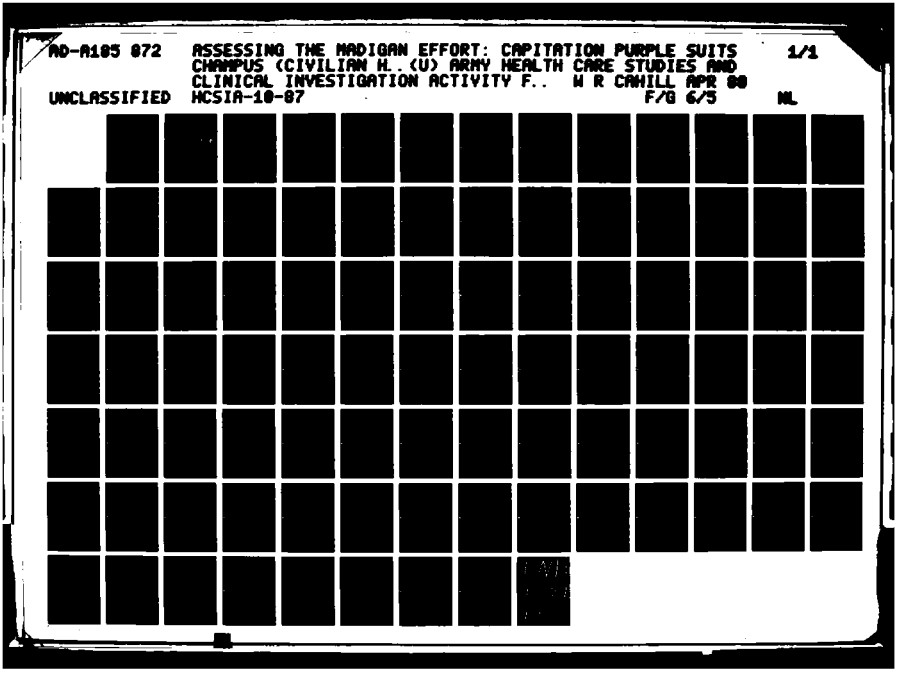
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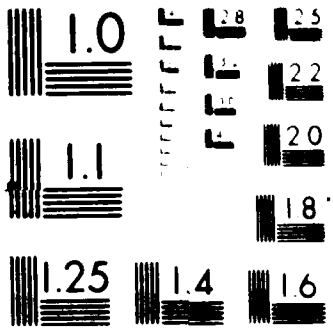
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ASSESSING THE MADIGAN EFFORT: CAPITATION, PURPLE SUITS, CHAMPUS AND OTHER ISSUES

A Problem Solving Project

Submitted to the Faculty of

Baylor University

In Partial Fulfillment of the

Requirements for the Degree

of

Master of Health Administration

By

Major William R. Cahill, MSC

April 1980

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This paper analyzes capitation budgeting and its possible uses applied to the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). The author makes recommendations designed to provide optimal allocation of resources and to seek potentially advantageous trade offs between the direct care and CHAMPUS system, within a tri-service regional decision making system ("Purple Suits"). Various alternatives were presented with advantages and disadvantages to the alternatives.

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ACKNOWLEDGEMENTS AND FOREWORD

In producing this paper I am grateful to Colonel James B. Fisher, my Preceptor, for guidance and for sympathetically allowing frequent ventilations on my part; to an enduring family for encouragement and understanding; and to the Madigan staff members who willingly and ably assisted in securing the data and information necessary to complete this project. I am particularly grateful to Ms. Betty Pugsley for the excellent typing and editorial assistance, without which this paper would have proven immensely more difficult.

In retrospect, the subject at hand (investigation of CHAMPUS and direct care activity under the capitation concept) did not lend itself easily to a neatly packaged, ultimate result. Due to the overall magnitude of the topic, loose ends tended to ooze out in unforeseen directions, requiring renewed efforts or further study enroute to the final product. Such appears to be the rule, rather than the exception, in investigations of major health care issues. More questions are unveiled than answers discovered and only a systems approach enables retention of perspective.

Consequently, though somewhat pleased with the end product, a sense of incompleteness prevails and I remain, once again, not more ignorant -- but much more aware of my ignorance!

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INTRODUCTION

A Nation Stressed

The relative importance of economic and financial matters pertinent to the military health care arena has been given greater attention in the recent past; and this increasing emphasis, scrutiny and accountability will likely continue into the foreseeable future. This trend does not exist separately from those similar activities in the delivery of civilian health care which have been commonly grouped under the title of "cost containment." The tremendous resource outlays for health care services and the provision thereof has spurred vigorous interest at all levels throughout this nation. Indeed, former Health, Education and Welfare Secretary Joseph Califano recently stated:

> ...at present rates, it (health care) could reach 9.1 percent of the Gross National Product by 1980. In that year, spending on health care will, without some kind of restraint, have ballooned to $229 billion--or more than $1000 for each man, woman and child in America.[1]

This problem coexists with parallel concerns over adjacent national problems of declining productivity, double-digit inflation, diminishing resource levels, balance of payments deficits, exorbitant interest rates, dollar devaluations, etc., etc. In health care then, an economically troubled nation can ignore no proposals or altered

means of delivery which presume to deliver more productivity (traditionally defined as outputs for this purpose) at the same or lowered costs.

General Information--The Capitation Concept

Consequently, in an effort to discover better means of financing the delivery of military health care to a growing population of beneficiaries, the concept of "Capitation Budgeting" has evolved.

This concept has been developed largely as a result of recommendations stemming from the Military Health Care Study conducted jointly by the Office of Management and Budget (OMB), Department of Defense (DOD), and Department of Health, Education and Welfare (DHEW).[2] Pertinent to this concept, the report recommended among other things, that:

1. Health care delivery planning for CONUS (Continental United States) should be primarily based on the size and demographic characteristics of the population to be served.
2. Resource programming and budgeting for the MHSS (Military Health Service System) in CONUS should be done on a capitation basis.

3. Resource programming for the direct care system and CHAMPUS (Civilian Health and Medical Program of the Uniformed Services) should be integrated within DOD.[3]

Presumably these recommendations are designed to overcome weaknesses in the traditional system which do not provide for optimal allocations of resources nor the incentives to seek potentially advantageous trade offs between the direct care and CHAMPUS systems.

The capitation concept, as applied, then essentially employs the basic idea that scarce resources (dollars) should be distributed on the basis of size and demographics of the major population groups eligible for health care in military facilities -- (1) active duty personnel, (2) dependents of active duty personnel, (3) retired beneficiaries, (4) dependents of retired beneficiaries. It is a seemingly logical, subsequent deduction that the resources expended by a given institution are largely a function of the population served by that facility.

The theory infers that future resources should be distributed in accordance with the changes occurring within the beneficiary populations in those catchment areas serviced by a given treatment facility. In addition to resource allocation, if those resources

are distributed on a capitated rate, then, theoretically, efforts to seek workload, particularly inpatient workload, would diminish -- especially if those capitated costs are used as indicators of institutional performance over time.

Accordingly, resource distributions should then occur on a "capitated rate," incorporating data for changing population size and mix, as well as data accommodating for general inflation. The figure emerging from a series of derived calculations yields a "capitated cost" per beneficiary and becomes the prime basis for resource distribution in hopes of better accommodating the conclusions and recommendations referenced above.

Implementing the Capitation Concept -- A Regionalization Approach

The appeal of this concept to those personally interested in reducing the costs of military health care (primarily the Department of Defense and the Congress) has produced test implementation for several facilities during Fiscal Year 1980. Congress has provided a one-year charter (and possibly beyond) to physically test the concept in Region I and selected facilities in Region VII. In addition to the normal test implementation, the "capitation game" in the Pacific Northwest (Region I) is being played under a regionalization concept.

The basic concept under this mode of operations is that Department of Defense health care fiscal resources will flow in bulk to Region I. Within this area, a Regional Capitation Budgeting Coordinating Committee (RCBCC) has been formed. Initially, the commanders of the seven major military health care facilities comprised the membership of this group. The RCBCC composition incorporated the commanders of the following facilities:

1. Madigan Army Medical Center, Tacoma, Washington
2. Naval Regional Medical Center, Bremerton, Washington
3. Naval Regional Dental Center, Bremerton, Washington
4. USAF Hospital, Fairchild Air Force Base, Spokane, Washington
5. USAF Hospital, Mountain Home Air Force Base, Mountain Home, Idaho
6. USAF Clinic, McChord Air Force Base, Tacoma, Washington
7. USAF Hospital, Malmstrom Air Force Base, Great Falls, Montana[4]

Early in 1980, the US Army Dental Activity, Fort Lewis, Washington was added to the RCBCC membership, bringing the membership to a total of eight medical and dental organizations.

The power vested in this committee is considerable. "...the decision-making body in which is vested resource controlling,

allocating, and reallocating authority required to deliver health care in Region I. Resources include both funds and civilian personnel."[5] The Chairman of the RCBCC is the Commanding General, Madigan Army Medical Center; and decision-making regarding utilization of the above powers is accomplished semi-democratically in that "the senior Medical Corps officer from each service will have one vote in all RCBCC matters."[6] Essentially then, this committee is now comprised of eight members (two Army, two Navy and four Air Force) with three of the members exercising voting rights on behalf of their service constituencies.

The Assistant Secretary of Defense (Health Affairs) is responsible for providing overall policy guidance, while the Defense Health Council deals with issues the RCBCC is unable to resolve. Concurrently, the OSD-Tri Service Capitation Budgeting Steering Committee, assisted by the Capitation Budgeting Workgroup, is responsible for detailing the rules for test conduct and overseeing the entire effort. Rounding out the cast of major characters, an RCBCC Support Staff, designed to assist the RCBCC on site, has also been authorized. Managerial composition of this group include the Director, Health and Financial Management, and three Program Budget Analysts -- one from each service.[7]

Resources for Region I flow directly from the Office of the Secretary of Defense-Comptroller in bulk to this committee, bypassing

Health Services Command (Army), major Air Commands (Air Force), and Bureau of Medicine (Navy). Allegedly then, the facility commanders, while in their RCBCC role, are to rise above their concurrent role as treatment facility commanders and allocate resources on the basis of what is best for Region I health care, regardless of its effect on their specific institution(s).[8]

The test, then, as applied in Region I has additional concerns beyond that of evaluating the capitation concept. This altered mode of funding (distribution of resources regionally) is designed to pragmatically test the concept of regional tri-service decision-making and its implications for possible reductions in expenditures in the delivery of health care to Pacific Northwest beneficiaries. One readily notes this process is, in reality, the "donning of the purple suit" -- at least for the Pacific Northwest (though uniforms for the test duration have remained service-specific).

The discerning observer notes the simple mechanics of arriving at a capitated cost per beneficiary and subsequent distribution of resources appear, in and of themselves, to have little to do with enhancing productivity. More equitable distributions of dollars are prime concerns and may indeed result; but concurrently, are the accompanying concerns over the marginal productivity of those same resources.

The New Flexibilities

Traditional systems have been criticized for not providing military health care managers with the latitude and flexibility to use resources most advantageously in meeting the health care needs of entitled beneficiaries.[9] Consequently, the Fiscal Year 1980 capitation test has incorporated certain features designed to provide more flexibility at the local level. These innovations come into play under the concept of capitation budgeting; yet, in reality, could occur equally as well under the traditional workload or other conceivable budgeting approaches. Be that as it may, the major innovations providing flexibility to the local commanders are:

1. Unconstrained civilian end strengths.
2. The procurement of investment equipment valued up to $25,000 with Operation and Maintenance funds.
3. The authority to transfer CHAMPUS and Operations and Maintenance (O&M) monies at the local level.[10]

CHAMPUS Implications and Institutional Behavior

Circumspection yields the correct conclusion that additional resources may be purchased at the local level either in the form of civilians and/or investment equipment. Theoretically, the prime flexibility of these two options will result from resources freed through decreased dollar outlays for CHAMPUS.

Historically, CHAMPUS has been the alternative for beneficiaries to obtain from civilian sources needed care which could not be obtained within the Uniformed Services Facilities themselves. The roots of this program are found in Public Law 84-569, commonly known as "Military Medicare," signed into law by President Eisenhower in 1956.[11] Exclusion of routine ambulatory care and other deficiencies in the original legislation led to passage of the Military Medical Benefits Amendments of 1966, which provided the basic program as it exists today.[12] At approximately the same time, to avoid confusion with the recently enacted Health, Education and Welfare Medicare Program, the name was administratively changed by the Department of Defense to the Civilian Health and Medical Program of the Uniformed Services -- CHAMPUS.[13]

CHAMPUS is a cost sharing program. The proportion of costs vary with the beneficiary category and the type of service procured. The provisions of the basic program are well known to beneficiaries and are essentially as follows:

> For inpatient care, CHAMPUS pays all costs for the dependents of active duty personnel except for the first $25 per admission or a nominal, annually established, per diem rate, whichever is greater. All other beneficiaries pay 25 percent of the inpatient costs while CHAMPUS pays the remaining 75 percent. For outpatient care, dependents of active duty personnel pay an annual $50 deductible per person (with a maximum family deductible of

> $100) and 20 percent of the cost of additional care. Other authorized personnel pay the same deductible and 25 percent of the remaining cost of outpatient care.[14]

As originally intended, a subsidized access to civilian providers under this program is designed to meet those health care needs of beneficiaries which cannot be met by the military facility itself. Consequently, this system absorbs the "overflow" necessitated by the care limitations of a given Uniformed Services facility.

In the past, CHAMPUS was then a no-cost alternative to the treatment facility in accommodating the health care needs of its patient public. CHAMPUS dollars were managed centrally at the agency level, while Operation and Maintenance dollars to operate a given facility were managed locally. Under the capitation test this is no longer the case. As noted earlier, since the ability to transfer one to the other has been brought to the regional level, CHAMPUS and Operation and Maintenance dollars have essentially become one and the same. For at least the test duration, CHAMPUS and Operation and Maintenance monies have essentially all become Operation and Maintenance monies from which CHAMPUS bills must be paid.

The deduction that CHAMPUS is, many times, more costly than direct care alternatives was originally reached by then Colonel William R. Dwyre, as a result of a study he conducted in the early 1970s, while serving as Chief of Professional Services at Fitzsimons

Army Medical Center. His analysis of the Denver, Colorado Springs and State of Colorado CHAMPUS outlays indicated significant federal savings were possible if the military facility were augmented to accommodate the increased demand.[15] His briefing to the US Army Surgeon General and others apparently stimulated subsequent in-depth analyses which reached similar conclusions. The Military Health Care Study, for example, discovered that CHAMPUS is more expensive than direct care in half of all inpatient and nearly all outpatient settings.[16]

Presumably, this is largely the case, due to the fixed cost realities of both situations; i.e., the CHAMPUS outlays must, to a certain extent, subsidize the fixed cost components of the civilian provider's operations.

These findings and the alleged desire to make the military treatment facility commander totally responsible for meeting the care needs of his catchment area beneficiary population have given rise to the co-mingling of the resources necessary to subsidize both CHAMPUS and the direct care operations of the treatment facility. Given the premise of increased economies, the prudent commander should bring in-house as many as possible of the heretofore CHAMPUS patients, so as to retain those dollars for use within his facility. Accomplishing this feat requires some rather rigid analysis in order

to pragmatically assess the capabilities, personnel and equipment status of a given institution to best determine the acquisitions of personnel and equipment necessary to bring those CHAMPUS patients into the respective facility.

Statement of The Problem

Given the preceding information and considerations, the problem proposed for resolution is to identify those Madigan CHAMPUS patients which can be economically transferred to direct care modes of treatment.

The Hypothesis: Literature Review, Limitations and Assumptions

Essentially, the concepts as discussed are primarily governed by new sets of rules and guidelines previously unutilized in the funding of health care. Though some summary allegations indicate the traditional military system is similar to a prepaid group practice in some respects, it is well recognized "...that the military health services are not prepaid group practices serving an enrolled population" for a variety of reasons -- many beneficiaries (particularly non-active duty) have and use alternative insurance coverage, group practices may or may not operate their own hospitals, private group hospitals are not funded on a capitation basis, etc.[17] Accordingly, a lengthy literature review reveals little direct applicability to pursuit of problem resolution. Consequently, the bulk of available

literature directly relevant to the overall concept is still being developed within the Department of Defense. Indeed, this is the purpose of the test phase itself -- research at its most basic level.

The basic consideration under this precept is dollar outlays required to acquire new or altered use of existing capabilities versus the dollar outlays lost to civilian providers possessing those same capabilities. Hypothetically, the CHAMPUS dollar outlay attributed to a given facility possesses both fixed and variable components. Some portion of the total CHAMPUS outlays of Madigan are undoubtedly unavoidable, yet theoretically some remaining significant portion of those outlays can be avoided through either enhancing internal capabilities or generating more productive use of existing capabilities.

For study purposes, the portion of CHAMPUS outlays comprising the variable component was then defined as being within the civilian inpatient, non-emergency category of CHAMPUS patients. Though, under the test, Madigan is fiscally responsible for all CHAMPUS dollars expended within its forty-mile radius catchment area, those CHAMPUS dollars consumed in outpatient settings were excluded from analysis since, as a matter of policy, the beneficiary has free option to utilize civilian outpatient services, irrespective of military health care availability.

For the identical reason, inpatient emergency care received under CHAMPUS was excluded from investigation. On the other hand, non-emergency inpatient services require statements of non-availability before CHAMPUS will assume the designated portion of the respective inpatient costs. Thus, the institution has the ability to strongly influence the total dollars expended in this single area and ultimately determine, within certain constraints, which patients would be "allowed to go out under CHAMPUS." This was then assumed to be the class of patients and patient care needs for which institutional flexibility existed.

Under present policy, only indirectly, if at all, can a given institution influence the flow of outpatient CHAMPUS dollars and are likely totally unable to influence the flow of CHAMPUS dollars expended on inpatient emergency care. These considerations possess severe fiscal implications which will be addressed in greater detail later in this paper.

It was anticipated at the outset of effort that analysis pragmatically designed to assess the capabilities of Madigan in light of the inpatient non-emergency dollar outlays, would produce revealing information and identify areas of potential savings. A methodology seemingly did not exist within Madigan to produce the requisite information necessary to informed decision-making between CHAMPUS

non-emergency inpatients and the corresponding direct care alternatives. Concurrently, the termination of civilian end strengths and the ability to purchase investment equipment does somewhat unconstrain the commander in these two areas critical to the production of health care. Resources freed from inpatient non-emergency outlays were viewed as the main means of acquiring the ability to exercise these new options.

Sources of Information and Objectives

The sources of information and data available to provide insight into the subject at hand are essentially two -- internal Madigan resources and external agencies (primarily the fiscal contractor and OCHAMPUS) which compile data pertinent to CHAMPUS use within the Madigan catchment area. Periodically, OCHAMPUS provides data to the "billed" facility as to patient treatment categories, diagnosis codes, costs, etc. This data is not in a form conducive to readily effect the decisions referenced earlier. Data pertinent to non-emergency inpatients, for example, is not separated from overall inpatient data. Manipulation of this mass data, however, may produce meaningful information pertinent to the purpose at hand. Secondly, the Patient Administration Division, Madigan Army Medical Center, maintains on file the statements of non-availability essential for non-emergency inpatient care to be covered by CHAMPUS. Aggregation

and analysis of this system is the second source of possible value in reaching conclusions essential to a thorough investigation.

Given these two basic orientations, presumably the variable and fixed components of CHAMPUS outlays both exist and can be identified. If such is the case, then subsequent cost-benefit analysis should direct effective implementation of the flexibilities referenced earlier.

Though the major thrust of effort is well defined, it is envisioned that research efforts will likely generate adjacent conclusions relevant to the overall managerial implications of the tested concepts themselves. These implications and judgments will be identified as they occur. Though not rigidly pertinent to the hypothesis at hand, given an academic forum such as this paper, intellectual forthrightness demands their recognition.

DISCUSSION

Internal Control
The Nonavailability Statement System

Non-emergency inpatient beneficiaries require a Nonavailability Statement (DD Form 1251) which must accompany the bill before claims processing can occur.

> ...(Nonavailability Statements) are required to support claims for civilian care under the CHAMPUS for beneficiaries living within a designated 40-mile area around a uniformed services hospital for all non-emergency inpatient care...[18]

Accordingly, some insight may be gained into this area by analyzing the certificate of nonavailability experience of the Center over the recent past. Scrutiny of this system is essential to gain an understanding of the procedures in place within Madigan and, comparatively, to determine the regulatory requirements and design of that same system.

Encapsulated, the system is controlled by regulatory guidance that issuance of Nonavailability Statements is limited to "... uniformed services hospital commanders or their senior professional designees..."[19] The design of the circumstances appear to meet essentially two prime concerns: (1) Insuring maximal use of direct care capabilities (2) without sacrificing the quality of care required by the beneficiary in a given instance.

Basically, the reasons for issuance are prescribed as follows:

1. Lack of capability to provide the care needed.

2. Clinically determined excessive waiting time for admissions.
3. Professional disagreement (conflict of professional opinion between military and civilian physicians and beneficiary elects to use civilian source).
4. Continuity of care (beneficiary has been receiving outpatient care from civilian sources, hospitalization is required, and continued care from the same physician is medically indicated.
5. Personal hardship (travel would be unreasonable or costly.[20]

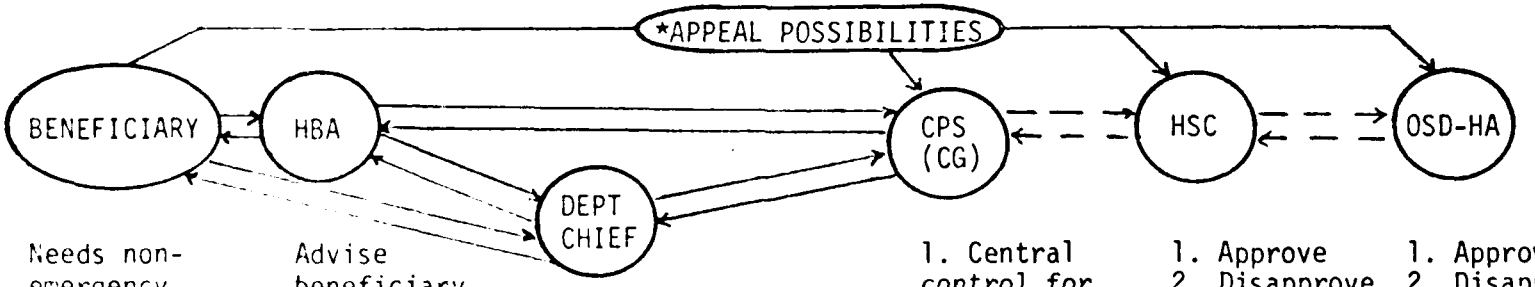
Additionally, special consideration is allowed for maternity patients who reside on the outer periphery of the catchment area. For this select category, issuance may be given to catchment area beneficiaries "...residing between 30 and 40 miles from the hospital."[21]

Given this regulatory guidance and the local discretion necessarily allowed in implementing such a system, the Madigan posture was analyzed to determine if an avoidable outflow of non-emergency inpatients was occurring or had occurred in the past.

Investigation reveals the fact that the Madigan system for currently issuing Nonavailability Statements is scrupulously in accordance with both the intent as well as the regulatory detail of the system. A schematic depicting the actual program at work is displayed on the following page.

FIGURE 1

SYSTEM OVERVIEW - NON-EMERGENCY INPATIENT CERTIFICATE OF NON-AVAILABILITY (DD 1251)



BENEFICIARY	HBA	DEPT CHIEF	CPS (CG)	HSC	OSD-HA
Needs non-emergency inpatient care (resides within MAMC catchment area	Advise beneficiary to provide proof of the need for civilian inpatient non-emergency care.	1. Chief of corresponding service makes case by case determination based on patient situation and MAMC capabilities. 2. Returns to HBA for administrative processing.	1. Central control for approval authority. 2. Appeal authority for Dept Chief disapproval.	1. Approve 2. Disapprove	1. Approve 2. Disapprove

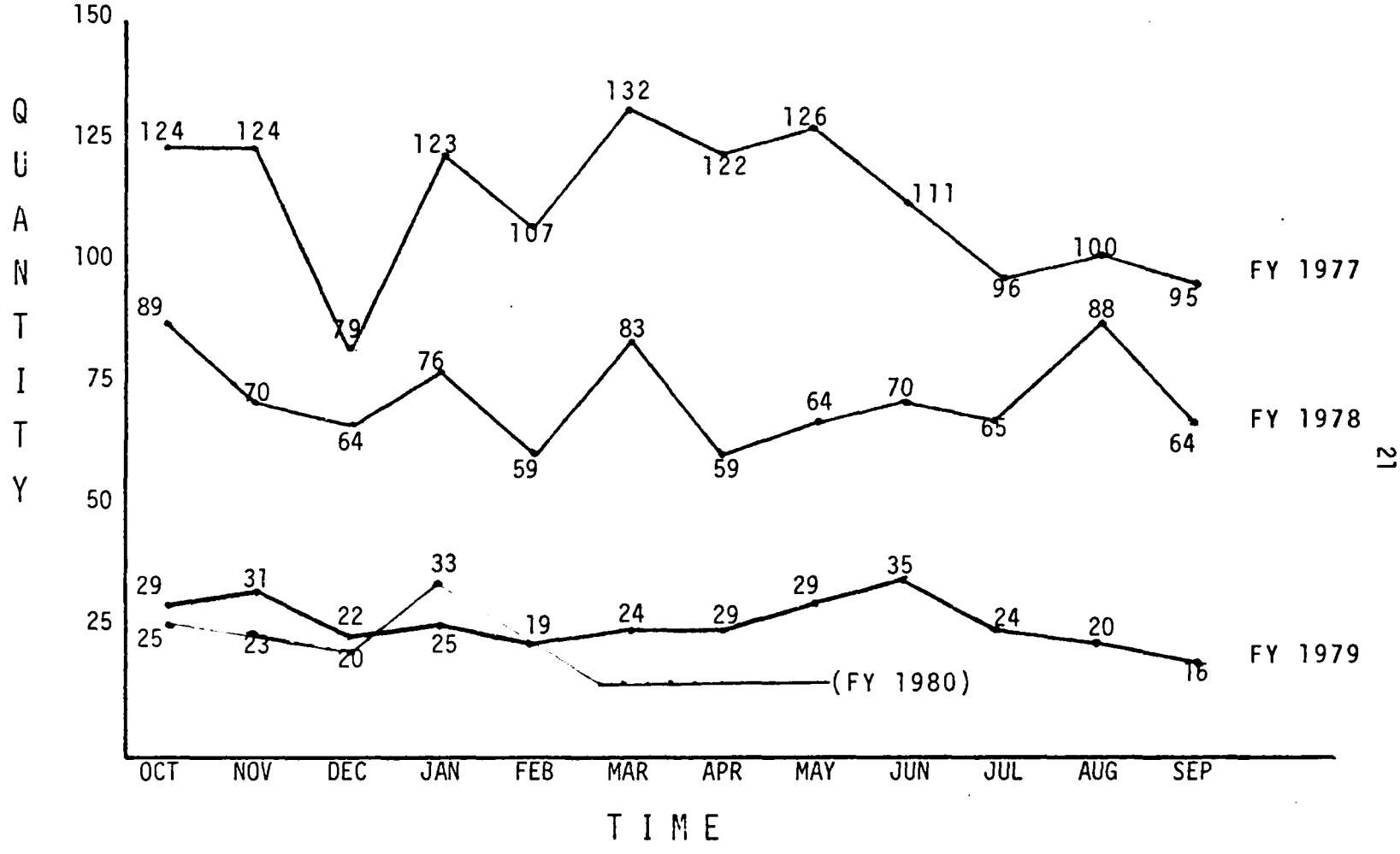
*At each appeal level, the beneficiary must initiate a formal written appeal in the face of disapproval at the respective represented stages in the system.

Source: Information derived from Health Benefits Advisor (CHAMPUS), Madigan Army Medical Center, Tacoma, Washington, coupled with personal verification.

As noted earlier, some years before at Fitzsimons Army Medical Center, Brigadier General Dwyre had reached the conclusion that direct care is the more economical and preferable alternative to CHAMPUS. His assignment as Commanding General of Madigan, as well as the preliminary phases of the capitation test then currently underway, led to priority emphasis on maximizing the direct care capabilities of the Center.[22] Given this guidance, department chiefs became the only individuals capable of rendering a decision on the issuance of Nonavailability Statements, with the Chief of Professional Services retaining central control. Rigorous application of this concept has led to an impressive reduction in the outflow of patients to the civilian sector. This resulted from no discernible, significant change in the internal capabilities of Madigan, but rather a more rigorous and efficient use of relatively static capability during this period. A graphic (Figure 2) and tabular (Table 1) portrayal of this effort is depicted on the following two pages.

FIGURE 2

NON-AVAILABILITY STATEMENTS ISSUED (MADIGAN AMC)



Source: Extracted from data provided by Health Benefits Advisor (CHAMPUS), Madigan Army Medical Center, Tacoma, Washington

TABLE 1

NON-AVAILABILITY STATEMENTS ISSUED (MADIGAN AMC)

FISCAL YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1977	124	124	79	123	107	132	122	126	111	96	100	95	1339
1978	89	70	64	76	59	83	59	64	70	65	88	64	851
1979	29	31	22	25	19	24	29	29	35	24	20	16	303
1980	25	23	20	33	19								*288

*Annualized

Source: Extracted from data provided by Health Benefits Advisor (CHAMPUS). Madigan Army Medical Center, Tacoma, Washington

In summary fashion, the following table comparatively reflects the Madigan results of these departmental efforts in reducing the outflow of eligible beneficiaries requiring non-emergency inpatient care.

TABLE 2

AVERAGE MONTHLY NONAVAILABILITY STATEMENTS ISSUED

FISCAL YEAR	ANNUAL TOTAL	MONTHLY $\bar{x}$	COMPARATIVE PERCENTAGE ISSUED
1977	1339	111.6	100%(Base)
1978	851	70.9	63.0%
1979	303	25.3	22.6%
1980	*120	24.0	21.5%

*5 Months Experience, Oct 79-Feb 80

Source: Extracted and computed from data provided by the Health Benefits Advisor, Madigan Army Medical Center, Tacoma, Washington.

One notes these efforts are fully in concert with the Department of Defense theme song -- much more has been done with less (or the same) resource levels. Once this trend became apparent, efforts were made to extract on a department-by-department basis the reasons for transferring this workload to civilian contemporaries. To that end, the Fiscal Year 1979 statements were scrutinized to see if further achievements were possible. Results of these efforts are depicted on Table 3.

TABLE 3

MAMC STATEMENTS OF NONAVAILABILITY ISSUED -- FY 1979

DEPARTMENT/SERVICE PROCEDURE	TYPE OF CARE REQUIRED IS NOT PROVIDED	CLINICALLY DETERMINED EXCESSIVE WAITING TIME	PROFESSIONAL DISAGREEMENT	CONTINUITY OF CARE	PERSONAL HARDSHIP (TRAVEL	RETROACTIVE ISSUANCE	TOTAL
Cardiology	1			1		2	4
ENT	2	1		4		3	10
Medicine	1		1		1		3
Urology				1			1
Nephrology	1			1		3	5
Neurology	1			1			2
Neuropsychiatry	25	28		1		58	112(37.0%)
Abortions						*2	2
Gyn Surgery	1	1	1	2	3	1	9
Maternity	1		1	22	32	3	59(19.5%)
Sterilizations	1		1				2
Ophthalmology	8			7		1	16
Orthopedics				1		1	2
Pediatrics	15	2				5	22 (7.3%)
General Surgery	1	4	2	2		2	11
Orthopedic Surgery	8	3		7		2	20 (6.6%)
Plastic Surgery				1			1
Neurosurgery	5	2			1	1	9
Radiation Therapy	1						1
Oral Surgery						1	1
Alcoholism	3					5	8
Pain Clinic	2						2
Physical Medicine	1						1
TOTALS	78	41	5	51	36	**91	303

*Abortions occurred prior to the federal cut-off, 1 Oct 78.

**Retroactive issuances may occur after the fact but must retrospectively meet the qualifying criteria set forth for the previous criteria (excessive waiting time, continuity of care, etc.).

Source: Data provided by the Health Benefits Advisor, Madigan Army Medical Center, Tacoma, WA 98431.

Once this tabulation was accomplished, it was necessary to reach conclusions concerning the possible marginal productivity of existing resources to absorb or continue to assume increased non-emergency direct care inpatients. The methodology employed was scrutiny of the primary departments engaged in the issuance of Nonavailability Statements.

Psychiatric and maternity care, for example, accounted for nearly 60 percent of the total statements issued during this period, and seemed the more likely candidates for further potential reductions. Investigation into the maternity care patients, however, revealed that virtually all recipients met the exclusion of residing within the catchment area but beyond the 30 mile radius for maternity care.[23] The vast majority of psychiatric patients, on the other hand, fell into the category of involuntary mental hospital commitments by the State court system, coupled with a select small number of adolescent psychiatric patients for whom care would not be economically warranted within Madigan. The possibility of assuming additional workload had been economically addressed and rejected earlier by the Chief, Department of Psychiatry in deciding whether or not to establish a psychiatric residency at Madigan.[24]

The next much smaller categories of services and procedures which resulted in Nonavailability Statements (Pediatrics and Orthopedic Surgery) stemmed largely from the temporary loss of an orthopedic capability for pediatric patients during several months of Fiscal Year 1979. This capability has been reacquired since and future outflow of this category of patient should not occur for the foreseeable future.[25]

Due to the very small numbers of statements issued by the individual remaining departments, detailed scrutiny of these services was not accomplished. Rather a lengthy interview with the Chief of Professional Services, who is responsible for the overall system, confirmed the conclusion that all statements do indeed receive detailed individual scrutiny and must be issued from time to time as peaks in workload, a temporary shortage of critical care beds, etc., dictate.[26] No statements are issued frivolously, yet valid reasons require issuance from time to time due to the circumstances of the moment as determined on a case-by-case basis.

As a result of these findings and the fact that Madigan currently issues approximately one-fifth of the Nonavailability Statements issued as recently as two years earlier, the conclusion is reached that the marginal productivity of these endeavors has

been absorbed, It is recognized the reductions are partially explained by the termination of federal subsidization of abortions on 1 October 1978. This, however, only explains one-fourth of the reduction -- the remaining reductions being attributed to vigorous management of the process itself.

Accordingly, little, if any, identifiable flexibility remains. Insofar as possible, the direct care alternative is being utilized to the extent practicable without producing degradation in the overall quality of patient care.

Annualizing the Fiscal Year 1980 issuances to date supports the conclusion that, all things equal, Madigan has reached the fixed cost level of its ability to absorb heretofore CHAMPUS inpatient workload. Testimony to this effect is evident from adjacent supporting data, i.e., average daily bed occupancy has constantly increased over the same period -- Fiscal Year 1977 figures were 295 beds occupied while 343 is the current figure thus far in 1980.[27] Concurrently, a manpower survey of the Madigan posture in October 1979, resulted in recognition of 159 additional manpower requirements necessary to meet the care needs and the corresponding workload necessary to accommodate the Madigan patient public.[28] Further, during Fiscal Year 1979, Madigan utilized 108 staff members to generate 100 Medical Care Composite Units, while the Army Medical Center overall average required 144 staff members to produce equivalent outputs of 100 Medical Care Composite Units.[29]

These findings may be only indirectly related to the premise at hand but do lend circumstantial weight to the inference that Madigan is a productive entity and does utilize direct care alternatives to the extent possible.

Analysis of this internal system was designed to discover possible variability regarding the Madigan inpatient non-emergency category of CHAMPUS patient, i.e., what was Madigan not doing now that it could in the future? As noted, this variability had been absorbed by managerial practices instituted during the recent past.

The overall conclusion stemming from this investigation, however, indicates that retrospectively, Madigan is employing its direct care options commendably. A more critical question for management of this system in the future might well be oriented prospectively, i.e., what is Madigan currently doing in the direct care setting that cannot be accomplished in the future? In short, the turmoil of staffing is well known to the military manager. Under the test concept then the Command should monitor existing direct care capabilities which may be lost in the future and determine the course of action necessary to reacquire or retain those capabilities. A good example of this type of thinking is evidenced within the Department of Orthopedics regarding total hip and total knee replacement. At present this capability

essentially resides within one man who was scheduled to depart the service this summer. His departure has been extended for at least one year making immediate analysis an academic matter. A cursory examination, however, reveals an annual and expanding requirement for this category of treatment. Ultraconservative estimates within the Department of Orthopedics reflect an annual demand of 25 total hip and/or knee replacements at a CHAMPUS cost in excess of $100,000.[30] Given the dollar implications, the Command should then take steps to avoid the loss of this capability -- additional training of existing staff, securing assignment of a new qualified replacement, etc. Also under this prospective train of thought, select disease increases may, in the future, economically warrant bringing in-house theretofore CHAMPUS workload.

Assessment by the Chief, Professional services, however, reflects that the Madigan capabilities for the foreseeable future should remain relatively constant. The rejection by President Carter of the physician's pay package and the rumored corresponding disillusionment may produce an unforeseen loss of selected capabilities (physician exodus) in the not too distant future. Hopefully this will not occur, but if it does, prospective rather than retrospective assessment of the direct care versus CHAMPUS alternatives will be the order of the day under the test flexibilities.

Be that as it may, one notes the procedures employed in analyzing the Nonavailability Statement system produce fairly straightforward, relatively easily interpretable results, and are reflective of the institutional managerial concern regarding the issue. Little, however, can be ascertained from this process regarding the monies involved. For these determinations, the investigator must turn to the external agencies referenced earlier in this paper.

External Agencies: A Wealth of Data and Some Information

As noted earlier, external agencies such as Blue Cross of Washington and Alaska (fiscal contractor), OCHAMPUS and other agencies are viewed as the second major source of insight into the topic at hand. Initial investigation into this arena requires an understanding of the interface between the components of the overall system, as well as an understanding of the flow of both health care dollars and CHAMPUS information.

In summary form, the basic system in place operates as follows: A beneficiary seeks authorized care from a provider source; either the provider or the beneficiary seeks reimbursement from the fiscal contractor; the fiscal contractor assesses the validity of the claim, computes the deductible payments authorized, pays the

respective party and seeks reimbursement from OCHAMPUS; OCHAMPUS reimburses the fiscal contractor for dollars expended, in turn bills the capitation facility for catchment area CHAMPUS care and aggregates data concerning CHAMPUS cost and utilization data pertinent to the respective facility. A schematic depicting this system follows (Figure 3).

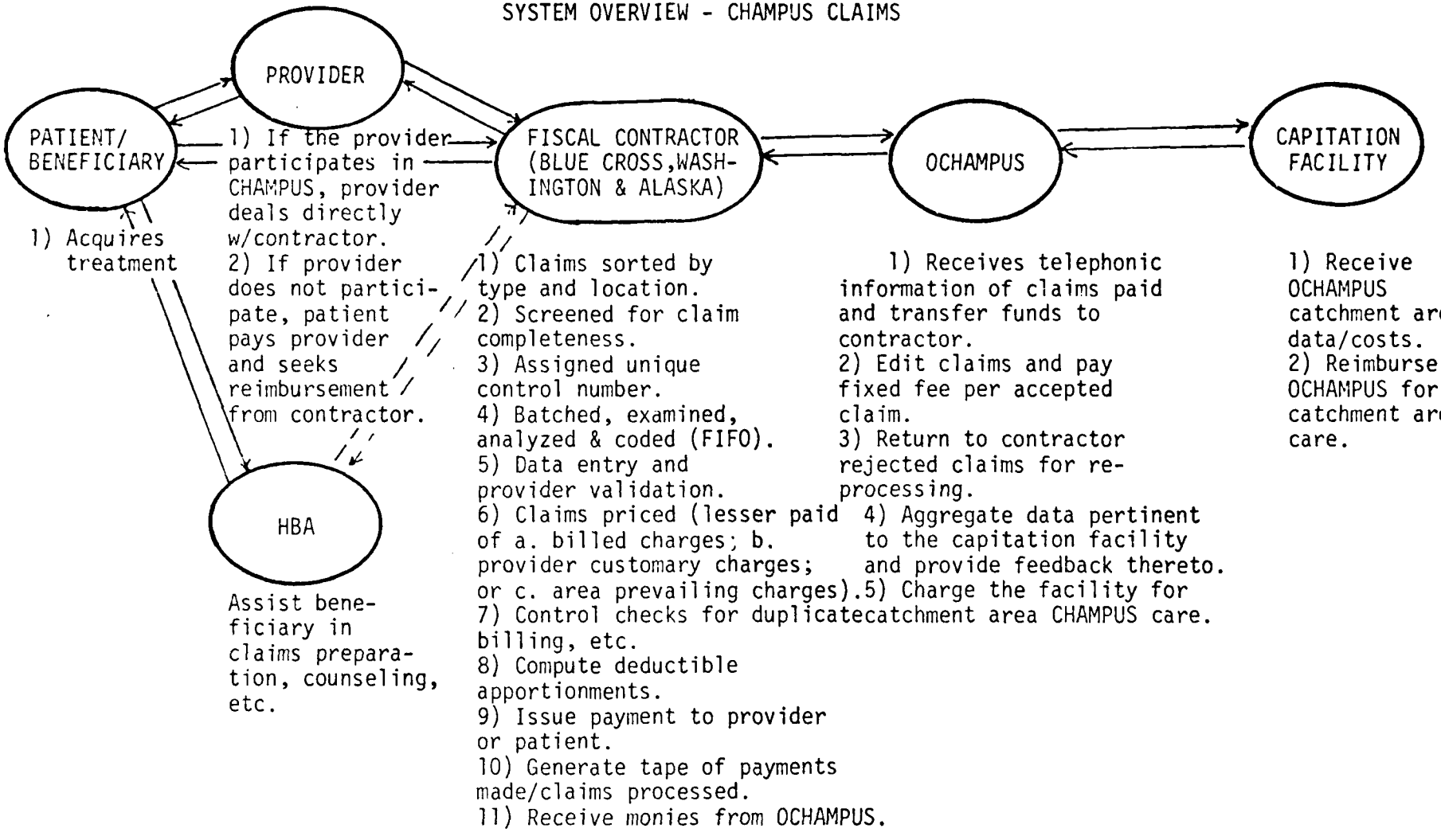
Under this system, aggregate and selected specific information ultimately flows to the facility regarding the CHAMPUS activity of its catchment area population. As noted earlier, under the test protocol, the facility is fiscally responsible for the costs thus incurred and has a vested interest in catchment area CHAMPUS expenditures. This responsibility includes inpatient and outpatient costs and for whatever reason, excludes the program for the handicapped, dental care and outpatient prescription costs.

Be that as it may, an understanding of the trends, patterns, etc. of this CHAMPUS activity and the accompanying financial implications is of primary importance in producing sound internal financial policy and related decision making.

Consequently the cost and utilization data pertinent to the Madigan patient public were scrutinized in hopes of providing insight into the inquiry at hand. The primary focus of this effort was oriented to the inpatient costs incurred.

FIGURE 3

SYSTEM OVERVIEW - CHAMPUS CLAIMS



Source: Information secured from Blue Cross of Washington and Alaska, Seattle, Washington, and OCHAMPUS, Denver, Colorado.

OCHAMPUS organizes its data, claim-by-claim, into essentially three basic categories -- inpatient hospitalization, inpatient professional services and supplies, and outpatient professional services and supplies. Cross referencing of this data enabled production of the following displays (Tables 4 - 7) regarding the overall Madigan CHAMPUS posture for care provided in Fiscal Years 1978 and 1979. As demonstrated, the recent Madigan experience reflects that approximately 80 percent of the total CHAMPUS outflow is in the form of inpatient costs; 80 percent of that total is attributed to hospitalization expense, while the remaining 20 percent is allocated for inpatient professional services and supplies, though specialty breakouts reflect different apportionments depending on the type of care rendered. It is interesting to note, for example, that surgeons receive approximately 40 percent of the total inpatient dollars expended for surgical care while simultaneously, psychiatrists receive only three percent of the total for their professional services.

Total admissions, cost per admission, lengths of stay, etc., however, provide little insight into possible variability between direct care and CHAMPUS alternatives, though does provide cost data which may be useful in overall budget generation and other aggregate financial decisions. An example of this type of analysis is now possible with the information at hand.

TABLE 4

INPATIENT COST DATA - CARE PROVIDED FY 1978
(Claims Processed 1 Oct 77-30 Sep 79)

	GOVERNMENT COST-HOSPITAL SERVICES	GOVERNMENT COST-PROFESSIONAL SERVICES	TOTAL GOVERNMENT INPATIENT COSTS	TOTAL GOVERNMENT COSTS	INPATIENT % OF TOTAL GOVERNMENT COSTS
DELIVERIES	220520 (83.1%)	44882 (16.9%)	265402 (100%)	266065	99.8
MEDICAL	753038 (90.9%)	75187 (9.1%)	828225 (100%)	1050791	78.8
SURGICAL	409258 (53.3%)	358073 (46.7%)	767331 (100%)	972837	78.8
OTHER	0 (0.0%)	594 (100%)	594 (100%)	3710	16.0
PSYCHIATRIC	297025 (96.2%)	11831 (3.8%)	308856 (100%)	397706	77.7
TOTAL	1679841 (77.4%)	490567 (22.6%)	*2170408 (100%)	2691109	80.7

*NOTE: Of these total dollars, deliveries represent 12.2%, medical 38.2%, surgical 35.4% and psychiatric 14.2%.

Source: Extracted from OCHAMPUS Cost and Utilization Data, Madigan Army Medical Center Catchment Area (1 Oct 77 - 30 Sep 79).

TABLE 5

INPATIENT COST DATA - CARE PROVIDED FY 1978
(Claims Processed 1 Oct 77-30 Sep 79)

	ADMISSIONS	AVERAGE GOVERNMENT COST PER ADMISSION	BED DAYS	AVERAGE LENGTH OF STAY	AVERAGE GOVERNMENT COST PER BED DAY
DELIVERIES	238	1115	751	3.1	353
MEDICAL	651	1272	4369	6.7	190
SURGICAL	295	2601	1427	4.8	558
OTHER	0		0		
PSYCHIATRIC	191	1617	4481	23.5	69
TOTAL	1375	1578	11028	8.0	197

Source: Extracted from OCHAMPUS Cost and Utilization Data, Madigan Army Medical Center Catchment Area (1 Oct 77-30 Sep 79).

TABLE 6

INPATIENT COST DATA - CARE PROVIDED FY 1979
(Claims Processed 1 Oct 78-30 Sep 79)

	GOVERNMENT COST-HOSPITAL SERVICES	GOVERNMENT COST-PROFESSIONAL SERVICES	TOTAL GOVERNMENT INPATIENT COSTS	TOTAL GOVERNMENT COSTS	INPATIENT % OF TOTAL GOVERNMENT COSTS
DELIVERIES	119673 (83.5%)	23630 (16.5%)	143303 (100%)	143303	100.0
MEDICAL	349791 (87.0%)	52405 (13.0%)	402196 (100%)	518267	77.6
SURGICAL	275646 (62.0%	168744 (38.0%)	444390 (100%)	600336	74.0
OTHER	0 (0.0%)	7381 (100%)	7381 (100%)	20351	36.3
PSYCHIATRIC	215980 (97.4%)	5754 (2.6%)	221734 (100%)	271579	81.6
TOTAL	961090 (78.8%)	257914 (21.2%)	*1219004 (100%)	1553836	78.4

*NOTE: Of these total dollars, deliveries represent 11.8%, medical 33.0%, surgical 36.5%, other 0.5%, and psychiatric 18.2%.

Source: Extracted from OCHAMPUS Cost and Utilization Data, Madigan Army Medical Center Catchment Area (1 Oct 77 - 30 Sep 79).

TABLE 7

INPATIENT COST DATA - CARE PROVIDED FY 1979
(Claims Processed 1 Oct 78-30 Sep 79)

	ADMISSIONS	AVERAGE GOVERNMENT COST PER ADMISSION	BED DAYS	AVERAGE LENGTH OF STAY	AVERAGE GOVERNMENT COST PER BED DAY
DELIVERIES	133	1077	417	3.1	343
MEDICAL	316	1273	2068	6.5	194
SURGICAL	152	2927	1042	6.8	426
OTHER	0		0		
PSYCHIATRIC	126	1760	2700	21.4	82
TOTAL	727	1677	6227	8.6	195

Source: Extracted from OCHAMPUS Cost and Utilization Data, Madigan Army Medical Center Catchment Area (1 Oct 77 - 30 Sep 79).

CHAMPUS Inpatient Emergencies Estimated

At this point it is possible to deductively (and roughly) estimate the number of emergency inpatient CHAMPUS episodes occurring during a given year. As determined earlier, one is readily able to determine the total certificates of nonavailability issued during a given year. Presumably subtracting that number from the total claims processed thus far by the fiscal contractor against that same period should identify the approximate number of inpatient emergencies occurring within the Madigan catchment area. Such computations reveal the following:

TABLE 8

ESTIMATED MADIGAN CHAMPUS EMERGENCY INPATIENTS

FY 1978 total admissions (claims processed through February 1980)	1452
FY 1978 Nonavailability Statements issued	851
FY 1978 estimated emergency inpatient episodes	601
FY 1979 total admissions (claims processed through February 1980)	858
FY 1979 Nonavailability Statements issued	303
FY 1979 estimated emergency inpatient episodes	555

Source: Computed from data provided by Madigan Health Benefits Advisor and OCHAMPUS Cost and Utilization Data, Madigan Army Medical Center.

Assessing the above information (Table 8) reflects that Madigan can annually expect to incur in the neighborhood of 600 plus emergencies for which it is financially responsible under the test. Both figures are somewhat understated, particularly that of 1979, since fiscal experience indicates less than 60% of the inpatient admissions are processed as claims during the year in which the care was rendered (see Table 9).

For want of a better method at this point, the manager could assume future episodes would occur in the same proportion within the overall inpatient types of care rendered and multiply by the respective costs per episode in order to obtain a forecasted outlay for this portion of the total CHAMPUS dollars. This type of effort would be particularly useful in allocating resources at the outset of a fiscal period while simultaneously retaining flexibility to shift over committed dollars subsequently as conditions dictate.

Timing of the CHAMPUS Dollar Flow

For enhanced understanding, it is useful at this point to analyze the timing of CHAMPUS dollar flow. Scrutiny of the flow of inpatient care dollars reveals, at best, an erratic, somewhat unpredictable pattern. Analysis of the costs related to the inpatient care rendered in fiscal 1978 indicates that, for both

hospital and professional services, less than 60 percent of the claims are processed in the fiscal year in which the care was rendered (Table 9).

Further, an analysis of the Fiscal Year 1978 total CHAMPUS care rendered reveals that significant dollar claims against those Fiscal Year 1978 dollars were still being processed well into 1980. The monthly dollar outlays for 28 months of claims processing (October 1977-January 1980) against these 12 months of care (October 1977-September 1978) reveals a dollar outflow monthly average of $99,258, a range in monthly billings of 0 - $314,231, producing a monthly standard deviation of ± $91,409 (Table 10). Assuming this trend holds for the nation, it is little wonder the management of CHAMPUS monies has received severe criticism over the years. This situation has led recently to a decision to change the definition of when a claim is valid and requires an obligation of funds. Formerly, a claim was considered valid when care was rendered. For the future, however, a claim will be considered valid when adjudicated, regardless of when the care was received.[31] The wisdom of this decision is seemingly apparent. In the past, at the end of a fiscal year a significant amount of monies had to be set aside in anticipation of future claims against those dollars. Under the new concept, the books can be closed and one can begin

TABLE 9

TIMING OF CHAMPUS DOLLAR FLOW - INPATIENT CARE RECEIVED IN FY 1978
VERSUS THE FISCAL YEAR TIMING OF GOVERNMENT COSTS FOR THAT SAME CARE

CLAIMS PAID / CARE PROVIDED	FY 1978 HOSPITAL SERVICES	FY 1979 HOSPITAL SERVICES	FY 1978 PROFESSIONAL SERVICES	FY 1979 PROFESSIONAL SERVICES	TOTAL INPATIENT SERVICES, FY 78	TOTAL INPATIENT SERVICES, FY 79
Oct 77	0	133304	0	36255	0	169559
Nov 77	0	150249	0	45321	0	195570
Dec 77	919	70201	577	45996	1496	116197
Jan 78	69218	86069	1213	32210	70431	118279
Feb 78	139098	29467	30756	15236	169854	44703
Mar 78	155769	37958	37798	25145	193567	63103
Apr 78	89305	27435	38084	13002	127389	40437
May 78	7243	13415	1423	8012	8666	21427
Jun 78	192416	145358	49943	4448	242359	149806
Jul 78	116140	1232	30317	1919	146457	3151
Aug 78	139611	16969	34318	2167	173929	19136
Sep 78	62627	*- 4165	34744	1688	97371	- 2477*
SUBTOTAL	972346 (57.9%)	707492 (42.1%)	259173 (52.8%)	231399 (47.2%)	1231519 (56.7%)	938891 (43.3%)
CUMULATIVE TOTAL		1679838 (100%)		490572 (100%)		2170410 (100%)

*Adjustments for cancelled claims, corrected claims, fraudulent claims, etc.

Source: Extracted from OCHAMPUS health care cost and utilization data pertaining to Madigan Army Medical Center catchment area.

TABLE 10

TOTAL CHAMPUS DOLLAR FLOW - CARE RECEIVED IN FY 1978

	FY 1978	FY 1979	FY 1980
OCT 77	0	209307	1487
NOV 77	0	249713	60674
DEC 77	1496	163654	11932
JAN 78	72424	156357	14014
FEB 78	183083	65340	---
MAR 78	219801	80179	---
APR 78	165107	55923	---
MAY 78	9553	30072	---
JUN 78	314231	153968	---
JUL 78	189210	5285	---
AUG 78	205905	24754	---
SEP 78	133328	1704	---
TOTALS	1494858 (53.8%)	1196256 (43.0%)	88107 (3.2%)
CUMULATIVE TOTAL:			2779221 (100%)

The difficulty of predicting the flow of dollars is readily apparent as the timing of claims seemingly bears little correlation to the timing of the receipt of care. For example, the September 1979 bill represents claims for care provided during each of the twelve months spanning FY 1978 in its entirety (Oct 77 through Sep 78). Further, it is apparent that the month by month predictability of dollar flow is at best haphazard. Though a gentle decline in monthly incremental outlays is apparent as claims become more aged, the range of monthly outlays varies widely from a high of $314231 to a low of zero. Simultaneously the average monthly outlay for the above period is $99258 with a standard deviation of $\pm$ $91409.

Source: Extracted from OCHAMPUS health care cost and utilization data pertaining to Madigan Army Medical Center catchment area.

anew on an annual basis and the tremendous lag between obligation and actual cash outlays can be eliminated. The system is still in the throes of transition but hopefully the future holds more certainty in the timing and amount of payment for CHAMPUS. This should be a blessing whether the test concepts are adopted or not.

Madigan CHAMPUS Inpatient Costs: Diagnosis Specific

Though useful, analyzing of the cost and utilization data thus far has provided only indirect insight into the subject under investigation. The quantity of this data is vast and incorporates basically the following information: Type of care (inpatient hospital, inpatient and outpatient professional services and supplies), beneficiary status, sex, age, dates of care, primary diagnosis, primary procedure and resultant costs -- both to the government as well as provider total charges.

As noted at the outset however, this data is not presently in a form enabling informed decision making. Some informational accommodations have been made on behalf of the capitation test but there is no method of separating emergency inpatient from non-emergency inpatient data and costs through use of OCHAMPUS reports. One is left at this point with the well-known feeling of knowing the desired information is in the computer but cannot be obtained.

Consequently, in a perverse manner, a mountain of printouts detailing the Madigan CHAMPUS experience were manually attacked in hopes of being able to discover this information. Initially, the design was to discover, isolate and cost out the diagnoses which had caused the patient to be referred to the civilian sector and concurrently to cost out those procedures which were accomplished by the provider for those same diagnoses.

A lengthy visit to the fiscal intermediary, Blue Cross - Washington and Alaska, led to the conclusion that pursuit of this data concerning performed procedures would be fruitless due to the method of coding employed. Though several valid procedures may be employed, only one is selected as the primary procedure and all costs of all procedures are attributed to the selected primary procedure. Hence the costs per procedure would be severly distorted in an unknown number of instances. For example, on one report a urinalysis was selected for coding as the primary procedure accomplished in dealing with two separate diagnoses. In one instance the government's cost for that urinalysis was $13.00 and, in the next, was listed at $486.60.[32] Presumably (and hopefully) in the second instance, the urinalysis was only one of several procedures performed and was certainly not the primary procedure. For this reason the intended pursuit of costing specific procedures was

abandoned as an exercise in futility. Thus the professional services and supplies component of the government's cost provided little meaningful specifics regarding the pursuit at hand.

Trusting that such would not be the case for the diagnoses generating the hospital's portion of the charges, the monthly data sheets for inpatient care rendered in 1979 were analyzed. Episode-by-episode, seventeen months of data (October 1979-February 1980) were decoded, aggregated, and compiled in hopes that a pattern would develop which would be useful in the management of the CHAMPUS dollar. The results of these efforts are displayed in Appendix A. This exercise at culmination was simultaneously enlightening, as well as frightening. Though the results displayed give some in-. sight into the prevalence and incidence of catchment area disease and related costs, the main value of this effort was to graphically portray the terrible vulnerability of Madigan in the management of its dollars under the new test concepts. Except for a very few select diagnoses, each inpatient diagnosis during this seventeen month scrutiny occurred only on a very few occasions and several dozen diagnoses occurred uniquely.

Moreover, the government cost for a given diagnosis ranged tremendously from one inpatient episode to the next. Regional enteritis provides an excellent example of this fact. Three episodes occurred during the period in question. The average

government cost per episode was $8003, yet the range varied from $1131 to $18935. Routinely, with few exceptions, specific diagnoses normally occurred too infrequently to make averages meaningful and concurrently displayed the danger to the institution in the development of fiscal strategy under these new options. What if future cases of regional enteritis all fell at the upper spectrum of the range? What if five cases occurred during 1980? What if no cases occurred during 1980? One can readily see a tremendous amount of uncertainty has been brought into an already uncertain environment. More discussion of this point will occur later.

Though this effort was meaningful to a certain extent, the desired effect of separating the variable (inpatient non-emergencies) from the fixed (inpatient emergencies) components could not be accomplished from the OCHAMPUS information as it is presently constructed.

Coordinating the Non-emergency Inpatient With Associated Specific Costs

Very recently (Fiscal Year 1980) OCHAMPUS continued to provide the data as described above, but additionally, began to identify, on a claim-by-claim basis, the claimant by name. It is possible at this point to coordinate the Nonavailability Statements with specific costs. Accordingly, at the request of this writer, the Madigan Health Benefits Advisor compared the list of total inpatient claimants against the list of Nonavailability Statements issued by

Madigan during Fiscal Year 1979 and 1980 thus far. Though only three months data were available identifying claimants by name (December 1979-February 1980), this seemingly simple task required several hours of cross referencing since the Nonavailability Statements are filed alphabetically whereas the OCHAMPUS roster was not thus organized. Needless to say this process lends itself to effective streamlining and should be generated by automation. If the test concept is adopted nation-wide, hopefully this and other needed tailoring of the OCHAMPUS informational systems will occur.

At the conclusion of this effort, 33 non-emergency inpatient episodes were identified from 131 total inpatient hospitalizations during this three month period. The 33 episodes embraced 27 different diagnoses and accounted for $56,008 of the total $208,163 government dollars represented by these 131 episodes. Due to the small number of episodes, this endeavor did not produce the data sufficient to accomplish the intended purpose, but did provide a glimmer of hope that such activity may bear fruit in the future.

CHAMPUS Management: Is it Possible?

The Nonavailability Statement analysis aside, termination of the preceding efforts concerning external data left a good deal of

frustration and a sense of non-accomplishment for this investigator. Hopefully, however, no avenue went unexplored in attempting to acquire further insight into the subject area and, pending adoption or rejection of the test concept regarding CHAMPUS and Operation and Maintenance dollars, nothing more can be ascertained with the existing data and information as presently organized.

It seemed prudent at this point to assess the national management of CHAMPUS to determine if forecasting, budgeting, etc. had achieved significant successes over the years. The following table (Table 11) extracted from the 1975 Military Health Care Study reflects difficulty exists even at the aggregate level in the management of this program.

TABLE 11

CHANGES IN CHAMPUS PROGRAMMING

Fiscal Year	Amount Reprogrammed Into/From CHAMPUS	
	Millions of Dollars Into (From)	Percent Change to Appropriation
1972	$85.7	+28%
1973	(77.1)	-15%
1974	(37.5)	- 7%
1975	75.0	+15%

Source: Extracted from the Military Health Care Study, Exhibit 10. Data provided by Assistant Secretary of Defense - Health Affairs.

In order to obtain a more current picture of the overall program, the Office of the Assistant Secretary of Defense for Health Affairs was queried as to the more recent CHAMPUS experience at that level. Table 12 reflects this response.

Circumspection of this data is revealing in that the resource managers at the Department of Defense level are apparently becoming more proficient in marrying up the monies available with actual expenditures, though each year significant millions must be taken from each of the services to beef up the total dollars available while ultimately, several of those same millions go unspent at the conclusion of the process. Hopefully, the decision to redefine claim validity and the timing of actual obligations will further clean up this act and bring more precision to this system.

This superficial look at the national level was refreshing in that support was obtained for the conclusion that uniform predictability, precise decision making, overall dollar outlays, etc., regarding this system are imperfect at best. This stems from a host of factors which are readily evidenced within the Madigan diagnosis display at Appendix A. Even aggregation at the agency level does not produce textbook precision. One doubts that it could, given the uncertainties involved.

TABLE 12

CHAMPUS NATIONAL FISCAL EXPERIENCE (THOUSANDS OF DOLLARS)

	FY 1975	FY 1976	FY 1977T	FY 1977	FY 1978	FY 1979***	FY 1980
President's Budget	520,000	539,141	134,358	581,830	617,000	442,500	854,000
Congressional Appropriation	493,071	515,041	130,358	581,830	614,583	453,500	731,460
DOD Reprogramming Efforts	+ 75,000	+ 35,000	+ 7,000	- 15,000	- 55,647** + 61,089(DOD)	+32,091	+ 36,000(Estimates)
Total Monies Available	568,071	550,041	137,358	566,830	610,025	485,591	---
Actual Expenditure	513,707	516,838	140,520*	554,606	604,242	479,371	281,593(As of 29 Feb 80)

*FY 1976 and FY 1977T were combined for obligation purposes.

**CHAMPUS share of a mandated DOD reduction for overbudgeted inflation (hence two reprogramming efforts in FY 1978).

***FY 1979 represented a number of policy changes, i.e., change to the 80th percentile of payments and the decision to obligate when a claim was adjudicated rather than when care was rendered.

Source: Date provided by Cost and Budget Analysis Division, Office of Assistant Secretary of Defense - Health Affairs, Washington, D. C.

The Test Itself: A Chronicle of Events and Personal Impressions

It is impossible to resist at this point providing a summary of major events thus far under the test and identifying derived impressions of the referenced flexibilities. The test could not have begun under more uncertain circumstances for the following reasons:

1. The primary difficulty in dealing with a Congressional failure to enact timely appropriations resulted in a lack of overall fiscal guidance which, more than six months into the test year, is still not definitively settled. This situation has produced much spin-off frustration and uncertainty for all test facilities, as well as concerned parties at the agency level.

2. The RCBCC Support Staff was not manned by permanent personnel until the end of February 1980. Consequently, an interim staff consisting of a Navy lieutenant, an Air Force captain and an Army civilian performed this critical role on an ad hoc additional duty basis through the first several months of the test. Their work is not criticized but obviously this situation produced less than optimal conditions for support of the RCBCC function.

3. Though the new flexibilities and resource decision making is allegedly left to the Region and the Commanders therein,

exercising these flexibilities has been somewhat overcome by events at times and involved parties are continually attempting to extricate the Region from DOD-wide constraints. Two examples readily portray this fact: (a) The Region has thus far been unable to secure exemption from the TDY limitations imposed[33] and (b) The Region is not apparently exempt from the hire freeze imposed within DOD in April 1980, in spite of the alleged removal of civilian end strength ceilings.[34]

These and other factors have combined to produce less than optimal conditions for test success thus far. An contractual evaluation of the overall test will be conducted by a consultant firm at a cost of in excess of $500,000.[35] Hopefully, this evaluation will be able to separate out the negative conditions under which the test was conducted and reach proper conclusions concerning adoption, rejection or test extension.

Additionally, one must realize that region tri-service resource allocations and the referenced flexibilities themselves, are, in reality, not related to the capitation concept itself but have been, rightly or wrongly, included in the test of the basic concept. Possibly unfortunately, comes the suspicion that these new flexibilities given to the Commander may not be evaluated separately at test conclusion and may become prime criteria for

determining success or failure of the "Capitation Budgeting Concept." One can only concurrently hope that evaluation techniques can be developed which will further separate out the effect of these flexibilities on the costs and productivity levels attained by test institutions.

Lastly, it seems, on the surface, that allowing the institution to comingle CHAMPUS and Operation and Maintenance funds provides a good deal of flexibility to the Commander. However, once the institution has reached the fixed cost level of absorbing heretofore patient care, quite the opposite may occur.

The Anti-Deficiency Act requires managers to conduct operations within budget ceilings, i.e., "Thou shall not overobligate."[36] Given this legal umbrella and a full appreciation of the uncertainty and unpredictability of CHAMPUS activity, the prudent manager would be tempted to over-allocate resources to CHAMPUS care in order to provide a margin-of-safety in the face of uncertainty. Only a risk-seeker would behave otherwise. Obviously then, this would result in under-allocations to the direct care operation and ultimately produce sub-optimum utilization of total resources.

Additionally, at least under present policy, the premise of giving the Commander responsibility for the total care (CHAMPUS and direct) of his beneficiary population flies in the face of a long standing management precept that authority and responsibility

go hand in hand. This precept is violated under the test concept -- the manager is accountable and responsible for CHAMPUS outlays yet is basically powerless to directly influence the bulk of expenditure, i.e., outpatient care, emergency inpatient care and the fixed cost component of non-emergency inpatient care are beyond institutional control except in a remote, indirect sense. It is recognized that such may be the case even at the national level, yet presumably, at that level, local micro-dysfunctions become assimilated within the total system enabling better predictability and overall management.

Having expressed these concerns and observations, this investigator eagerly awaits the conclusions and recommendations of the consultant firm regarding the future of the capitation and related test concepts.

CONCLUSIONS, RECOMMENDATIONS AND APPRAISAL

The hypothesis under investigation was that fixed and variable components of the Madigan catchment area non-emergency category of CHAMPUS inpatients both existed and could be identified. Identification was not accomplished, since Madigan had earlier taken the steps necessary to eliminate the variable portion within this element of the patient public during the preceding two years. This does not infer the hypothesis was incorrect; rather the Madigan track record indicates the opposite -- variability did exist among this group, but was transferred to the direct care setting prior to test inception.

One suspects the hypothesis may well hold for other institutions within the military health care delivery system. If such is the case, one can only recommend, as a result of this scrutiny, that rigid implementation of a soundly managed Nonavailability Statement system will enable utilization of the direct care alternative to best advantage. Such a system is already provided for in the regulatory guidance; but, due to the use of local discretion, may not be optimally employed throughout the Uniformed Services. This, in reality, is the only direct method of control and influence currently possessed by the Commander regarding the outflow of his catchment area CHAMPUS dollars.

Once retrospective analysis and subsequent actions have brought the facility to its fixed cost level, the Commander must look prospectively to identify and avoid (if possible) current direct care capabilities which may be lost or impaired in the future. This prospective assessment should also embrace continual monitoring of the patient categories receiving Nonavailability Statements to determine if increased incidence of a select disease would economically warrant the investment actions necessary to effect the return of this group to the direct care setting.

A second recommendation, for reasons identified earlier, is that the data and information provided to the facility by OCHAMPUS should be redesigned and augmented to be more meaningful and useful. Specifically, all data, individual and aggregate, concerning the non-emergency inpatient should be separated from the emergency inpatient. As noted, this is the institutionally manageable portion of catchment area CHAMPUS activity and such information would readily enable cross referencing between Nonavailability Statements issued and subsequent costs incurred therefrom. As noted earlier, this may be possible at the facility level with the newly employed method of identifying claimants by name. There are two prime shortcomings with this approach however: (1) the Nonavailability Statements are compiled alphabetically while OCHAMPUS listings are

not, and (2) there may well be a severe timing lag between statement issuance and claims processing. These difficulties require a burdensome manual effort which could be readily solved through report redesign on behalf of OCHAMPUS. As presently constructed, it is this observer's impression that the prime use of OCHAMPUS reports is to ascertain and validate total dollar consumption month by month and reimburse accordingly.

Ultimately, in light of the total picture, one would hope the institution would not be accountable for that which is not controllable. Under this premise, two alternatives are apparent: (1) Either a return to CHAMPUS as a no-cost alternative to the institution, or (2) Modifying the test concept to hold the facility accountable for the non-emergency category of inpatient only. The latter alternative could allow new flexibility to the Commander while simultaneously providing the incentives necessary to produce maximal use of the direct care alternative. Adoption of this modification would also avoid the danger of overallocating resources to accommodate uncertainty, i.e., costs ascribed to outpatient and emergency inpatients.

As a final note, conceptually this observer has little difficulty with the capitation concept itself, in spite of additions to the test of tri-service regional decision making and applications of

the referenced flexibilities. Resource expenditures in health care should be a function of the size and demographics of an institution's beneficiary population. Under this concept, then, resource distributions, facility-to-facility, may indeed be more equitable than under the traditional workload system.

At this point, one adjourns to await the formal evaluation of the tested concepts and the subsequent policy and system changes which must result.

FOOTNOTES

[1]Joseph A. Califano, "What's Wrong With U.S. Health Care," Reader's Digest (October 1977) :123.

[2]Office of Management and Budget, Department of Defense, Department of Health, Education and Welfare, Report of the Military Health Care Study (Washington, D. C.: U.S. Government Printing Office, December 1975).

[3]Ibid., pp. 85-86.

[4]Office of the Assistant Secretary of Defense - Health Affairs, Capitation Budgeting Demonstration Project Regional Concept of Operations, Undated, p. 5

[5]Ibid., pp. 5-6.

[6]Ibid., p. 5.

[7]Office of the Assistant Secretary of Defense for Health Affairs, Capitation Budget Demonstration Project Region I Standard Operating Procedures (Washington, D. C.: January 21, 1980).

[8]Capitation Budgeting Work Group -- Office of Secretary of Defense for Health Affairs, Briefing to the Region I RCBCC Interim Support Staff, Madigan Army Medical Center (Tacoma, WA: September 5, 1979).

[9]McKinsey and Company, Incorporated, Final Report: Capitation Budgeting in the Military Health Services System (Washington, D. C.: December 1978) :1-5.

[10]Office of the Secretary of Defense for Health Affairs -- Tri Service Capitation Budgeting Steering Committee, Briefing Provided to Commanding General, Madigan Army Medical Center (Tacoma, WA: September 7, 1979).

[11]Public Law 84-569, Chapter 55, Title 10, United States Code, June 7, 1956.

[12]Public Law 89-614, Chapter 55, Title 10, United States Code, September 30, 1966.

[13]Office of Management and Budget, Department of Defense, Department of Health, Education and Welfare, Report of the Military Health Care Study - Supplement: Detailed Findings (Washington, D.C.: U.S. Government Printing Office, December 1975) :712.

[14]Armed Forces Information Service Department of Defense, Civilian Health and Medical Program of the Uniformed Services (Washington, D.C.: U.S. Government Printing Office, 1979) :1-10.

[15]Interview with William R. Dwyre, Commanding General, Madigan Army Medical Center, Tacoma, Washington, March 1980.

[16]Office of Management and Budget, Department of Defense, Department of Health, Education and Welfare, Military Health Care :60-70

[17]McKinsey, Final Report: Capitation Budgeting :1-10.

[18]Department of the Army, Department of the Army Regulation 40-3: Medical, Dental and Veterinary Care (Washington, D.C.: U.S. Government Printing Office, October 10, 1977) :4-7.

[19]Ibid., pp. 4-7.

[20]Ibid., pp. 4-7.

[21]Ibid., pp. 4-7.

[22]Madigan Army Medical Center, Madigan Army Medical Center Supplement 1 to Department of the Army Regulation 40-121 (Tacoma, WA: October 2, 1979).

[23]Interview with Charles H. Lewis, Health Benefits Advisor--CHAMPUS, Madigan Army Medical Center, Tacoma, Washington, October 1979 - March 1980.

[24]Interview with Daniel H. Anderson, Colonel, Chief of Department of Psychiatry, Madigan Army Medical Center, Tacoma, Washington, April 1980.

[25]Interviews with Richard T. Travis, Colonel, Chief of Orthopedic Service, Madigan Army Medical Center, Tacoma, Washington, Jan-Apr 1980.

[26]Interview with Darryl H. Powell, Colonel, Chief of Professional Services and Deputy Commander, Madigan Army Medical Center, Tacoma, Washington, March 1980.

[27]Interview with Isabel M. Richards, Program Analyst, Comptroller Division, Madigan Army Medical Center, Tacoma, Washington, April 1980.

[28]United States Army Health Services Command Letter to the Commander, Madigan Army Medical Center, October 4, 1979, Manpower Survey.

[29]Interview with Isabel M. Richards.

[30]Interview with Travis. Results based on data secured from Lakewood General Hospital, Tacoma, Washington, February 1980.

[31]Interview with John Dexter, Cost and Budget Analyst, Resource Management, Office of the Secretary of Defense for Health Affairs, Washington, D.C., March 17, 1980.

[32]OCHAMPUS, "CHAMPUS Monthly Cost Report Detail Exhibit 1-8 Claims Processed One Through Twenty-nine, February 1979, for Care Rendered in 1979," (Report provided to Madigan Army Medical Center, Tacoma, Washington, March 5, 1979).

[33]Office of the Assistant Secretary of Defense -- Comptroller, Memorandum on Travel Limitation for Medical Region I of the Medical Capitation Budgeting Test, Washington, D. C., March 21, 1980.

[34]U.S. Army Health Services Command, Message on Limitation on Civilian Hiring, April 9, 1980.

[35]Office of Secretary of Defense for Health Affairs, Statement of Work (Washington, D.C.: August 23, 1979).

[36]United States Code, Section 3679 of the Revised Statutes, Title 10.

APPENDIX A

DIAGNOSIS DISPLAY - INPATIENT HOSPITAL SERVICES

TABLE 13

DIAGNOSIS DISPLAY - INPATIENT HOSPITAL SERVICES
October 1978 - February 1980
(Claims Processed Against FY 1979 Admissions)

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Prophylactic inoculation and vaccination	1	288	---	288
Prenatal care (normal)	4	419	42-241	105
Single born, full term	6	601	7-281	100
Gastroenteritis and colitis	10	25067	21-20686	2507
Pleurisy with effusion	1	467	---	467
Scarlet Fever	2	2680	399-2281	1340
Unspecified septicemia	2	1559	692-866	779
Herpes Simplex	1	920	---	920
Infectious Monomucleosis	2	1365	419-947	683
Viral Infection, unspecified	1	928	---	928
Malignant neoplasm of rectum	1	396	---	396
Malignant neoplasm of bronchus and lung	2	3657	985-2674	1829
Malignant neoplasm of head, face, neck	1	3958	---	3958
Malignant neoplasm of breast	4	13619	948-5370	3405
Malignant neoplasm of cervix uteri	3	6404	952-4427	2138
Malignant neoplasm of brain	1	4247	---	4247
Malignant neoplasm of other parts of the nervous system	1	960	---	960
Secondary and unspecified malignant neoplasm of lymph nodes	1	1219	---	1219

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Malignant neoplasm -- no specific site	2	4380	162-4218	2190
Lymphatic leukemia -- unspecified	1	537	----	537
Myeloid leukemia -- chronic	2	6508	41-6467	3254
Leukemia	3	9118	169-8232	3039
Benign neoplasm, bronchus and lung	1	165	---	165
Other, unspecified lipoma	1	529	---	529
Other benign neoplasm of muscular and connective tissue	2	3076	107-2969	1538
Unspecified benign neoplasm of uterus	1	3657	---	3657
Benign neoplasm of ovary	1	1927	---	1927
Cystadenoma; benign ovarian cyst	3	2123	467-931	708
Unspecified benign neoplasm of ovary	1	1571	---	1571
Cerebral meninges (benign neoplasm)	1	3452	---	3452
Benign neoplasm of other, unspecified organs and tissues	1	236	---	236
Neoplasm of unspecified nature of brain	1	11877	---	11877
Neoplasm of unspecified nature, unspecified sites, Simple Goiter	1	2777	---	2777
Diabetes Mellitus, without mention of acidosis or coma	5	1031	29-540	[illegible]

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Obesity, not of endocrine origin	1	1117	---	1117
Unspecified iron deficiency anemia	1	2804	---	2804
Aplastic anemia	2	28403	412-27791	142[illegible]
Anemia, unspecified	2	2537	1036-1501	1268
Nonspecific Mesenteric Lymphadenitis	1	123	---	123
Alcoholic Psychosis, delirium tremens	1	1774	---	1774
Schizophrenia, simple type	3	9933	1558-5892	3311
Schizophrenia, hebephrenic type	1	1979	---	1979
Schizophrenia, paranoid type	14	28891	635-5536	2064
Acute schizophrenia episode	4	4966	513-2453	1242
Latent schizophrenia	1	189	---	189
Schizophrenia, schizo-affective type	3	6583	383-506[illegible]	2194
Schizophrenia, other	6	6902	97-2098	[illegible]
Schizophrenia, unspecified type	19	56685	77-10947	[illegible]
Manic depressive psychosis, depressed type	5	5806	712-[illegible]	[illegible]
Affective psychoses, unspecified	3	4685	[illegible]	[illegible]
Paranoia	2	1086	47[illegible]	[illegible]4
[illegible]	[illegible]	7980	[illegible]	[illegible]
[illegible]	4	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Hysterical Neurosis	1	580	---	580
Depressive Neurosis	22	36391	150-4551	1654
Unspecified Neurosis	4	10203	2182-2963	2551
Personality disorder -- Schizoid	3	7234	1301-3797	2411
Personality disorder -- Explosive	1	5663	---	5663
Personality disorder -- unspecified	3	1404	167-923	468
Alcoholism -- episodic excessive drinking	2	5302	1685-3618	2651
Habitual excessive drinking	2	3264	664-2600	1632
Alcoholic addiction	17	11213	75-2580	660
Other and unspecified alcoholism	18	15501	94-2433	861
Drug dependence -- unspecified	1	594	---	594
Cardiovascular disorder of presumably psychogenic origin	1	858	---	858
Specific symptom of psychopathology NEC	1	454	---	454
Transient situational disturbances	5	5214	224-2037	1043
Behavior disorders of childhood	2	4044	1894-2150	2022
Intracranial infections (mental disorders)	1	318	---	318
Unspecified physical condition (mental disorder)	1	107	---	107
Meningitis -- no causal organism	1	2352	---	2352
Paralysis agitans	1	463	---	463
Spastic hemiplegia	1	683	---	683

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Quadriplegia (cerebral paralysis)	2	10135	4223-5912	5067
Epilepsy -- unspecified	1	358	---	358
Unspecified diseases of brain	2	1743	662-1085	872
Motor neurone disease -- unspecified manifestations	1	387	---	387
Disease of spinal cord -- compression	1	1496	---	1496
Facial paralysis	1	1192	---	1192
Trigeminal neuralgia	1	1272	---	1272
Unspecified disease of peripheral nerves except autonomic	2	1309	619-690	654
Unspecified inflammatory disease of eye	1	472	---	472
Strabismus -- exotropia	1	748	---	748
Strabismus -- unspecified	1	478	---	478
Cataract -- senile, unspecified type	8	3266	106-709	408
Detachment of Retina	1	1185	---	1185
Other diseases of iris, choroid, and uveal tract	1	655	---	655
Otitis media -- chronic	1	177	---	177
Otitis media -- unspecified	2	781	134-646	390
Labyrinthitis	1	151	---	151
Diseases of mitral valve, not rheumatic	1	812	---	812
Diseases of aortic valve, not rheumatic	1	4328	---	4328

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Essential benign hypertension	3	4276	770-1884	1425
Acute myocardial infarction, with hypertensive disease	4	5180	787-1925	1295
Acute myocardial infarction, without hypertensive disease	17	24993	50-11132	1470
Acute ischemic heart disease, with hypertensive disease	2	2240	607-1634	1120
Acute ischemic heart disease, without hypertensive disease	2	7056	1455-5601	[illegible]
Chronic ischemic heart disease with hypertensive disease	1	110	---	11[illegible]
Chronic ischemic heart disease, without hypertensive disease	10	15[illegible]	80-6[illegible]	[illegible]
Angina pectoris, without hypertensive disease	4	1650	224-[illegible]	413
Chronic disease of pericardium, nontheumatic	1	1127		1127
Pulmonary heart disease	1	216	---	216
Symptomatic heart disease, cardiac arrest	1	7173		7173
Atrial fibrillation or flutter	5	2915	344-[illegible]	[illegible]
Ventricular fibrillation or flutter	1	74[illegible]		74[illegible]
Unspecified disorder of heart rhythm	1	7[illegible]		7[illegible]
Other, unspecified heart disease	[illegible]	[illegible]	[illegible]	[illegible]
Subarachnoid hemorrhage, without hypertension	1	[illegible]73	43-[illegible]73	[illegible]
Cerebral embolism, without hypertension	1	14		14

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Cerebral Thrombosis, without hypertension	1	1028	---	1028
Acute but ill-defined cerebrovascular disease, without hypertension	1	3696	---	3696
Other cerebrovascular disease, without hyperten[illegible]	1	1579	---	1579
Generalized, unspecified arteriosclerosis	2	6118	2638-3480	3059
[illegible]	1	3985	---	3985
Arterial embolism and thrombosis of aorta other than abdominal	1	8746	---	8746
Pulmonary embolism and infarction	2	3274	1442-1832	1637
Phlebitis and thrombophlebitis	1	780	---	78
[illegible] lower [illegible] ulcer	2	1073	46[illegible]	[illegible]
[illegible]	2	759	4[illegible] 714	[illegible]
[illegible]	1	1919		1[illegible]
[illegible]	1	4[illegible]		4[illegible]
[illegible]	2	69[illegible]	338-[illegible]	34[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Influenza with pneumonia	1	1090	---	1090
Pneumococcal pneumonia	1	362	---	362
Streptococcus (bacterial pneumonia)	1	2610	---	2610
Bronchopneumonia, unspecified	1	193	---	193
Pneumonia, unspecified	16	16380	240-3315	1024
Bronchitis, unqualified	3	1527	230-879	509
Chronic bronchitis	1	726	---	726
Asthma	4	2162	466-681	540
Hypertrophy of tonsils and adenoids	4	2336	409-691	584
[illegible] laryngitis	1	107	---	107
[illegible]	1	809	---	809
[illegible] tract	1	630	---	630
[illegible]	1	3695	---	3695
[illegible]	1	847	---	847
[illegible]	1	679	---	679
[illegible]	1	[illegible]	---	[illegible]
[illegible]	[illegible]	1517	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]		[illegible]

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Acute appendicitis, without peritonitis	2	1618	625-993	809
Appendicitis, unqualified	6	3193	163-1230	532
Inguinal hernia, without obstruction	2	180	85-95	90
Umbilical hernia, without obstruction	1	262	---	262
Abdominal hernia of other specified site	1	1785	---	1785
Abdominal hernia with obstruction of other site	1	2895	---	2895
Intestinal obstruction, unspecified	1	2445	---	2445
Diverticula of colon	1	410	---	410
Regional enteritis	3	24010	1131-18935	8003
Constipation	1	840	---	840
Peritonitis	1	4375	---	4375
Other rectal and anal diseases	1	510	---	510
Other diseases of intestines, peritoneum	2	205	30-175	103
Unspecified cirrhosis of liver	2	494	137-357	247
Unspecified diseases of liver	2	3118	954-2164	1559
Unspecified cholelithiasis	2	4163	1832-2331	2081
Cholecystitis and cholangitis, without mention of calculus	2	1604	767-837	802
Acute pancreatitis	1	945	---	945
Chronic pancreatitis	1	511	---	511

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Pyelonephritis, pyelitis and pyelocystitis, other than chronic phelonephritis	3	2493	405-1489	981
Calculus of kidney and ureter	4	2496	24-1153	624
Renal dwarfism	1	430	---	430
Other renal diseases	2	3585	1027-2558	1792
Calculus of other parts of urinary system	1	653	---	653
Cystitis	2	1777	863-913	888
Stricture of urethra	1	244	---	244
Urinary tract infection	2	3873	398-3475	1936
Hyperplasia of prostate	1	559	---	559
Hydrocele	1	511	---	511
Chronic cystic disease of breast	1	70	---	70
Acute salpingitis and oophoritis	1	1430	---	1430
Other diseases of ovary and fallopian tube	1	102	---	102
Pelvic inflammatory disease	5	4281	165-2529	856
Stricture of cervix	1	2242	---	2242
Other diseases of cervix	1	335	---	335
Infective disease of uterus, except cervix	4	4953	608-2270	1238
Vaginitis and vulvitis	2	2741	15-2726	1370
Uterovaginal prolapse, unspecified	1	261	---	261
Malposition of uterus, unspecified	1	1072	---	1072

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Endometriosis	1	1625	---	1625
Other diseases of the uterus	1	318	---	318
Intermenstrual bleeding	2	1373	466-907	686
Unspecified ectopic pregnancy, without mention of sepsis	4	3227	384-1145	807
False Labor	6	1657	89-877	276
Air embolism during pregnancy	1	201	---	201
Other complications of pregnancy	2	694	142-551	347
Hyperemesis gravidarum, without neuritis	1	181	---	181
Abortion for other legal indication, with sepsis	1	448	---	448
Spontaneous abortion, with toxemia	1	310	---	310
Spontaneous abortion, without sepsis or toxemia	6	3175	359-1097	529
Abortion, not induced or spontaneous, without sepsis or toxemia	6	2973	174-829	495
Other abortion, with toxemia	1	2612	---	2612
Delivery without complication	122	104720	15-3391	858
Delivery complicated; placenta previa	2	2952	1059-1893	1476
Delivery complicated; premature separation of placenta	1	1123	---	1123
Delivery complicated; fetopelvic disproportion	2	839	19-820	419
Delivery complicated; breech presentation	2	4465	1174-3291	2233

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Delivery complicated; brow presentation	1	1715	---	1715
Delivery complicated; multiple pregnancy	1	543	---	543
Delivery complicated; uterine inertia	1	615	---	615
Delivery with laceration of perineum--2nd degree	1	1162	---	1162
Delivery with unspecified degree of laceration	1	1040	---	1040
Premature rupture of membranes	2	3321	1610-1710	1660
Previous cesarean section	5	7467	1382-1687	1494
Delivery with other specified complications	1	665	---	665
Delivery with unspecified complication	7	7622	25-1938	1089
Other cellulitis and abscess, multiple and unspecified sites	1	430	---	430
Acute arthritis of lower extremity	2	1843	80-1763	921
Arthritis, unspecified	1	2682	---	2682
Other muscular rheumatism, fibrositis and myalgia	2	1786	865-921	893
Unspecified osteomyelitis	1	1414	---	1414
Aseptic necrosis, bone	1	2440	---	2440
Other diseases of bone	1	2593	---	2593
Displacement of cervical disc	1	162	---	162

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Displacement of lumbar and lumbosacral	1	6719	---	6719
Displacement of disc, unspecified site	1	424	---	424
Cervicalgia	1	2411	---	2411
Lumbalgia	2	2310	463-1847	1155
Other vertegrogenic pain syndrome	1	2301	---	2301
Other diseases of spine	1	1006	---	1006
Residual foreign body in tissue or bone	1	669	---	669
Scoliosis	1	2997	---	2997
Deformities of ankle and foot, acquired	1	[illegible]	---	[illegible]
Transposition of great vessels	1	[illegible]	---	[illegible]
Other specified anomalies of heart	1	[illegible]	---	[illegible]
Coarctation of aorta	1	[illegible]	---	[illegible]
Other anomalies of aorta	1	[illegible]	---	[illegible]
Pyloric stenosis	1	[illegible]	---	[illegible]
Hirschsprung's disease	1	[illegible]	---	[illegible]
Atresia and stenosis of small intestine and anus	1	[illegible]	---	[illegible]
Talipes, unspecified	1	[illegible]	---	[illegible]
Unspecified congenital anomaly	1	[illegible]	---	[illegible]
Multiple congenital anomalies, unspecified	1	[illegible]	---	[illegible]

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Immaturity, unqualified	2	11072	2106-8965	5536
Other conditions of fetus or newborn	2	3627	387-3241	1814
Coma and stupor	1	8416	---	8416
Abnormal involuntary movement	2	886	---	443
Vertigo	1	327	---	327
Hallucinations	1	125	---	125
Acute heart failure, undefined	2	1436	676-760	718
Syncope or collapse	3	1350	15-684	450
Epistaxis	2	1595	422-1173	798
Dyspnea	5	9447	346-4738	1889
Pain in chest	11	10628	168-1506	966
Hematemesis	1	225	---	225
Jaundice (not of newborn)	3	1731	307-743	577
Abdominal pain	11	5994	52-1986	545
Pain in limb	1	311	---	311
[illegible]	1	142	---	142
[illegible]	1	93	---	93
[illegible]	1	175	---	175
[illegible]	3	2015	165-1126	672
[illegible]	2	3186	1443-1743	1593
[illegible]	1	253	---	253
[illegible]	1	28	---	28

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Headache	1	987	---	987
Other ill-defined conditions (cause of morbidity,mortality)	3	3831	303-1998	1277
Unqualified skull fracture -- closed	2	2278	681-1597	1139
Fracture of shaft of humerus, closed	1	725	---	725
Fracture of mandible, closed	1	896	---	896
Fracture of pelvis, closed	1	1475	---	1475
Fracture of Humerus, upper end closed	1	713	---	713
Fracture of radius and ulna, closed	1	656	---	656
Fracture of carpal bone(s), closed	1	648	---	648
Multiple, ill-defined fractures of upper limb, closed	2	700	233-467	350
Separation of epiphysis, closed	1	853	---	853
Fracture of shaft of femur, closed	7	7529	268-3116	1076
Fracture of patella, closed	1	852	---	852
Fracture of tibia and fibula, closed	5	1608	21-672	322
Fracture of ankle, closed	4	5457	392-2377	1364
Fracture of ankle, open	1	1573	---	1573
Fracture of one or more tarsal and metatarsal bones, closed	3	3001	425-1351	1000
Injury knee, late effect	1	600	---	600
Multiple dislocations,	1	167	---	167

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES		TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Sprains and strains of hip and thigh	1		637	---	637
Sprains and strains of ankle and foot	2		6099	1689-4410	3050
Other sprains and strains of back	1		658	---	658
Cerebral laceration and contusion without open intracranial wound	1		951	---	951
Subarachnoid, subdural, extradural hemorrage without open intracranial wound	1		702	---	702
Internal injury, without open wound	1		7188	---	7188
Open wound of eye and orbit, no complication	1		1009	---	1009
Other specified sites of trunk open wound (complicated)	1		4297	---	4297
Open wound of finger(s), no complication	2		896	---	448
Traumatic amputation of finger(s) complicated	1		249	---	249
Open wound of hip and thigh, complicated	1	1	516	---	516
Open wound of knee, leg, ankle, no complication	1		434	---	434
Multiple open wounds of head and limb(s), no complication	1		1503	---	1503
Superficial injury of face, neck, scalp, without infection	2		313	79-234	157
Superficial injury of trunk, no infection	1		4526	---	4526
Contusion of face, scalp, neck--current injury	2		406	122-284	203

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Contusion of other, multiple and unspecified sites -- current injury	1	220	---	220
Second degree burn to trunk, uncomplicated	1	3318	---	3318
Second degree burn of face, head, with trunk and limb (uncomplicated)	1	2189	---	2189
Unspecified burn of unspecified parts	1	2171	---	2171
Injury to nerve in wrist, hand (no open wound)	1	151	---	151
Cervical spinal cord lesion (no open wound)	4	19027	3373-6445	4757
Adverse effect of hormones -- adrenals	1	444	---	444
Other adverse effects of agents affecting the autonomic nervous system	1	334	---	334
Adverse effect of other specified drugs, not elsewhere classified	4	1198	114-651	300
Toxic effect of ethyl alcohol	1	944	---	944
Toxic effect of other alcohol	1	528	---	528
Toxic effect of mushrooms	1	368	---	368
Unspecified injury -- trunk	2	1886	448-1437	943
Unspecified injury -- shoulder, upper arm	1	190	---	190
Unspecified injury -- finger(s)	1	396	---	396
Injury of other specified sites, including multiple	4	8956	353-4253	2239

TABLE 13 - Continued

NOMENCLATURE OF DIAGNOSIS	NUMBER OF OCCURRENCES	TOTAL GOVERNMENT COST	RANGE OF GOVERNMENT COST	AVERAGE GOVERNMENT COST
Postoperative wound infection	2	4046	176-3869	2023
Colostomy and enterostomy malfunction	1	5184	---	5184
Other infections, medical care complications Other serum reaction	2	1432	584-849	716
TOTAL	835*	1,112,192	7-27791	1332

Total actual cost to the government for these inpatient hospital services was $1,112,192.

Total actual cost to the government for corresponding inpatient professional services and supplies for the same period (Oct 78 - Feb 80 billings for care received in FY 1979) was $289,689.

*Only those admissions reflecting cost to the government are included. 23 admissions reflecting no cost to the government during this period were excluded (835 + 23 = 858 total admissions for the period).

Source: Extracted from monthly Cost Detail Reports provided from OCHAMPUS for each month spanning the period Oct 78 - Feb 80. Diagnosis data translated utilizing Eighth Revision of International Classification of Diseases.

BIBLIOGRAPHY

Anderson, Daniel H., Colonel. Chief of Department of Psychiatry, Madigan Army Medical Center, Tacoma, Washington. Interview, April 1980.

Armed Forces Information Service, Department of Defense. Civilian Health and Medical Program of the Uniformed Services. Washington, D.C.: U.S. Government Printing Office, 1979.

Califano, Joseph A. "What's Wrong With U.S. Health Care." Reader's Digest (October 1977).

Capitation Budgeting Work Group -- Office of Secretary of Defense for Health Affairs. Briefing to Region I RCBCC Interim Support Staff, Madigan Army Medical Center, Tacoma, Washington, September 5, 1979.

Department of the Army. Department of the Army Regulation 40-3: Medical, Dental and Veterinary Care. Washington, D. C.: U.S. Government Printing Office, October 10, 1977.

Department of the Army. Department of the Army Regulation 40-121: Uniformed Services Health Benefits Program. Washington, D.C., September 15, 1970.

Department of Defense and Department of Health, Education and Welfare. Department of Defense Regulation 6010.8-R: "Civilian Health and Medical Program for the Uniformed Services" (CHAMPUS). Washington, D.C., January 10, 1977.

Department of Health, Education and Welfare. Eighth Revision -- International Classification of Diseases. Washington, D. C.: U.S. Government Printing Office, 1969.

Deputy Secretary of Defense. Memorandum on Regionalization of Peacetime Military Health Services Support sent to Secretaries of Military Departments. Washington, D.C., September 5, 1973.

Dexter, John. Cost and Budget Analyst, Resource Management, Office of the Secretary of Defense for Health Affairs, Washington, D. C. Interview March, 1980.

Donabedian, Avedis. "An Evaluation of Prepaid Group Practice." Inquiry VI-3 (September, 1969) :3-27.

Dwyre, William R., Brigadier General. Commanding General, Madigan Army Medical Center, Tacoma, Washington. Interview, March 1980.

Falk, J. S. "Financing for the Reorganization of Medical Care Services and Their Delivery." Economic Aspects of Health Care. Edited by J. B. McKinlay. New York: Prodist, 1973.

Gupta, Shive K. and Cozzolina, John M. Fundamentals of Operations Research for Management. San Francisco: Holden-Day, Inc., 1975.

Harris, R. and Whipple, D. "Perceived Quality of Health Care and Use of Military Health Facilities." U.S. Navy Medicine (October 1975) :3-9.

Lewis, Charles H. Health Benefits Advisor -- CHAMPUS, Madigan Army Medical Center, Tacoma, Washington. Interviews, October 1979 - March 1980.

Madigan Army Medical Center. Madigan Army Medical Center Supplement 1 to Department of the Army Regulation 40-121. Tacoma, Washington, October 2, 1979.

McCabe, Marshall E., Commanding General, U.S. Army Health Services Command. Capitation Budgeting. Letter to William R. Dwyre, Commanding General, Madigan Army Medical Center, Tacoma, Washington, September 29, 1979.

McKinsey and Company, Incorporated. Final Report: Capitation Budgeting in the Military Health Services System. Washington, D.C., December 1978.

Norman, Ronald. CHAMPUS Director, Blue Cross of Washington and Alaska, Seattle, Washington. Interviews, March 17, 1980.

Office of the Assistant Secretary of Defense -- Comptroller. Memorandum on Travel Limitation for Medical Region I of the Medical Capitation Budgeting Test. Washington, D.C., March 21, 1980.

Office of the Assistant Secretary of Defense for Health Affairs. Capitation Budget Demonstration Project Region I Standard Operating Procedures. Washington, D. C., January 21, 1980.

Office of the Assistant Secretary of Defense for Health Affairs. Capitation Budgeting Demonstration Project Regional Concept of Operations.

Office of Civilian Health and Medical Programs of the Uniformed Services. Madigan Army Medical Center Capitation Budget Reports. Denver, Colorado, October, 1977-February, 1980.

Office of Management and Budget, Department of Defense and Department of Health, Education and Welfare. Report of the Military Health Care Study. Washington, D. C.: U.S. Government Printing Office, December 1975.

Office of Management and Budget, Department of Defense and Department of Health, Education and Welfare. Report of the Military Health Care Study-Supplement: Detailed Findings. Washington, D. C.: U.S. Government Printing Office, December 1975.

Office of Secretary of Defense for Health Affairs. Statement of Work -- Evaluation of the Capitation Budget Demonstration Project. Washington, D.C., October 1, 1979.

Office of the Secretary of Defense for Health Affairs, Tri Service Capitation Budgeting Steering Committee. Briefing provided to Commanding General, Madigan Army Medical Center, Tacoma, Washington, September 7, 1979.

Pauly, Mark V. "Efficiency, Incentives and Reimbursement for Health Care." Inquiry VII-1 (March 1970).

Pineault, Raynold. "The Effect of Prepaid Group Practice on Physician's Utilization Behavior." Medical Care XIV-2 (February 1976).

Pixley, Charles C., U.S. Army Surgeon General. Capitation Budgeting. Letter to Marshall E. McCabe, Commanding General, U.S. Army Health Services Command, August 29, 1979.

Powell, Darryl H., Colonel. Chief of Professional Services and Deputy Commander, Madigan Army Medical Center, Tacoma, Washington. Interview, March 1980.

Public Law 84-569, Chapter 55, Title 10, United States Code, June 7, 1956.

Public Law 89-614, Chapter 55, Title 10, United States Code, September 30, 1966.

Richards, Isabel M. Program Analyst, Comptroller Division, Madigan Army Medical Center, Tacoma, Washington. Interview, April, 1980.

Travis, Richard I., Colonel. Chief of Orthopedic Service, Madigan Army Medical Center, Tacoma, Washington. Interviews, Jan-Apr 1980.

United States Army Health Services Command. Message on Limitation on Civilian Hiring. April 9, 1980.

United States Army Health Services Command. Manpower Survey. Letter to the Commander, Madigan Army Medical Center, Tacoma, Washington, October 4, 1979.

United States Code, Section 3679 of the Revised Statutes, Title 10.

United States House of Representatives. Report No. 1407 Supporting Material for the Military Medical Benefits Act of 1966. Washington, D. C., March 31, 1966.

Weston, J. Fred and Brigham, Eugene F. Managerial Finance. Hinsdale, Ill: Holt, Rinehart and Winston, Inc., 1975.

Whipple, David. "Working Papers and Supporting Documents of the Capitation/Incentive Project, Final Report." Monterey, CA: Naval Post Graduate School, December 1976.

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