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AN ANALYSIS OF THE ALLOCATION OF FUNDS FOR THE DIRECT HEALTH CARE PROVIDER PROGRAM (DHCPP)

A Graduate Management Project

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by

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This study examines the consistency of Health Services Command's (HSC) policy for the allocation of Direct Health Care Provider Program (DHCPP) funds and its compliance with Army guidance. The current methodology used in the allocation of DHCPP funds is determined and compared to Army guidance. The information used by decision-makers at HSC in the approval process was determined and coded as predictor measures for use in the linear regression model to capture the current HSC funding policy.

It was determined that the policy for allocating funds for the DHCPP is consistent and meets Army guidance. However, although the policy is consistent, there was a shift in policy as it was applied in FY89 compared to FY88. It was also determined that the documentation indicating compliance with Army guidance could be improved upon.

Recommendations include the expansion of information used to evaluate requests for DHCPP funds, the use of a policy-capturing model to prioritize requests, and improvements to documentation which would demonstrate compliance with Army guidance.

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DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY HEALTH SERVICES COMMAND
FORT SAM HOUSTON, TEXAS 78234-6000

REPLY TO
ATTENTION OF:

29 MAY 1989

HSCS

MEMORANDUM THRU: Chief of Staff, U.S. Army Health Services Command, Fort Sam Houston, Texas 78234-6100

FOR: Chairman, Residency Committee, U.S. Army-Baylor University Graduate Program in Health Care Administration, ATTN: HSHA-IHC, Academy of Health Sciences, U.S. Army, Fort Sam Houston, Texas 78234-6100

SUBJECT: Graduate Management Project

In accordance with the instructions contained in the Administrative Residency Manual, subject project is forwarded in four copies for graduate faculty approval.

Encl

ROBERT A. LYNCH
Major, MS
Administrative Resident

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INTRODUCTION

Conditions Which Prompted the Study

A recent cover story in the Army Times reports that "military medicine is lurching toward collapse. Senior physicians are leaving the services. Surgical training programs are closing, and hospital rooms are lying empty for lack of support personnel" (Willis 1988, 10). This problem is not new. Shortages of staff, specifically physicians, nurses, and direct support personnel, have long plagued the military health care system. Over the past decade, much effort has gone into programming additional resources to help alleviate these shortages and enhance access to the military health care system.

Some successes have been achieved. In 1983, LTG Bernhard T. Mittemeyer, then the Surgeon General, Department of the Army (DA), reported that there were 4,931 physicians on active duty by the end of 1982, which was an increase of 149 from the previous year, and that retention rates had been improving since 1978 (1983, 833). He further stated that, during 1982, the Army was successful in programming modest manpower increases for military nurses, physician assistants, and enlisted medical support personnel (1983, 837). Dr. William E. Mayer, Assistant Secretary of Defense for Health Affairs, reported that, "overall, military medical manpower has increased 10 per cent from 1981 to 1987" (1989, 7).

Other initiatives to bolster military health care without requiring additional active duty manpower have also been carried out. They include PRIMUS (Primary Medical Care for the Uniformed Services) clinics, Veterans Administration (VA)/Department of the Army (DOD) sharing arrangements, Partnership Programs, CHAMPUS (Civilian Health and Medical Program of the Uniformed Services) Reform Initiative, and the Direct Health Care Provider Program (DHCPP).

Central to these initiatives has been the contracting of health services as a mechanism for providing manpower resources to the direct care system. In a dramatic change of public law in 1983, the Department of Defense was permitted for the first time to contract on a personal service basis for health care other than just contract surgeons (Beumler 1988, 1). This new statutory authority for acquisition of direct health care providers was contained in Section 1091 of Title 10, United States Code, "Contracts for Direct Health Care Providers." The initial budgeted amount for the Direct Health Care Provider Program in the U.S. Army Health Services Command (HSC) was approximately $9 million for Fiscal Year 1985.

Although the DHCPP did not provide active duty or civilian manpower authorizations, it did provide critically needed dollars to contract for direct health care providers (physicians, nurses, and paraprofessional personnel). This authority has been immensely helpful in augmenting the capabilities of assigned physicians and utilizing excess hospital capacity. The program in HSC has increased in utility as well as size to $30 million in Fiscal Year 1989.[1]

DOD guidance charges the military departments with the responsibility for management of the DHCPP (U.S., DOD 1985, 2). Each year, HSC faces the dilemma of compling with Army guidance and making judicious allocation of these funds. For example, HSC received over $81 million in requests for DHCPP funds for Fiscal Year 1988 when it could fund only $23 million of these. The sizable dollar amount of the DHCPP; the pressure from medical treatment facilities (MTFs), which are all experiencing staffing shortages; and the increasing demands on the health care system have posed significant challenges for the HSC staff to manage these funds appropriately and determine resource allocations to the MTFs in an accurate and consistent manner.

The study reported here examines the consistency of the policy for the allocation of DHCPP funds and its compliance with Army guidance. It is hypothesized that information provided in the MTF requests for DHCPP funding is used to determine the allocation of available funds in a consistent manner and that this funding policy has not changed significantly from Fiscal Year 1988 to Fiscal Year 1989.

Statement of the Problem

The problem was to determine if the Health Services Command policy for allocating funds for the Direct Health Care Provider Program was consistent and met Army guidance.

Objectives

The objectives of this study were to:

1. Complete a literature survey pertinent to:

a. Problems with the demand on the military health care system and the initiatives to help solve those problems.

b. The background of the Direct Health Care Provider Program and the guidance for funding priorities.

c. The techniques for capturing and analyzing policy.

2. Determine the current methodology used in the allocation of DHCPP funds and compliance with Army guidance.

3. Ascertain what information (decision factors) can be extracted from the MTF DHCPP requests (HSC Form 542-R) for use by decision-makers in recommending approval of DHCPP funds.

4. Collect appropriate data from the MTF requests and approval results for fiscal years 1988 and 1989.

5. Translate those decision factors into coded predictor measures for use in the multiple linear regression model.

6. Test for the existence of a consistent approval policy with analysis of variance (F statistic).

7. Develop a policy equation which predicts the current method of allocating DHCPP funding to the MTFs by testing each of the decision factors for their contribution to the full model equation. This was accomplished by restricting select decision factors (variables) from the full model and assessing any change in significance with the F statistic.

8. Analyze the results and determine if the policy for allocating funds for the DHCPP is consistent and supports Army guidance.

Criteria

The following criteria were applied in the study:

1. The existence of the policy was measured by use of analysis of variance to determine whether or not the policy equation represented a set of regression coefficients which, in total, were statistically significant from zero. Meeting or exceeding the critical value for the F statistic for an alpha = .05 would support the hypothesis that a policy existed.

2. The consistency of the policy for allocation of DHCPP funds from year to year as hypothesized was tested by evaluating any changes to the correlation coefficient (r^2) which occurred with the policy equation for the three two years under study; that is, changes in the "goodness of fit" of the prediction would not be significant when restricting for fiscal year.

3. Compliance with Army guidance was determined by reviewing the current approval process against the criteria for contracting as established in Interim Change I01 to Army Regulation 40-1, Chapter 4-4 (Contracting Direct Health Care Providers) (U.S., DA 1987a).

Assumptions

For the purposes of this study, it was assumed that:

1. A review of the allocation of funds for the past two fiscal years would be a fair expression of HSC policy.

2. The policy as expressed in the Fiscal Year 1989 policy equation would represent the current HSC policy.

3. The individuals responsible for the prioritization and approval of MTF requests for the DHCPP were aware of the criteria established by Army guidance, i.e., Interim Change I01 to AR 40-1 (U.S., DA 1987a).

Limitations

The study was limited by the following factors:

1. The requests for DHCPP funds and program administration related only to HSC.

2. Only two fiscal years were evaluated (1988 and 1989). Only one approval listing was used for each fiscal year; therefore, additions, deletions, and changes throughout each fiscal year were not considered.

3. For coding purposes, some provider specialties were combined or generalized. For example, all nurses, regardless of subspecialty, were categorized into one group.

4. Decision factor data relating to the prioritization and approval for funding were limited to those which could be captured

from consolidated listings based on information taken from HSC Form 542-R, Direct Health Care Provider Program Contract Request for FY__ (Appendix B), as submitted by requesting HSC activities.

5. Only those requests for contract of direct health care providers as funded by the Army and HSC by the Management Decision Package (MDEP) CP6N, Personnel Service Contracting, were evaluated in this study. Other health care provider programs, e.g., the Army Family Advocacy Program (AFAP), the Army Medical Enhancement Program (AMEP), the Acquired Immune Deficiency Syndrome (AIDS) Program, and the Exceptional Family Member Program (EFMP), use the authority for acquisition of direct health care providers contained in Title 10, United States Code. However, these programs target unique specialties and, therefore, were not included in the scope of this project. That portion of DHCPP contract funding set aside for dentists was also excluded from this project.

Review of the Literature

Problems in Meeting Beneficiary Demand

One of the nation's largest health care systems is funded by the Defense Department and is responsible for over 9 million beneficiaries (US, Cong., Congressional Budget Office [CBO] 1988, 1). These beneficiaries include 2.2 million men and women on active duty and 7 million others who are dependents of active duty personnel and retired military personnel and their dependents and survivors.

Generally, care in this system of over 500 military treatment facilities is available to meet the needs of all active duty beneficiaries. In some instances, services for these active duty beneficiaries must be purchased from the civilian sector. Primary examples include emergency care occurring away from an MTF, diagnostic testing and consultation not otherwise available, and care not provided at an MTF due to staffing shortages, such as in obstetrics.

Meeting the needs of nonactive duty beneficiaries is a different story. While military MTFs admitted 582 thousand nonactive duty beneficiaries in Fiscal Year 1985, another 288 thousand (half as many) were admitted to civilian facilities under the CHAMPUS,[2] a military health insurance program (US, Cong., CBO 1988, 12). Others are funded by nondefense sources. Survey data indicate that for every 10 hospital admissions under the CHAMPUS program, another 13 admissions are covered by Medicare and other sources (US, Cong., CBO 1988, 31). These data indicate that only 47% of the nonactive duty beneficiary demand is being met by MTFs.

Of greatest concern is the cost of care provided outside of the MTFs. As depicted in Table 1, cost to the government for care rendered under CHAMPUS is generally double that provided by MTFs (US, Cong., CBO 1988, 21). Shifting this workload back into the MTFs at current MTF costs certainly becomes an attractive initiative.

TABLE 1 ESTIMATED COST TO THE GOVERNMENT OF A HOSPITAL DAY IN 1988 (dollars)*

Clinical Area	Direct Care		CHAMPUS Care	
	Low	High	AD Dep	Retired
Medical	125	380	865	480
Surgical	165	505	1,500	730
Obstetrics/Gynecology	200	625	1,000	560
Psychiatry	90	275	385	255

*Consult source for details on derivation of estimates.
Source: U.S., Congressional Budget Office 1988, Reforming the Military Health Care System, 21.

Securing Additional Providers

Most MTFs have excess capacity for workload in terms of space and equipment but are severely handicapped by a lack of clinical and support staff. Staffing requirements for these facilities acknowledge this capacity and some of the unmet beneficiary demand. Unfortunately, the authorized staffing level for the Army Medical Department (AMEDD), including both military and civilian health care providers, is essentially "capped" and, in the case of HSC MTFs, meets about 80% of current statements of required staffing levels. This gap is further exacerbated by problems with the recruitment and retention of health care providers.

Once it was recognized that additional military and civilian manpower was no longer available, the DOD began to look toward other initiatives that would procure health care services in

attempts to meet beneficiary demand. Some of these initiatives were: (1) PRIMUS clinics, (2) VA/DOD sharing arrangements, (3) Partnership Programs, (4) the CHAMPUS Reform Initiative, and (5) the Direct Health Care Provider Program. In an interview with the Guardian, a local community newspaper for Fort Polk, Louisiana, Colonel Garland McCarty, Hospital Commander, reported on what he was doing to provide "the best possible care to everyone" despite an assigned staffing of 42 military physicians against a staffing requirement of 56. "We have contracted radiology. We have also contracted out most of the emergency room. We also have the Civilian-Military Partnership Program, for CHAMPUS-eligible beneficiaries" (qtd. in Whorton 1988, 3).

PRIMUS is a contractual arrangement with a local firm to lease and staff a primary health care center. The facility provides primary health care and laboratory, pharmacy, and radiology services to all DOD beneficiaries on the same no cost basis as an MTF. Any specialized care is referred to other military facilities ("Army Tests" 1985, 1). The success of the first PRIMUS clinic, which opened in Northern Virginia in October 1985, prompted the opening of several others (Williams 1986, 4). Currently, HSC has placed 10 PRIMUS clinics in operation (Asch 1988b, 3).

In an effort to share resources, many agreements have been negotiated between MTFs and Veterans Administration hospitals. Currently, the number of these VA/DOD sharing arrangements exceeds 210 (Harris 1986, 4). Most of the agreements involve sharing of expensive, high-tech diagnostic equipment, medical training, and psychiatric and gynecological services.

The Military-Civilian Health Services Partnership Program is a relatively new initiative giving commanders of MTFs the authority to enter into agreements with CHAMPUS-authorized civilian providers and institutions (Asch 1988a, 6). Under an internal partnership, a credentialed, CHAMPUS-authorized civilian provider can treat CHAMPUS-eligible beneficiaries in MTFs. While the MTF still provides ancillary, logistical, and administrative support, the provider's fees are paid by CHAMPUS--at a lower negotiated rate. Especially attractive to the patient is the absence of a requirement to cost-share with CHAMPUS. Under an external agreement, a MTF-assigned physician sees CHAMPUS beneficiaries in local civilian hospitals. This saves the cost of physician services for both the patient and CHAMPUS.

In hopes of containing the rapidly escalating cost of CHAMPUS, the administration proposed the CHAMPUS Reform Initiative (CRI), which was authorized under the Defense Authorization Act of 1987 (US, Cong., CBO 1988, xv, 4). Besides cutting costs, it is hoped that the CRI will increase satisfaction among beneficiaries and "improve the armed forces' readiness for war by shifting more care, especially surgical care, back to military hospitals." The intent of the CRI is to award fixed-price contracts (in a competitive private market) for providing civilian health care services to nonactive duty beneficiaries. The first such contract started in August 1988, servicing 800,000 California- and Hawaii-based CHAMPUS beneficiaries at an annual fixed-price of $488 million ("DOD Issues" 1988, 9).

In another CHAMPUS initiative, nine HSC hospitals have been given the authority to use CHAMPUS money to expand selective

services in their facilities (Harben 1988, 3). The intent is to reduce costs by providing services in a military facility instead of through civilian providers.

Finally, the authority to contract for personal as well as nonpersonal services has provided MTF commanders a highly flexible tool for increasing health care services available to beneficiaries. In his Annual Report of the Surgeon General Vice Admiral James A. Zimble, Surgeon General, U.S. Navy, reported that where the Navy has been unable to meet its needs through the active duty provider, they have, for the first time, begun entering into personal service contracts with health care providers. These contract providers treat all beneficiaries in Navy MTFs under Navy supervision. "This concept was specifically prohibited in the past" (1988, 2). This program has been designated in the Army as the Direct Health Care Provider Program.

DHCPP Guidance

Commensurate with the change in public law, Title 10 provided the Secretaries concerned the authority to "contract with persons for services (including personal services) for the provision of direct health care services . . . for the purposes of this chapter." As stated in Section 1071, that purpose "is to create and maintain high morale in the uniformed services by providing an improved and uniform program of medical and dental care for members and certain former members of those services, and for their dependents" (10 U.S. Code 1986, 1, 18).

Instructions concerning personal services contracting authority for the DHCPP were provided to the military departments in DOD Instruction 6025.5, dated February 27, 1985. It provides responsibility for the management of the direct health care provider contracting program to the military departments and requires that effective means of obtaining adequate quality care be achieved in compliance with the Federal Acquisition Regulations (US, DOD 1985, 2). Army policy and guidance pertaining to contracts with health care providers was established in Interim Change I01 to Army Regulation 40-1, Composition, Mission, and Functions of the Army Medical Department (US, DA 1987a).

Information and instructions for requesting DHCPP funds within HSC are distributed annually in a memorandum for the MTF commanders. Included are copies of implementing authorities (DOD Instruction 6025.5 and Interim Change I01 to AR 40-1) and instructions for completion of HSC Form 542-R, Direct Health Care Provider Program Contract Request For FY__. The memorandum states that providing all data requested on HSC Form 542-R and timely submission both "have a direct affect on the orderly contract funding review and approval process" and that the "priority for the allocation of DHCPP funds will be established on the basis of enhancing the ability of the HSC MEDCEN/MEDDAC [medical center/ medical department activity] to provide quality care through the most cost effective means" (US, DA, HSC 1988).

Policy Capturing

As expected, requests for DHCPP funding submitted by the MTFs far exceed the total funds available. In Fiscal Year 1988, for example, requests for funding exceeded $81 million. Since only $23 million worth of requests could be funded, a decision had to be rendered on which requests could be approved and which ones had to be denied. This decision was based on information obtained from HSC Form 542-R, Direct Health Care Provider Program Contract Request for FY__, and judgments made by individuals or panels responsible for administering the program. The results of this process can be depicted as a listing of either approved or disapproved requests, which by itself represents the application of policy and may be a de facto statement of policy (Finstuen 1988a).

Raymond Christal describes a policy-capturing model developed by the Personnel Research Laboratory, Lackland Air Force Base, Texas, which can be used to define the policy of an individual or a rating board. "The multiple linear regression model is employed to identify the variables considered by the board [or individual], and to determine how these variables must be weighted to reproduce the board's [or individual's] actions. The resulting equation is called a policy equation" (1967, 9). Christal also notes that studies have shown that judgments made by policy boards are highly consistent when the problem is well defined and relevant information is available.

Research Methodology

The research methodology associated with this project can be divided into six areas: (1) determination of the current methodology used in the allocation of DHCPP funds, (2) evaluation for compliance with Army guidance, (3) identification of decision factors which are used to prioritize requests for these funds, (4) translation of these decision factors and approval results for fiscal years 1988 and 1989 into the regression model, (5) development of a policy equation, and (6) analysis of results.

Applicable Department of Defense, Department of the Army, and Health Services Command regulations and policy statements concerning the DHCPP were reviewed to establish program application, limitations, and intent. The current criteria for requesting DHCPP funding and the methodology for the prioritization of these requests were determined from directives obtained during literature survey and interviews with personnel involved with the program at HSC. This process was evaluated for compliance with the criteria for contracting as established in Army guidance.

Requests for the DHCPP funds submitted during fiscal years 1988 and 1989 were reviewed to identify possible decision factors used in the evaluation and resulting approval or disapproval. These decision factors (variables) were defined and translated for coding into a data base file for statistical treatment. Some categorization was necessary to strengthen the data base. For example, all nurses, regardless of subspecialty, were categorized into one group.

Once these decision factors had been translated into predictor measures, the policy for the allocation of DHCPP funds were captured using regression analysis. The multiple linear regression model was employed to determine how these factors had to be weighted to replicate the results of fiscal years 1988 and 1989.

The multiple correlation coefficient for this policy equation indicated the "goodness of fit" in the prediction of this policy (Finstuen N. d.). Those decision factors receiving relatively low regression weights were restricted from the model to evaluate their impact on the prediction equation. Those decision factors failing to contribute statistically to the model were eliminated from the policy equation. Analysis included the strength of the prediction model, any shifts in policy from year to year, and the compliance of the approval process with Army guidance.

Endnotes

[1] The Department of the Army Program Budget Guidance for Fiscal Year 1988 provided HSC with $19 million for personal service contracts in the Management Decision Package coded CP6N, commonly referred to as the DHCPP. An additional $4 million was made available for the program through reprogramming actions, bringing the total to $23 million. Similarly, $13 million was provided at the start of Fiscal Year 1989, but, by March 1989, additional Army and HSC reprogramming brought the total to $30 million (Norris, 1989). MDEP CP6N, Personal Service Contracting, is commonly referred to as the DHCPP; however, MDEPs specific to

other programs such as the Army Family Advocacy Program, the Army Medical Enhancement Program, the AIDS Program, and the Exceptional Family Member Program also provide for the contracting of health care providers. As discussed in Chapter I, Limitations, these programs were not included in the scope of this project.

[2] Prior to 1956, nonactive duty beneficiaries who could not get care at an MTF were on their own. This was solved in 1956 when Congress approved "military Medicare." The original plan, which paid for some hospitalization, minor surgery, and maternity care, was expanded in 1966 to include outpatient care, psychiatric care, and prescription drugs. To avoid confusion with Social Security's Medicare, the plan was renamed the Civilian Health and Medical Program of the Uniformed Services (US, Cong., CBO 1988, 8).

CHAPTER II

DISCUSSION

Current Methodology Used in the Allocation of DHCPP Funds

Guidance from the Department of the Army (Office of the Surgeon General) and the Department of Defense (Health Affairs) remained the same for both fiscal years involved. DOD Instruction 6025.5, Personal Services Contracting Authority for Direct Health Care Providers, dated February 25, 1985, and Interim Change I01 to Army Regulation 40-1, Composition, Mission, and Functions of the Army Medical Department, dated May 15, 1987, were both in effect when requests for the DHCPP were being considered for funding and remain in effect today.

Information and instructions for requesting DHCPP funds were distributed by HSC on February 18, 1987, for Fiscal Year 1988 and February 9, 1988, for Fiscal Year 1989 (Appendix C) in a memorandum for MTF commanders. The contents and guidance contained in these memoranda were essentially the same for both fiscal years; copies of pertinent references were added as attachments to the 1988 memorandum. The blank form provided in the memorandum for requesting DHCPP approval, HSC Form 542-R, Direct Health Care Provider Program Contract Request For FY__, dated July 1, 1987 (Appendix B), was used for both years.

Once received, each request is reviewed by the DHCPP manager for compliance with instructions and completeness and accuracy of data. Copies of the requests are provided Manpower Division, HSC,

for verification of staffing information. Once the 542-Rs are processed and verified, select information is coded into a data base which is maintained by the Program and Budget Division.[1] Listings from this data base (Appendix D) are the major source of information used by management in deciding which requests are to be funded.

Although the instructions for submission of requests for DHCPP contract approval and their administrative processing were essentially the same for both fiscal years, the evaluation for approval was handled differently. In processing requests for Fiscal Year 1988, an additional data base was constructed which provided essentially the same information as that maintained by the Program and Budget Division but included a side-by-side comparison with Fiscal Year 1987 contracts. It also listed priority of requests assigned by the MTF, amount of AMEP funding received by the MTF, and relative percent of total HSC workload accomplished by the MTF (Appendix E). These last two pieces of information were not presented on the 542-Rs but rather were information on funding received from another contract provider program and the relative production of the MTF in terms of medical workload. The approval process was conducted by a committee system of consultants using listings from this additional data base. By the end of August 1987, the committee had approved a total of $23 million in requests as the initial Fiscal Year 1988 program.

The process for Fiscal Year 1989 involved separate reviews with each specialty consultant. Unlike the previous year, only contracts for emergency room (ER) physicians and radiologists were

approved at the start of the fiscal year. By the first quarter, additional funds were received, for a total of $30 million, which permitted approval of nurses and other specialty providers.

In summary, the published guidance and the administration of the DHCPP were essentially the same for both fiscal years of interest. Although copies of the individual 542-Rs were available for reference, consolidated computer listings were the primary source of information used by the consultants in recommending approval of requests.

Compliance With Army Guidance

Interim change I01 to Army Regulation 40-1 (US, DA 1987a, 11-12) was published to assure that the contracting of health care providers is in compliance with DOD Instruction 6025.5 (US, DA 1985) and in concert with the AMEDD's policy of enhancing mission accomplishment and access to care in an economically prudent manner. Chapter 4 of the regulation provides approval authority for contracts for direct health care providers to the medical commands and requires maintenance of documentation for review and approval of those contract requests. It stipulates that direct health care providers are those health service personnel who participate in direct clinical patient care and services and does not include personnel whose duties involve administrative, clerical, maintenance, or security services. It requires that requests for contracting for direct health care providers are to assure that an authorized mission exists for which the MTF does not have sufficient in-house personnel or other contractors, that

adequate ancillary personnel are available to support the requested direct health care provider (or otherwise included in the request), and that adequate space and equipment are available to support the requested direct health care provider. Prior to requesting authority to contract, each MTF is to explore alternatives to contracting, such as shifting of current resources, civilian hires, VA/DOD sharing arrangements, Military-Civilian Health Services Partnership Program, and supplemental care.

Current processing of DHCPP requests generally complies with Army guidance. For the two fiscal years studied, none of the requests evaluated for possible funding included personnel whose duties were administrative, clerical, maintenance, or security services in nature. HSC Form 542-R, Direct Health Care Provider Program Contract Request for FY__, provides for most of the documentation required by Interim Change I01 to Army Regulation 40-1 (US, DA 1987b). Specifically, the form addresses whether the contract requested supports an assigned or modified mission and provides space for justification of the request. It specifies that, as a minimum, the justification must address the cost-effectiveness of contracting versus other available means of acquiring providers, must state that adequate ancillary personnel are available to support the requested physician provider, must confirm that space and equipment adequate to support the provider are available, and must comment on the applicability/availability of alternatives to contracting, including shifting of current resources, civilian hires, VA/DOD Health Resources Sharing Arrangements, Partnership Program, and supplemental care.

Pilot Study Conducted

A pilot study was conducted to determine whether a policy equation could be written and whether statistical significance could be achieved (with several of the variables considered in approval of requests for DHCPP funding) for a sample of data before undertaking a massive data-collection effort. Results of the pilot study indicated that data collection could continue with the expectation of achieving significant results. The multiple regression result for a sample of 157 requests was a calculated F greater than the critical value ($6.39 > 1.50$), indicating that a consistent approval policy was in use. The pilot study also provided an opportunity to formulate a detailed methodology for capturing needed data.

Data-Collection Parameters

Based on information gained during the pilot study, the data-collection effort was expanded to requests received from all MTFs for both fiscal years, 1988 and 1989. Response from the MTFs during the two years was a staggering 845 individual requests (432 for Fiscal Year 1988 and 413 for Fiscal Year 1989).[2] Since consolidated computer listings were the primary source of information used in recommending approval of requests for DHCPP contracts, data for this analysis was extracted from these listings. To get a "snapshot" in time, the listing dated August 15, 1987, was used for Fiscal Year 1988 as it reflected those

requests which were approved at the beginning of the fiscal year.[3] The listing dated January 6, 1989, was used for Fiscal Year 1989 as it reflected the earliest approved program, which included the additional funding received early in the first quarter.

The following information about each request was provided in these listings:

1. Area of concentration (AOC) and specialty name identifying the type of provider(s) requested. A complete listing of these health care providers and AOCs is provided in Appendix F.

2. Priority of request as assigned by the MTF.

3. Indication of whether the commander was requesting use of a local contracting office or centralized contracting by the HSC Acquisition Agency, designated by an L or C, respectively.

4. Indication of whether the request was new or a renewal of a previous contract, designated by an N or R, respectively. Unfortunately, the R for renewal did not distinguish whether the request was previously funded with DHCPP funds or some other source (such as the MTF's own program).

5. Source of funds requested (DHCPP, EFMP, AIDS, AFAP, etc.).

6. Amount of funds and number of workyears requested by the MTF and amount of funds and number of workyears approved by HSC (as of the date of the report).

7. For Fiscal Year 1988, amount of funding received under AMEP and relative percent of total HSC workload accomplished by each MTF. (This information did not change for Fiscal Year 1989.)

These were the primary decision factors (variables) used by management to determine which requests would be approved within available funding levels.

Characteristics of the Sample

A data base was constructed to capture the costing information of the 845 requests for contract providers. Data included (1) the requested number of workyears and amount of dollars and (2) the amount funded by specialty of provider. Table 2 depicts the number of workyears requested and funded by fiscal year. Generally, the DHCPP has focused most support on ER physicians, nurses, radiologists, and general medical officers. However, of these, funding for nursing support was far below requirements. Workyears for nurses and practical nurses (equivalent to licensed vocational nurses) represented 36 percent of Fiscal Year 1988 and 46 percent of Fiscal Year 1989 requirements. Only one out of five workyears requested for nurses was funded, and a mere handful of practical nurses were funded. The number of pharmacists doubled, from 7.5 to 14.2 workyears.

TABLE 2 WORKYEARS REQUESTED AND FUNDED BY FISCAL YEAR*

Specialty	Fiscal Year 1988		Fiscal Year 1989	
	Requested	Funded	Requested	Funded
Nurse	267.5	62.5	294.9	56.1
Practical Nurse	130.0	4.0	91.5	5.0
ER Physician	99.8	76.7	98.4	94.4
Radiologist	56.7	38.9	59.3	48.5
Medical Specialist	51.4	0.0	0.0	0.0
General Medical Off.	46.1	28.4	31.9	24.6
Pharmacist	44.4	7.5	35.3	14.2
X-ray Specialist	44.4	2.0	13.2	0.4
Respiratory Specialist	29.8	0.0	34.0	0.0
Optometrist	25.6	5.3	27.0	6.1
Medical Lab Spec.	21.8	0.0	10.0	0.0
Behavioral Spec.	21.0	0.0	0.6	0.0
Physician Assistant	20.0	3.0	13.0	3.0
Others (less than 20 workyears requested)	231.2	39.3	139.0	26.32
TOTAL	1,089.7	267.6	848.1	278.62

*FY 88 = 432 requests, FY 89 = 413 requests.

Table 3 provides a comparison of the average cost of workyears funded for each specialty. Of particular note is the 25 percent increase in average cost per radiologist workyear. From both of these tables, 2 and 3, a major shift in funding can be seen between fiscal years. Increases in workyears for ER physicians and radiologists (23 percent and 25 percent respectively) coupled with increases of average cost per workyear (25 percent and 8 percent respectively) accounted for a $ 5.8 million increase in support of these two specialties.

TABLE 3 AVERAGE COST OF WORKYEARS FUNDED BY FISCAL YEAR*

Specialty	FY 1988	FY 1989	Percent Change
Radiologist	$ 148,973	$ 186,890	+ 25
ER Physician	99,831	108,164	+ 8
General Medical Off.	90,917	87,026	- 4
Nurse	50,028	51,776	+ 3
Pharmacist	47,367	51,699	+ 9
Optometrist	45,066	46,716	+ 4
Physician Assistant	35,433	30,767	- 13
Practical Nurse	32,900	31,780	- 3
Others (less than 3 workyears funded)	85,214	90,906	+ 7
TOTAL	86,915	100,562	+ 16

*FY 88 = 432 requests, FY 89 = 413 requests.

Table 4 shows the proportional shift in funded workyears by specialty. The proportional increases in funded workyears for ER physicians and radiologists in Fiscal Year 1989 are clearly depicted. Those increases were accompanied by a reciprocal drop in funding for nurses and general medical officers.

TABLE 4 PROPORTIONAL SHIFT IN FUNDED WORKYEARS*

Specialty	Percent of Total Workyears	
	FY 1988	FY 1989
ER Physician	28.7 %	33.9 %
Nurse	23.4	20.1
Radiologist	14.5	17.4
General Medical Officer	10.6	8.8
Pharmacist	2.8	5.1
Optometrist	2.0	2.2
Practical Nurse	1.5	1.8
Physician Assistant	1.1	1.1
Others (less than 1% each)	15.4	9.6
TOTAL	100.0	100.0

*FY 88 = 432 requests, FY 89 = 413 requests.

Coding Decision Factors

The following decision factors were selected and coded from the listings for both fiscal years: (1) indication of whether or not the request was approved for funding at the date of the listing, (2) specialty of provider, (3) fiscal year of the request, (4) size of the MTF, (5) priority of the request, (6) designation of whether the request was for local or central contracting, (7) indication of whether the request was new or a renewal of a previous request, (8) total amount of the request, (9) dollars per workyear of the request, (10) amount of funding received under AMEP, and (11) relative percent of total HSC workload accomplished by that MTF. A coding worksheet was developed to capture these decision factors and funding results for each request (Appendix G).

For ease of data entry and analysis, most of the variables were coded as dichotomies and expressed by 1s and 0s (Kerlinger and Pedhazur 1973, 557). For example, the first variable, indicating whether the request was approved for funding (the variable of interest) was expressed as 1 if approved for funding and 0 if otherwise. The remaining variables (decision factors) represented potential predictor variables. Eighty provider specialties were represented in the 845 requests which were coded. Some of these specialties were very infrequent. To reduce the number of variables coded, these 80 provider specialties were compressed into 17 groups (Appendix H). Grouping was based on department and service organizational structure as outlined in HSC

Regulation 10-1, Organization and Functions Policy, and preliminary work accomplished in the pilot study. The definitions and the coding of these variables are presented in Appendix I.

Development and Refinement of a Policy Equation

Once these decision factors were translated into predictor measures, the policy for the allocation of DHCPP funds was captured using regression analysis. The multiple linear regression model was employed to determine how these factors had to be weighted to replicate the results of the 845 requests. Analysis of variance was used to measure whether or not the policy equation represented a set of regression coefficients which, in total, was statistically significant from zero. A criterion of meeting or exceeding the critical value for the F statistic for an alpha = .05 was established to support the hypothesis that a HSC policy exists for the allocation of DHCPP funds. Each decision factor or group of similar decision factors was then tested for its contribution to the policy equation by assessing the change in R^2 using the F statistic for an alpha = .05. The policy equation was further refined by eliminating those factors failing to contribute statistically to the model.

Results of Analysis

The results indicate that a policy for the allocation of funds does exist, that this policy was not the same for Fiscal Year 1989 as for Fiscal Year 1988, and that the likelihood of funding favored the specialty groups of ER physicians and radiologists.

The multiple regression results are presented in Table 5. (Refer to Appendix J for regression coefficients, means, and multiple regression equations). The variance accounted for, $\underline{R}^2$, in the full model was 50%. The calculated $\underline{F}$ was greater than the critical value ($28.88 > 1.53$), indicating that a policy does exist.

Previous evidence that this policy favors funding of requests for ER physicians and radiologists (Tables 2 and 4) was further supported by the strong correlations (Appendix K) between these provider specialties and the dependent variable (whether the request was funded). Funding was also highly correlated with those requests for renewal of contract and those requests which were prioritized in the top five by MTFs. As would be expected, the correlation with funding was strengthened when requests for either of these two specialties (ER physicians and radiologists) were combined with renewal of contract or prioritized in the top five by the MTF.

The change in $\underline{R}^2$ when restricting for fiscal year as measured by the $\underline{F}$ statistic was found to be statistically significant (at a strong .01 level). This does not support the hypothesis that the

TABLE 5 EXPLAINED VARIANCE DUE TO DECISION FACTORS

Decision Factors	R^2	Change in R^2	F-value
Full model (all twenty-nine predictors) R = .71	.4978		28.89**
Contracting (renewal/new central/local)	.4168	.0810	65.81**
Specialties (all seventeen groups)	.4226	.0752	7.19**
Priority	.4608	.0370	60.12**
Fiscal Year	.4930	.0048	7.80*
Size of MTF (small, medium, large MEDDAC, or MEDCEN)	.4942	.0036	1.94 ns
Total dollars required	.4953	.0025	4.06*
Amount of AMEP funding	.4958	.0020	3.25 ns
Average cost per workyear	.4971	.0007	1.14 ns
Per cent of work load	.4972	.0006	.98 ns
Revised policy equation R = .70	.4894		35.81**

* $p < .05$, ** $p < .001$ N = 845

policy for approving DHCPP contracts with limited funding available was the same for both fiscal years.

Six variables were found not to contribute significantly to the policy equation. These were size of facility (three variables), percent of workload, amount of AMEP funding, and average cost per workyear. When these were dropped from the model, the variance accounted for dropped only 1% and the

calculated F was still greater than the critical value (35.81 > 1.59). This indicated that a refined policy equation, duplicating the results of both fiscal years, could be limited to specialty of provider, contracting information, fiscal year, priority as specified by the MTF, and dollars required. See Appendix J for this revised multiple regression equation.

Each of the specialty groups was assessed for likelihood of funding by substituting mean values for all other variables in the refined model[4]. Since the Y variable (whether or not the request was approved for funding) was expressed as a dichotomy, this likelihood of funding was also a statement of probability. For example, the predicted score of the dependent variable for a medical specialty clinician was Y = .6289. Therefore, all things being equal, the likelihood that a request for an ER physician would be approved was 63 percent. Table 6 lists these probabilities for each specialty group. These probabilities support the characteristics of the sample noted earlier. The probability that a request for an ER physician or a radiologist would be funded was a higher 97 percent and 95 percent compared to nurses, at 64 percent.

TABLE 6 PROBABILITY OF FUNDING BY SPECIALTY GROUP*

Provider Specialty Groups	Probability of Funding
ER physicians	97 %
Physical medicine (physicians & staff)	96
Radiologists	95
Dietitians	90
Pharmacists	80
Family practice physicians	78
Pediatricians	76
Surgeons	70
Physician assistants	68
Preventive medicine (physicians & staff)	66
Enlisted providers	65
Optometrists	65
Social workers	65
Nurses	64
Medical physicians	63
Psychiatry and neurology (physicians & staff)	60
OB/GYN physicians	59

*See Appendix H for grouping of specialties. N = 845.

Endnotes

[1] Information concerning personal and nonpersonal service contracts is maintained by the Program and Budget Division, HSC, using the Automated Information Management System (AIMS). The data base is used to document the funding status of each MTF's requests in the budget execution process and sorted listings are provided to the DHCPP manager for use in the contract approval process.

[2] A total of 1,080 requests was recorded on the listings for both fiscal years; however, this study considered only the 845 requests competing for funding under MDEP CP6N (which excludes such special programs as EFMP, AIDs, and AMEP).

[3] Throughout the fiscal year, the status of requests approved for funding changes. Actual expenses may differ from original estimates, and, in some cases, a few of these approved requests fail to develop into contracts. As a result, previously disapproved requests may receive DHCPP funding later in the year.

[4] For example, using the refined policy equation, the likelihood of a request being approved for an ER physician (where $S_{MED} = 1$) can be calculated as:

$$Y_{FUNDED} = a_o U + b_1 S_{MED} + b_2 S_{PED} + \ldots + b_{22} S_{REQ\_\$}$$

or

$$Y = -.3916 + (.3220)(1.0) + (.4153)(.0225) + \ldots + (.0001)(150.7420)$$

$$Y = .6289$$

CHAPTER III

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

It was determined that the policy for allocating funds for the Direct Health Care Provider Program in HSC is consistent and meets Army guidance. It was also determined that, although the policy is consistent, there was a shift in policy as it was applied in Fiscal Year 1989 compared to Fiscal Year 1988.

A means was developed using data coded from each DHCPP request (HSC Form 542-R) and the policy-capturing model to evaluate the existence of a policy. The results of the F statistic provided powerful support to the hypothesis that a policy for allocating funds does exist. The revised policy equation provided a dependable prediction of funding with relatively few variables of interest (specialty of provider, contracting information, total dollars required, priority, and fiscal year of request).

The significant contribution of fiscal year to the prediction of funding in this model does not support the hypothesis that the approval policy was the same for both fiscal years. This was further corroborated by evidence that proportional funding had shifted in Fiscal Year 1989 to requests for ER physicians and radiologists at the expense of requests for nurses and general medical officers (Table 4). Much of this shift was due to: (1) a corporate decision for Fiscal Year 1989 to provide maximum support to requests for ER physicians and radiologists with the initial

amount of funding available and subsequent funding being applied to requests for other specialties, (2) a significant increase in average cost per radiologist workyear, and (3), perhaps, the failure to use a committee of specialty representatives in the approval process as was used in Fiscal Year 1988.

Documentation indicating compliance with Army guidance could be improved upon. All items specified as the minimum "criteria for contracts," Interim Change I01 to Army Regulation 40-1, have been incorporated into the design of the DHCPP request form (HSC 542-R). However, the design of this form compresses the MTF's response to most of these criteria into one justification paragraph (item 4c). In many instances, the quality of an MTF's response to these criteria was lacking yet, all requests were nonetheless added to the consolidated listing for consideration of funding. The consolidated listing was then used to determine approval of funding--without any indication of whether such criteria as the cost-effectiveness of contracting and the availability of ancillary personnel, space, and equipment had been properly addressed. (The listing was annotated in those situations where requests were in excess of an MTF's recognized requirements.) It would seem reasonable that these justifications should weigh heavily as decision factors in the contract approval process. For example, the gap between an MTF's current manpower (including all sources such as contracts, sharing agreements, partnerships) and recognized requirements could be quantified and presented as a decision factor on the consolidated listing. This would demonstrate full compliance with Army guidance and add clarity to the HSC policy equation.

Recommendations

Based on the data collected and the analysis of the approval process and policy, the following recommendations are made:

1. A single data base concerning the contracting of direct health care providers should be constructed and maintained, eliminating duplication of effort by the CHAMPUS Division and the Program and Budget Division. Custom listings from this single data base would satisfy requirements for both activities, help to maintain agreement between approval and funding status, and improve coordination efforts.

2. Additional information should be added to the listings of requests for DHCPP contracts used by those individuals making decisions on the allocation of funds. This would help to assure that criteria addressed in Army guidance were fully considered in the approval process. Information on related Partnership agreements, CHAMPUS workload, and potential recapture of CHAMPUS workload might also be useful for consideration in the approval process. Revision of the DHCPP request form would assist in the coding of this information into the data base.

3. By improving the data base, a policy capturing model could be applied to "score" requests being considered for funding and produce an initial prioritized listing for use by management members involved in the approval process. This would be particularly helpful, as over 400 requests are being considered at one time each fiscal year.

4. The Department of the Army should seek approval to consolidate related funding programs for the provision of direct health care providers (such as AMEP and DHCPP) and maximize MTF management flexibility. Tracking of separate "pots" of monies is cumbersome and restrictive.

5. Based on the results of this analysis, MTFs should be provided with feedback on what the DHCPP is buying for HSC and how judiciously the program is being administered.

Areas for Further Study

This project has investigated just one management strategy for allocating resources to MTFs. Further study could be applied to incorporating all aspects of manpower in a resource package for an MTF or expansion of focus to address total MTF resources, both manpower and dollars.

When considering the resourcing of additional providers at an MTF, all manpower should be considered in the equation of available verses required labor. A study might focus on the development of a template which captures all sources of manpower available to a particular MTF against it's recognized requirements. Such manpower sources would include military, direct civilian hire, contract personnel, contract service equivalents, volunteers, reservists, affiliates, and any other "borrowed" labor.

Another study might investigate the development of a resourcing index for the allocation of funds. As demonstrated in this project, the probability of funding of an individual DHCPP

request can be interpreted as an index of merit for funding approval. The regression equation predicted likelihood of funding or a policy of what requests merit funding. Such an index could be developed by pitting an MTF's current resources against it's required resources (resources needed to produce at capacity). Such an index would help to array MTFs in a prioritized sequence for consideration of additional funding or the reprogramming of resources. Key to such a study would be the determination of what factors are useful in describing the current and required resources. These factors might include conventional resources (budgeted) as well as the potential to recapture CHAMPUS workload, the severity of case mix index, the composition and concentration of the beneficiary population, any facility constraints, and many others.

APPENDIXES

APPENDIX A

DEFINITIONS

DEFINITIONS

Army Family Advocacy Program - The objectives of the AFAP are to prevent spouse and child abuse, to encourage the reporting of all instances of such abuse, to ensure the prompt investigation of all abuse cases, to protect victims of abuse, and to treat all family members affected by or involved in abuse so that those families can be restored to a healthy state.

Army Medical Enhancement Program - The AMEP initiative provides for more responsible and efficient health care to soldiers and their families by facilitating access to medical treatment through all means including direct civilian hire and contract health care providers. It is a result of congressional support for increased staffing of emergancy rooms, intensive care units, and ancillary support areas.

Acquired Immune Deficiency Syndrome Program - The AIDS program resources the screening of applicants for all services, active and reserves, for HIV infection; provides evaluation and treatment for all health care beneficiaries who are HIV infected; purchases drugs, supplies, and equipment for specialized care of HIV infected patients; and obtains services through direct hire or contract for education, counseling, and epidemiological followup.

Automated Information Management System - AIMS is a data base management capability used with the WANG system. It is part of a software technology known as "Non-Proceduaral" or "Natural" language. There are provisions in AIMS to allow file creation, ad hoc file query, high level math, limited word processing, extensive report writing, multi-file accessing, data base management, and maintenance functions.

CHAMPUS Reform Initiative - CRI has at its core several fixed-price contracts with private health care companies to provide care for beneficiaries who are not on active duty. Each contractor, or "carrier," will assume responsibility for all CHAMPUS care provided in a large geographic region.

Civilian Health and Medical Program of the Uniformed Services - CHAMPUS is a health plan for nonactive duty beneficiaries and is intended to supplement benefits from a military hospital or clinic.

Exceptional Family Member Program - EFMP is in response to Public Law 94-142 which states that all children, regardless of handicapping condition, are entitled to an education by public schools; or, if it cannot be provided, the equivalent private education at the expense of the public. The AMEDD role is to assess, document, and code the special educational, medical, emotional, and physical needs of family members for consideration in the Army assignment process.

HSC Acquisition Agency - This agency has the mission of providing medical contracting support for four medical centers as well as selected centralized command-wide service contracts and programs. It also oversees the command's contracting and compliance mission.

Medical Center - A U.S. Army Medical Center (MEDCEN) is a large hospital, staffed and equipped to provide health care for authorized persons that includes a wide range of specialized and consultative support for all medical facilities within the assigned geographic area. When designated, it conducts post graduate education in health professions.

Medical Department Activity - A U.S. Army Medical Department Activity (MEDDAC) is a health treatment facility which provides definitive inpatient care and has command and control Army Medical Department facilities, activities, or units located with in its Health Service Area.

Medical Treatment Facility - A civilian or uniformed services medical center, hospital, clinic, or other facility that is authorized to provide medical, dental, or veterinary care.

Military-Civilian Health Services Partnership Program - The purpose of the program is to integrate specific health care resources with the MTF which will result in a financial savings to CHAMPUS. Under an internal partnership, a credentialed, CHAMPUS-authorized civilian provider can treat CHAMPUS-eligible beneficiaries in MTFs. While the MTF still provides ancillary, logistical, and administrative support, the provider's fees are paid by CHAMPUS--at a lower negotiated rate. Under an external agreement, a MTF-assigned physician sees CHAMPUS beneficiaries in local civilian hospitals. This saves the cost of physician services for both the patient and CHAMPUS.

Primary Medical Care for the Uniformed Services - PRIMUS clinics are contracted primary care clinics providing health services to military beneficiaries. These contractor owned and operated clinics are generally located off the military installation but near and convenient to the user population.

Supplemental care - Those nonelective services such as specialized treatment procedures, consultation, tests, supplies, and equipment that are required to augment the overall course of care being provided by the Army MTF to eligible patients.

U.S. Army Health Services Command - One of the Army's largest major commands, Health Services Command (HSC) was organized in 1973 to support the soldier during peace and war and to unify Army Medical Department resources in the United States and several select overseas locations. The command, with headquarters at Fort Sam Houston, Texas, provides quality health care to more than 3.5 million beneficiaries.

VA/DOD Health Care Resources Sharing Program - The purpose of the program is to promote greater sharing of health care resources between the Veterans Administration and the Department of Defense. The authority for this program is Public Law 97-174 and Title 38 U.S.C. 5011. The benefits of the program are cost containment and the economies of scale; improved accessibility and availability of services to beneficiaries, higher quality of services; greater scope of services; reduced out-of-pocket expenditures by beneficiaries; less federal duplication of facilities and services through improved coordination; employee access to new technologies and information systems; and improved communications and information sharing.

APPENDIX B

HSC FORM 542-R,
DIRECT HEALTH CARE PROVIDER PROGRAM
REQUEST FOR FY__

DIRECT HEALTH CARE PROVIDER PROGRAM CONTRACT REQUEST FOR FY _____	DATE:
TO: COMMANDER HQ, U.S. Army Health Services Command ATTN: HSCL-PAD Fort Sam Houston, TX 78234-6000	FROM:

1. Request authorization to ☐ initiate ☐ renew a ☐ local ☐ centralized ☐ personal ☐ non-personal services contract

for _____ for _____ total hours of service
(Provider specialty and equivalent AOC/MOS)

to be performed at _____ in _____.
(Identify workcenter, e.g., ER, ENT Clinic, etc.) *(Identify facility)*

on a ☐ full time ☐ part time basis, beginning _____ and ending _____
(Day, month, year) *(Day, month, year)*

a. If renewal is being requested, complete paragraph 7 below titled, "Additional Comments."

b. This request is priority number _____ relative to other requests submitted for FY _____

2. Estimated cost of the contract is $ _____. Compensation to the provider will be at a rate of $ _____ per hour for part time service.

3. Request funding be provided as indicated below:

☐ a. DHCPP Funds (code _____).

☐ b. Reprogramming of _____ fund (code _____) to DHCPP (code _____).

☐ c. Other (specify) _____.

☐ d. If DHCPP funds cannot be provided, request authority to contract using local funds.

4. The following data is provided in support of this request.

a. Provision of the above stated service is required as a:
☐ TDA Assigned Mission
☐ Modified Mission
☐ Not a Recognized Mission *(Please explain in item #7)*

b. Present staffing for above stated requirement is:

Position Title	AOC/ MOS	CC NUM, TDA para and line number	Required Mil	Required Civ	Authorized Mil	Authorized Civ	Assigned Mil	Assigned Civ

(Continue in item #7 if necessar.

HSC Form 542-R (HSCL) 1 Jul 87 *For use of this form, see HSC Suppl 1 to AR 40-1, para 4-4; proponent agency is DCSCS*

"REPRODUCED AT GOVERNMENT EXPENSE"

DIRECT HEALTH CARE PROVIDER PROGRAM
CONTRACT REQUEST FOR FY _____ (CONTINUED)

c. Justification: (Minimum justification must address the cost effectiveness of contracting versus other available means of acquiring providers, must state that adequate ancillary personnel are available to support the requested physician provider, must confirm that space and equipment adequate to support the provider are available, and must comment on the applicability/availability of alternatives to contracting including shifting of current resources, civilian hires, VA/DOD Health Resources Sharing Agreements, Joint Health Benefits Delivery Program, and supplemental care).

5. MEDCEN/MEDDAC concurrences:

DCCS _____
(Name/Telephone Number)

C, Force Development _____
(Name/Telephone Number)

Resources Manager _____
(Name/Telephone Number)

Other _____
(Name/Telephone Number)

6. Requesting activity point of contact is:

_____
(Name, Grade, Position, Office Symbol, and Telephone Number)

7. Addition Comments (reference specific paragraph when appropriate)

Reference para 1:

Date current FY Contract was awarded: _____

Date actual performance was initiated: _____

Total manhours contracted: _____ Total cost of contract: _____

Funds obligated as of end of 1st Qtr of FY: $ _____

Actual hours of service provided as of end of 1st Qtr of FY: _____

(Signature and Phone Number of ATF Commander or Designee)	*Date:*

INSTRUCTIONS FOR COMPLETION OF DIRECT HEALTH CARE PROVIDER PROGRAM CONTRACT REQUEST FOR FY _____ HSC FORM 542-R (HSCL) 1 JUL 87

Instructions

Paragraph 1. Use a separate form for each type of provider and each physician specialty.

a. Check whichever of the boxes applies. If request is to renew a contract through exercise of an option, indicate number of option years available on contract.

b. Fill in type of provider (technician, therapist, registered nurse, licensed practical nurse, physician, etc.), specialty for physicians (obstetrics, general medical officer, radiologist, etc.), and the equivalent Area Of Concentration number (AOC) for officer graded skills or the Military Occupational Specialty number (MOS) for enlisted grade equivalents.

c. Total hours of service should be consistent with the cost stated in paragraph 2 and rate of compensation. Providers compensated at different rates, e.g., registered nurses and licensed practical nurses cannot be requested on the same form.

d. Full time/part time refers to the services provided by individuals, not group. Thus, an emergency room contract providing full time coverage by a group of 15 doctors would be classified as full time only if each participating physician provided a minimum of 2087 hours of service each year.

e. Paragraph 7 must be completed for all renewal requests.

f. Priority numbers are to be assigned on a single sequence basis for all requests whether initial or renewal, local or centralized, personal or non-personal, DHCPP or locally funded.

Paragraph 2. The amount of the estimated cost exceeding the actual award cost will be automatically withdrawn from individual facilities. Compensation may be prorated on the basis of 167 hours per month.

Paragraph 3. An option has been provided at 3d to assure receipt of contract authority in the absence of higher level funding. When this item is not checked, no further action will be taken on those requests which cannot be funded through the requested source.

Paragraph 4. Self explanatory.

Paragraph 5. Completion of this item will facilitate review and expedite follow-up coordination.

Paragraph 6. It is required that each MEDCEN/MEDDAC have a single point of contact for all requests. It is acceptable, nowever, to have additional points of contact based on appropriate criteria such as provider specialty, work center where employed, etc. If point of contact will not be the contracting officer representative (COR) for centralized contracts, provide the COR's name, position, title, and mailing address in Paragraph 7.

Paragraph 7. Complete for all contract renewal requests. Use this space also to continue item 4c or any other item. Requests which are not officially signed by the commander or for the commander will not be acted on.

APPENDIX C

HSC MEMORANDUM: DIRECT HEALTH CARE PROVIDER PROGRAM REQUESTS TO CONTRACT DURING FY 89

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY HEALTH SERVICES COMMAND
FORT SAM HOUSTON, TEXAS 78234-6000

REPLY TO
ATTENTION OF:

HSCL-M (5-8a)

8 FEB 1988

MEMORANDUM FOR: Commanders, HSC MEDCEN/MEDDAC

SUBJECT: Direct Health Care Provider Program Requests to Contract During FY 89

1. Attached for your information are the implementing authorities, instructions, and request form to contract for health care providers for FY 89 under the Direct Health Care Provider Program (DHCPP).

2. For FY 89, the request form (HSC Form 542-R (HSCL) 1 Jul 87), at Attachment 6, must be completed in its entirety, signed by or for the commander, and submitted to this headquarters, ATTN: HSCL-M, not later than 31 March 1988.

3. Priority for the allocation of DHCPP funds will be established on the basis of enhancing the ability of the HSC MEDCEN/MEDDAC to provide quality care through the most cost effective means.

4. It is important that your facility submit its FY 89 contract funding requests in a timely manner, and that all the data requested on HSC Form 542-R be provided, as both have a direct affect on the orderly contract funding review and approval process at this headquarters.

5. The point of contact for the Direct Health Care Provider Program (DHCPP) is Mr. Adolph I. Ramon, DHCPP Manager, HQ, HSC, ATTN: HSCL-M, AUTOVON 471-6737/7825.

6. Reference:

a. Additional guidance and instructions for the completion of HSC Form 542-R (Attachment 1).

b. Information Paper, subject: Contracting for Health Care Providers Under the Direct Health Care Provider Program (DHCPP), 14 Jan 88 (Attachment 2).

c. DOD Instruction 6025.5, February 27, 1985, subject: Personal Services Contracting Authority for Direct Health Care Providers (Attachment 3).

HSCL-M 9 FEB 1988
SUBJECT: Direct Health Care Provider Program Requests to Contract During FY 89

d. Army Federal Acquisition Regulations and Supplements, Acquisition Letter 87-19, Section 37.104, Personal Services Contracts (Acquisition of Personal Direct Health Care Services) (Attachment 4).

e. Interim Change I01 to AR 40-1, 15 May 1987, subject: Medical Services (Attachment 5).

f. HSC Supplement 1 to AR 40-1 (Draft), October 1987, subject: Medical Services (Attachment 6).

g. Message, HQDA, DASG-RMP, 011610Z Feb 83, subject: Direct Health Care Provider Contracts (Attachment 7).

FOR THE COMMANDER:

7 Atchs

for CARL T. TAYLOR
LTC, AG
Chief, Information Services Division

APPENDIX D

LISTING: REQUESTS FOR DHCPP CONTRACTS BY MTF (AIMS DATA BASE)

173 → 181

FY 89 APPROVED SPEC PGMS (9) L 264 4%

all load

	ACTV	N/R	C/L	CODE	SPECIALTY	MOS	SOURCE	# REQD	# APPROVED	# FUNDED	WY REQD	WY APPROVED	WY FUNDED	REMARKS
1	BENN	R	L	402	PULMONOLOGIST	60F	ACTV	176.6	176.6		1.00	1.00		MEMO. 15 AUG 88
2	BENN	R		402	CARDIOLOGIST	60H	ACTV	176.6	176.6		1.00	1.00		MEMO. 15 AUG 88
3	BENN	N	L	402	ONCOLOGIST	61B	ACTV	176.6	176.6		1.00	1.00		MEMO. 15 AUG 88
4	BENN	R	L /	417 5	OPTOMETRISTS	68I	ACTV	52.9	52.9		0.97	0.97		MEMO. 15 AUG 88
5	BENN	R	L	417	OPTOMETRISTS	68K	ACTV	158.6	158.6		2.92	2.92		MEMO. 15 AUG 88
							ACTV	741.3	741.3	0.0	6.89	6.89	0.00	
	BENN	R	L	417	SOCIAL WORKER	68R	AFAF	25.2			0.97			
							AFAF	25.2	0.0	0.0	0.97	0.00	0.00	
	BENN	N	L	402	GMO	60E	AIDS	126.2			1.00			NA/NO TDA ROMT. MEMO. 6OCT88
	BENN	R	L	497D	PSYCHIATRIST-OP PSYCH	60W	AIDS	64.3	64.3		0.52	0.52		MEMO. 6 OCT 88
							AIDS	190.5	64.3	0.0	1.52	0.52	0.00	
	BENN	R	L	422	CONTRACT DENTISTS	63A	DENTAL	155.0	155.0	155.0	4.59	4.59	4.59	
	BENN	N	L	423	DENTAL ASSISTANTS	681	DENTAL	69.0	69.0	69.0	4.00	4.00	4.00	
							DENTAL	224.0	224.0	224.0	8.59	8.59	8.59	
6	BENN	R	L /	402 /	GMOS - ER	60E	DHCPP	196.6	194.6	194.6	1.99	1.99	1.99	MEMO.15JUL/C #DABT10-87-0-1771
7	BENN	R	L /	402 2	FAMILY PRACT MD (MERRILL)	61H	DHCPP	24.7	24.7	24.7	0.31	0.31	0.31	MEMO.15AUG/C #DABT10-87-C-1759
8	BENN	R	L /	406 3	RADIOLOGIST	61P	DHCPP	303.9	303.9	303.9	2.12	2.12	2.12	MEMO. 15 JUL 88
9	BENN	N	L /	406 4	RADIOLOGIST	61P	DHCPP	149.2	149.2	149.2	0.91	0.91	0.91	MEMO. 6 SEP 88
							DHCPP	674.4	672.4	672.4	5.33	5.33	5.33	
	BENN							1855.4	1702.0	896.4	23.30	21.33	13.92	

APPENDIX E

LISTING: REQUESTS FOR DHCPP CONTRACTS BY MTF (DCSCS DATA BASE)

302 - 314

~~480 — 204~~ 418 — 442

MTF: [redacted] AS OF: 08:09:37 08/15/87

AOC	SPECIALTY	PRIORITY	C/L	N/R	SOURCE	FY 87 WY FUND	FY 88 WY REQ	FY 87 $ FUND	FY 88 $ REQ	$ DIFF	FY 88 WY FUND	FY 88 $ FUND
62A	Emergency Medicine	01	C	R	DHCP	2.10	2.10	207.80	205.90	-1.90	2.10	204.77
68H	Pharmacists	02	C	R	DHCP	2.07	2.00	99.30	103.90	4.60	2.00	100.57
91P	Dx Ultrasound Tech	03	L	N	DHCP	0.00	2.00	0.00	60.00	60.00	2.00	60.00
60J	OB/GYN	04				0.00	2.00	0.00	375.70	375.70	0.00	0.00
66H	ANC - ER 422	~~05~~	~~L~~	~~R~~	~~AMEP~~	0.89	5.00	72.60	237.50	164.90	0.00	0.00
91C	LPN - ER 423	~~06~~	~~L~~	~~R~~	~~AMEP~~	1.61	5.00	59.40	185.20	125.80	0.00	0.00
60C	Gastroenterologist	07				0.00	1.00	0.00	64.10	64.10	0.00	0.00
61R	Radiologist	08				0.00	1.00	0.00	119.60	119.60	0.00	0.00
66H	ANC - CICU 426	~~09~~	~~L~~	~~R~~	~~AMEP~~	3.70	4.00	174.00	285.00	91.00	0.00	0.00
68	Optometrist	10				0.00	2.00	0.00	98.10	98.10	0.00	0.00
91C	LPNs (All areas)	11				0.00	16.00	0.00	592.70	592.70	0.00	0.00
60P	Pediatrician	12				0.00	1.00	0.00	51.80	51.80	0.00	0.00
66G	OB/GYN ANC Prat/CTMC	13				0.00	1.67	0.00	25.00	25.00	0.00	0.00
66H	ANC - All areas	14	L	N	DHCP	0.00	25.00	0.00	1187.50	1187.50	3.73	177.50
68H	Pharmacists	15				0.00	3.00	0.00	155.80	155.80	0.00	0.00
66D	ANC Ped Pract/CTMC	16				0.00	2.50	0.00	75.00	75.00	0.00	0.00
62A	Emergency Medicine	17				0.00	1.41	0.00	146.40	146.40	0.00	0.00
60S	Opthalmologist	18				0.00	1.00	0.00	83.50	83.50	0.00	0.00
60W	Psychiatrist	19				0.00	0.50	0.00	41.60	41.60	0.00	0.00
61F	Internist	20				0.00	2.00	0.00	103.70	103.70	0.00	0.00
60T	ENT	21				0.00	1.00	0.00	83.50	83.50	0.00	0.00
91B	Nurse Asst	22				0.00	8.00	0.00	197.60	197.60	0.00	0.00
91D	Pharmacy Tech	23				0.00	2.00	0.00	30.00	30.00	0.00	0.00
92B	Lab Tech - CTMC	24				0.00	1.00	0.00	20.00	20.00	0.00	0.00
91P	X-Ray Tech - CTMC	25				0.00	1.00	0.00	20.00	20.00	0.00	0.00
						10.37	93.18	633.10	4549.10	3916.00	9.83	545.84

AMEP FY 88: # 326
PERCENT TOTAL HSC WORKLOAD: 2.78%

APPENDIX F

DHCPP SPECIALTIES AND AOCS

APPENDIX F: DHCPP SPECIALTIES AND AOCS

SPECIALTY	AREA OF CONCENTRATION
MEDICAL CORPS (AOC 60-62)	
Operational Medicine	60A
Nuclear Medicine Officer	60B
Preventive Medicine Officer	60C
Occupational Medicine Officer	60D
General Medical Officer	60E
Pulmonary Disease Officer	60F
Gastroenterologist	60G
Cardiologist	60H
Obstetrician and Gynecologist	60J
Urologist	60K
Dermatologist	60L
Allergist, Clinical Immunologist	60M
Anesthesiologist	60N
Pediatrician	60P
Pediatric Cardiologist	60Q
Child Neurologist	60R
Ophthalmologist	60S
Otolaryngologist	60T
Child Psychiatrist	60U
Neurologist	60V
Psychiatrist	60W
Hematologist	60Z
Nephrologist	61A
Medical Oncologist	61B
Endocrinologist	61C
Rheumatologist	61D
Internist	61F
Infectious Disease Officer	61G
Family Physician	61H
General Surgeon	61J
Thoracic Surgeon	61K
Plastic Surgeon	61L
Orthopedic Surgeon	61M
Physiatrist	61P
Therapeutic Radiologist	61Q
Diagnostic Radiologist	61R
Radiologist	61S
Peripheral Vascular Surgeon	61W
Neurosurgeon	61Z
Emergency Physician	62A
ARMY MEDICAL SPECIALIST CORPS (AOC 65)	
Occupational Therapy	65A
Physical Therapy	65B
Hospital Dietitian	65C

APPENDIX F: DHCPP SPECIALTIES AND AOCS
(continued)

SPECIALTY	AREA OF CONCENTRATION
ARMY NURSE CORPS (AOC 66)	
Community Health Nurse	66B
Psychiatric/Medical Health Nurse	66C
Pediatric Nurse	66D
Operating Room Nurse	66E
Nurse Anesthetist	66F
Obstetric and Gynecologic Nurse	66G
Medical-Surgical Nurse	66H
Clinical Nurse	66J
MEDICAL SERVICE CORPS (AOC 68 series providers only)	
Pharmacy Officer	68H
Optometry Officer	68K
Podiatrist	68L
Audiologist	68M
Social Work Officer	68R
Clinical Psychologist	68S
Research Psychologist	68T
Psychology Associate	68U
PHYSICIAN ASSISTANT	600A
ENLISTED PROVIDERS (CMF 91 & 92)	
Medical Specialist	91A
Medical NCO	91B
Practical Nurse	91C
Operating Room Specialist	91D
Psychiatric Specialist	91F
Behavioral Science Specialist	91G
Orthopedic Specialist	91H
Physical Therapy Specialist	91J
Occupational Therapy Specialist	91L
Cardiac Specialist	91N
X-ray Specialist	91P
Pharmacy Specialist	91Q
Preventive Medicine Specialist	91S
Ear, Nose, and Throat Specialist	91U
Respiratory Specialist	91V
Nuclear Medicine Specialist	91W
Health Physics Specialist	91X
Eye Specialist	91Y
Medical Laboratory Specialist	92B
Cytology Specialist	92E

APPENDIX G

CODING WORKSHEET: DHCPP DECISION FACTORS AND FUNDING STATUS

APPENDIX G: CODING WORKSHEET: DHCPP DECISION FACTORS AND FUNDING STATUS

NAME OF MTF _____ SEQUENCE/PRIORITY _____

COMPUTER RUN _____

CODING SHEET FOR DHCPP REQUESTS

Variable	Data	Name	Variable	Data	Name
1	__	Y-FUNDED			
2	__	MED	19	__	SMALL
3	__	PED			
4	__	SURG	20	__	MEDIUM
5	__	OB/GYN			
6	__	PSY/NEUR	21	__	LARGE
7	__	ER			
8	__	NURSE			
9	__	RAD	22	__	TOP_FIVE
10	__	PHYSMED			
11	__	FAMPRAC			
12	__	SOCIAL	23	__	CENT/LOC
13	__	PHARM			
14	__	NUTRI	24	__	RENEWAL
15	__	OPTOMET			
16	__	PREVMED	25	_ _ _ _	REQ_$ $ (000)
17	__	PA			
18	__	ENLISTED			
			26	_ _ _	REQ_$/WY $ (000)
			27	_ _	%_WORK
			28	_ _ _ _	AMEPFUND $ (000)
			29	__	FY88

Other:

Requested WYs _ _ _ . _ _

Requested $s _ _ _ _ _ _ _ _ _

APPENDIX H

GROUPING OF PROVIDER SPECIALTIES

APPENDIX H: GROUPING OF PROVIDER SPECIALTIES

MEDICAL PROVIDER SPECIALTIES	
Operational Medicine	60A
General Medical Officer	60E
Pulmonary Disease Officer	60F
Gastroenterologist	60G
Cardiologist	60H
Dermatologist	60L
Allergist, Clinical Immunologist	60M
Pediatric Cardiologist	60Q
Hematologist	60Z
Nephrologist	61A
Medical Oncologist	61B
Endocrinologist	61C
Rheumatologist	61D
Internist	61F
Infectious Disease Officer	61G
PEDIATRICIAN PROVIDER SPECIALTY	60P
SURGICAL PROVIDER SPECIALTIES	
Urologist	60K
Anesthesiologist	60N
Ophthalmologist	60S
Otolaryngologist	60T
General Surgeon	61J
Thoracic Surgeon	61K
Plastic Surgeon	61L
Orthopedic Surgeon	61M
Peripheral Vascular Surgeon	61W
Neurosurgeon	61Z
Podiatrist	68L
Audiologist	68M
OBSTETRICIAN AND GYNECOLOGIST PROVIDER SPECIALTY	60J
PSYCHIATRY AND NEUROLOGY PROVIDER SPECIALTIES	
Child Neurologist	60R
Child Psychiatrist	60U
Neurologist	60V
Psychiatrist	60W
Clinical Psychologist	68S
Research Psychologist	68T
Psychology Associate	68U
EMERGENCY PHYSICIAN PROVIDER SPECIALTY	62A

APPENDIX H: GROUPING OF PROVIDER SPECIALTIES
(continued)

NURSE CORPS PROVIDER SPECIALTIES (8)	all 66s
RADIOLOGY PROVIDER SPECIALTIES	
Nuclear Medicine Officer	60B
Therapeutic Radiologist	61Q
Diagnostic Radiologist	61R
Radiologist	61S
PHYSICAL MEDICINE PROVIDER SPECIALTIES	
Occupational Medicine Officer	60D
Physiatrist	61P
Occupational Therapy	65A
Physical Therapy	65B
FAMILY PRACTICE PROVIDER SPECIALTY	61H
SOCIAL WORK PROVIDER SPECIALTY	68R
PHARMACY PROVIDER SPECIALTY	68H
NUTRITION CARE PROVIDER SPECIALTY (Hospital Dietitian)	65C
OPTOMETRY PROVIDER SPECIALTY	68K
PREVENTIVE MEDICINE PROVIDER SPECIALTY	60C
PHYSICIAN ASSISTANT PROVIDER SPECIALTY	600A
ENLISTED PROVIDER SPECIALTIES (20)	select CMF 91 and CMF 92

Note: The military provider specialties, as requested on HSC Form 542-R, Direct Health Care Provider Program Contract Request for FY__, are found in AR 611-101, Commissioned Officer Classification System, AR 611-112, Manual of Warrant Officer Military Occupational Specialties, and AR 611-201, Enlisted Career Management Fields and Military Occupational Specialties. Grouping of these specialties as shown above is based on department and service organizational structure outlined in HSC Regulation 10-1, Organization and Functions Policy, and preliminary work accomplished in the pilot study. Grouping reduces 80 provider specialties to 17 variables.

APPENDIX I

DEFINITION AND CODING OF VARIABLES IN THE FULL DHCPP APPROVAL POLICY EQUATION

APPENDIX I: DEFINITION AND CODING OF VARIABLES IN THE FULL DHCPP APPROVAL POLICY EQUATION

Variable Number	Name	Variable Definition	Variable Coding
1	Y-FUNDED	DEPENDENT VARIABLE. Whether the request was approved for funding at the start of the fiscal year.	1 = Funded 0 = Not funded
2	MED	Medical provider specialties.	1 = Yes 0 = Otherwise
3	PED	Pediatrician provider specialty.	1 = Yes 0 = Otherwise
4	SURG	Surgical provider specialties.	1 = Yes 0 = Otherwise
5	OB/GYN	Obstetrician and Gynecologist provider specialty.	1 = Yes 0 = Otherwise
6	PSY/NEUR	Psychiatry and neurology provider specialties.	1 = Yes 0 = Otherwise
7	ER	Emergency Physician provider specialty.	1 = Yes 0 = Otherwise
8	NURSE	Nurse Corps provider specialties.	1 = Yes 0 = Otherwise
9	RAD	Radiology provider specialties.	1 = Yes 0 = Otherwise
10	PHYSMED	Physical Medicine provider specialties.	1 = Yes 0 = Otherwise

(continued on next page)

APPENDIX I: DEFINITION AND CODING OF VARIABLES IN THE FULL DHCPP APPROVAL POLICY EQUATION (continued)

Variable Number	Variable Name	Variable Definition	Variable Coding
11	FAMPRAC	Family Practice provider specialty.	1 = Yes 0 = Otherwise
12	SOCIAL	Social Work provider specialty.	1 = Yes 0 = Otherwise
13	PHARM	Pharmacy provider specialty.	1 = Yes 0 = Otherwise
14	NUTRI	Nutrition Care provider specialty.	1 = Yes 0 = Otherwise
15	OPTOM	Optometry provider specialty.	1 = Yes 0 = Otherwise
16	PREVMED	Preventive Medicine provider specialty.	1 = Yes 0 = Otherwise
17	PA	Physician Assistant provider specialty.	1 = Yes 0 = Otherwise
18	ENLISTED	Enlisted provider specialties.	1 = Yes 0 = Otherwise
19	FY88	Request for Fiscal Year 1988 funding.	1 = FY88 0 = FY89
20	SMALL	Small size MEDDAC; less than 100 total operating beds.	1 = Yes 0 = Otherwise

(continued on next page)

APPENDIX I: DEFINITION AND CODING OF VARIABLES IN THE FULL DHCPP APPROVAL POLICY EQUATION (continued)

Variable Number	Variable Name	Variable Definition	Variable Coding
21	MEDIUM	Medium size MEDDAC; 100 or more total operating beds, but less than 150.	1 = Yes 0 = Otherwise
22	LARGE	LARGE size MEDDAC; 150 or more total operating beds (does not include MEDCENs). Note: If variables 20, 21, and 22 are coded 0, then requests are from a medical center (MEDCEN).	1 = Yes 0 = Otherwise
23	TOP_FIVE	Whether request is one of the MTF's top five priorities.	1 = Yes 0 = Otherwise
24	CENT/LOC	Whether the request was for a local contract or to be centrally contracted by the HSC Acquisition Agency.	1 = Central 0 = Local
25	RENEWAL	Request is to renew an existing contract; regardless of current funding source (MTF, DHCPP, EFMP, AFAP, or other source). Otherwise request is new.	1 = Renewal 0 = New
26	REQ_$	The total dollar amount of the request, rounded to nearest thousand.	example: $ 15,734 = 16
27	REQ_$/WY	The total dollar amount per workyear requested, rounded to nearest thousand.	example: $ 215,603 = 216
28	%_WORK	The percent of work load in MCCUs contributed to the HSC total.	continuous integer
29	AMEPFUND	Dollar amount of MTF funding from AMEP, rounded to nearest thousand.	example: $ 242,000 = 242

APPENDIX J

REGRESSION ANALYSIS

APPENDIX J: REGRESSION ANALYSIS

FULL MODEL

VARIABLE NAME	ABBREVIATION	REGRESSION COEFFICIENT	MEAN
Medical Provider	MED	.3514	.1254
Pediatric Provider	PED	.4199	.0225
Surgical Provider	SURG	.4184	.1041
OB/GYN Provider	OB/GYN	.2710	.0331
Psychiatry & Neurology	PSY/NEUR	.2876	.0615
ER Physician Provider	ER	.6969	.0840
Nurse Provider	NURSE	.3314	.1172
Radiology Provider	RAD	.7049	.1160
Physical Medicine Prov.	PHYSMED	.6419	.0533
Family Practice Provider	FAMPRAC	.4350	.0154
Social Work Provider	SOCIAL	.3190	.0130
Pharmacy Provider	PHARM	.4789	.0379
Nutrition Care Provider	NUTRI	.5329	.0154
Optometry Provider	OPTOMET	.3439	.0544
Preventive Med. Provider	PREVMED	.3372	.0024
Physician Assistant Prov.	PA	.3758	.0201
Enlisted Provider	ENLISTED	.3331	.1243
Request for FY 88	FY88	.0716	.5112
Small Size MEDDAC	SMALL	-.1116	.2710
Medium Size MEDDAC	MEDIUM	-.0981	.1799
Large Size MEDDAC	LARGE	-.1055	.1858
MTF's Top Five Priority	TOP_FIVE	.2367	.4083
Central or Local Contract	CENT/LOC	.0880	.1089
New or Renewal Contract	RENEWAL	.3458	.4876
Amount of Request	REQ_$	.0001	150.7420
Amount Per Workyear Req.	REQ_$/WY	-.0002	90.8651
Percent of Work Load	%_WORK	-.0121	3.4970
Amount of AMEP Funding	AMEPFUND	.0002	657.3562
Whether Request Was Funded (Dependent Variable)	Y-FUNDED		.3527
Constant	$a_o U$	.3011	

FULL MODEL EQUATION:

$$
\begin{aligned}
Y = &-.3011 + .3514\,(MED) + .4199\,(PED) + .4184\,(SURG) \\
&+ .2710\,(OB/GYN) + .2876\,(PSY/NEUR) + .6969\,(ER) \\
&+ .3314\,(NURSE) + .7049\,(RAD) + .6419\,(PHYSMED) \\
&+ .4350\,(FAMPRAC) + .3190\,(SOCIAL) + .4789\,(PHARM) \\
&+ .5329\,(NUTRI) + .3439\,(OPTOMET) + .3372\,(PREVMED) \\
&+ .3758\,(PA) + .3331\,(ENLISTED) + .0716\,(FY88) \\
&- .1116\,(SMALL) - .0981\,(MEDIUM) - .1055\,(LARGE) \\
&+ .2367\,(TOP\_FIVE) + .0880\,(CENT/LOC) + .3458\,(RENEWAL) \\
&+ .0001\,(REQ\_\$) - .0002\,(REQ\_\$/WY) - .0121\,(\%\_WORK) \\
&+ .0002\,(AMEPFUND)
\end{aligned}
$$

APPENDIX J: REGRESSION ANALYSIS
(continued)

REVISED MODEL

VARIABLE NAME	ABBREVIATION	REGRESSION COEFFICIENT	MEAN
Medical Provider	MED	.3220	.1254
Pediatric Provider	PED	.4153	.0225
Surgical Provider	SURG	.3868	.1041
OB/GYN Provider	OB/GYN	.2425	.0331
Psychiatry & Neurology	PSY/NEUR	.2602	.0615
ER Physician Provider	ER	.6740	.0840
Nurse Provider	NURSE	.3302	.1172
Radiology Provider	RAD	.6734	.1160
Physical Medicine Prov.	PHYSMED	.6439	.0533
Family Practice Provider	FAMPRAC	.4371	.0154
Social Work Provider	SOCIAL	.3004	.0130
Pharmacy Provider	PHARM	.4696	.0379
Nutrition Care Provider	NUTRI	.5587	.0154
Optometry Provider	OPTOMET	.3159	.0544
Preventive Med. Provider	PREVMED	.3100	.0024
Physician Assistant Prov.	PA	.3342	.0201
Enlisted Provider	ENLISTED	.3405	.1243
Request for FY 88	FY88	.0720	.5112
MTF's Top Five Priority	TOP_FIVE	.2209	.4083
Central or Local Contract	CENT/LOC	.0758	.1089
New or Renewal Contract	RENEWAL	.3341	.4876
Amount of Request	REQ_$	.0001	150.7420
Whether Request Was Funded (Dependent Variable)	Y-FUNDED		.3527
Constant	$a_o U$	-.3916	

REVISED MODEL EQUATION:

$$Y = -.3916 + .3220\,(MED) + .4153\,(PED) + .3868\,(SURG) + .2425\,(OB/GYN) + .2602\,(PSY/NEUR) + .6740\,(ER) + .3302\,(NURSE) + .6734\,(RAD) + .6439\,(PHYSMED) + .4371\,(FAMPRAC) + .3004\,(SOCIAL) + .4696\,(PHARM) + .5587\,(NUTRI) + .3159\,(OPTOMET) + .3100\,(PREVMED) + .3342\,(PA) + .3405\,(ENLISTED) + .0720\,(FY88) + .2209\,(TOP\_FIVE) + .0758\,(CENT/LOC) + .3341\,(RENEWAL) + .0001\,(REQ\_\$)$$

APPENDIX K

CORRELATION MATRIX

---------- CORRELATION MATRIX ----------

HEADER DATA FOR: C:DHCPPXX LABEL: FY88 and FY89 combined (845 cases).
NUMBER OF CASES: 845 NUMBER OF VARIABLES: 29

Full correlation. Check for multicollinearity (Emory 1985, 399)

	Y-FUNDED	MED	PED	SURG	OB/GYN	PSY/NEUR	ER	NURSE
Y-FUNDED	1.00000							
MED	-.07016	1.00000						
PED	-.01170	-.05744	1.00000					
SURG	-.05704	-.12913	-.05171	1.00000				
OB/GYN	-.08129	-.07011	-.02808	-.06312	1.00000			
PSY/NEUR	-.15809	-.09698	-.03884	-.08731	-.04741	1.00000		
ER	.32999	-.11471	-.04594	-.10326	-.05607	-.07756	1.00000	
NURSE	-.13796	-.13797	-.05525	-.12421	-.06744	-.09329	-.11033	1.00000
RAD	.32055	-.13718	-.05493	-.12349	-.06705	-.09275	-.10970	-.13195
PHYSMED	.10071	-.08982	-.03597	-.08086	-.04391	-.06073	-.07183	-.08640
FAMPRAC	-.01176	-.04734	-.01896	-.04262	-.02314	-.03201	-.03786	-.04554
SOCIAL	-.08477	-.04350	-.01742	-.03916	-.02126	-.02941	-.03478	-.04184
PHARM	.06118	-.07514	-.03009	-.06764	-.03673	-.05080	-.06009	-.07227
NUTRI	.00836	-.04734	-.01896	-.04262	-.02314	-.03201	-.03786	-.04554
OPTOMET	-.03518	-.09087	-.03639	-.08181	-.04442	-.06144	-.07267	-.08741
PREVMED	-.03595	-.01845	-.00739	-.01661	-.00902	-.01247	-.01475	-.01774
PA	-.03520	-.05427	-.02173	-.04885	-.02653	-.03669	-.04340	-.05220
ENLISTED	-.19544	-.14266	-.05713	-.12843	-.06973	-.09646	-.11409	-.13722
FY88	-.03642	.06296	.02054	.02334	.00906	.03365	-.03668	-.13702
SMALL	.10164	.12277	-.05655	.14951	.08050	.01006	.12245	-.14761
MEDIUM	-.05549	-.09365	-.00868	-.07898	-.00063	-.03018	.01364	.10722
LARGE	.04860	.07629	.05069	.01643	-.07144	.01695	-.03501	-.15510
TOP_FIVE	.49047	.02706	-.04478	.00056	.03454	-.09248	.26915	-.12293
CENT/LOC	.24297	-.09797	-.05301	-.09430	-.04348	-.04208	.14065	-.05645
RENEWAL	.54856	.03086	.01176	-.06129	-.04831	-.12171	.26782	-.10505
REQ_$	.18571	-.06664	-.01765	-.07108	.00283	-.08854	.19250	.17805
REQ_$/WY	.21694	.12666	.01857	.17893	.11027	.05529	.04708	-.22428
%_WORK	-.09331	-.06922	.04012	-.11574	-.03122	-.02778	-.11027	.14681
AMEPFUND	.03714	.03364	.10410	.01178	.00307	-.05833	-.06661	-.03277

	RAD	PHYSMED	FAMPRAC	SOCIAL	PHARM	NUTRI	OPTOMET	PREVMED
RAD	1.00000							
PHYSMED	-.08590	1.00000						
FAMPRAC	-.04528	-.02965	1.00000					
SOCIAL	-.04160	-.02724	-.01436	1.00000				
PHARM	-.07186	-.04705	-.02480	-.02278	1.00000			
NUTRI	-.04528	-.02965	-.01563	-.01436	-.02480	1.00000		
OPTOMET	-.08691	-.05691	-.02999	-.02756	-.04760	-.02999	1.00000	
PREVMED	-.01764	-.01155	-.00609	-.00559	-.00966	-.00609	-.01169	1.00000
PA	-.05190	-.03398	-.01791	-.01646	-.02843	-.01791	-.03438	-.00698
ENLISTED	-.13644	-.08934	-.04709	-.04326	-.07473	-.04709	-.09038	-.01835
FY88	-.03772	.02102	.02604	.07052	-.02927	-.01243	-.03670	.04762
SMALL	.02862	-.10903	-.05458	.00044	.04642	-.05458	.04147	-.02970
MEDIUM	-.01567	-.02874	-.03351	-.02660	.05236	-.00847	-.01731	-.02281
LARGE	.04553	.11707	.01445	.02567	-.06289	-.05971	.09996	.03935
TOP_FIVE	.27061	-.12195	.03311	-.07416	.03702	-.10383	.01294	-.04046
CENT/LOC	.28869	-.06598	-.01282	-.00662	.20931	-.04369	-.03363	-.01703
RENEWAL	.15689	.08498	-.06422	-.11203	.07935	.01273	.07901	-.04751
REQ_$	.07139	-.11125	-.01622	-.05109	-.01830	-.05896	-.08643	-.01540
REQ_$/WY	.41966	-.12722	.00187	-.07931	-.11002	-.09049	-.09985	-.01147
%_WORK	-.05756	.03170	.09403	-.00232	-.03810	.09861	-.06175	.04645
AMEPFUND	-.03995	.06473	.06207	-.02119	-.04890	.05962	-.05523	.01414

	PA	ENLISTED	FY88	SMALL	MEDIUM	LARGE	TOP_FIVE	CENT/LOC
PA	1.00000							
ENLISTED	-.05397	1.00000						
FY88	-.01165	.07406	1.00000					
SMALL	-.06840	-.18124	.03689	1.00000				
MEDIUM	-.00127	.12247	.00179	-.28555	1.00000			
LARGE	.16993	-.13382	-.03813	-.29126	-.22372	1.00000		
TOP_FIVE	-.05043	-.19612	-.00182	.30066	-.01291	.02414	1.00000	
CENT/LOC	-.05008	-.08560	-.12947	.06896	-.00543	.06747	.21982	1.00000
RENEWAL	.02886	-.24543	-.25876	.11370	-.05616	.19754	.42286	.13791
REQ_$	-.04274	.01067	.00523	-.05630	-.06445	-.12695	.14085	.18861
REQ_$/WY	-.09970	-.30622	-.03399	.19657	-.16855	-.00296	.29960	.09890
%_WORK	.05438	.14316	.00482	-.71351	-.19299	.04196	-.29747	-.07549
AMEPFUND	-.00295	.05938	.08290	-.24734	-.10693	-.08409	-.08994	-.04291

	RENEWAL	REQ_$	REQ_$/WY	%_WORK	AMEPFUND
RENEWAL	1.00000				
REQ_$	.10903	1.00000			
REQ_$/WY	.21303	.09809	1.00000		
%_WORK	-.14630	.21933	-.08442	1.00000	
AMEPFUND	-.02616	.06582	.04350	.40323	1.00000

CRITICAL VALUE (1-TAIL, .05) = + Or - .05664
CRITICAL VALUE (2-tail, .05) = +/- .06746

N = 845

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