XAVIER UNIVERSITY

MILITARY-CIVILIAN PARTNERSHIP PROGRAM/ VA-DoD SHARING OF HEALTH SERVICES

By

Jon F. Hall
Major, USAF, MSC

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b. RESTRICTIVE MARKINGS NONE
2a. SECURITY CLASSIFICATION AUTHORITY	3. DISTRIBUTION/AVAILABILITY OF REPORT APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE	
4. PERFORMING ORGANIZATION REPORT NUMBER(S)	5. MONITORING ORGANIZATION REPORT NUMBER(S) AFIT/CI/CIA-89-119
6a. NAME OF PERFORMING ORGANIZATION AFIT STUDENT AT XAVIER UNIVERSITY 6b. OFFICE SYMBOL (If applicable)	7a. NAME OF MONITORING ORGANIZATION AFIT/CIA
6c. ADDRESS (City, State, and ZIP Code)	7b. ADDRESS (City, State, and ZIP Code) Wright-Patterson AFB OH 45433-6583
8a. NAME OF FUNDING/SPONSORING ORGANIZATION 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State, and ZIP Code)	10. SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO / WORK UNIT ACCESSION NO.

11. TITLE (Include Security Classification)
Military-Civilian Partnership Program/VA-DoD Sharing of Health Services

12. PERSONAL AUTHOR(S)
Jon F. Hall

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
DISSERTATION	FROM _____ TO _____	July 1989	49

16. SUPPLEMENTARY NOTATION
APPROVED FOR PUBLIC RELEASE IAW AFR 190-1
ERNEST A. HAYGOOD, 1st Lt, USAF
Executive Officer, Civilian Institution Programs

17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT ☐ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS	21. ABSTRACT SECURITY CLASSIFICATION
22a. NAME OF RESPONSIBLE INDIVIDUAL	22b. TELEPHONE (Include Area Code) / 22c. OFFICE SYMBOL

DD Form 1473, JUN 86 *Previous editions are obsolete.* SECURITY CLASSIFICATION OF THIS PAGE

XAVIER UNIVERSITY

MILITARY-CIVILIAN PARTNERSHIP PROGRAM/ VA-DoD SHARING OF HEALTH SERVICES (E.G.)

Submitted to the Faculty of the

Graduate Program in Fulfillment

of the Requirements for a

Master's Degree in Hospital and Health Administration

By

Jon F. Hall

Major, USAF, MSC

United States Air Force Medical Center, Wright-Patterson

Wright-Patterson AFB, Ohio

July 1989

A

CONTENTS

Project 1: AN ANALYSIS OF THE DEPARTMENT OF DEFENSE MILITARY-CIVILIAN HEALTH SERVICES PARTNERSHIP PROGRAM AT THE USAF MEDICAL CENTER, WRIGHT-PATTERSON

Demonstrated Competencies

1. Utilizing cost-benefit analysis to compare actual costs per visit with similar costs in the local community and to compare productivity of the military staff provider with the partnership staff provider.

2. Using AAAC2Q concept [availability, access, affordability, continuity, cost effectiveness, quality] to evaluate the internal partnership program.

3. Using unstructured interviews to ascertain procedures in making appointments with the partnership or military provider.

4. Using sampling techniques to help ascertain if there are any problems in assigning a level of intensity to a visit.

5. Using a flow chart showing series of events in conducting a audit.

6. Conducting a literature review of physician productivity.

7. Making an oral presentation of the findings and recommendations.

Project 2: AN ANALYSIS AND DEVELOPMENT OF A MARGINAL COST CONCEPT PERTAINING TO THE VETERANS' ADMINISTRATION/DEPARTMENT OF DEFENSE SHARING AGREEMENT BETWEEN THE USAF MEDICAL CENTER WRIGHT-PATTERSON AND THE VETERANS' ADMINISTRATION MEDICAL CENTER OF DAYTON, OHIO

Demonstrated Competencies

8. Establishing a marginal cost concept and the formulas to calculate these costs.

9. Making a comparison and analysis of community costs, sharing agreement costs, and marginal costs.

Project 3: SAVE YOUR DOLLARS THROUGH SHARING VETERANS' ADMINISTRATION/ DEPARTMENT OF DEFENSE HEALTH SERVICES. (EG)

Demonstrated Competency

10. Writing an article for publication in the Air Force Medical Service Digest.

PROJECT 1

AN ANALYSIS OF THE DEPARTMENT OF DEFENSE MILITARY-CIVILIAN HEALTH SERVICES PARTNERSHIP PROGRAM AT THE USAF MEDICAL CENTER, WRIGHT-PATTERSON WRIGHT-PATTERSON AIR FORCE BASE, OHIO

XAVIER UNIVERSITY

AN ANALYSIS OF THE DEPARTMENT OF DEFENSE MILITARY-CIVILIAN HEALTH SERVICES PARTNERSHIP PROGRAM AT THE USAF MEDICAL CENTER, WRIGHT-PATTERSON WRIGHT-PATTERSON AIR FORCE BASE, OHIO

A Project Submitted to

The Faculty of the Graduate Program

In Partial Fulfillment of the Requirements for a

Master's Degree in Hospital and Health Administration

By

Jon F. Hall

Major, USAF, MSC

United States Air Force Medical Center, Wright-Patterson

Wright Patterson AFB, Ohio

May 1989

D

TABLE OF CONTENTS

LIST OF EXHIBITS

LIST OF FIGURES

CHAPTER 1

OVERVIEW

The Department of Defense Military-Civilian Health Services Partnership Program, hereafter referred to as the Partnership Program, was introduced by the Department of Defense, Health Affairs (DoD/HA) in October 1987. This program was to be implemented, where feasible, by all three branches of the medical services: Air Force, Army, Navy. USAF Medical Center Wright-Patterson USAF Medical Center (WPMC) implemented portions of the Partnership Program in July 1988 in the Primary Care Clinic. It was expanded into the Pediatrics Clinic in October 1988 and General Internal Medicine in December 1988, and is being considered for other areas of the medical facility. This analysis will be limited to the Primary Care Clinic area partly because comparison of Partnership and military staff visits per provider per day will be over a longer period of time (July 1988 through January 1989), as compared to the other two sections, and also partly because of problems identified with productivity in the Primary Care area.

The purpose of this study will be twofold:

1. To contrast the billed costs with contracted costs based on the level of intensity.

2. To establish standards for conducting periodic financial audits.

To accomplish the above purposes, the following methodologies will be used:

a. Cost-benefit analysis to: (1) compare actual costs per visit with similar costs in the local community, and (2) compare productivity of the

military staff provider with the partnership staff provider.

b. AAAC2Q concept [availability, access, affordability, continuity, cost effectiveness, quality] to evaluate the internal partnership program.

c. Unstructured interviews to ascertain procedures in making appointments with the partnership or military provider.

d. Sampling techniques to help ascertain if there are any problems in assigning a level of intensity to a visit.

e. Flow chart showing series of events in conducting an audit.

BACKGROUND

Over the years 1985 and 1986, Civilian Health and Medical Program for the Uniformed Services (CHAMPUS) costs have increased 50% (1). The main reason for this increase has been a reduction of medical services provided in medical treatment facilities (MTFs) for CHAMPUS beneficiaries. CHAMPUS is equivalent to a third-party payor for these beneficiaries---dependents of active duty military personnel, retirees and dependents of retirees (all under age 65).

The traditional methods for CHAMPUS beneficiaries to utilize in obtaining medical care other than seeing a military physician was for the patient to see the civilian physician in his or her office within the local community. If the civilian physician participated in the CHAMPUS program, the physician would bill CHAMPUS for the services rendered. If CHAMPUS deemed the services appropriate, CHAMPUS paid the claim, less a deductible to be paid by the patient. If the physician was not a CHAMPUS participant, the patient paid the physician the entire bill, and then sent the appropriate claim form to CHAMPUS for reimbursement (less the deductible).

One of the methods DoD/HA instituted to curb this trend was the Partnership Program to integrate specific health care resources between medical facilities of the Uniformed Services and providers in the civilian health care community (2). Obviously, the program was to be instituted only when the MTF could not provide needed health care to CHAMPUS beneficiaries through its own resources. The Partnership Program can either be "internal" or "external." The definitions of these two facets of the program are as follows (3):

Internal Partnership Agreement. An agreement executed between a MTF Commander and a CHAMPUS authorized civilian health care provider which will enable the use of civilian health care personnel or other resources to provide medical services to beneficiaries on the premises of the MTF.

External Partnership Agreement. An agreement between a MTF Commander and a CHAMPUS authorized institutional provider whereby health care personnel employed by a military MTF provide medical services to CHAMPUS beneficiaries in a civilian facility.

The major difference between external and internal partnerships is that under an internal partnership agreement, the CHAMPUS eligible patient pays no cost-share (deductible); under external partnership, the patient must still pay the deductible.

WPMC initiated an internal Partnership agreement in July 1988 and contracted with civilian providers to see CHAMPUS eligible patients in the Primary Care Clinic within the Medical Center. This agreement is actually with a corporation called PCI Diagnostic Systems, Inc., (PCI), located in Dayton, who hired their physicians to work in the Medical Center, as contrasted to the Medical Center contracting with individual, independent physicians. In October 1988, in addition to the general practitioners, PCI

provided three appointment clerks, an office nurse, and a pharmacy technician.

The agreement negotiated between the Medical Center and PCI calls for PCI to receive 80% of the prevailing CHAMPUS fee per patient visit based on the charged level of service (intensity level). Table 1, on the following page, shows the actual CHAMPUS procedures codes and fees, plus the associated levels of service. Exhibit 1 shows definitions of certain terms and phrases stated in Table 1.

TABLE 1

Code (1)	Intensity Level (1)	Prevailing CHAMPUS Fee (2)	PCI Rate (80%)
	New Patient		
90000	Brief	$34.00	$27.20
90010	Limited	40.00	32.00
90015	Intermediate	68.00	54.40
90017	Extended	69.00	55.20
90020	Comprehensive	90.00	72.00
	Established Patient		
90030	Minimal	20.00	16.00
90040	Brief	26.50	21.20
90050	Limited	40.00	32.00
90060	Intermediate	68.00	54.40
90070	Extended	68.00	54.40
90080	Comprehensive	68.00	54.40

1. SOURCE: Physicians' Current Procedural Terminology, Fourth Edition (CPT-4).

2. SOURCE: CHAMPUS Fiscal Intermediary Pricing File Extract Report, as of 21 January 1988.

CHAPTER 2

ANALYSIS OF CURRENT PROGRAM

PRODUCTIVITY

The most common measure of productivity, patient visits (4), was utilized in analyzing contributions to productivity. The initial data used are shown in Exhibits 2 and 3. The Surgeon General of Air Force Logistics Command (HQ AFLC/SG), the Major Air Command (MAJCOM) to whom WPMC reports monthly productivity figures for all departments of the Medical Center, have established productivity standards, by medical provider, that are stated by outpatient visit per provider per day:

	Primary Care	Pediatrics	Internal Medicine
Physician	23.6	18.7	11.0
Nurse Practitioner	26.4	22.0	N/A
Physician Assistant	26.4	N/A	N/A

The data shows an ongoing problem within the Primary Care area in meeting the above standards for these three sets of providers. Graphically, Figures 1 through 7 depicts this problem. Especially noteworthy is Figure 7, which compares military providers and Partnership providers. Figure 7 shows a definite difference between the military provider's meeting the HQ AFLC/SG standard, shown above for each type of provider, while the Partnership provider has been able to exceed these standards (even though not required to meet the standard).

In order to appropriately identify possible causes of the ongoing failure

by the military providers in Primary Care to meet the above standards, it was first necessary to review how the patient accesses the Medical Center, i.e., WPMC's appointment system. The Patient Appointment System (PAS) is an on-line program allowing direct input of patient scheduling.

Portions of the following information were obtained from interviews with WPMC personnel and PCI personnel working in the Primary Care Clinic. The PAS for Primary Care is composed of three different "modules" denoting different types of appointments:

M-1	Routine/Follow-up
M-2	Within 72 hours/Active Duty
M-3	Same Day/Acute/Emergency Room referrals

The Medical Center uses a decentralized appointment system---that is, the patient calls directly into the Primary Care Clinic. Normally, the appointment clerks are either military personnel or civil service employees, who work directly for the medical facility. Because of a shortage of appointment clerks, not only in Primary Care, but also in others areas of the facility, PCI offered and was granted permission to hire their own appointment clerks. PCI brought three clerks on board in October 1988.

These appointment clerks make <u>all</u> appointments for Primary Care. The clerks previously utilized (civil service employees) were moved to other areas of the medical facility to fill previously mentioned shortages. Normally, when a patient calls for an appointment, the appointment clerk verifies the patient's status (active duty, dependent, etc.). If the patient is active duty or over age 65, the military provider will be assigned the patient. If the patient is a CHAMPUS eligible beneficiary, the patient will be assigned to the Partnership provider (physician). An exception to this process is if the

CHAMPUS eligible patient specifically requests to be seen by a military provider.

The next step was to review the actual number of patients per day the military providers in Primary Care were seeing. Existing output data on appointments have separate listings by month for each module (M-1, M-2, M-3); there was no consolidated listing that brings together the modules by provider. Therefore, a program and development systems analyst with the Medical Center generated a special report which did consolidate all patients seen---by physician, by date, within a particular month. Judgementally, the month of January 1989 was selected for analysis. This report listed the type of appointment (module), provider name, type provider (Partnership or military), date and time of the appointment, and Social Security Account Number (SSAN) of the patient. The results of this analysis are shown in Exhibit 4. This analysis reveals that the military providers could definitely see more patients by adjusting the appointment schedule so that the first afternoon patient would be seen at 1300 instead of 1330, and patients would be seen until 1630, instead of 1600.

Additional interviews were conducted with supervisory personnel in the Primary Care Clinic in conjunction with the analysis accomplished using the consolidated listing. The purpose of these particular interviews was to discover possible other causes for providers not being available to see patients in the normal duty setting, other than because of leave (vacation), official temporary duty (TDY), or medical readiness training. In this case, two sets of providers, physician and nurse practitioner, were performing other duties, excluding the exceptions noted above. In the first instance, each physician was spending a week at a time from 0730-1130 at another location on

the base [known as Building (Bldg) 40] seeing an average of ten patients each day during these times. In the second instance, the nurse practitioner was conducting a special "Headache Clinic" two duty days a week, seeing an average of seven patients on one of these days and follow-ups of these type patients on the second day, for a total of approximately twenty patients covering the two days.

COST ANALYSIS

One of the purposes of this analysis was to contrast actual charges by PCI per visit/procedure with charges in the local community. This comparison was between the billed charges to CHAMPUS by level of intensity by PCI and an average of similar charges from the local community. These charges were strictly for the physician's charge, without any ancillary charges included.

Since this type of information was not available through local medical associations, telephone surveys were made of six physician offices in the area of which four were willing to provide their charges per visit based on intensity level. Data used to obtain the <u>average</u> charge per visit per intensity level in the community are shown in Exhibits 5A through 5D. Comparison of these charges between the community and partnership (PCI) are shown in Table 2 (page 11).

While total monthly billed charges by PCI for Primary Care were available, data showing what percentages of the charges were minimal, brief, limited, intermediate, extended, or comprehensive were not available. Judgementally, it would have taken months for the Medical Center to assemble this type of information.

Another comparison made was the estimated cost per visit in Primary Care looking at Partnership (PCI) and WPMC (military). Utilizing the latest information available from PCI and the Medical Resource Management Office of the Medical Center, the following costs per visit were utilized in making this particular analysis:

Partnership	$45.68
Military	$32.55

The Partnership cost was obtained utilizing information supplied by PCI showing total amounts billed to CHAMPUS each month for the period July 1988 through January 1989. Utilizing the applicable number of patient visits from the Medical Provider Productivity Report, and then dividing the total billed costs by the number of visits gives the amount per visit stated above. The military cost per patient for Primary Care was obtained from the latest Detailed United Cost Report (as of 30 September 1988). Applicable ancillary costs were subtracted from the total cost per visit for the Primary Care Clinic.

However, what needs to be included is the fact that PCI hired the three appointment clerks to work in Primary Care, mentioned previously, plus PCI also brought in a staff nurse and a pharmacy technician. Exhibit 6 highlights these three positions comparing wages in a civilian hospital versus those wages within a government hospital.

Another very important benefit from bringing on Partnership was the increased access this program provided for the patients. In the Primary Care Clinic alone, the appointment waiting list went from a high of 800 down to effectively zero for those CHAMPUS patients waiting to be seen.

TABLE 2

COMPARISON OF
OFFICE VISIT CHARGES

Intensity Level	New Patient		Established Patient	
	Partnership	Community	Partnership	Community
Minimal	N/A	N/A	$16.00	$18.00
Brief	$27.20	$28.00	21.20	22.00
Limited	32.00	35.00	32.00	26.50
Intermediate	54.40	50.00	54.40	35.00
Extended	55.20	65.00	54.40	49.75
Comprehensive*	72.00	80.00	54.40	72.33

* NOTE: Community physicians' offices consider the comprehensive level equivalent to conducting a complete physical.

CHAPTER 3

FINANCIAL AUDITS

Initially, in January 1988, HQ USAF/SG provided guidance (5) to all Air Force medical treatment facilities (MTFs) "to perform quarterly audits of paid claims to ensure the provider billing at the agreed upon rate. This can be accomplished by reviewing at least 5% of a Partnership provider's explanation of benefits (EOBs)." [The EOB is a statement of the action taken by the CHAMPUS Fiscal Intermediary (FI) on the CHAMPUS claim]. An EOB for each claim is mailed by the CHAMPUS FI to each of the applicable parties---in this case, Partnership provider (PCI), patient, and the MTF (WPMC).

PCI physicians in the Primary Care Clinic were seeing an average of 2000 patients per month beginning in August 1988. This, in turn, meant the same amount of EOBs were being mailed to the applicable parties mentioned above. The WPMC CHAMPUS office judgementally decided to set aside every 1 in 20 EOBs received and hold these statements to perform the administrative audit. Two administrative audits were performed by the CHAMPUS office covering the 3rd and 4th quarters of calendar year (CY) 1988. Results of these audits are shown in Exhibit 7.

In January 1989 HQ USAF/SG directed that the quarterly audit of 5% of all Partnership claims include a review of the patient's treatment record, itemized bill and the applicable EOB. Specifically, this January notification stated the MTFs performing the audits should be aware of the following problems:

1. Billing at new patient rates rather than at the established rate.

2. Billing at a higher level of service (intensity level) than actually performed.

3. Providers billing above the negotiated rates.

Judgementally, for purposes of this project, approximately 1% of the patient visits (2,557) identified in the January 1989 Medical Provider Productivity Report as visits for the Partnership provider were randomly selected. Since this audit was limited to Primary Care, Pediatric visits were excluded.

Almost every duty day the WPMC CHAMPUS office receives EOBs from the CHAMPUS FI normally in "bundles" of 10 to 15 each. Exhibit 8 is a diagram of the flow of events in conducting this audit of 29 medical records. Exhibit 9 is a list of records reviewed along with the intensity level assigned by both the Partnership physician initially, and by the military physician auditing the record. Results of this audit are shown in Table 3.

While there were no overcharges based on the negotiated rates, almost half (48%) of the records had been coded by the Partnership provider as a new patient. Based on the definitions listed in the CPT manual (previously shown in Exhibit 1), there should be no patient visit coded as "new" for a CHAMPUS eligible patient seen in a MTF.

TABLE 3

AUDIT SUMMARY

Out of 29 records audited, the military staff physician found 11 discrepancies in the assigned intensity level, for a 38% discrepancy rate.

		Costs
Records Audited	29	$1,194.00
Discrepancies	11	142.40
Amount that should have been billed		1,051.60

Partnership Code	WPMC Code	# Discrepancy	$ Discrepancy
Limited	Brief	7	$57.60
Intermediate	Limited	3	67.20
Comprehensive	Intermediate	1	17.60

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

One of the best methods to bring the details from the previous chapters together is the incorporation of a process published in 1978 by the Department of Health, Education, and Welfare (HEW), Guidelines for Health Planning. This particular analysis is called AAACCQ (Triple-A, C-Squared, Q)---availability, accessibility, acceptability, cost, continuity, quality. Exhibit 10 states the definitions of each of these characteristics. Each characteristic is covered below:

Availability

Before July 1988, the Primary Care Clinic had a waiting list of 800 patients. The Medical Center had an average of 4,300 patient visits per month with 12 military staff providers. WPMC had the "physical plant" to see the patient, but not enough providers.

When Partnership came on board in July, WPMC initially supplied all of the support personnel and resources. In October 1988 PCI brought in their own appointment clerks (3), a staff nurse, and a pharmacy technician to help handle the increased Pharmacy workload. Since August 1988, PCI providers have seen an average of 2,200 CHAMPUS eligible patients, most of whom would either have to wait to see a military provider or would have seen a provider in the local community.

Accessibility

The most significant advantage this internal Partnership concept has

produced at the Medical Center is the ability of the facility's CHAMPUS eligible patients to receive timely appointments and be seen within WPMC. As stated previously, the appointment waiting list in Primary Care had been as high as 800. Once the patient had an appointment, the average patient waiting time to see a military provider was 45 minutes to one hour. With the implementation of Partnership, the waiting time was reduced to 15 to 30 minutes.

Another significant advantage with internal Partnership is the Champus eligible patient pays no deductible charge. The patient still pays no ancillary charges, plus the patient utilizes the ancillary services within WPMC. Partnership providers are also available to see patients after normal wok hours, including weekends, both Saturday and Sunday.

Cost

The Partnership providers, collectively PCI, have negotiated a reimbursement rate of 80% of the prevailing CHAMPUS fee (Table 1). Based on the comparison between the community charge and PCI charge (Table 2), especially referencing the "established" patient category, the negotiated rate may be excessive.

However, what needs to be balanced is the fact that while WPMC provides the space (work area) and materials to the Partnership providers, PCI has provided the support personnel, to include three appointment clerks, a staff nurse, and a pharmacy technician, at no additional charge to the government. The addition of the appointment clerks allowed the medical Center to place the previous appointment clerks in other clinics to fill critical shortages, rather than the facility itself having to hire additional appointment clerks.

Costs incurred by CHAMPUS relating to the Partnership concept should decrease, especially considering that the ancillary services would be utilized within the MTF. However, information was not available from CHAMPUS showing what percentages of patients seen by PCI were billed at the various intensity levels. Judgementally, to perform this task at the MTF level would be a monumental, labor intensive undertaking.

Quality

The issue of quality of the medical care provided by Partnership providers was not specifically addressed in this analysis. However, since the patients' records are maintained by the Medical Center, they are subject to medical audits by the Health Records committee. Additionally, all PCI providers must be certified (credentialed) to practice in the Medical Center, just the same as the military providers. This documentation is maintained in the Quality Assurance Department at WPMC.

Continuity

Partnership providers are authorized to refer patients to other specialties within the Medical Center. If the patient cannot receive a specific medical treatment, the patient would then fall within the normal referral system within the MTF CHAMPUS office. PCI physicians have access to military providers for consultations.

Acceptability

Patient complaints, especially in reference to appointment waiting times, have dropped appreciably. The patient does not have to worry about paying a deductible charge to CHAMPUS when utilizing internal Partnership. The patient still has the option of selecting a particular physician, whether it be military or Partnership.

RECOMMENDATIONS

Exhibit 4 states the results of the military provider productivity within Primary Care based on this exhibit and "special" uses of the providers discussed in Chapter 2, the following recommendations are made concerning productivity:

1. The provider should start seeing afternoon patients at 1300.

2. Patients should be scheduled between 1600 and 1630.

3. Appointment clerks should be instructed that the military provider be given precedence over the Partnership provider, on a normal basis, when scheduling appointments for CHAMPUS eligible patients, taking into account open appointments on the military provider schedule.

4. Based on seeing only ten patients each day (0730-1130), seeing patients in this area away from the main facility should be discontinued, allowing the MTF provider to see more patients within the Medical Center.

5. The practice of establishing a separate "Headache Clinic," effectively occupying the Nurse Practitioner for almost two duty days each week, should be discontinued. These type visits should be incorporated into the normal appointment schedule.

Based on the cost comparison in Table 2, the following recommendations are submitted:

1. At the next agreement renewal period (approximately July 1990), a lower reimbursement percentage rate should be negotiated.

2. Clarification should be obtained from CHAMPUS concerning the classification of new and established patients. The definitions of these

category patients (Exhibit 1) as presently stated mean there should be no "new" patients being seen by the Partnership provider.

Finally, based on the financial audit of the 29 medical records, the following recommendation is submitted: PCI should conduct training of their physicians concerning the appropriate use of the Current Procedural Terminology (CPT) codes when assigning the intensity levels.

EXHIBITS

EXHIBIT 1

DEFINITIONS OF TERMS AND PHRASES

New patient - patient who is new to the physician and whose medical record must be established.

Established patient - patient whose medical administrative records are available to the physician.

Levels of Service (Intensity Levels)

Minimal - supervised by a physician but not necessarily requiring his presence.

Limited - evaluation of a limited acute illness or periodic re-evaluation of a problem, including:

- An internal history and examination,
- Review of effectiveness of past medical treatment,
- Ordering and evaluation of appropriate diagnostic tests,
- Adjustment of therapeutic management as indicated, and
- Discussion of findings and/or medical management.

Intermediate - evaluation of a new or existing condition complicated with a new diagnostic or management problem not necessarily relating to the primary diagnosis that requires:

- Obtaining and evaluation of pertinent history and physical or mental status findings, and diagnostic test and procedures, and
- Ordering of appropriate therapeutic management, or
- Formal patient, family, or hospital staff conference regarding patient medical management and progress.

EXHIBIT 1 (Continued)

Extended - requiring unusual amount of effort or judgement, including:

- Detailed history, review of medical records, examination, and formal conference with patient, family, or staff, or

- A comparable medical diagnostic and/or therapeutic service.

Comprehensive - in-depth evaluation of a patient with a new or existing problem requiring the development or complete re-evaluation of medical data, which includes:

- Recording of a chief complaint(s), and

- Present illness, family history, past medical history, personal history, system review, a complete physical examination, and

- The ordering of appropriate diagnostic tests and procedures.

SOURCE: Physicians' Current Procedural Terminology, Fourth Edition (CPT-4)

EXHIBIT 2

PATIENT VISITS CY 1987

1st Quarter

Clinic	Standard	January Avail. Days	January Visits	January Visits/ Prov/Day	February Avail. Days	February Visits	February Visits/ Prov/Day	March Avail. Days	March Visits	March Visits/ Prov/Day
Primary Care:										
Physician	23.6	111.5	2372	21.3	129	2341	18.1	164.5	3504	21.3
Nurse Practitioner	26.4	10	165	16.5	19	443	23.3	21	403	19.2
Physician Assistant	26.4	118	2619	22.2	109	2313	21.2	126	2184	17.3
Pediatrics:										
Physician	18.7	147	3586	24.4	145	4100	28.3	142	4100	28.9
Nurse Practitioner	22.0	40	861	21.5	30	836	27.9	39	952	24.4
Internal Medicine:										
Physician	11.0	152	2578	17.0	158.5	2602	16.4	171	2537	14.8

2nd Quarter

Clinic	Standard	April Avail. Days	April Visits	April Visits/ Prov/Day	May Avail. Days	May Visits	May Visits/ Prov/Day	June Avail. Days	June Visits	June Visits/ Prov/Day
Primary Care:										
Physician	23.6	137	2824	20.6	109.6	2103	19.2	131.6	2689	20.4
Nurse Practitioner	26.4	13	296	22.8	19	349	18.4	12	271	22.6
Physician Assistant	26.4	118	2661	22.6	99	1662	16.8	104	2258	21.7
Pediatrics:										
Physician	18.7	156	3146	20.2	152	3073	20.2	129	2864	22.2
Nurse Practitioner	22.0	42	1010	24.0	36	828	23.0	32	748	23.4
Internal Medicine:										
Physician	11.0	144	2888	20.1	160	2374	14.8	138	2665	19.3

EXHIBIT 2 (Continued)

3rd Quarter

Clinic	Standard	July Avail. Days	July Visits	July Visits/ Prov/Day	August Avail. Days	August Visits	August Visits/ Prov/Day	September Avail. Days	September Visits	September Visits/ Prov/Day
Primary Care:										
Physician	23.6	109.5	2446	22.3	105.4	2155	20.4	158.5	2620	16.5
Nurse Practitioner	26.4	22	38	1.7	17	8	0.5	21	18	0.9
Physician Assistant	26.4	75	1452	19.4	101	1732	17.1	95	1423	15.0
Pediatrics:										
Physician	18.7	132	2677	20.3	130.5	3299	25.3	144	3112	21.6
Nurse Practitioner	22.0	43	861	20.0	38	699	18.4	32	663	20.7
Internal Medicine:										
Physician	11.0	136	1525	11.2	133	2332	17.5	192.5	2319	12.0

4th Quarter

Clinic	Standard	October Avail. Days	October Visits	October Visits/ Prov/Day	November Avail. Days	November Visits	November Visits/ Prov/Day	December Avail. Days	December Visits	December Visits/ Prov/Day
Primary Care:										
Physician	23.6	139	2855	20.5	138.5	2569	18.5	166	2696	16.2
Nurse Practitioner	26.4	21	10	0.5	17	76	4.5	21.5	91	4.2
Physician Assistant	26.4	62	1249	20.1	68	1439	21.2	88.5	1495	16.9
Pediatrics:										
Physician	18.7	176	3343	19.0	162	3080	19.0	147.5	3454	23.4
Nurse Practitioner	22.0	39	840	21.5	31	752	24.3	39	791	20.3
Internal Medicine:										
Physician	11.0	180.5	2355	13.0	169	2177	12.9	163	2489	15.3

SOURCE: Medical Provider Productivity Report, Part I

EXHIBIT 3

PATIENT VISITS CY 1988

1st Quarter

Clinic	Standard	January Avail. Days	January Visits	January Visits/ Prov/Day	February Avail. Days	February Visits	February Visits/ Prov/Day	March Avail. Days	March Visits	March Visits/ Prov/Day
Primary Care:										
Physician	23.6	130.7	2473	18.9	142	2988	21.0	144	2948	20.5
Nurse Practitioner	26.4	19	23	1.2	20	36	1.8	23	264	11.5
Physician Assistant	26.4	76	1571	20.7	44	1080	24.5	56	1358	24.3
Pediatrics:										
Physician	18.7	143	3425	24.0	157	4573	29.1	153	4124	27.0
Nurse Practitioner	22.0	37	916	24.8	35	911	26.0	39	906	23.2
Internal Medicine:										
Physician	11.0	169	2345	13.9	192	2671	13.9	193	2928	15.2

2nd Quarter

Clinic	Standard	April Avail. Days	April Visits	April Visits/ Prov/Day	May Avail. Days	May Visits	May Visits/ Prov/Day	June Avail. Days	June Visits	June Visits/ Prov/Day
Primary Care:										
Physician	23.6	153	3298	21.6	156	3158	20.2	150	2604	17.4
Nurse Practitioner	26.4	21	200	9.5	18	270	15.0	16	266	16.6
Physician Assistant	26.4	54	1307	24.2	64	876	13.7	38	977	25.7
Pediatrics:										
Physician	18.7	147	3521	24.0	145	3244	22.4	139	3174	22.8
Nurse Practitioner	22.0	38	883	23.2	38	874	23.0	50	881	17.6
Internal Medicine:										
Physician	11.0	194	2619	13.5	150	2445	16.3	144	2085	14.5

EXHIBIT 3 (Continued)

3rd Quarter

Clinic	Standard	July Avail. Days	July Visits	July Visits/ Prov/Day	August Avail. Days	August Visits	August Visits/ Prov/Day	September Avail. Days	September Visits	September Visits/ Prov/Day
Primary Care:										
Physician	23.6	147	2347	16.0	133	2152	16.2	98	1438	14.7
Nurse Practitioner	26.4	15	218	14.5	13	155	11.9	18	255	14.2
Physician Assistant	26.4	30	744	24.8	41	952	23.2	36.5	701	19.2
Partnership		25.5	606	23.8	70.9	1862	26.3	71	2140	30.1
Pediatrics:										
Physician	18.7	99	2614	26.4	162	3146	19.4	127	3046	24.0
Nurse Practitioner	22.0	47	930	19.8	64	1187	18.5	50	1007	20.1
Internal Medicine:										
Physician	11.0	94	2370	25.2	104	2014	19.4	80	1859	23.2

4th Quarter

Clinic	Standard	October Avail. Days	October Visits	October Visits/ Prov/Day	November Avail. Days	November Visits	November Visits/ Prov/Day	December Avail. Days	December Visits	December Visits/ Prov/Day
Primary Care:										
Physician	23.6	98.5	1783	18.1	91.5	1429	15.6	84.6	1213	14.3
Nurse Practitioner	26.4	20	265	13.3	18	241	13.4	21	309	14.7
Physician Assistant	26.4	31	535	17.3	43	453	10.5	42	369	8.8
Partnership		75.9	2076	27.4	83.5	2347	28.1	71.3	2173	30.5
Pediatrics:										
Physician	18.7	145	3260	22.5	146	3053	20.9	123	3172	25.8
Nurse Practitioner	22.0	48	883	18.4	27	584	21.6	17	376	22.1
Partnership					13.4	310	23.1	14.3	350	24.5
Internal Medicine:										
Physician	11.0	101	1848	18.3	117	1949	16.7	119	1845	15.5
Partnership								20.6	176	8.5

SOURCE: Medical Provider Productivity Report, Part I

EXHIBIT 4

PRIMARY CARE

ANALYSIS OF PRODUCTIVITY

Based on January 1989 Workload

- Outpatient visit per military provider per day

	Actual	Standard
Physician	20.4	23.6
Nurse Practitioner	21.8	26.4
Physician Assistant	10.0	26.4

- Appointments/Scheduling
  - -- First patient---0745 hours
  - -- Last morning patient---1130 hours
  - -- First patient in afternoon---1330 hours
  - -- No patients after 1600 hours
- At intermittent times no patients seen, even though provider shown as available.
  - -- Three separate incidences/providers
  - -- 0745-0930 time frames

EXHIBIT 5A

COMMUNITY OFFICE VISIT CHARGES

General Medicine

	Charges	
Intensity Level	New	Established
Minimal	N/A	$18.00
Brief	$28.00	22.00
Limited	35.00	26.50
Intermediate	50.00	35.00
Extended	65.00	55.00
Comprehensive	80.00	N/A

EXHIBIT 5B

COMMUNITY OFFICE VISIT CHARGES

General Medicine

	Charges	
Intensity Level	New	Established
Minimal	N/A	$18.00
Brief	$28.00	22.00
Limited	35.00	26.50
Intermediate	50.00	35.00
Extended	65.00	48.00
Comprehensive	80.00	75.00

EXHIBIT 5C

COMMUNITY OFFICE VISIT CHARGES

General Medicine

	Charges	
Intensity Level	New	Established
Minimal	N/A	$18.00
Brief	$28.00	22.00
Limited	35.00	26.50
Intermediate	50.00	35.00
Extended	65.00	48.00
Comprehensive	N/A	67.00

EXHIBIT 5D

COMMUNITY OFFICE VISIT CHARGES

General Medicine

	Charges	
Intensity Level	New	Established
Minimal	N/A	$18.00
Brief	$28.00	22.00
Limited	35.00	26.50
Intermediate	50.00	35.00
Extended	65.00	48.00
Comprehensive	80.00	75.00

EXHIBIT 6

	Civilian Hospital			Government Hospital		
	Wages per hour					
	Low	High	Average	Low	High	Average
Pharmacy	$ 6.41	$ 8.72	$ 7.57	NOT AVAILABLE		
Staff Nurse	10.19	14.96	12.58	$11.43	$14.85	$13.14
Appointment Clerk*	5.76	7.82	6.79	6.74	8.76	7.75

* Clerk typist wage utilized in this comparison.

SOURCE: GDAHA (Greater Dayton Area Hospital Association) Wage Survey for the period 1 August 1988 through 31 January 1989.

EXHIBIT 7

ADMINISTRATIVE FINANCIAL AUDITS

- July - September 1988

  -- 4 deviations out of 70 EOBs audited (6%)

  -- Overbilled amount $8.50

- October - December 1988

  -- 13 deviations out of 274 EOBs

     --- 7 eligibility for CHAMPUS [not on DEERS (Defense Enrollment Eligibility Report System)]

     --- 6 billing errors

  -- Overbilled amount $32.40

EXHIBIT 8

FLOW CHART

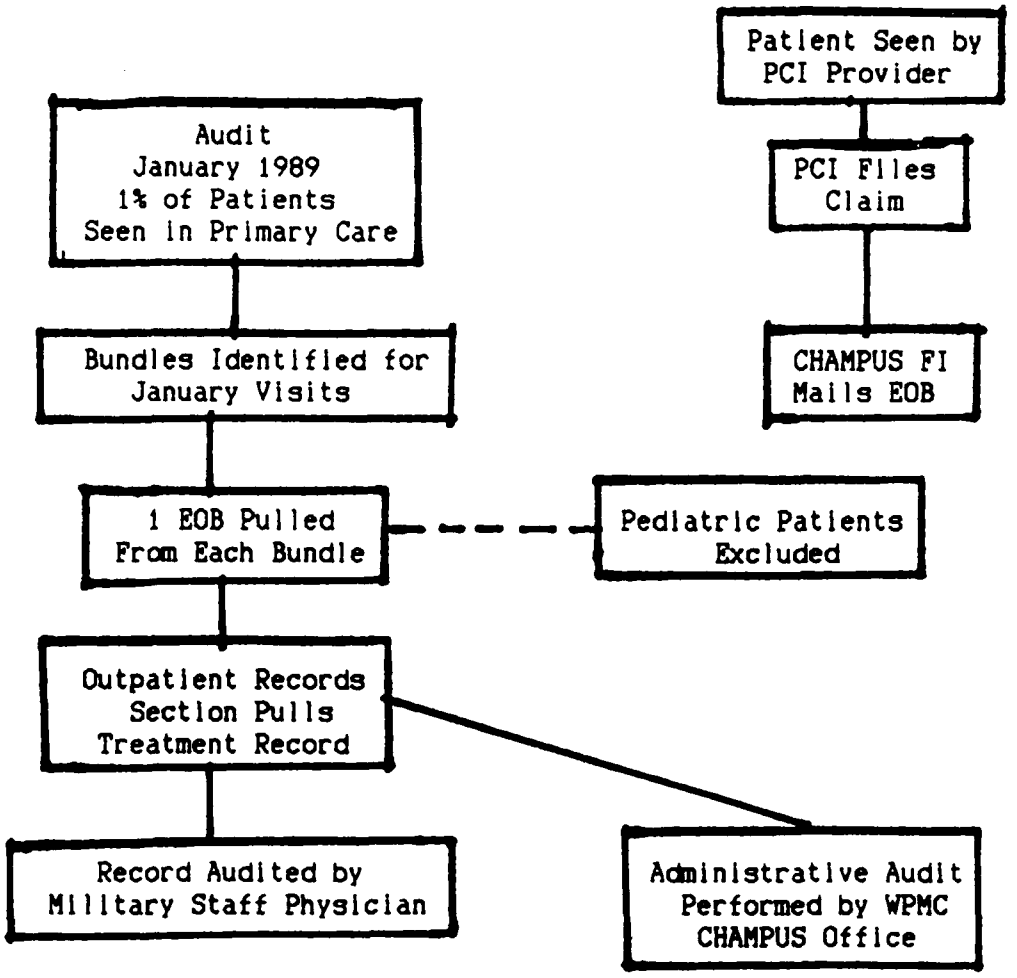


EXHIBIT 9

MEDICAL RECORDS AUDIT
January 1989 Patients

Record	Intensity Level: Partnership	Intensity Level: Staff	Type Patient	Amount Billed	Audit Cost
1	Intermediate	Intermediate	Established	$54.40	$54.40
*2	Limited	Brief	Established	32.00	21.20
3	Brief	Brief	Established	21.20	21.20
4	Limited	Limited	Established	32.00	32.00
*5	Limited	Brief	New	32.00	27.20
6	Limited	Limited	Established	32.00	32.00
*7	Limited	Brief	New	32.00	32.00
8	Intermediate	Intermediate	New	54.40	54.40
*9	Comprehensive	Intermediate	New	72.00	54.40
10	Intermediate	Intermediate	Established	54.40	54.40
11	Limited	Limited	New	32.00	32.00
12	Intermediate	Intermediate	New	54.40	54.40
*13	Limited	Brief	Established	32.00	21.20
14	Intermediate	Intermediate	New	54.40	54.40
15	Brief	Brief	New	27.20	27.20
16	Limited	Limited	Established	32.00	32.00
*17	Intermediate	Limited	New	54.40	32.00
*18	Limited	Brief	New	32.00	27.20
*19	Limited	Brief	Established	32.00	21.20
20	Limited	Limited	Established	32.00	32.00

EXHIBIT 9 (Continued)

21	Intermediate	Intermediate	New	54.40	54.40
22	Intermediate	Intermediate	Established	54.40	54.40
23	Limited	Limited	New	32.00	32.00
24	Intermediate	Intermediate	Established	54.40	54.40
25	Brief	Brief	New	27.20	27.20
*26	Intermediate	Limited	Established	54.40	32.00
*27	Intermediate	Limited	New	54.40	32.00
28	Limited	Limited	Established	32.00	32.00
*29	Limited	Brief	Established	32.00	21.20

* Record where discrepancy of assigned intensity level noted.

EXHIBIT 10

DEFINITIONAL FACTORS OF HEALTH SYSTEM CHARACTERISTICS

AVAILABILITY

Supply of Services

- Existing service capacity
- Utilized capacity

Supply of Resources

- Personnel
- Equipment
- Facilities
- Financial Resources

ACCEPTABILITY

Consumer satisfaction with:

- Availability
- Accessibility
- Cost
- Quality
- Continuity
- Courtesy and consideration

Provider satisfaction

ACCESSIBILITY

Ability to obtain services in terms of the following factors:

- Economic
  - -- Out of pocket cost
  - -- Health insurance coverage and benefits
  - -- Opportunity cost to to patient/client, family and others
- Temporal
  - -- Travel time
  - -- Waiting time
- Locational
- Architectural
- Cultural
- Organizational
- Informational

Utilization of services by specified population subgroups

COST

- Service costs
  - -- Costs incurred by providers
  - -- Costs incurred by financing mechanisms
- Sources of payment for services

CONTINUITY

Coordination of services within settings, among health system components and to/from other non-health systems

- Regular source of care
- Degree of interruptions or delays in service plan given a logical sequence of services
- Patient transfer
- Medical and health information transfer
- Follow-up

QUALITY

Structure:

- Qualifications of resources
- Existence and extent of review and assurance mechanisms
- Minimal volume of specialized services

Process:

- Accuracy of services
- Appropriateness of services
- Documentation of treatment

Outcome:

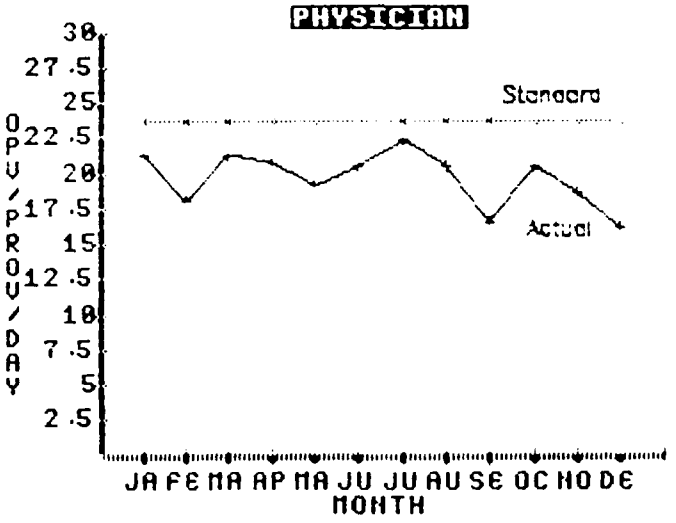
- Health status
- Behavior
- Environment

SOURCE: National Guidelines for Health Planning, March 28, 1978

FIGURES (GRAPHS)

FIGURE 1

PRIMARY CARE CLINIC PRODUCTIVITY---CY 1987



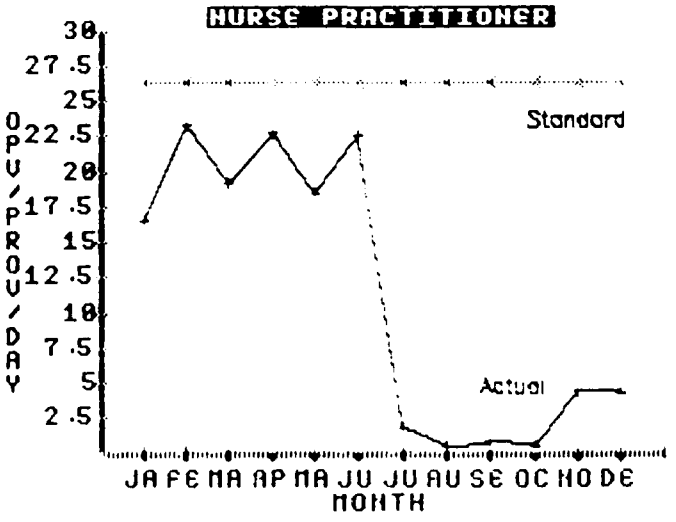


FIGURE 1 (Continued)

PRIMARY CARE CLINIC PRODUCTIVITY---CY 1987

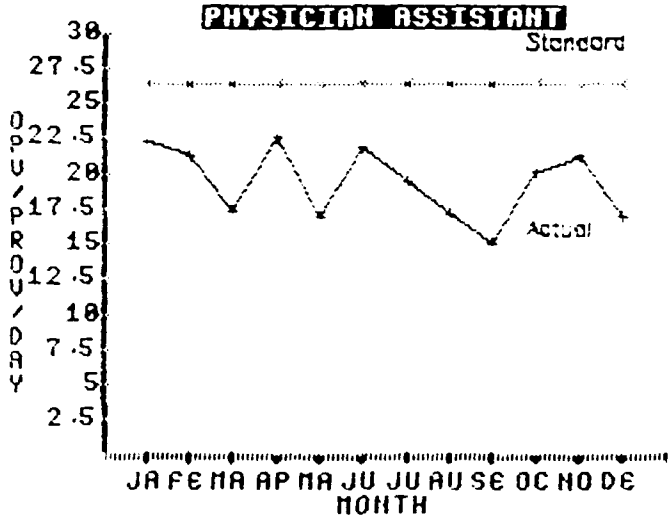
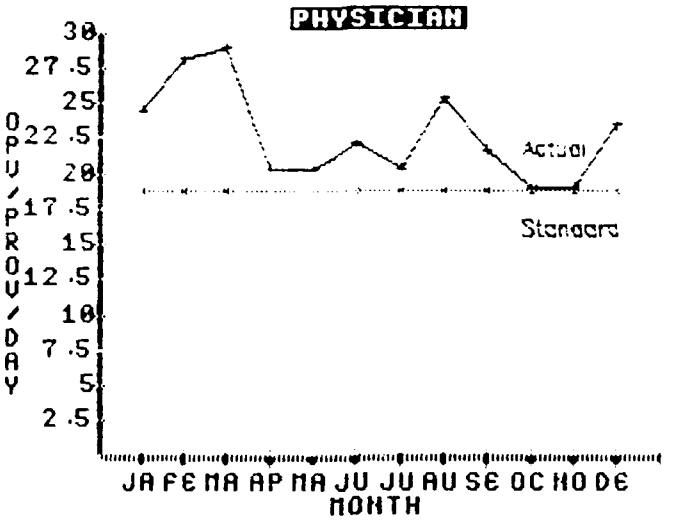


FIGURE 2

PEDIATRIC CLINIC PRODUCTIVITY---CY 1987



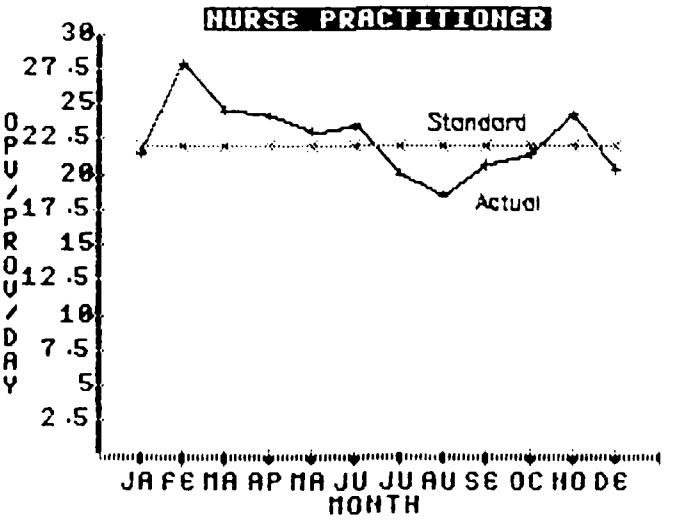


FIGURE 3

INTERNAL MEDICINE CLINIC PRODUCTIVITY---CY 1987

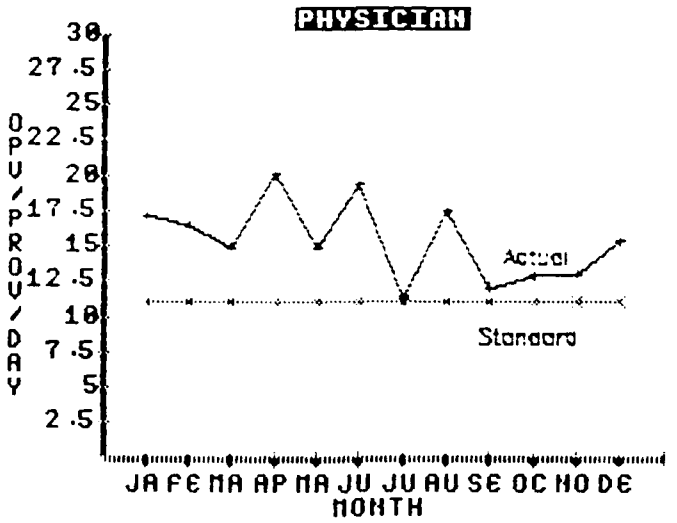
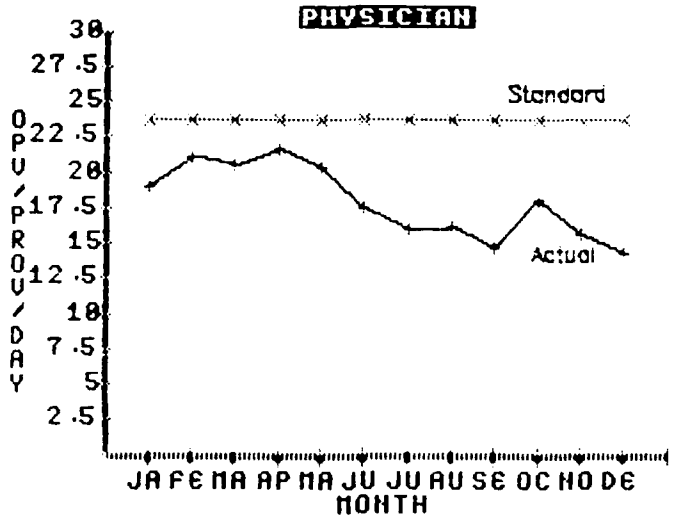


FIGURE 4

PRIMARY CARE CLINIC PRODUCTIVITY---CY 1988



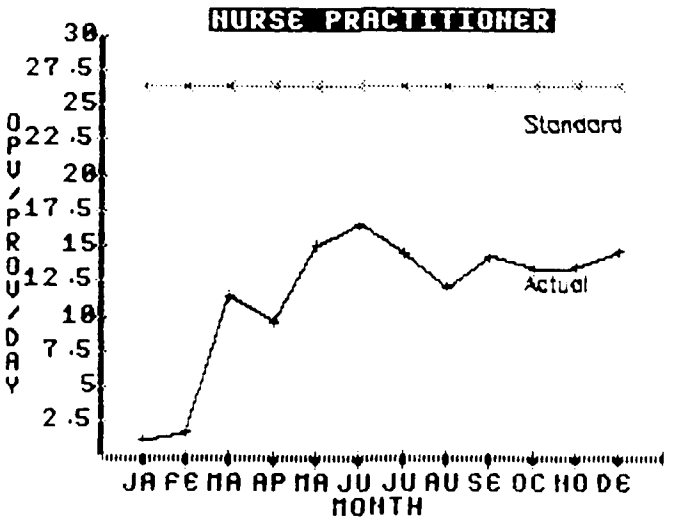


FIGURE 4 (Continued)

PRIMARY CARE CLINIC PRODUCTIVITY---CY 1988

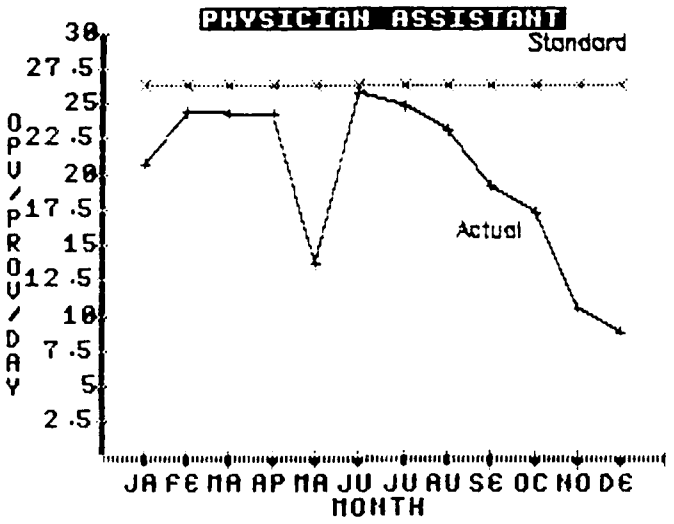
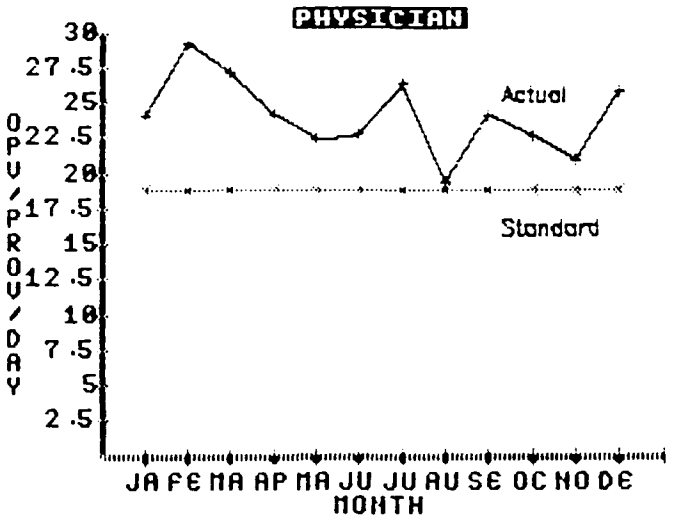


FIGURE 5

PEDIATRIC CLINIC PRODUCTIVITY---CY 1988



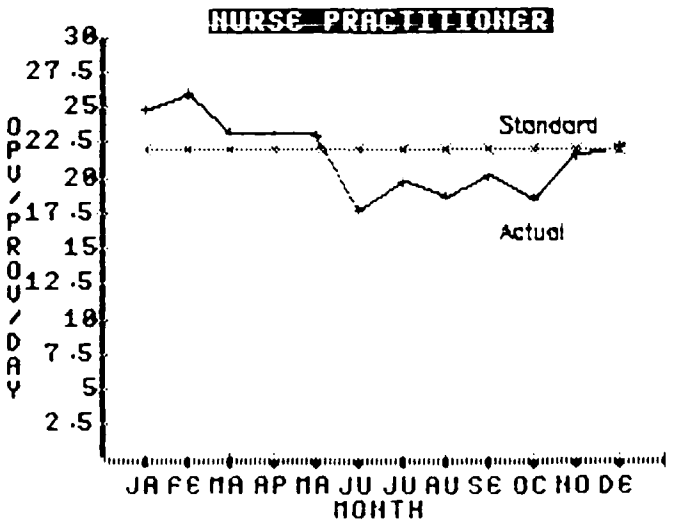


FIGURE 6

INTERNAL MEDICINE CLINIC PRODUCTIVITY---CY 1988

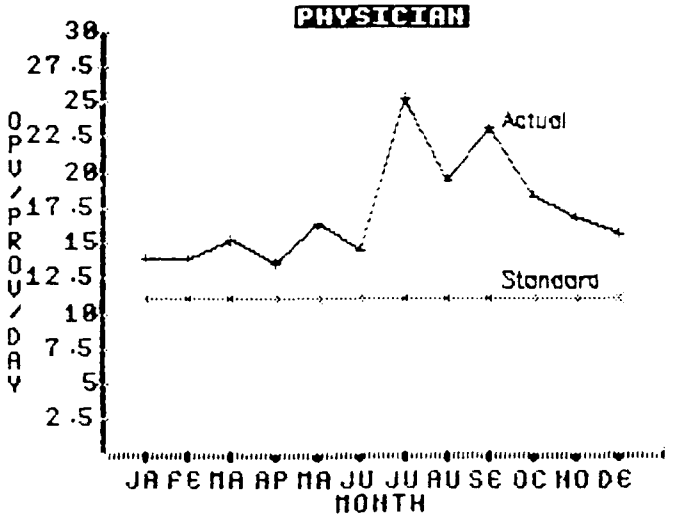
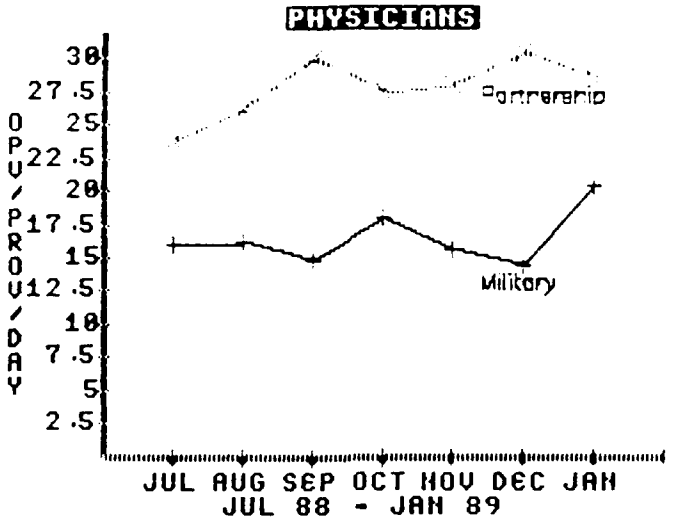
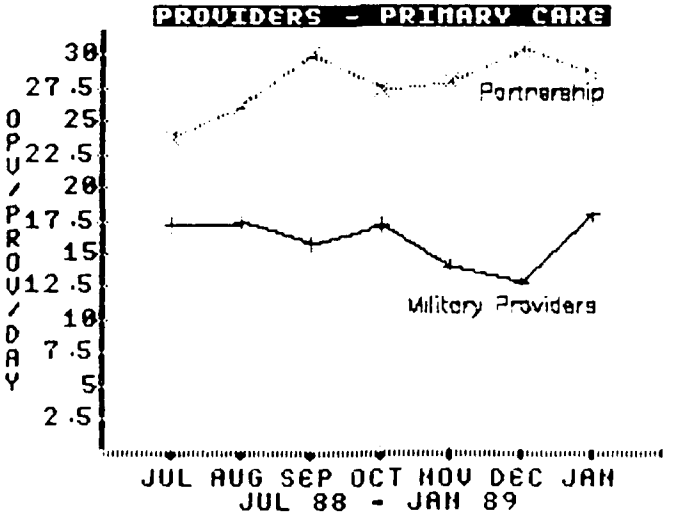


FIGURE 7

PRIMARY CARE CLINIC COMPARISONS

MILITARY PROVIDERS VS PARTNERSHIP





ENDNOTES

1. Department of Defense, Health Affairs Letter, Containment of CHAMPUS Costs by Restoring Medical Services in Military Hospitals -- PROJECT RESTORE, September 25, 1987.

2. Department of Defense, Health Affairs. Department of Defense Instruction (DODI) 6010.12, Military-Civilian Health Services Partnership Program. October 22, 1987, p. 2.

3. Ibid., p. 2-1.

4. Sylvia Hurdle, MA and Gregory C. Pope, MS, "Improving Physician Productivity," Journal of Ambulatory Care Management, 12(1): 1989, p. 12.

5. HQ USAF/SGHA Message, Partnership Program, January 1989.

BIBLIOGRAPHY

Department of Defense, Health Affairs. Department of Defense Instruction (DODI) 6010.12, Military-Civilian Health Services Partnership Program. October 22, 1987.

Department of Defense, Health Affairs Letter, Containment of CHAMPUS Costs by Restoring Medical Services in Military Hospitals -- PROJECT RESTORE, September 25, 1987.

Hurdle, Sylvia, MA and Pope, Gregory C., MS. "Improving Physician Productivity." Journal of Ambulatory Care Management, 12(1): 1989, pp. 11-26.

PROJECT 2

AN ANALYSIS AND DEVELOPMENT OF A MARGINAL COST CONCEPT PERTAINING TO THE VETERANS' ADMINISTRATION/DEPARTMENT OF DEFENSE SHARING AGREEMENT BETWEEN THE USAF MEDICAL CENTER WRIGHT-PATTERSON AND THE VETERANS' ADMINISTRATION MEDICAL CENTER OF DAYTON, OHIO

XAVIER UNIVERSITY

AN ANALYSIS AND DEVELOPMENT OF A MARGINAL COST CONCEPT PERTAINING TO THE VETERANS' ADMINISTRATION/DEPARTMENT OF DEFENSE SHARING AGREEMENT BETWEEN THE USAF MEDICAL CENTER WRIGHT-PATTERSON AND THE VETERANS' ADMINISTRATION MEDICAL CENTER OF DAYTON, OHIO

A Project Submitted to

The Faculty of the Graduate Program

In Partial Fulfillment of the Requirements for a

Master's Degree in Hospital and Health Administration

By

Jon F. Hall

Major, USAF, MSC

United States Air Force Medical Center, Wright-Patterson

Wright-Patterson AFB, Ohio

June 1989

TABLE OF CONTENTS

LIST OF EXHIBITS

OVERVIEW

The USAF Medical Center Wright-Patterson (WPMC) has been sharing health-care resources with the Dayton Veterans' Administration Medical Center (VAMC) since 1983. Reimbursements for these services in Fiscal Year (FY) 1988 were $568,000 paid to the VAMC and $87,000 paid to WPMC. So far into FY 89 (October 1988 through March 1989), VAMC has earned $69,000, while WPMC has earned $30,000.

In order to encourage this sharing of resources, Public Law (P.L.) 97-174 states in part that "reimbursement under any sharing agreement will take into account local conditions and needs and the actual costs to the providing agency's facility of the healthcare resources provided." The U.S. Air Force has interpreted this context of actual costs to be the marginal or additional costs to its medical treatment facilities (MTFs) of producing the resources or services provided to a Veterans' Administration medical facility.

This paper will develop a suggested marginal costing concept to be used by WPMC to help negotiate the prices of services provided to VAMC. This concept will be based partly on data currently available from the Medical Expense Performance Reporting System (MEPRS), guidance from the Air Force Surgeon General's office (HQ USAF/SG), and from other literature on this subject.

BACKGROUND

In May of 1982 the 97th United States Congress amended Title 38 of the United States Code (U.S.C.) and enacted P.L. 97-174, Veterans' Administration and Department of Defense Health Resources Sharing and Emergency Operations Act. Among the findings Congress made in P.L. 97-114 were the following:

(1) There are opportunities for greater sharing of the healthcare resources of the Veterans' Administration (VA) and the Department of Defense (DoD) which .... could result in reduced costs to the Government by minimizing duplication and underuse of healthcare resources.

(2) Present incentives to encourage such sharing of healthcare resources are inadequate.

A Memorandum of Understanding (MOU) was established in July 1983 between the VA and DoD which reiterated the basic purpose of this sharing of resources. Additionally, two important definitions were included in this MOU for "actual cost" and "reimbursement rate."

- Actual cost means the cost incurred in order to provide the healthcare resources specified in a sharing agreement.
- Reimbursement rate means the negotiated price cited in the sharing agreement for a specific healthcare resource. This rate will take into account local conditions and needs and the actual costs to the providing facility. Actual cost includes the cost of communications, utilities, services, supplies, salaries, depreciation, and related expenses connected with providing healthcare resources. Excluded from the rate are building depreciation, interest on net capital investment, and overhead expenses incurred at management levels above the medical facility.

HQ USAF/SG has provided further guidance to all MTFs in Air Force Regulation (AFR) 168-10, Obtaining Medical and Dental Care From Civilian Sources. A portion of this guidance states: "Negotiated rates will be no greater than actual costs. In this context, actual cost means the additional (incremental or marginal) cost to a MTF of producing the resources or services to be provided to a VA facility under the sharing agreement that are over and above the dollars and personnel allocated to the MTF for producing resources or services for its own use" [Emphasis added]. AFR 168-10 also states: Fees should permit the reimbursement of the incremental cost of assigning additional personnel, supplies, service, communications, and utilities that would have not been available or expensed had the resources or services not been provided to the VA."

Knowing the incremental and full costs of products or services will result in more informed decision making and enhanced fiscal viability (1). This knowledge will also put healthcare managers in a much better position to negotiate reimbursement rates. Information relating to marginal costs can be extracted from a full cost file, which is the option that will be discussed in this paper.

There were no written specified procedures for determining the services to be shared between VAMC and WPMC. However, what actually took place was the VAMC would identify services needed; WPMC would then verify if excess capacity were available. The reverse was generally true for those services WPMC was interested in receiving from the VAMC.

According to the current sharing agreement, there are substantially more services offered by each facility than are actually utilized by either medical facility. Exhibits 1 and 2 show abbreviated lists of resources available from

WPMC and VAMC. These abbreviated listings are based on those services utilized by each facility over the past fiscal year (FY).

Exhibits 3 and 4 show monetary amounts earned by both the VAMC and WPMC for FY 1988 and through March 1989. The total costs show VAMC earned over $500,000 more than WPMC. Ninety-five percent of these monies were for one provided service--the use of a ward for our mental health patients. This particular service, needed during the construction of a new facility at WPMC, is no longer needed from VAMC. Ninety-two percent of WPMC's services earned from VAMC were for hyperbaric medicine treatments.

MARGINAL COSTING CONCEPT

Marginal costs are also referred to as incremental or additional costs. There are many definitions for the context of a marginal cost, a few of which are:

- The additional cost incurred for an additional unit of output (2).

- The additional expense to perform one more procedure (3).

- Finally, to be more specific to this particular situation of shared services between WPMC and VAMC--the incremental cost of assigning additional personnel, supplies, services, communications, and utilities that would not have been available or expensed had the resources or services not been provided to the VA (AFR 168-10).

In developing this marginal cost concept, three assumptions were made relating to sharing of services with the VA. The first two are quoted directly from AFR 168-10:

1. Negotiated rates must allow the Air Force facility providing the resources or services to recover any additional costs it may incur.

2. Negotiated rates must enable the purchasing Air Force facility to pay less than the full cost of producing the resources or services, save federal dollars, and cost less than alternative methods of purchasing equivalent care.

3. Providing a service to a VA patient will not result in reduction of services to our eligible beneficiaries. In other words, WPMC has the excess capacity available to provide the service.

The DoD Medical Expense and Performance Reporting System (MEPRS) is the system utilized by each MTF to track workload and related expenses. MEPRS tracks these factors by work center. A work center is a discrete functional

or organizational subdivision of a military medical facility for which provision is made to accumulate and measure its expenses and determine its workload performance (AFR 168-17, Volume II). One of the basic premises of ascertaining the marginal cost per procedure or work center will be to calculate the direct cost by subtracting the support cost from the total or full cost pertaining to a particular work center. A direct cost is an expense identified specifically with a particular work center. Direct expenses consist of: clinician salaries, all other salaries, medical supply expenses, medical expense equipment expenses, and all other operating budget ledger (OBL) expenses.

Support costs contain such expenses as general administrative salaries, depreciation, utilities, and communications. All other OBL expenses include temporary duty (TDY) [other than continuing medical education] and alternative care.

Since one of the assumptions is that we are providing only those services in which we have excess capacity, we would be paying the salaries of those individuals directly involved with the work center, regardless of the type patient seen. Therefore, these salary expenses should also be subtracted out of the direct expenses.

This then would leave the remainder of the direct expenses described above plus ancillary charges (such as laboratory and radiology). WPMC tracks the salaries by a locally generated computer product called the "Medical Expense and Performance Module."

The precise definition of this marginal cost concept must be divided into two "sub-definitions." The first sub-definition for those work centers relating to inpatient and outpatient services: "The average of those direct

and ancillary expenses, less salaries." The second definition, for those work centers relating to ancillary services (procedures), is: "The average of those direct expenses, less salaries."

The formulas to calculate this marginal cost concept will be by general category: inpatient services, ambulatory (outpatient) services, and ancillary services (procedures). The costs relating to each of these categories will be taken from the Detail Unit Cost Report, the Computation Summary of the Expense Assignment System, and the Medical Expense and Performance Module. FY 1988 cost and performance factors will be utilized in the calculations. The actual formulas are shown in Exhibit 5. The results of these calculations will be shown in Exhibit 6 (inpatient and outpatient services) and Exhibit 7 (ancillary services). Using selected specialties, these exhibits will compare (where possible): 1) the full reimbursement rate, see Exhibit 6, 2) the community cost within the WPMC catchment area, 3) the current cost, as listed on the VAMC-WPMC sharing agreement, and 4) the marginal cost using the appropriate calculation stated in Exhibit 5.

Looking at inpatient services (Exhibit 6), the inpatient cost per day, as stated in the sharing agreement for both VAMC and WPMC, is still lower than the cost calculated under the marginal concept. It is definitely lower than what would be charged within the community and even allowed under the full reimbursement rate prescribed by HQ USAF/SG.

Under outpatient services (Exhibit 6), the marginal cost for two of the specialties was higher than the VAMC-WPMC sharing agreement price. The agreement price is also lower than the prescribed Air Force reimbursement rate of $62. Community costs for most procedures, as listed in Exhibit 7, were not available. However, under the current sharing agreement, WPMC's costs for

mammograms, CT (computerized tomography) scans, and radiation therapy treatments were higher than the costs for these same procedures using the marginal costing concept. Based on WPMC's costs for EEGs (electroencephalogram) and EKGs (electrocardiogram), it is probable that VAMC's sharing agreement costs are higher than the marginal concept cost.

CONCLUSION AND RECOMMENDATIONS

I have purposely continued stating "marginal cost concept" throughout this paper because MEPRS was never intended to capture what could be considered true, accurate marginal costs (nor does any other cost tracking system at this time). I have taken my perception of the original intent of the U.S. Congress in 1982 in establishing VA and DoD sharing of healthcare resources, minimizing duplication and underuse of healthcare resources, and applied the "average" cost (per performance factor) of a specialty or procedure. This average is based on the direct and ancillary expenses, less salaries and support costs.

Looking at a true marginal or incremental cost situation under the assumption of excess capacity by VAMC and WPMC, the additional cost to either facility would actually be the medical supplies and ancillary services per patient. Using the formulas shown in Exhibit 5, I have attempted to show the next best marginal costing concept to the actual or true marginal cost itself, based on what is contained in MEPRS.

I estimate it would take about ten minutes per procedure or service to calculate the marginal cost using these formulas. Since we are cannot charge more than the reimbursement rate allowed by HQ USAF/SG for inpatient and outpatient services, usually calculated in October of each year, I recommend prior year MEPRS expense and workload data be used to calculate the marginal costs for the following fiscal year.

The biggest advantage to using this concept is having a methodology that will let us be able to negotiate, from a better position, the prices of services and procedures contained in future sharing agreements. Knowing the best estimate of marginal estimate is not, by itself, the answer to effective

negotiations. This marginal cost concept should be used in conjunction with having accurate estimates of how many patients will be referred by VAMC to WPMC, as well as WPMC having accurate figures of referrals to VAMC.

Our newly designated Managed Healthcare Directorate (MHD) should use demographic information of the catchment area in order to better estimate total number of patients that could possibly utilize our medical services. This information could be used to more accurately ascertain the number of patients we could see in conjunction with our allocation of manpower, monies, and facilities (space).

Again, looking at Exhibits 6 and 7, this marginal cost concept seems to be conducive to most services, except urology, as an inpatient service. In this instance, our marginal cost at WPMC ($541) was higher than even the community cost ($519). I recommend that updated community costs be maintained for comparison with the marginal costs.

I believe this type information, knowing our marginal costs and demographics of our catchment area, will encourage even more the bartering of services, which is allowed in lieu of actual payment for services. For bartering to work, though, the accurate estimates mentioned above must be utilized. This concept should not be used when expansion of services are involved.

EXHIBIT 1

RESOURCES TO BE FURNISHED BY WPMC
(Abbreviated List)

Services	Reimbursement Rate
Inpatient hospitalization	$210
Outpatient visit	50
Computerized tomography (CT) scan	55
Outpatient radiologic studies	Outpatient visit rate
Outpatient radiation therapy	75
Gynecologic procedure (Outpatient)	34
Gallium Scan (No charge if dosed at VAMC)	50
Arteriography	Inpatient hospitalization rate
Laboratory tests---HIV	3

EXHIBIT 2

RESOURCES TO BE FURNISHED BY VAMC
(Abbreviated List)

Services	Reimbursement Rate
Inpatient hospitalization	$210
Outpatient visit	50
CT scan	55
Domiciliary care	30 (per day)
EEG	100
EKG	35

EXHIBIT 3

AMOUNTS EARNED BY WPMC

FY 1988

Services Provided	Quantity	Amount
Hyperbaric Medicine treatment	2,038	$81,520
Mammograms	48	2,400
Angiograms	2	100
Arteriograms	11	1,350
Neurosurgery Clinic	1	50
Caratoid Study	1	50
HIV test	28	84
Tubal Reversal	1	50
Inpatient Hospitalization	10	2,100
	Total -	87,704

FY 1989 (October 1988 - March 1989)

Hyperbaric Medicine treatment	643	25,720
Mammograms	17	850
Arteriograms	2	100
Inpatient hospitalization	10 (days)	2,100
	Total -	28,770
	GRAND TOTAL -	116,474

EXHIBIT 4

AMOUNTS EARNED BY VAMC

FY 1988

Services Provided	Quantity	Amount
Mental Health	NA	$548,602
Clinical Laboratory (procedures)	NA	18,603
Audio Speech	NA	470
Electrocardiogram (EKG)	NA	411
Outpatient Visits	1	50
		Total - 568,136

FY 1989 (October 1988 - March 1989)

Mental Health	NA	63,600
Audio Speech	NA	2,400
Clinical Laboratory (Procedures)	NA	983
Speech Therapy	NA	1,545
Rehabilitation Nurse	NA	592
		Total - 637,256

EXHIBIT 5

MARGINAL COSTING FORMULAS

Inpatient Services:

Total Expenses, less Salaries (Clinician, Nursing, Technician, and other assigned personnel), less Support Expenses. This result is then divided by the performance factor (occupied bed day) associated with the particular inpatient service.

NOTE: A portion of the salaries would be computed by calculating a ratio of the workload for the particular service to the total workload shown in the associated nursing unit costpool. This percentage would then be used to calculate that portion of the salaries for distribution to the work center within that costpool.

Ambulatory (Outpatient) Services:

Total Expenses, less Salaries (Clinician, Nursing, Technician, and other assigned personnel), less Support Expenses. This result is then divided by the performance factor (outpatient and inpatient visits) associated with that particular ambulatory service.

NOTE: If the particular service is assigned to a costpool, a ratio of those visits to the overall costpool workload will be calculated. That percentage of the costpool salaries will be included in the salary costs.

Ancillary Services (Procedures):

Total Expenses, less Salaries, less Support Expenses. This result is then divided by the total performance factor associated with that particular service. If there is a "weighted factor" as defined in Appendix C of DoD Manual 6010.13, this factor will be included in the final computations.

EXAMPLE: CT scans and mammograms are both procedures under the ancillary service, Radiology. The Total Expenses, Salaries, Support Expenses, and performance factor will be the same for these two procedures. Only the weighted factors will be different.

EXHIBIT 6

UNIT COST OF SELECTED SPECIALTIES

Specialty	Full Reimbursement (1)	Community Cost (2)	Current Cost (3)	Marginal Cost
		Inpatient Services		
Surgical ICU	$458	NA*	$210	$249
Orthopedics	458	$812	210	276
General Surgery	458	855	210	416
Urology	458	519	210	541
Ophthalmology	458	1,008	210	643
		Outpatient Services		
Orthopedics	62	77	50	20
Urology	62	134	50	60
General Surgery	62	196	50	58
Ear, Nose, & Throat	62	63	58	38

NOTE 1: This rate is the interagency rate authorized by HQ USAF/SG. This rate is updated once a year, usually in October (AFR 168-4).

NOTE 2: Community Costs are taken from the 2 April 1989 "CHAMPUS Health Care Summary by Primary Diagnosis" report, for the period October 1987 through September 1988. Much difficulty was experienced in trying to obtain this data from local healthcare courses.

NOTE 3: Current Cost is the VAMC-WPMC sharing agreement cost.

* NA = Not available

EXHIBIT 7

UNIT COST OF SELECTED ANCILLARY SERVICES

Specialty	Current Cost	Community Cost (1)	Marginal Cost
Hyperbaric Medicine treatments	$ 40		$ 37
Mammograms	50		16
Anglography (base value)	50		59
CT scans	55		40
Gallium scan	50		63
Radiation Therapy (2)	75		12
EEG	100	$155	77
EKG	35	125	0.25

NOTE 1: Most community costs were not available. EEG cost came from CHAMPUS report stated in Exhibit 6. EKG cost is an average of similar cooperative/ supplemental cart costs from October 1988 through May 1989.

NOTE 2: October 1988 through March 1989 data used instead of FY 1988 data because of new equipment installation and new construction during FY 1988.

ENDNOTES

1. Kenneth P. Johnson, "Developing a Cost Base for Pricing," Topics in Health Care Financing, 14(1): 1987, p. 16.

2. Marty J. Bridges and Philip Jacobs, Ph.D., "Obtaining Estimates of Marginal Cost by DRG," Healthcare Financial Management, October 1986, p. 40.

3. James R. Gravell, Jr., CPA and Paul Sellvanoff, "Costing Method Stresses Accuracy, Cost Effectiveness," Healthcare Financial Management, November 1986, p. 111.

BIBLIOGRAPHY

AFR 168-10. Obtaining Medical and Dental Care From Civilian Sources. 1 November 1988.

Bridges, Marty J. and Jacobs, Philip, Ph.D. "Obtaining Estimates of Marginal Cost by DRG." Healthcare Financial Management, October 1986, pp. 40-46.

Gravell, James R., Jr., CPA and Sellvanoff, Paul. "Costing Method Stresses Accuracy, Cost Effectiveness," Healthcare Financial Management, November 1986, pp. 111-112.

Johnson, Kenneth F. "Developing a Cost Base for Pricing." Topics in Health Care Financing, 14(1): 1987, pp. 16-25.

Public Law 97-174. Veterans' Administration and Department of Defense Health Resources Sharing and Emergency Operations Act. May 4, 1982.

PROJECT 3

SAVE YOUR DOLLARS THROUGH SHARING VETERANS' ADMINISTRATION/ DEPARTMENT of DEFENSE (VA/DoD) HEALTH SERVICES

AN ARTICLE SUBMITTED FOR PUBLICATION IN THE

AIR FORCE MEDICAL SERVICE DIGEST

XAVIER UNIVERSITY

SAVE YOUR DOLLARS THROUGH SHARING VETERANS' ADMINISTRATION/ DEPARTMENT of DEFENSE (VA/DoD) HEALTH SERVICES

AN ARTICLE SUBMITTED FOR PUBLICATION IN THE

AIR FORCE MEDICAL SERVICE DIGEST

A Project Submitted to

The Faculty of the Graduate Program

In Partial Fulfillment of the Requirements for a

Master's Degree in Hospital and Health Administration

By

Jon F. Hall

Major, USAF, MSC

United States Air Force Medical Center, Wright-Patterson

Wright-Patterson AFB, Ohio

July 1989

SAVE YOUR DOLLARS THROUGH SHARING VETERANS' ADMINISTRATION/ DEPARTMENT of DEFENSE (VA/DoD) HEALTH SERVICES

In Fiscal Year (FY) 1988 the USAF Medical Center Wright-Patterson and the VA Medical Center, located in Dayton, Ohio, jointly saved over 3 million dollars by buying medical services from each other, instead of buying these same services through civilian healthcare sources. As budgets become tighter, you can also use these innovative ways to provide the best quality medical care to your patients, while at the same time stretching the ever-shrinking federal dollars you receive.

First, one saving idea resulted from renting ward space (50 beds) from the VA for our mental health inpatients during our construction project. Basically, we provided the staff, supplies, and equipment, while the VA facility provided meals and linens.

Secondly, we obtained the services of VA specialists to see our patients at WPMC. The VA provided a speech therapist, social worker, and operating room nurse. We, in turn, paid the VA on a per hour basis, rather than the civilian community's per procedure fees.

In addition, the VA has saved an estimated $700,000 by having their patients receive hyperbaric medicine treatments from us. The VA has also been able to obtain medical care (GYN, mammography, orthopedics, clinical laboratory services) from us at a cost savings of about 25% of what this same cost would be in the civilian sector.

When you and your VA facility are negotiating services and prices to be provided, you need to keep in mind that that the prices on the sharing agreement can be essentially what you both agree on locally. In pricing the

services, you should take into account: (1) what the local community is charging, (2) your actual cost (or marginal cost), and (3) the interagency rates used for reimbursement. Both you and the VA are federal government facilities. In pricing the services you provide each other, you should attempt to take out as much of your fixed costs (salaries, utilities, etc.) as possible. Lower pricing of the services provided would encourage greater sharing.

Instead of transferring funds, you can also barter or exchange services. It's important in bartering that each service provided in accordance with the sharing agreement be priced separately. In March 1989, the Wright-Patterson and Dayton VA medical facilities began a bartering system by agreeing to "hold" each other's billings until late in the fiscal year, and settle any differences of what's owed at that time. The goal here is not to make a profit on each other's operations, but to zero-balance any exchange of funds and mutually support the delivery of cost effective care.

Above all, its of utmost importance that you establish a working relationship based on honesty and trust. This relationship has worked for us, and we look forward to increasing our sharing of healthcare resources between the AF and the VA.