistics	1.77	7752.60 \$ SUPP

The projected cost for providing this additional work load was determined by multiplying the number of work units by the EACH unit cost of producing that work load based on EACH 4th



quarter, FY 1989 MEPRS reports (Table 23). Projected costs for EMG and Physical Medicine services were calculated based on the previously stated rationale.

Table 23.

Projected Annual Ancillary and Support Costs of Recaptured Mental Health Inpatient Work Load at Evans Army Community Hospital

MEPRS Code	Work Center	Projected Work Load	Unit Cost	Total Cost
DAAA	Pharmacy	8234.4	9.18 PER	75591.79
DBAA	Pathology	14979.6	.40	5991.84
DCAA	Radiology	1445.4	4.92	7111.37
DEAA	Sterile Supply	8.76	28.42	248.96
DFAA	Anesthesiology	919.8	2.38	2189.12
DFCA	Recovery Room	744.6	1.17	871.18
DDAA	EKG	28.03	9.46	265.16
DDBA	EEG	12.70	57.07	724.79
DDCA	EMG	3.29	23.42*	115.58**
DHBA	Occ. Therapy	2365.2	22.77	3855.60
DHCA	Phys. Medicine	3.94	84.33*	498.39**
DHDA	Phys. Therapy	70.08	19.10	1338.53
EEAA	Logistics	7752.6	.34	2635.88
				-----
				\$101,438.19

\* denotes FAMC unit cost per work unit.

\*\* denotes total predicted cost based on FAMC unit cost times factor of 1.5.

Noticeably absent in the total cost figures for providing ancillary and support services to an inpatient mental health ward are required staff increases in the various work centers in response to the additional work load. To determine if there existed sufficient slack in the affected ancillary and support

centers production capability, the projected work load due to recapturing inpatient mental health care was added to current work load levels and compared to the upper work load limits as specified in DA Pamphlet 570-557, the Army's standard for staffing levels. All affected ancillary and support work centers contained sufficient slack within their operations to handle the increased work load without requiring additional staffing (Mr. B. Stokes, Chief, Manpower Division, EACH Resource Management Division, personal communication, 20 March 1990).

The total cost to EACH for providing 4380 inpatient mental health bed days was determined by adding the ancillary and support cost component to the cost of the staffing required to operate the ward, or \$462,953.93. Therefore, the additional direct costs to EACH to operate an inpatient mental health ward, based upon an annual maximum capacity of 4380 bed days, would equate to \$105.69 per mental health bed day.

The active duty component of the inpatient mental health demand in the CAM catchment area will not contribute to cost avoidance through recaptured CHAMPUS work load. Therefore, before maximum annual cost avoidance through a recapturing initiative could be quantified, the number of mental health bed days that will be consumed by active duty patients had to be estimated. Currently this segment of the Fort Carson active duty

population is referred to Fitzsimmons Army Medical Center (FAMC) for care. In fiscal year 1989 108 soldiers were referred to FAMC.

The USAF Academy transfers their active duty patients to USAF medical centers for treatment or refers them to a civilian provider. In FY 1989 the Air Force Academy and Peterson AFB combined had 7 active duty patients requiring this level of care. All referred patients in FY 1989 had lengths of stay in excess of 10 days (1LT Lourden Poole, USAF Academy Hospital Patient Administrator, personal communication, 2 May 1990).

Due to the funding stream of the CAM project, an inpatient ward at EACH would be financed through CHAMPUS funds. This would require EACH to expend supplemental care dollars for all active duty care in the proposed mental health ward (LTC Arthur Badgett, CAM Project Officer, personal communication, 30 March 1990). For this reason, active duty inpatient episodes will be restricted to those diagnoses that present with a projected length of stay of 10 days or less (LTC William Strampel, EACH Deputy Commander for Clinical Services, personal communication, 2 April 1990).

Based on a 3-month sample from 4th quarter FY 1989, the average length of stay for Fort Carson active duty patients referred to FAMC's inpatient psychiatric ward was 24.56 days. Based upon an assumed annual rate of 108 Fort Carson psychiatric

admissions referred to Fitzsimmons, all with lengths of stay at or below 10 days, would yield a maximum of 1080 bed days consumed by active duty admissions in a year. This is surely grossly overestimated since the 3-month sample of referrals to Fitzsimmons yielded only 3 admissions, or 18.75 percent of the sample, with lengths of 10 days or less. In fact, only 43.75 percent had lengths of stay of 20 days or less. Based on 18.75 percent of the projected active duty inpatient mental health demand having lengths of stay at or less than 10 days would predict 202.5 bed days devoted to active duty admissions. Because the insignificance of the USAF active duty mental admissions projected to be under the 10 day criteria, they will be ignored for future calculations. Therefore, for study purposes, active duty inpatient mental health admissions that satisfy the 10 day length of stay criteria were predicted to account for 203 bed days per year.

#### Cost Avoidance due to Recapturing

Therefore, to calculate the potential cost avoidance to the government from the recapturing of CHAMPUS inpatient mental health work load, the active duty demand that would meet the length of stay criteria was first subtracted (ie. 4380 - 203). Employing the average CHAMPUS per diem rate in the CAM catchment area of \$460.80, the projected cost of this care under the

current CHAMPUS system would amount to \$1,924,761.60. The direct cost to EACH for this care is \$105.69 per bed day or a total of \$441,467.13 for 4177 bed days. The potential cost avoidance to the government gained by a recapturing initiative at Evans Army Community Hospital would be approximately \$1,483,294.50.

#### Critical Elements of a Managed Care Program

According to Trauner (1987) the following managed care mechanisms most frequently employed in mental health services are; focus on high-cost, high-risk, and high-volume diagnoses targeted for intensified management; preadmission and concurrent utilization review for inpatient mental health services; retrospective review of mental health care claims; preferred provider contracts with mental health professionals and facilities offering specialized mental health or substance abuse programs as well as use of selective contracting to channel patients to providers identified as cost-efficient or offering discounted rates; referral services linking up beneficiaries to community resources and mental health professionals.

#### Focused Utilization Review

Success in reducing costs under managed care requires that specific goals and objectives be established. Focusing efforts of utilization review to particular operational areas has potential for significant cost reduction. Payne (1987) outlines

several guidelines for managers to consider when deciding on utilization review targets. First, subject targets must be meaningful and appropriate to the facility. Second, categories must be able to undergo review with relative ease and economy. Third, there must be pronounced differences in the costs of suspect targets. Fourth, categories must be able to support the review effort by providing sufficient numbers of records.

As demonstrated earlier in this section, focused utilization review on selected high cost and high volume diagnoses will provide managers with a clear view of major cost accelerators, as well as providing opportunities for significant cost reduction.

#### Preadmission and Concurrent Review

Case management, one of the newest managed-care approaches, is essentially a hybrid of prospective and concurrent utilization review that takes a systematic approach to identifying high-cost patients. A review of medical records for specific categories of hospital patients is conducted as the first step in identifying potential catastrophic diagnoses. These programs are designed to identify and substitute lower-cost alternatives to hospitalization by conducting case-by-case review of admissions before they incur catastrophic costs (Fisher, 1987). This process is normally undertaken by psychiatric nurses backed by board-certified psychiatrists.

All forms of utilization review employ the process of evaluating the use of professional medical care, services, procedures, and facilities against pre-established criteria that are designed to provide high-quality and efficient patient care. Many concurrent review programs employ treatment plans that are completed by the attending physician at the time of admission. This treatment plan delineates the expected length of stay, the projected treatment regimen, and the admitting diagnoses for the inpatient. An example of a treatment plan for CHAMPUS mental health care is at Appendix B.

Pre-admission screening is the process of evaluating patients prior to admission, to determine if inpatient level of care is medically necessary. Evaluations are done face-to-face through clinical interviews or by telephone with other clinicians who know the patients. This review process often includes monitoring of treatment protocols and, when necessary, comparison of protocols with actual medical records (Trauner, 1987). Screens to determine the necessity for admission for acute mental health inpatient hospitalization (Appendix C) and for mental health emergency services (Appendix D) were obtained from Foundation Health Corporation. Diagnostic criteria and the treatment screen for diagnoses code 2962, Major Depression, the second leading high-volume diagnostic category in the FY 1988

CHAMPUS data for the CAM catchment area, were also obtained from Foundation Health Corporation (Appendix E). Foundation Health Corporation is the prime contractor for providing a comprehensive managed health care system for the CHAMPUS Reform Initiative (CRI). CRI is another CHAMPUS managed care demonstration project currently being conducted in California and Hawaii.

#### Retrospective Review

Retrospective review of CHAMPUS claims is currently conducted by The Office of CHAMPUS. This mechanism would continue for those CHAMPUS patients treated by civilian providers. However, mental health admissions treated within EACH would not be subject to this mechanism. Therefore, the retrospective review process will have to be conducted by providers practicing within EACH.

#### Preferred Provider Network

Based on the previously mentioned assumption that future inpatient mental health demand will approximate FY 1988 levels, the mental health inpatient care that exceeds the capacity of EACH, either because of diagnoses or volume, will continue to receive care under CHAMPUS.

Because EACH cannot accommodate all the psychiatric inpatient demand within the catchment area defined, cost effective recapturing of CHAMPUS mental health work load



requires the establishment of mental health provider networks in the civilian sector. These arrangements are most critical for those high-cost and/or high volume diagnoses that cannot be managed within the military treatment facility. The purpose of these arrangements is to, through a selection process, establish ties with mental health care organizations that have not just provided services at a discounted rate, but also have demonstrated a track record of providing appropriate, high-quality care with appropriate lengths of stay.

Assuming maximization of the recapturing initiative at EACH, the remaining inpatient mental health demand within the CAM catchment area will be approximately 14,542 bed days. Based upon experiences of managed care endeavors drawn from the literature, a conservative reduction of 15 percent in the aggregate ALOS was assumed for the purposes of this study. Given this, the resultant reduction in ALOS for this care would account for an avoidance of 2,181.3 bed days annually. At the average per diem rate of \$460.80 this represents a potential cost avoidance of \$1,005,143.00 as a result of the management of mental health inpatient lengths of stay.

Additional cost savings for the work load that exceeds the capability of the inpatient ward at Evans could be reasonably expected based upon discounts offered by the preferred provider

network. However, for the purposes of this study, this potential element of cost avoidance will not be considered.

Cost of a Managed Care Program at EACH

In the private sector, inpatient mental health utilization review is typically conducted by psychiatric nurse reviewers backed by board-certified psychiatrists. The number of nurse reviewers required is dictated by the average daily patient load.

The average daily CHAMPUS inpatient mental health demand in the CAM catchment area is 51.84 patients (CHAMPUS Health Care Summary By Primary Diagnoses Report, 1989). Because utilization review operates on a philosophy of "review when you can make a difference", according to the Utilization Manager for Medical Network Preferred Provider Organization (PPO), Ms. Bonnie Kirkpatrick, one psychiatric nurse reviewer can adequately manage 52 current inpatient episodes (personal communication, 29 March 1990).

The direct annual cost associated with the hiring of a utilization review nurse was determined from salary and position coding information provided by the Civilian Personnel Office (CPO), Fort Carson, and the January 1990 General Schedule Pay Chart (Federal Employees' News Digest, September 1989). See Table 24.

Table 24.

Estimated Cost of a Utilization Review Manager

REQ	Position	Grade/Level	Salary	Benefit Cost	Total
1	Psych. Nurse	GS-11 Step 4	\$32,879	\$9,715.74	\$42,594.74

Preferred provider networks are currently being negotiated in Colorado Springs under the provisions of the Catchment Area Management Project. Staffing required to administrate this area are currently on staff at EACH. According to LTC Badgett, CAM Program Manager, excess capacity exists in this staff to perform the function of establishing inpatient mental health preferred providers. Therefore, no additional direct costs to EACH are anticipated.

Health Care Finders are designated EACH staff members with the function of providing referral services linking up beneficiaries to community resources and mental health professionals within the established preferred provider networks. These staff members are part of the CAM Project, and again have sufficient excess capacity to accommodate the additional work load associated with inpatient mental health in the catchment area (LTC Badgett, CAM Program Manager, personal communication, 16 April 1990).

#### Cost Avoidance for Remaining CHAMPUS Care

Therefore, the total cost of administering a managed care program for inpatient mental health in the CAM catchment area would be represented by the annual salary and benefit costs of hiring a psychiatric nurse utilization reviewer.

Potential cost avoidance associated with the management of inpatient mental health care that will receive treatment on the economy has previously been estimated to be \$1,005,143.00. After the cost of the utilization reviewer is accounted for, the remaining net cost avoidance to the government as a result of managing CHAMPUS care delivered on the local economy would be approximately \$962,548.26 per year.

#### Discussion

##### Demand for Mental Health Care in CAM Catchment Area

An analysis of all FY 1988 CHAMPUS inpatient mental health admissions yielded an average daily census of 51.84 patients for these services. The distribution of demand was nearly an even split with 43 percent of these admissions Category I (psychoses) diagnoses and 57 percent Category II (substance abuse) diagnoses. Of all non-availability statements (NAS) issued in FY 1988 for inpatient mental health services, 67.76 percent were issued by EACH, with the remainder issued by the USAF Academy. This distribution pattern of inpatient mental health non-availability

statements coupled with the fact that EACH is the only military MTF that has expansion capability makes EACH a logical choice for the site of a managed care effort in mental health services.

Based upon the strategy to maximize CHAMPUS cost avoidance, active duty admissions for mental health services must first satisfy diagnoses and length of stay screening criteria. This is by design a barrier to active duty admissions. This is necessary because every bed day occupied by an active duty admission represents a missed opportunity to avoid costly CHAMPUS expenditures. However, without question, any active duty member presenting with a diagnoses that places themselves or others in personal danger will be accommodated. Based upon an analysis of the population that met this criteria, active duty inpatients are predicted to constitute less than one patient per day. Therefore, a proposed 12-bed inpatient ward at EACH will satisfy 22.64 percent of the combined CHAMPUS and active duty demand for inpatient mental health care.

#### High-Cost and High-Volume Diagnoses

Analysis of the CHAMPUS data set yielded 65 distinct diagnostic categories. Of these, the top 5 high-cost diagnoses and the top 5 diagnoses by volume were selected as candidates for intensified or focused management attention. A total of ten diagnostic categories were selected to provide a group of

diagnoses that, for initial efforts, would be easily manageable. This selection process was also based upon the assumption that by identifying these diagnoses for closer management, the greatest proportional effect on total costs can be affected. The statistics bear this out: Although the high-volume group's average cost per admission of \$13,363.26 was below the average cost of a CHAMPUS mental health admission in the CAM catchment area of \$14,249.84, it was still significantly greater than the national CHAMPUS average for all inpatient mental health diagnoses of \$10,145 for the same fiscal year. Therefore, despite the fact that this group of high-volume diagnoses were below the CAM catchment area average in their cost per admission, their cumulative effect on total cost was staggering - almost 39 percent. Similarly, the high-cost group of diagnostic categories only represented 4.32 percent of total mental health admissions, yet constituted 14.06 percent of total costs. In conclusion, these ten diagnoses constituted only 15 percent of the total mental health diagnostic categories yet accounted for 47.66 percent of all admissions and 52.68 percent of total costs for FY 1988 CHAMPUS inpatient mental health services in the CAM catchment area. Also notable is the fact that these ten diagnoses had an average cost per admission that was 39 percent higher than the CHAMPUS national average for inpatient mental

health admissions (Table 11).

The objective of focusing attention on the major diagnoses that constitute a disproportionately high share of resources is to obtain the "most bang for the administrative buck." Clearly, these ten diagnostic categories hold great potential for effecting reductions in unnecessary admissions and lengths of stay, with the ultimate goal of controlling growth in total costs.

#### Diagnoses Targeted for Recapturing

Following the selection of the top ten volume and cost diagnoses, these diagnoses were reviewed for their suitability for treatment within a proposed mental health ward in EACH. This review resulted in 7 diagnostic categories that were deemed by EACH mental health professionals to be suitable for recapturing within EACH. These 7 diagnostic categories were comprised of 4 high-volume diagnoses and 3 high-cost diagnoses. Together these seven diagnoses accounted for only 11 percent of the 65 diagnostic categories, but 38.51 percent of total admissions and 35.64 percent of the FY 1988 expenditures for mental health services. Again, although these diagnostic categories represent opportunities for maximum CHAMPUS cost avoidance, any mental health patient presenting in an emergency situation as a threat to themselves or others would receive treatment.

### EACH Mental Health Ward

The proposal to open a 12-bed inpatient mental health ward in EACH was based upon several decision criteria. First and foremost was the fact that the design modifications for a 12-bed ward were already completed, thereby avoiding capital investment expenditures for both equipment and construction. Based on an annual capacity of 4,380 bed days, EACH would have the capability to recapture 65 percent of the demand represented by the seven diagnostic categories targeted for recapturing. The remaining demand would receive care delivered in the private sector.

The cost avoidance projected by recapturing the seven diagnostic categories is probably under-estimated due to the effect of managed care mechanisms on length of stay. Fiscal year 1987 CHAMPUS data indicated that the average length of stay for a mental health admission in a CHAMPUS reimbursed facility was 40 percent greater than the average admission in a military treatment facility (CHAMPUS Chartbook of Statistics, 1989). To put this in other terms, a 40 percent reduction in length of stay in a 12-bed ward would translate into 1,752 avoided bed days. If these bed days were open to other CHAMPUS patients, an additional cost avoidance of \$623,361.60 could be realized through an inpatient mental health ward in EACH. This would suggest that cost avoidance would be realized not only through the



substitution of lower MTF inpatient costs in lieu of CHAMPUS per diem rates, but also by reduced lengths of stay as a result of managing the inpatient episode. Again, it appears probable that cost avoidance projections in this project are conservative.

#### Mental Health Ward Staff Requirements

Implications on staffing would be restricted to nursing staff only, due to the sufficient availability of mental health professional staff. The absence of military authorizations for nursing personnel coupled with the provisions of the CAM project point to civilian hires as the most viable strategy to fill nursing positions. Realistically, the Department of Nursing would likely transfer a military position from within the organization to emplace military leadership over inpatient mental health nursing operations (Colonel Barbara Conrad, Chief, EACH Department of Nursing, personal communication, 3 April 1990).

MS3 standards for an inpatient psychiatric ward list a 12-bed ward as the minimum sized ward. An increase in ward size would probably not elicit a linear response in nursing staff requirements. Greater economies of scale might be experienced by increasing the ward size. The current availability of EACH professional staff would also provide slack for growth in the size of the ward.

Impact of Recaptured Work Load on EACH Work Centers

Where a service is already offered in a military hospital, the costs related to providing that service at that specific hospital are recorded and accounted for by the Medical Expense and Performance Evaluation Report (MEPRS) cost accounting system. Because an inpatient mental health ward is not currently in operation at EACH, historical data were not available to quantify the costs of providing that type of care. Therefore, to determine the cost of providing inpatient mental health care and the associated impact on ancillary and support services within EACH, historical MEPRS data were sought from a military treatment facility where these services were currently offered. This data was ultimately obtained from Walter Reed Army Medical Center (WRAMC).

However, there are inherent weaknesses in imposing one facilities' cost profile onto another: The costs of doing business vary by geographical region; there are cost differences associated with conducting residency programs in teaching hospitals; there are differences in case-mix; and finally, there are variations in the quality and methods of cost accounting. Recognizing this weakness, this study hypothesized that comparing facilities with similar case-mix was the best predictor of impact on ancillary and support services. It was assumed that, in

mental health care, total work unit impact on ancillary and support services was more a function of bed days, or length of stay, than by diagnoses. Therefore, for the purposes of this study, the best global predictor of case-mix was assumed to be average length of stay per inpatient episode. From the GAO data set, Walter Reed's average length of stay was 30.58 days per admission. The average length of stay for the diagnoses targeted for recapturing within EACH was 30.08 days per admission.

Therefore, despite the recognized differences in the costs of producing services within a military Medical Center (MEDCEN) versus a Medical Activity (MEDDAC), Walter Reed Army Medical Center (WRAMC) data were considered suitable as a basis for predicting EACH work load per OBD because of inferred similarities in case-mix between the two facilities. Based upon the assumption that the treatment methods employed for the same diagnoses would not differ significantly between EACH and WRAMC, the predicted impact on EACH ancillary and support work centers due to the introduction of inpatient mental health work load was extrapolated from ratios based on WRAMC services per occupied bed day. To account for differences in the cost of producing the same service between EACH and WRAMC, a ratio from WRAMC data was derived that represented the amount of services, by work center, devoted to the average mental health bed day. By using these

ratios and applying EACH cost data for these services, differences in the cost of services between facilities were controlled. Therefore, in order to avoid a potential weakness in the study, WRAMC cost data were not employed to extrapolate the cost of work load at EACH.

Each affected work center was examined to determine if the additional work load would necessitate any increases in staffing. In all cases sufficient slack existed within work center operations to absorb the additional work load. In fact, many of the affected work centers had already raised normal or authorized staffing levels in anticipation of additional work load generated as a result of the CAM project (LTC Badgett, personal communication, 13 April 1990).

#### Cost Avoidance due to Recapturing

Total cost avoidance due to recapturing efforts is represented by the difference between the cost of performing a specified amount of care in EACH and the cost of the equivalent care on the economy under CHAMPUS reimbursement rates. The application of managed care mechanisms are intended to, and normally result in reductions in unnecessary admissions, lengths of stay and ultimately total costs. However, for the purposes of calculating cost avoidance achieved through an EACH recapturing initiative, only those savings realized by delivering the same

care in a military treatment facility for a substantially lower cost (price) were quantified. That is, assumed reductions in lengths of stay or unnecessary admissions were not considered in the calculation of cost avoidance due to recapturing CHAMPUS work load. Again, for these reasons total cost avoidance calculations based on recapturing CHAMPUS mental health work load has likely been underestimated by this study.

From the "Results" section, \$1,483,294.50 in cost avoidance could be anticipated by opening an inpatient mental health ward in EACH. This is a direct result of EACH's cost of delivering that care as opposed to the prevailing CHAMPUS per diem rate. Since January 1989 CHAMPUS rates for inpatient mental health care have been reimbursed on a per diem basis. The per diem rate of \$460.80 was calculated by averaging the per diem rates of the four inpatient mental health care institutions in the Colorado Springs area (LTC Badgett, personal communication, 13 February 1990). If a 40 percent reduction in average lengths of stay were realized, this cost avoidance potentially could be increased by an additional \$623,361.60. This would be a total of \$2,106,656.10 as a result of recapturing CHAMPUS inpatient mental health care in EACH. It is worthy to note that the 40 percent difference in lengths of stay between CHAMPUS providers and military treatment facilities demonstrated in FY 1987 was most

likely achieved in the absence of managed care mechanisms.

Critical Elements of a Managed Care Program at EACH

Three general methods are traditionally espoused as means to control health care costs: government controls, market controls, and voluntary controls. Schultz and Johnson (1983) indicate that all methods of cost control center on limiting consumer access, limiting resources, or applying more controls to the system. Whether the institution is a for-profit or a not-for-profit organization, increasing costs subtract from the effectiveness with which health care can be delivered. The bottom line for health care organizations is that uncontrolled upward movement of costs jeopardizes the future security of the organization, and/or the level or volume of benefits that can be delivered. For these reasons, it is imperative that if maximum potential cost avoidance is to be realized, controls must be placed on the inpatient mental health care delivery system. Control measures are even more justified when one considers that in the CAM catchment area in FY 1988, over 25 percent of the CHAMPUS expenditures were for inpatient mental health care (LTC Mantia, Chief, EACH Patient Administration Division, personal communication, 23 April 90).

Complete control of inpatient mental health care can only be achieved through mandatory enrollment in the CAM project. To

date, the authority to make CAM enrollment mandatory has been withheld from the demonstration project sites. Enrollment in the CAM project currently carries a waiver of the annual deductible and a reduction in the co-payment, but enrollment remains voluntary. In exchange for a reduced cost share, the beneficiary loses some freedom of choice. Patients are steered to providers that are either within the military system or a civilian provider that is a member of a preferred provider network. If provisions were emplaced that made CAM enrollment mandatory for all recipients of inpatient mental health care, any beneficiary requiring inpatient mental health care and refusing enrollment could be denied care. Although mandatory CAM enrollment is not allowable at the present, the author believes that Congressional concerns with the CHAMPUS and the DoD budgets will lead to future changes in policy that will allow commanders of CAM sites to make enrollment mandatory.

#### Health Care Finders

Under provisions of the CAM project, Health Care Finders (HCF) are on staff at all the military treatment facilities in Colorado Springs to provide referral services linking beneficiaries to services within the military system first, and then with preferred provider networks when that care cannot be obtained within the direct care system. They also function as

control measures for inpatient care. Prior to issuance of a NAS for inpatient care, a Health Care Finder is consulted to direct the patient to the system that can best provide the required service. The Health Care Finder operation currently has sufficient slack to accommodate the additional work load that would be created from the management of mental health care (LTC Badgett, personal communication, 13 April 1990).

Ideally, this in-place system could be tapped into to provide the necessary control of inpatient mental health admissions. All requests for inpatient mental health services could be coordinated through the HCF office. Several HCFs could be designated to receive additional training in the nuances of mental health care delivery. Following training they would be designated as Health Care Finder-Mental Health Specialists (HCF-MHS).

The HCF-MHS would serve to coordinate the availability of treatment at EACH for CHAMPUS beneficiaries; act as a liaison between primary care providers and mental health providers; have a thorough knowledge of mental health resources at EACH and within the preferred provider network, as well as being familiar with the range of community psychosocial resources; and make appropriate referrals to the proper type of provider and level of care. If equipped with the required training and a current list



of the high-cost and high-volume diagnoses targeted for recapturing within EACH, a HCF-MHS could channel all CHAMPUS beneficiaries that present with one of the targeted mental health diagnoses to the mental health ward at EACH. For those patients presenting with a diagnoses requiring inpatient care, but not one of the targeted diagnoses, the patient would be referred to a civilian inpatient facility within the established preferred provider network.

#### Utilization Review Personnel

Utilization review personnel should function to conduct or validate all prior authorizations for inpatient admissions, day treatment service (partial hospitalization), psychological testing, Residential Treatment Center (RTC) placements and alcohol treatment programs. Mental health utilization reviewers would also conduct concurrent review to establish approval for continued inpatient treatment. Armed with preadmission screening and treatment protocols and either face-to-face or telephonic coordination between the HCF and the utilization review manager, cases would be reviewed to insure that inpatient care was required. They would also serve to communicate assessment information to mental health providers and help to frame treatment duration and goals. Following admittance to an inpatient facility, experienced psychiatric registered nurses

working as utilization reviewers would work with mental health clinicians to ensure optimum care. They would review the patient's record to evaluate medical necessity and assist the facility's staff in discharge planning to a less restrictive level of care, as soon as the patient was able to benefit from it.

According to Foundation Health's mental health management program, concurrent review should occur within three working days of the time of admission. Subsequent reviews should be done at least every seven days on-site for inpatient and partial hospitalized patients. The rule "review when you can make a difference" should apply. Some remote areas may require telephonic reviews. The attending clinician should be required to complete a "Mental Health Treatment Plan" prior to the patient's 7th day of hospitalization (Appendix B). The Mental Health Treatment Plan should delineate, at a minimum, the expected length of stay, treatment plan, and admitting diagnoses. The UR manager would provide the concurrent review function to periodically validate that inpatient care continued to be indicated and that the treatment plan was being followed.

The ten targeted diagnoses comprised of the top five volume diagnoses and the top five cost diagnoses should initially be candidates for case management. As these diagnostic categories

are controlled over time, evaluation of length of stay and volume data may reveal other diagnoses moving into the top categories. At this time it would be appropriate for focus to shift to the new diagnostic categories that warrant closer management.

Cost of a Managed Care Program at EACH

Already in support of other CAM project initiatives, Health Care Finders have sufficient slack in their operations to accommodate the demand anticipated by inpatient mental health care. Preferred provider network contract negotiation and administrative management of these contracts are provided by CAM staff and again, sufficient slack is available, thereby avoiding additional costs for hiring these personnel to implement a mental health managed care initiative (LTC Badgett, personal communication, 13 April 1990).

Additions to the staff to fulfill other functions of a managed care program at EACH would include psychiatric nurse utilization reviewers to adequately manage and execute administrative and clinical oversight of the program. As discussed earlier, one qualified psychiatric utilization reviewer would satisfy the requirements for the estimated patient demand. The estimated costs associated with this position, as outlined earlier, would be \$42,594.74 per year. Due to the other administrative functions and overhead costs already provided and

accounted for, this expense would capture the direct cost to EACH for operating a managed care program for inpatient mental health care.

Although a board-certified psychiatrist is not an absolute requirement for program oversight, Ms. Bonnie Kirkpatrick, Utilization Manager for Medical Network PPO in Colorado Springs (personal communication, 29 March 1990) strongly recommends that a staff physician be appointed to the position of physician-advisor. For the success of the program, it is essential that physicians in the organization are amenable to taking an active role in a managed care system. To achieve this they must first understand the redeeming value of a managed care program to the patient, as well as to the health care delivery system as a whole. Therefore, integral to successful execution of a managed care program for inpatient mental health is the education of the professional staff. Military and civilian providers within the mental health care network must be in consonance concerning the treatment modalities for the various diagnoses. This will require an initially intense and ongoing program of in-service forums to discuss and dispense information on alternative treatment systems and modalities if cost savings are to be maximized.

Projected Total Cost Avoidance due to Managed Care Efforts

The total direct cost to EACH for administering a managed care program for inpatient mental health care in the CAM catchment area would be represented by the annual salary and benefit costs of hiring a psychiatric nurse utilization manager. Other necessary administrative duties, such as those performed by members of the CAM staff, are already provided within the organization. As demonstrated, the additional work load represented by a managed care program for inpatient mental health care would not necessitate any increases in ancillary and support staffing levels. Therefore, the staff positions and the overhead expenses associated with their respective functions are sunk costs to the organization and would not be considered as start-up costs for a mental health managed care program.

Potential cost avoidance associated with the management of inpatient mental health care that will receive treatment on the economy has previously been estimated to be \$1,005,143.00. After the cost of the utilization reviewer is accounted for, the remaining net cost avoidance to the government as a result of managing CHAMPUS care delivered on the local economy would be approximately \$962,548.26 per year. The potential cost avoidance due to the recapturing of CHAMPUS inpatient mental health work load to a 12-bed inpatient mental health ward at EACH has been

demonstrated to be approximately \$1,483,294.50 per year. Therefore, the total potential cost avoidance to the government as a result of managing inpatient mental health care in the CAM catchment area is estimated to be \$2,445,842.80 per year. Again, this figure is considered a conservative estimate because the calculations did not account for any reductions in unnecessary admissions for the CHAMPUS care on the economy, nor did it account for reductions in lengths of stay for the work load in the proposed EACH mental health ward. Both of these factors represent significant contributors to potential cost avoidance and are expected outcomes as a result of the management of inpatient mental health care.

### Conclusions

Any decision to expand an inpatient service or to enter into a new arrangement to manage services must be evaluated against the net cost avoidance or savings that the endeavor will yield. In this case, the net potential cost avoidance due to the application of managed care mechanisms is estimated to be \$2,445,842.80 per year. In effect, this would represent a 29 percent reduction in the current CHAMPUS bill for this care in the CAM catchment area. This analysis of CHAMPUS inpatient mental health data clearly indicates that the CAM catchment area is potentially a high-yield target for the application of managed

care mechanisms. The precedent setting cost savings that other health care organizations have realized following the implementation of managed care mechanisms for inpatient mental health care lends additional support to this conclusion.

Initial results from the operation of an inpatient mental health ward at EACH could trigger management's decision to expand the ward's size beyond the initial 12-bed size. Inpatient mental health beds are among the more inexpensive beds to operate (Colonel Fagan, M.D., Psychiatric Consultant to the Army Surgeon General, personal communication, 26 March 1990). Provided that critical staff personnel were available on the local market, expansion may be a natural evolution to take maximum advantage of economies of scale. The data analysis would indicate that the marginal revenue (in this case, cost avoidance) achieved would greatly exceed the marginal costs associated with an expansion of services.

A comprehensive managed care program that demonstrates significant cost avoidance benefits all concerned, payer and beneficiary alike. Revenues previously expended on mental health care can be diverted to other health care programs or left in the pockets of the taxpayers. Also, a reduction in costs per CHAMPUS admission represents a reduced cost share for the beneficiary.

The managers of CHAMPUS care are potentially significant

power brokers in the CAM catchment area, particularly in the mental health arena. Rarely has the military had the opportunity to take advantage of competitive forces in the market place to this degree. Due to the market share of CHAMPUS mental health care that the CAM managers potentially control in the Colorado Springs area suggests that any significant CHAMPUS recapturing initiative of inpatient mental health services could have a profound impact on not only the cost of care, but also the method of mental health care delivery in the local market. This may even elicit reductions in the cost to the government for outpatient mental health services.

Following the implementation of a managed care program, evolution of the system for providing inpatient mental health care would optimally result in the identification of cost-effective treatment options, a coordinated system for outpatient care, additional CHAMPUS benefit waivers and redesigns, and preferred provider channeling for mental health diagnoses. Also, through a system of controls that monitor utilization of resources as well as patient outcomes, new treatment systems could emerge that both save money and enhance outcomes. The current inpatient oriented system could evolve into a model mental health benefits plan that provides for a continuum of care that includes outpatient services, partial



hospitalization, inpatient psychiatric hospitalization, residential treatment centers, half-way houses, and other transitional and community residency programs. Ideally, the results from this study could serve as the template for CHAMPUS mental health care recapturing initiatives at military treatment centers through the Department of Defense.

#### Recommendations

This study has concluded that over 2.4 million dollars can potentially be saved (cost avoidance) in Colorado Springs through the application of managed care mechanisms on CHAMPUS inpatient mental health care. Clearly, inpatient mental health care represents a tremendous opportunity for reducing CHAMPUS costs and therefore the organization should immediately embark upon a strategy that targets this category of care. In view of the reported findings, there are several actions that should be taken at Evans Army Community Hospital to maximize cost avoidance through the application of managed care mechanisms on inpatient mental health care: Based on this study's projections, the greatest cost avoidance can be realized through the recapturing of CHAMPUS inpatient mental health work load. Therefore, the actions required to open and operate an EACH mental health ward should be initiated at once. This would include initiating hiring actions for the necessary nursing personnel to staff the

ward.

To track the establishment, development and progress of a managed care program for inpatient mental health care, a Mental Health Managed Care Division should be established at Evans Army Community Hospital. Because of its existing responsibilities for administering the management of health care in Colorado Springs, this proposed division should fall under the administrative overview of the CAM Project Office. Required actions would include the formation of a mental health preferred provider network in the Colorado Springs metropolitan area. This should be achieved through the establishment of contracts with mental health providers that can demonstrate track records of delivering quality, cost effective care. Eligibility for this network should also include requirements to deliver care at reduced prevailing CHAMPUS rates in exchange for patient volume. The goal should be to develop an integrated delivery system for CHAMPUS mental health care that provides high quality care at reduced total costs.

As part of the managed care division, a board-certified psychiatric nurse should be hired to serve as the utilization review manager for inpatient mental health care. The duties of this position should be to manage the care of all mental health inpatients in the CAM catchment area. This would include the

establishment and/or adoption of preadmission screening criteria, an effective concurrent review program, and a retrospective review program. Additional duties should include training the Health Care Finders in the desired flow of mental health inpatients in an integrated managed care delivery system.

Utilization management focus should initially be on the studies' "hit list" of the top ten cost and volume mental health diagnostic categories. This "hit list" should be analyzed on a periodic basis to validate the "membership" is this group. If managed care mechanisms are successful, these targeted diagnoses should, over time, reflect reductions in average costs per admission, as well as reductions in average lengths of stay. Some diagnoses may eventually fall out of the top categories if managed care mechanisms prove to be highly successful.

An EACH staff psychiatrist should be appointed to the position of Physician-Advisor to provide clinical overview of the program. This position would also serve to provide liaison with other clinicians in the military direct care system as well as providers in the preferred provider network. This individual should also be involved in physician education programs that provide a forum where military and civilian mental health providers can be exposed to the concept, goals, and benefits of managed care and the delivery of inpatient mental health care.

Finally, the leadership at Evans Army Community Hospital should petition the policy makers at the U.S. Army Health Services Command, the U.S. Army Office of The Surgeon General, the Office of CHAMPUS and, where appropriate, Congressional leaders on the value of granting commanders of CAM project sites the authority to make CAM enrollment mandatory for specific patient groups. Maximum cost avoidance to the government for inpatient mental health care will only be realized when those responsible for financing that care retain control of the delivery patterns for inpatient mental health care.

### References

- Aaron, Hugh & Breindel, Charles Ph.D. (1988, Sep/Oct). The evolution toward 'managed' health care. MGM Journal, 62-64.
- Boland, Peter. (1987, Winter). Trends in second-generation PPOs. Health Affairs, 75-81.
- Carlova, John. (1988, September 19). Could this alternative to hospital care help your patients? Medical Economics, 105-109.
- Engoron, Fran & Stone, Ethan. (1988, July/August). Managed care: assessing the impact on hospitals - today and tomorrow. Federation of American Health Systems Review, 44-46.
- Feldstein, Paul J. Ph.D., Wickizer, Thomas M. M.P.H., M.A., & Wheeler, John R.C., Ph.D. (1988). Private cost containment: the effects of utilization review programs on health care use and expenditures. New England Journal of Medicine, 318(20), 1310-1314.
- Fisher, Karen. (1987, August). Case Management. Quality Review Bulletin, 288-290.
- General Accounting Office. (1990). Methodology for determining staffing needs and variable costs associated with recapturing CHAMPUS workload. Unpublished manuscript.
- George-Perry, Sharon. (1988, November). Easing the costs of mental health benefits. Personnel Administrator, 62-67.
- Gisin, George J. PhD., & Sewell, Benjamin C. MBA. (1989).

Financial management in ambulatory care: New initiatives for cost containment in the military health care system. Journal of Ambulatory Care Management, 12(2), 87-92.

Goldstein, Jill M. PhD., Bassuk, Ellen L. M.D., Holland, Stephen K. M.D., & Zimmer, Danya M.S.W.. (1988). Identifying catastrophic psychiatric cases: targeting managed-care strategies. Medical Care, 26(8), 790-799.

Honiberg, Scott A. (1990, April). Military contracts present growth opportunities. Healthcare Financial Management, 38-45.

Hurley, Robert E., & Freund, Deborah A. (1988). Determinants of provider selection or assignment in a mandatory case management program and their implications for utilization. Inquiry, 25, 402-410.

January 1990 General Pay Schedule. (September 4, 1989). Weekly Federal Employees' News Digest, 39(5), 31.

Kahn, Lawrence M.D. (1987). A physician's view of managed care. Health Affairs, 90-95.

Kazahaya, Glen I. & Masters, Guy M. (1988, September). Case-mix management enhances profitability. Healthcare Financial Management, 76-79.

Kim, Howard. (1988, October 28). Tension typifies relationship between psychiatric providers, managed care. Modern Healthcare, 86-87.

Langman-Dorwart, Nancy M.S., M.P.H., & Peebles, Tom M.D. (1988).

A comprehensive approach to managed care for mental health.

Administration in Mental Health, 15(4), 226-235.

LeBrun, Peter & Keener, Susan B. (1988, May). Case management offers opportunities. Health Care Strategic Management, 11-12.

Manpower Staffing Standards System. (May 15, 1984). Department of the Army Regulation 570-5. Washington, D.C: U.S. Government Printing Office.

Milstein, Arnold, Oehm, Marvis, & Alpert, Geraldine. (1987).

Gauging the performance of utilization review. Business and Health, 10-12.

Restuccia, Joseph D., Payne, Susan M.C., Lenhart, Gregory, Constantine, Herbert P., & Fulton, John, P. (1987).

Assessing the appropriateness of hospital utilization to improve efficiency and competitive position. Health Care Management Review, 12(3), 17-27.

Office of Civilian Health and Medical Program of the Uniformed Services. (1989). CHAMPUS chartbook of statistics (DoD Publication No. 5400.2-CB). Washington, D.C: U.S. Government Printing Office.

Robinson, Richard JD. (1988). A primer on how to analyze contracts and avoid the traps: part 2. Consultant, 28(11),

92-97.

Rodriguez, Alex R., M.D. & Sainer, Elliot A., Ph.D. (1988, May-June). Point/counterpoint: exchanging views on mental health in managed care plans. Federation of American Health Systems Review, 21-24.

Rosenstein, Alan H. M.D. (1987). Survival planning: utilization review and effective case management. Health Care Strategic Management, 14-17.

Schultz, Rockwell Ph.D., Greenley, James R., Ph.D., & Peterson, Robert W., Ph.D. (1983). Management, cost, and quality of acute inpatient psychiatric services. Medical Care, 21(9), 911-928.

Shueman, Sharon A. PhD. (1987, September). A model of case management for mental health services. ORB, 314-317.

Sims, Lillian S., Ed. (1988, July/August). Managed mental health care: what it is and how it works. EAP Digest. Staffing guide for United States Army Medical Activities. (26 June 1974). Department of the Army Pamphlet 570-557. Washington, D.C: U.S. Government Printing Office.

Trauner, Joan B. Ph.D. (1987). Selective contracting for mental health services. Journal of Ambulatory Care Management, 10(4), 28-38.

Total CHAMPUS Inpatient Care by Diagnoses Code Report. (1989).



Office of Civilian Health and Medical Program of the Uniformed  
Services: Aurora, Colorado.

Trauner, John B. (1987). The next generation of utilization  
review. Business and Health, 14-16.

Wenzel, Frederick J. (1988). Grouping together is the answer.  
Consultant, 28(4), 105-114.

Westbrook, Lisa. (1988). The changing nature of mental health  
care. Business and Health, 36-38.

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## Appendix A

Definitions

Admission - The registration and acceptance by a hospital or authorized provider of a patient for medical care and treatment with an expected length of stay of at least 24 hours.

Average Cost Per Hospital Admission - Total hospital costs divided by the number of admissions. On those tables which reflect total inpatient costs, the average cost per hospital admission is obtained by dividing the total hospital and inpatient professional services costs by the number of admissions. Unless otherwise stated all costs reflect government cost only.

Average Length of Stay - The average length of time (days) that beneficiaries remain in a hospital or institution per admission.

CAM Catchment Area - That catchment area defined by combining the catchment areas of Fort Carson and the USAF Academy.

Category I Mental Health Diagnoses - Refers to those diagnostic codes that encompass mental health afflictions of the psychotic nature.

Category II Mental Health Diagnoses - Refers to those diagnostic codes that encompass mental health afflictions associated with substance abuse.

Catchment Area - That geographical sector defined by a 40-mile

radius surrounding a military hospital.

Claim - A request from a beneficiary/provider for payment by CHAMPUS for medical services and supplies provided by an authorized provider.

Day Treatment - Refers to longer periods of treatment time on an outpatient basis, generally on a multiple occurrence per week basis. It's purpose is to either avoid hospitalization or reduce length of stay.

Direct Care System - Refers to the Uniformed Services Medical Care System consisting of military hospitals, outpatient medical clinics and dental facilities throughout the world.

High-Cost Diagnoses - For the purposes of this study, those mental health diagnostic categories that ranked first through fifth in total cost to the government in the CAM catchment area.

High-Volume Diagnoses - For the purposes of this study, those mental health diagnostic categories that ranked first through fifth in total number of admissions per diagnostic category in the CAM catchment area.

Hospital Day - A 24 hour period during which a patient is occupying a hospital room and bed for some or all of the 24 hour period.

Inpatient - A patient who has been admitted to a hospital or other authorized institution in order to receive necessary

medical care with the expectation the expectation that the patient will remain in the institution at least 24 hours.

Mental Health - Care and treatment where the main interest is in the mental state of the patient. It includes all forms of mental disorders, to include substance abuse disorders, even though associated with or secondary to physical conditions. All mental health data include both short-term and long-term, i.e., Residential Treatment Center, care.

Opportunity Cost - Those desired activities which must be forfeited as a trade-off to take an alternative course of action.

Outpatient - A patient who received medical care and treatment from an authorized provider and who has not been admitted and registered as an inpatient. This includes medical care and treatment received in an outpatient department of a hospital or other authorized institutions.

## APPENDIX B

# CHAMPUS MENTAL HEALTH TREATMENT PLAN

CHAMPUS Reform Initiative  
Southwest Region

## INSTRUCTIONS

Please complete and return this "Mental Health Treatment Plan" prior to completion of the 6th session of outpatient care or before the 7th inpatient or partial hospitalization day. This form must be submitted to receive authorization for further care. Please respond to all items, using the back of the form if additional space is needed. All administrative data on the report must be completed. Additional documentation, such as a narrative or hospital chart (all or part) may be submitted to supplement the information contained in this report, but will not be accepted in lieu of this treatment plan.

## COVER SHEET INSTRUCTIONS (SHADED AREAS FOR OFFICE USE ONLY)

1. Patient's Complete Name
2. Patient's Social Security Number
3. Patient's Date of Birth
4. Sponsor's Social Security Number (eligibility is determined by the person who is or was an active duty service person)
5. List other Health Insurance Coverage
6. List appropriate Provider Information
  - a. Provider requesting treatment authorization (include License number)
  - b. Primary Care Provider (if known)
  - c. Referring Provider (if other than Primary Care Provider)
  - d. Facility and IRS number (if treatment is in a facility)
7. Primary Care Providers Referral (Y/N)
8. Place of Service — Please mark appropriate location
9. Requesting Provider Type — Please mark your specialty
10. Diagnosis — verbal description, listing primary diagnosis first
11. Principle Diagnosis — Circle "P" for Primary or "S" for Secondary and "Y" if this is a "rule out" diagnosis or "N" if not
12. List appropriate DSM-III-R AXIS numbers
13. Complete date treatment began and ended (if appropriate)
14. If applicable, list number of outpatient visits and frequency requested
15. List appropriate CPT Code type requested (if appropriate)

(SHADED AREAS FOR OFFICE USE ONLY)

"REPRODUCED AT GOVERNMENT EXPENSE"

<b>AUTH #</b>		<b>CO</b>		<b>PRI</b>																					
<b>NOTIFIED ON</b>		<b>AT</b>		<b>EXPIRES</b>																					
1. <b>PATIENT'S NAME</b>				2. <b>SS #</b> —    —																					
<b>OC</b>	<b>CM</b>	3. <b>DOB</b>	<b>FROM</b>	<b>THRU</b>																					
<b>SPONSOR'S SS #</b>		4.    —    —    —		<b>ACCT #</b>																					
<b>ID</b> <b>THRU</b>																									
5. <b>OTHER INSURANCE?</b>			6. <b>CLERK</b> <b>CONT</b>																						
6. <b>PROVIDER'S NAME</b>		<b>ID/LICENSE</b>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td><b>CB</b></td> <td><b>SPEC</b></td> <td><b>PN</b></td> <td><b>AREA</b></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>		<b>CB</b>	<b>SPEC</b>	<b>PN</b>	<b>AREA</b>																
<b>CB</b>	<b>SPEC</b>	<b>PN</b>	<b>AREA</b>																						
a. <b>REQUESTING</b> —    —    —																									
b. <b>PCP</b> —    —    —																									
c. <b>REFERRING</b> —    —    —																									
d. <b>FACILITY</b> —    —    —																									
7. <b>PRIMARY CARE PROVIDER REFERRAL (Y/N)</b>																									
8. <b>PLACE OF SERVICE</b>			9. <b>REQUESTING PROVIDER TYPE</b>																						
— (1) INPATIENT HOSPITAL — (2) OUTPATIENT HOSPITAL — (3) THERAPIST'S OFFICE — (C) RESIDENTIAL TX FACILITY — (D) SPECIAL TX FACILITY (ALCOHOL) — (C) PARTIAL REHAB FACILITY (ALCOHOL) — (X) OTHER    —    —    —			— (81) PSYCHIATRIST — (80) PSYCHOLOGIST — (85) SOCIAL WORKER — (04) PSYCH NURSE SPEC — (82) MFCC — (13) PASTORAL COUNSELOR — (00) OTHER (SPECIFY)    —    —    —																						
10. <b>DESCRIPTION</b>		<b>DIAGNOSIS</b>		<b>CODE</b>	11. <b>PRIN</b> <b>RULEOUT</b>																				
					<b>P/S</b> <b>Y/N</b>																				
					<b>P/S</b> <b>Y/N</b>																				
<b># OF OUTPATIENT SESSIONS</b>		<b>AND/OR INPATIENT DAYS</b>		<b>TO DATE</b>																					
12. <b>DSM-III-R (ALL AXES)</b>																									
<b>AXIS I (# codes)</b>		<b>AXIS III</b> —    —    —																							
A:    —    —    —																									
B:    —    —    —		<b>AXIS IV (circle appropriate #)</b> 1    2    3    4    5    6    7    8    9																							
<b>AXIS II</b> —    —    —		<b>AXIS V (circle appropriate #)</b> 1    2    3    4    5    6    7    8    9																							
13. <b>DATE TREATMENT BEGAN</b>			14. <b>DATE ENDED (if appropriate)</b>																						
14. <b>COMPLETE FOR OUTPATIENT VISITS</b>																									
<b># VISITS REQUESTED</b> —    —    —		<b>FREQUENCY</b> —    —    —		<b># APPROVED</b>																					
<b>START DATE</b>		<b>END</b>		<b>TX TYPE</b>																					
				15. <b>CPT CODE</b>																					



Sponsor's SS # \_\_\_\_\_

P. 02

**1. PRESENTING SYMPTOMS:**

Describe symptoms (distress) and functional impairments for which patient sought care.

Check severity of patient's dysfunction: ☐ Mild ☐ Moderate ☐ Severe ☐ Very Severe

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**2. HISTORICAL DATA:**

Relevant history of understanding patient's current condition. If patient is less than 18 years old, include significant developmental aspects.

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**3. PRIOR TREATMENT EPISODES:**

State pertinent medical/psychological information from prior treatment episodes.

Date(s)	Diagnosis	Interventions	Response

**4. MENTAL STATUS AND PSYCHOLOGICAL TESTING:**

a. Provide current mental status examination.

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b. If psychological testing and assessment was conducted, please provide the following information:

1. Date of Test(s); 2. Name(s) and time spent for each test administered; 3. What questions were to be addressed by this assessment, (provide sufficient detail); and 4. Indicate results, conclusions, and recommendations.

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c. Results of educational assessment (all children and adolescents in inpatient, partial, or RTC) and IQ (all children and adolescents in RTC).

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Sponsor's SS # \_\_\_\_\_

P. 03

"REPRODUCED AT GOVERNMENT EXPENSE"

**5. PHYSICAL EXAMINATION:** Describe significant results of physician's examination. Include pertinent laboratory examinations, abnormal findings, and dates of tests. If problems include substance abuse, provide the most recent results of neurological, chemistry panel, blood levels, and other lab tests. Give dates. Attachment of history and physical is acceptable.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**6. EVALUATE CURRENT FAMILY AND COMMUNITY SUPPORT SYSTEMS:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**7. PLANNED TREATMENT AND INTERVENTIONS:**

a. Please list all medications that have been or will be prescribed for this patient:

Medication	Dosage	Schedule	Route	Start Date	End Date
1.					
2.					
3.					

b. For each treatment modality, (individual, group, family, couples) specify frequency and length of sessions, starting dates of treatment, and justification for such treatment.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

c. Describe the frequency and purpose of collateral contacts. (e.g., contacts with family or significant others) and ancillary services (e.g., educational/vocational).

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

d. Provide your rationale for the specific level of care requested. (Describe why a less restrictive or more intense level of care is not appropriate.)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Sponsor's SS # \_\_\_\_\_

P. 04

- e. If other therapists are providing care, indicate therapist, professional status, and rationale for multiple therapists' involvement.

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- f. If other family members are receiving psychotherapy from yourself or another provider, specify family member, name, type of therapy, diagnosis, and rationale for seeing multiple family members.

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### 8. TREATMENT GOALS:

- a. Intermediate/Short-term goals. For outpatient, what goals have been set for the next review point? What are the criteria the patient must meet for discharge from current level of treatment?

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- b. Long-term goals. Describe the goals expected to be reached by the end of treatment. Outpatient long-term goals are differentiated from intermediate/short-term (i.e., goals for the next review interval).

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### 9. TERMINATION OF TREATMENT:

- What steps have been taken to prepare the patient and family for discharge from the hospital or RTC, or for termination of outpatient treatment?

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### 10. ESTIMATED DURATION OF TREATMENT REQUESTED AT CURRENT LEVEL OF CARE.

Signature of Attending Clinician: \_\_\_\_\_

Date: \_\_\_\_\_

Completed by: (please print) \_\_\_\_\_

Title: \_\_\_\_\_

Phone: \_\_\_\_\_

Date: \_\_\_\_\_

( )

Street Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip: \_\_\_\_\_

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## APPENDIX C

### CRITERIA FOR ACUTE INPATIENT HOSPITALIZATION (ADULT PSYCHIATRIC PATIENTS)

#### A. Reasons for Admission

1. Potential danger to self or others.
  - a. Psychiatric disorder with a significant risk of suicidal or homicidal behavior.
  - b. Psychiatric disorder with dangerous, assaultive or other uncontrolled behavior.
  - c. Psychiatric disorder with threats, inferred actions, poorly controlled expressions of anger or a high degree of tension from the suppression of feelings.
2. Evaluation of a patient with a psychiatric disorder for treatment or therapy when such evaluation is impossible to do in a less restricted environment (i.e., ECT).
3. Failure of outpatient or partial hospitalization.
  - a. Intensification of symptoms leading to inability to function on outpatient basis.
  - b. Lack of expected therapeutic response or compliance medications and strong likelihood for response on an inpatient basis.
  - c. Lack of expected response or participation in a treatment program and strong likelihood for response on an inpatient basis.
  - d. Need for structure and control for acting out/resistant patient when the acting out poses a significant risk to self or others.
4. Initiation and monitoring of psychotropic medications for the treatment of psychiatric disorders complicated by the presence of other medical conditions, or increased risk of particular medications because of certain patient characteristics or side effects.
5. Need for controlled observation and psychiatric evaluation of a patient to answer diagnostic questions that cannot be resolved on an outpatient basis prior to initiating a proper treatment plan.

6. Need for accurate observation and evaluation of a patient that cannot occur on an outpatient basis due to documented and deleterious environmental factors if a significant psychiatric disorder exists.
7. Acute loss of functions or the ability of the patient to care for himself or function in daily routine. The psychotic patient's mental functioning may be sufficiently impaired to grossly interfere with the capacity to meet the ordinary demands of life. The impairment may result from serious distortions in the capacity to recognize reality. Symptoms may include hallucinations and delusions or profound alterations in mood.

**B. The Following Presenting Problems are NOT Considered Appropriate Justifications for Admission UNLESS Associated with Criteria from Above**

1. Court ordered evaluation.
2. Family problems.
3. Diagnosis of mental retardation or learning disabled.
4. Non-availability of a suitable, less restrictive situation.
5. Conduct and behavior problems.
6. Organic Brain Syndrome and Dementia.

**C. Justification for Continued Stay**

1. Continued evidence of symptoms and/or behavior reflecting significant risk or potential danger to self or others.
2. Status of confusion resulting from prescribed course of electroconvulsive therapy for the treatment of a psychiatric disorder.
3. Initiation and/or use of medications or ECT's for the presence of a psychiatric disorder complicated by the presence of another medical problem requiring close nursing supervision and monitoring.
4. The need for expert regulations and skilled monitoring of psychotropic medications and/or the treatment of complications arising from the use of such medications.

5. Increased risk of medical problems and complications due to differences in drug metabolism or side effects.
6. Continued temporary disability of the patient to perform the activities of daily living or to function in the daily routine due to a psychiatric disorder or a temporary mental state of the patient.
7. Persistence of psychotic symptoms and behavior and/or suicidal symptoms and/or behavior of such magnitude that continuous psychiatric supervision and protection are required for the protection of the patient.
8. Discovery of a new problem, diagnostic finding, or marked changes in diagnosis necessitating a change in the treatment plan (which include medication change or adjustment of dosage), but still requiring the structure and staff intensity of a hospital setting.
9. Appropriate treatment plan goals are not realized, but there is a documented distinct likelihood of successful achievement with continued inpatient stay (which may include medication change or adjustment of dosage).
10. Demonstrated and continued need for a controlled and structured setting.

**D. Justification for Discharge**

1. The patient has reached treatment goals.
2. The patient is ready to be treated at a lesser level of care.
3. An appropriate post-discharge treatment plan has been established.
4. The patient is uncooperative to a degree that sufficient benefits are unlikely to occur if the patient remains in the hospital-based psychiatric setting.
5. Documentation in the medical record does not suggest significant changes in the patient's behavior (to the goal of significant improvement in functioning), the patient's care would be considered to be custodial and therefore not covered.
6. Discharge against medical advise (A.M.A.).

## APPENDIX D

### EMERGENCY SERVICES\*

#### A. Mental Health Emergency.

1. A psychiatric admission would not normally be considered as an emergency. To be considered a mental health emergency, an exceptional case must meet the following criteria as a minimum:
  - a. A DSM-III diagnosis where there is a significant distress and dysfunction (this by itself would not suffice) and,
  - b. The patient is a real and present significant risk to self or danger to others and this is manifested by a life threatening condition. For example, a patient is threatening suicide and if he or she is not put under control surveillance immediately, he or she could kill himself or herself. The attending physician's statement is required with a certification as to the life threatening condition that existed.
2. Emergency services required as a result of self-inflicted injuries are covered.
3. Tetanus toxoid, when administered in connection with emergency services related to abrasions, lacerations or puncture wounds, is covered.
4. A charge in addition to the charge for the emergency room visit is not covered for a provider who is called from outside the hospital to provide emergency services.

#### B. Review Requirements.

Generally, the attending mental health provider determines emergency status subject to review and verification by the CHAMPUS fiscal intermediary. If an emergency admission diagnosis does not fall within the diagnoses given in paragraph 1.a., above, then a mental health provider's statement of an emergency will be required and the case will be reviewed by the fiscal intermediary medical review staff to determine whether the care meets the definition of medical emergency.

\* The criteria stated above was extracted from the CHAMPUS Policy Manual, Volume 1, Chapter 1, Section 7, Page 90500.1.2. and Page 90500.1.3, under Emergency Services.

## APPENDIX E

### MAJOR DEPRESSION DSM-111-R 296.2x .3x

#### A. Diagnostic criteria for Major Depressive Episode

NOTE: A "Major Depressive Syndrome" is defined as criterion 1 below

1. At least five of the following symptoms have been present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either (a) depressed mood, or (b) loss of interest or pleasure. (Do not include symptoms that are clearly due to a physical condition, mood-incongruent delusions or hallucinations, incoherence, or marked loosening of associations.)
  - (a) depressed mood (or can be irritable mood in children and adolescents) most of the day, nearly every day, as indicated either by subjective account or observation by others
  - (b) markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated either by subjective account or observation by others of apathy most of the time)
  - (c) significant weight loss or weight gain when not dieting (e.g., more than 5% of body weight in a month), or decrease or increase in appetite nearly every day (in children, consider failure to make expected weight gains)
  - (d) insomnia or hypersomnia nearly every day
  - (e) psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down)
  - (f) fatigue or loss of energy nearly every day
  - (g) feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick)
  - (h) diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others)
  - (i) recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide



2. (a) It cannot be established that an organic factor initiated and maintained the disturbance
- (b) The disturbance is not a normal reaction to the death of a loved one (Uncomplicated Bereavement)

Note: Morbid preoccupation with worthlessness, suicidal ideation, marked functional impairment or psychomotor retardation, or prolonged duration suggest bereavement complicated by Major Depression.

3. At no time during the disturbance have there been delusions or hallucinations for as long as two weeks in the absence of prominent mood symptoms (i.e., before the mood symptoms developed or after they have remitted).
4. Not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder NOS.

Major Depressive Episode codes: fifth-digit code numbers and criteria for severity of current state of Bipolar Disorder, Depressed, or Major Depression:

1-Mild: Few, if any, symptoms in excess of those required to make the diagnosis, and symptoms result in only minor impairment in occupational functioning or in usual social activities or relationships with others.

2-Moderate: Symptoms or functional impairment between "mild" and "severe."

3-Severe, without Psychotic Features: Several symptoms in excess of those required to make the diagnosis, and symptoms markedly interfere with occupational functioning or with usual social activities or relationships with others.

4-With Psychotic Features: Delusions or hallucinations. If possible, specify whether the psychotic features are mood-congruent or mood incongruent.

Mood-congruent psychotic features: Delusions or hallucinations whose content is entirely consistent with the typical depressive themes of personal inadequacy, guilt, disease, death, nihilism, or deserved punishment.

**Mood-incongruent psychotic features:** Delusions or hallucinations whose content does not involve typical depressive themes of personal inadequacy, guilt, disease, death, nihilism, or deserved punishment. Included here are such symptoms as persecutory delusions (not directly related to depressive themes), thought insertion, thought broadcasting, and delusions of control.

**5-In Partial Remission:** Intermediate between "In Full Remission" and "Mild," and no previous Dysthymia. (If Major Depressive Episode was superimposed on Dysthymia, the diagnosis of Dysthymia alone is given once the full criteria for a Major Depressive Episode are no longer met.)

**6.-In Full Remission:** During the past six months no significant signs or symptoms of the disturbance.

**0-Unspecified.**

Specify chronic if current episode has lasted two consecutive years without a period of two months or longer during which there were no significant depressive symptoms.

Specify if current episode is Melancholic Type.

#### Types

#### 296.2x Major Depression, Single Episode

For fifth digit, use the Major Depressive Episode codes to describe current state.

- A. A single Major Depressive Episode
- B. Has never had a Manic Episode or an unequivocal Hypomanic Episode

Specify if seasonal pattern

#### 296.3x Major Depression, Recurrent

For fifth digit, use the Major Depressive Episode codes to describe current state.

- A. Two or more Major Depressive Episodes each separated by at least two months of return to more or less usual functioning. (If there has been a previous Major Depressive Episode, the current episode of depression need not meet the full criteria for a Major Depressive Episode.)
- B. Has never had a Manic Episode or an unequivocal Hypomanic Episode.

Specify if seasonal pattern.

#### B. Diagnostic criteria for Melancholic Type

The presence of at least five of the following:

- (a) loss of interest or pleasure in all, or almost all, activities
- (b) lack of reactivity to usually pleasurable stimuli (does not feel much better, even temporarily, when something good happens)
- (c) depression regularly worse in the morning
- (d) early morning awakening (at least two hours before usual time of awakening)
- (e) psychomotor retardation or agitation (not merely subjective complaints)
- (f) significant anorexia or weight loss (e.g., more than 5% of body weight in a month)
- (g) no significant personality disturbance before first Major Depressive Episode
- (h) one or more previous Major Depressive Episodes followed by complete, or nearly complete, recovery
- (i) previous good response to specific and adequate somatic antidepressant therapy, e.g., tricyclics, ECT, MAOI, Lithium

#### C. Diagnostic criteria for seasonal pattern

1. There has been a regular temporal relationship between the onset of an episode of Bipolar Disorder (including Bipolar Disorder NOS) or Recurrent Major Depression (including Depressive Disorder NOS) and a particular 60-day period of the year (e.g., regular appearance of depression between the beginning of October and the end of November).

Note: Do not include cases in which there is an obvious effect of seasonally related psychosocial stressors, e.g., regularly being unemployed every winter.

2. Full remissions (or a change from depression to mania or hypomania) also occurred within a particular 60-day period of the year (e.g., depression disappears from mid-February to mid-April).
3. There have been at least three episodes of mood disturbance in three separate years that demonstrated the temporal seasonal relationship defined in 1 and 2; at least two of the years were consecutive.
4. Seasonal episodes of mood disturbance, as described above, outnumbered any nonseasonal episodes of such disturbance that may have occurred by more than three to one.

**D. Reasons for Admission to Inpatient**

1. Potential danger to self or others.
2. Need for continuous skilled observation, high dose medication, or therapeutic milieu.
3. Impaired social, familial, educational, or occupational functioning that has not responded in outpatient therapy.

**E. Reasons for Extending the Initial Length of Stay**

1. Continuation of potential danger to self or others or of impaired reality testing accompanied by disordered behavior.
2. Continued need for stabilization of medication, or therapeutic milieu.
3. Complications of medication.
4. Continuation of impaired social, familial, occupational, or educational functioning.

**F. Discharge Status**

1. Achievement of inpatient treatment goals.
2. Specific follow-up treatment plan established.

**G. Justification for Admission to Outpatient Treatment**

1. Depressed mood with impaired social, familial, educational, or occupational functioning.
2. Depressed mood accompanied by somatic symptoms or concerns not explained by other disease.
3. Potential danger to self or others.
4. History of hospital treatment for depressive neurosis within the past three months.

**H. Justification for Continued Outpatient Therapy**

1. Persistence of symptoms and/or behavior that brought the patient for treatment.
2. Appropriate treatment goal has not been realized, but there is a documented distinct likelihood of successful achievement with continued sessions.
3. Discovery of a new problem, diagnostic finding or marked changes in diagnosis necessitating a change in the treatment plan.

**I. Justification for Termination of Therapy**

1. Documentation that the patient has achieved maximum benefit from outpatient therapy.
2. The patient is uncooperative to a degree that sufficient benefits are unlikely to occur if the patient remains in therapy.
3. Return to higher level of care based on exacerbation of symptoms.