DTIC FILE COPY

(2)

A TEST PROGRAM TO REDUCE CHAMPUS COSTS BY OPTIMIZING THE OUTPATIENT SERVICES OF SILAS B. HAYS ARMY COMMUNITY HOSPITAL

AD-A202 852

DTIC
ELECTE
JAN 2 6 1989
S D
D

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

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

by

Major George S. Robinson, MSC

August, 1983

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION Unclassified	1b. RESTRICTIVE MARKINGS
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) 75-88	5. MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION US Army-Baylor University Graduate Program in Health Care Admin/HSHA-IHC 6b. OFFICE SYMBOL (If applicable)	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State, and ZIP Code) FT Sam Houston, TX 78234-6100	7b. ADDRESS (City, State, and ZIP Code)
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)
A TEST PROGRAM TO REDUCE CHAMPUS COSTS BY OPTIMIZING THE OUTPATIENT SERVICES OF SILAS B. HAYS ARMY COMMUNITY HOSPITAL

12. PERSONAL AUTHOR(S)
MAJOR GEORGE S. ROBINSON

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
Study	FROM JUL 82 TO AUG 83	AUG 83	79

16. SUPPLEMENTARY NOTATION

17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	HEALTH CARE; CHAMPUS; COST CONTAINMENT

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

This study was test of a proposal to reduce CHAMPUS cost for outpatient care by optimizing the use of existing outpatient capabilities, and when necessary issuing a Certificate of Nonavailability. At the time the paper was written the test was still continuing, but indications were that the system could save a significant amount of money.

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS	21. ABSTRACT SECURITY CLASSIFICATION
22a. NAME OF RESPONSIBLE INDIVIDUAL Lawrence M. Leahy, MAJ(P), MS	22b. TELEPHONE (Include Area Code) (512) 221-6345/2324 22c. OFFICE SYMBOL HSHA-IHC

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

89 1 25 029

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ii

LIST OF TABLES and ILLUSTRATIONS iii

Chapter

I. INTRODUCTION 1

A Historical Perspective 1
Statement of the Problem 11
Objectives, Criteria, Assumptions and Limitations 12
Review of the Literature 26
Research Methodology 30

II. DISCUSSION 42

Assessing Workload Impact 42
Assessing Costs 52

III. CONCLUSION 58

Conclusions 58

APPENDIX

A. LISTS OF SPECIALTIES (Available and Unavailable) . 61

B. GRAPHIC COMPARISONS OF CEB GENERATED VISITS TO TOTAL VISITS FOR THE STUDIED CLINICS 64

BIBLIOGRAPHY 73

Acknowledgements

Several individuals and a few organizational entities have been most gracious in providing the researcher with data, assistance, or both. Among these are the Silas B. Hays Central Appointment Service and its Supervisor, Mrs. Harris, for their input on hospital workload; Mr. George Rawson, the CHAMPUS Health Benefits Advisor, who helped the researcher understand the system; Mr. Fred Hammer, OCHAMPUS, who provided data and went to a great deal of trouble to have new computer programs designed to assist this research. LTC Ferman Hoxie, the PAD Officer, and LTC Clayton Moore, the Comptroller, provided both data and ideas; COL Robert Herek, the Executive Officer, provided enthusiasm and encouragement; and Major Art Wu, OCHAMPUS, gets honorable mention for his very important "teleconferences."

DTIC
COPY
INSPECTED
1

Accesion For
NTIS CRA&I ☑
DTIC TAB ☐
Unannounced ☐
Justification
By
Distribution /
Availability Codes
Dist | Avail and / or Special
A-1

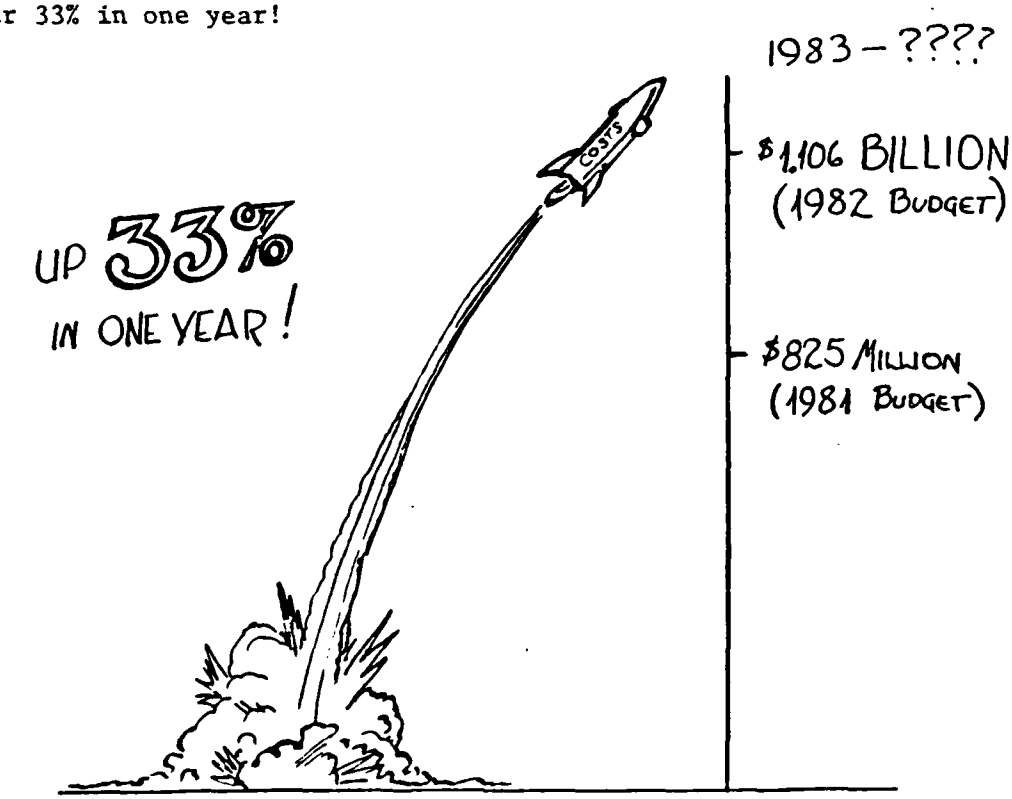
LIST of TABLES and ILLUSTRATIONS

Figures		Page
1.	"CHAMPUS Costs Skyrocket in '82"	1
2.	"Comparison of FY1981 and FY1982 User Beneficiaries for All Types of Health Services (DOD and NonDOD Combined)"	2
3.	"CHAMPUS Program Growth FY1981 versus FY1982"	3
4.	"CHAMPUS Utilization by Claims Received"	3
5.	"CHAMPUS Inflation Experience FY1981 to FY1982"	3
6.	"Total Cost Impact"	4
7.	"Estimate of the FY1983 Shortfall (Millions)"	4
8.	"SecDef Wants Cost Curbed"	5
9.	"Peninsula Woman Indicted on Medical Fraud Counts	6
10.	"Flow Chart"	12
11.	"CHAMPUS Outpatient Catchment Area Map"	15
12.	"Decision Algorithm for HBA"	19
13.	"Eligible Population Served by SBHACH"	30
14.	"Eligible Population Within the Test Catchment Area"	30
15.	"% of Test Catchment Population to Total Population"	31
16.	"CHAMPUS Experienced Clinic Visits and Costs for FY1982"	31
17.	"Potential Saturation of Clinics"	33
18.	"Uniform Chart of Accounts, FY82"	35
19.	"Cost Comparison of CHAMPUS Funded Services"	36
20.	"Comparison of Clinic Appointment Waiting Times"	37
21.	"CEB Contacts with the HBA by Month"	42
22.	"A Statistical Comparison of Total Clinic Volume, SBHACH"	44
23.	"A Statistical Comparison of CEB Generated Clinic Visits, SBHACH"	45
24.	"A Statistical Comparison of Total Clinic Volume Jan-May '82-'83"	47
25.	"A Statistical Comparison of CEB Generated Workload for Jan-May '82-'83"	48
26.	"Outpatient CNAs Issued Since Start of Test"	49
27.	"Actual Difference in CEB Generated Visits Jan-May '82-'83"	50
28.	"Five month Cost Assessment to the Government for Services Provided"	52
29.	"Four month Government Cost Assessment for Services Provided During the Test"	54
30.	"Statistical Comparison of Clinic Appointment Waiting Times"	56
31.	"Appointment Waiting Times Chart"	56

I. INTRODUCTION

A. A Historical Perspective

On 15 September 1982, Mr. Frank C. Carlucci, Deputy Secretary of Defense, asked the Acting Assistant Secretary of Defense (Health Affairs) to explore the feasibility of limiting the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) inpatient reimbursement in five selected military treatment facility (MTF) catchment areas and of requiring CHAMPUS non-availability statements (CNAs) for outpatient care.[1] The impetus behind this request was the phenomenal growth in CHAMPUS costs in recent years. In 1981, the total budget for CHAMPUS was $825 million (reduced $27.4 million carried over from FY 1980). In 1982, the total budget increased to $1.106 billion (including an $18.5 million shortfall carried over to FY 1983), a growth of over 33% in one year!



CHAMPUS COSTS SKYROCKET IN '82

Figure 1.

Prior to reprogramming (a euphemism for going back to Congress and asking for more money and receiving it), the 1982 shortfall (the difference between what it was budgeted and what it spent) was approximately $137 million. After reprogramming the shortfall was reduced to $18.5 million which was carried over to the 1983 budget. Obviously management at CHAMPUS is not so bad that it would miscalculate a budget request by over one-third. They have too much experience to make such a terrible mistake. What could possibly have happened to create so great a disparity between what CHAMPUS requested in the budget and what it actually needed? The fact was that CHAMPUS planners figured an approximate 15.4% increase from 1981 to 1982. This seemed reasonable to assume based on the projected inflation of health care costs for that same period was expected to be 12.5%.[2] Observe the following charts for a clearer understanding of the failure of CHAMPUS foresight. (All figures provided by MAJ Art Wu, MSC, USA, US Army Liaison Officer, OCHAMPUS.)

Comparison of FY-1981 and FY-1982 User Beneficiaries for All Types of Health Services (DoD and Non-DoD Combined.)

FY-1981	FY-1982	% CHANGE
933,843	1,155,304	23.7%

Figure 2.

As you can see by Figure 2, the number of beneficiaries increased by 23.7%. This greatly exceeded the expectations of CHAMPUS planners. In addition to the unprecedented growth in the number of beneficiaries, there was a great increase in the utilization of CHAMPUS benefits when compared to the overall growth factor of 15.4% projected.

CHAMPUS Program Growth FY-1981 Versus FY-1982

Admissions	+9.6%
Outpatient Visits	+27.8%
All Users	+23.7%
Total Claims (All Types) . . .	+23.4%

Figure 3.

Even though CHAMPUS beneficiaries have until December 31 of the year following the time of treatment to submit their claims, the Fiscal Intermediaries (FI) substantiated the unexpected growth in the program on the basis of claims received.

CHAMPUS Utilization by Claims Received

	FY-1981	FY-1982	% CHANGE
Total Received by the FI's (Excluding OCHAMPUS Europe)	3,866,797	4,714,378	22%

Figure 4

Increased beneficiary population and increased utilization does not tell the whole story. The Nation's principal woe, inflation, was also a key player in defeating the CHAMPUS budget determinations.

CHAMPUS Inflation Experience FY-1981 to FY-1982

Cost per Hospital Day	+19.2%
Cost per Outpatient Visit . .	+ 9.9%
Overall Inflation Factor . .	+17.6%

Figure 5.

Taken in the aggregate, the total increase far exceeded the worst prediction.

TOTAL COST IMPACT Cost Plus Utilization Increases	
Total Hospital Cost	+34.5%
Total Inpatient Physician . .	+24.9%
Total Outpatient Cost	+31.0%

Figure 6.

Mr. Carlucci was overwhelmed by these statistics and expressed his concern in a communique to OCHAMPUS. He felt that a thirty-three percent growth factor annually in a program as well established as CHAMPUS was untenable. However, fearing a repeat of last year's performance, he requested a study be made of the budget impact on the FY-1983 targets. OCHAMPUS presented him with the following predictions:

Estimate of the FY-1983 Shortfall (Millions)

	Best Case	Most Likely	Worst Case
Total Expenditures	$1,279	$1,353	$1,459
Approved Budget	$1,197	$1,197	$1,197
Shortfall	$ 82	$ 156	$ 262
Percent Short	6.85%	13.03%	21.89%

Figure 7.

In light of these figures, Mr. Carlucci issued his 8 November 1982 Memorandum directing that exceptional steps be taken to reduce this anticipated deficit. Like other sectors of the Federal Government, the Department of Defense was at odds with the White House and Congress on budget issues. Deficits are not

very defendable as evidence by President Reagan's State of the Union Address (25 January 1983). The President's critics attacked Mr. Reagan for his unprecedented deficits and demanded deeper cuts in Defense spending. This issue is still being hotly debated in the Congress and in the Cabinet. Defense cannot afford to have overruns at this time, particularly in programs that affect voters, but have little to do with actual defense of the Nation. This position is just not, well, defensible.

Figure 8.

Carlucci's November Memorandum started the ball rolling in several sectors. First, OCHAMPUS started looking at those internal policies that could be changed without altering the law, in order to save money. It came up with the following cost-saving initiatives.

- Limit psychiatric inpatient care funding to sixty days duration per episode.
- Expand coordination of benefits with military treatment facilities.
- Expand utilization review and investigation of fraud and abuse cases.
- Try innovative contracting for care through Preferred Providers and HMOs.
- Tighten up the issuance of non-availability statements.

The combined effect of these initiatives was estimated to save as much as $54 million. Many of the mechanisms to effect these changes are in the developmental stages. One of the best ones is proving the review of cases for fraud and abuse. Recently, in Northern California, a woman was arrested for fraud for filing claims in excess of $18,000. Another case illustrated below shows a determination on the part of CHAMPUS to find these criminals and bring them to justice.

6 Tuesday, Jan. 25, 1983. Monterey Peninsula Herald

Peninsula Woman Indicted On Medical Fraud Counts

A Peninsula woman, formerly employed by a Carmel doctor, has been indicted by a federal grand jury in San Francisco on 14 counts of filing false medical claims for $53,928.

Teena L. Tash, 20, of Fort Ord, allegedly filed false claims with the Champus office of the Department of Defense for medical services that were never rendered for herself and her one-year-old son as military dependents.

She is scheduled for an arraignment Feb. 3 in federal district court in San Jose.

Federal officials investigating the case say that Mrs. Tash, the wife of Spec. 4 Ronald Tash, had access to the government medical forms because of her employment with Dr. Edward H. Wedlake of Carmel.

The indictment was the result of a joint investigation conducted by the inspector general's office of the Department of Defense and of the Department of Health and Human Services.

If convicted, Mrs. Tash faces a maximum penalty of 70 years in federal prison, according to Tom Connolly of HHS.

Figure 9.

According to MAJ Art Wu, OCHAMPUS Liaison Officer, not enough is being done in this area due to a lack of trained claims processors and investigators. A proposal is being prepared to increase this police mechanism within the agency. Obviously, in some cases the gains from detecting fraudulent claims more than pays for the salary of the processor who found them! One unfortunate note, the reviews for fraud and abuse take place AFTER the claim is paid, making recoupment of funds somewhat difficult.

Other changes that have had significant impact have been in the administrative arena. It was discovered that the "40-mile rule" although logical from an operational viewpoint was difficult to administer. Beneficiaries who lived near military treatment facilities had to have their claims checked by a claims processor manually to see if the beneficiary lived within forty miles or not. This required the use of extensive maps and was very time-consuming. CHAMPUS elected to adopt a Zip code-driven catchment area for inpatient nonavailability requirements. Utilizing the forty-mile radius, CHAMPUS accepted all Zip codes whose "post offices" fell within the radius and rejected all those whose "post offices" fell outside the radius. This made the radius a very irregular line and even caused some unusual quirks in the system. For instance, if a beneficiary lived fifty miles from an MTF but his Zip code post office fell within the forty-mile radius, he would have to seek inpatient care at the MTF. Conversely, a beneficiary may live thirty miles from an MTF but because his Zip code post office fell outside the forty-mile radius, he did not have to seek care at the MTF. This rule has the potential for upsetting a few beneficiaries and is not easy to illustrate on a map, but it has great potential for automating the management of the program. Now, it is easy to locate beneficiaries near an MTF and to communicate with them. A check for the need of a certificate of nonavailability

can be made instantly. This has greatly reduced the time required for manipulation of claims and has cut down on the turnaround time for reimbursement that has so greatly plagued the system.

Another rather dramatic change that has already been promulgated is the elimination of the certificate of nonavailability (CNA) for continuity of care for inpatient services. In the past, a beneficiary could go to any physician in the area for outpatient care and CHAMPUS would pay, regardless if the specialty was available at the local MTF or not. If this civilian practitioner advised inpatient surgery, the patient merely had to go to the Health Benefits Advisor at the MTF and ask for a CNA based on continuity of care. The Advisor would be compelled to issue the CNA irrespective of the fact that the surgery was available at the MTF; not anymore. Since 28 October 1982, CHAMPUS has directed that CNAs for continuity of care will no longer be issued. If a civilian physician recommends inpatient surgery, if the MTF can perform that surgery, and if the patient lives within the Inpatient Catchment Area, he must come to the MTF for the operation. Obviously this is a great money saver for the military system. Hospital costs at an MTF are sunk costs. The only variable costs are those associated with supplies. Only these variable supply costs go up when a patient is admitted to an MTF. Not so for a civilian hospital; CHAMPUS defrays a portion of every salary, every bond issue interest payment and every electricity bill of that hospital when it pays a beneficiary's charges. CHAMPUS is forced to not only pay variable costs, but fixed costs as well, making health care in the civilian sector infinitely more expensive than care in the military sector. Of course, CHAMPUS cannot force every beneficiary to use MTFs; many live too far from an MTF to make care there feasible. However, studies of FY-1981 health care costs for CHAMPUS beneficiaries reflected that 55% of that year's budget was spent within a

forty-mile radius of an MTF. This fact alerted OCHAMPUS to recommend to the Secretary of Defense two more money-saving alternatives. First, it recommended that services adopt a ceiling for numbers of CNAs granted for inpatient care, particularly in communities that had a wealth of military tertiary care facilities, such as: San Antonio, San Francisco, Denver, Seattle, and Washington, D.C. This suggestion was enthusiastically adopted and directed to The Surgeons General to implement. A ceiling was adopted by LTG Mittemeyer, The Army Surgeon General, of 5% less than what was issued in 1982.[3] This will no doubt require some good management initiatives on the part of some facility commanders to reallocate resources to the new workload, but LTG Mittemeyer thinks it is not only possible but prudent to do so.

The second recommendation to the Secretary was to limit outpatient use of CHAMPUS. The exact means were not determined; those were to be left up to the specific Services. The plan was to force as much use of present MTF outpatient clinics as possible by CHAMPUS beneficiaries; saturate them if possible, but not to the extent that care for the active duty service member suffers. The mechanism to do this was to require a certificate of nonavailability for outpatient care within a twenty-mile radius. In other words, in order for CHAMPUS to pay a claim for outpatient care, the claimant must have sought that care at an MTF first. If the care was not available at the MTF, then the claimant could receive a CNA and go to a civilian practitioner and CHAMPUS would pay. The Secretary accepted this plan, but allowed the Services the opportunity to select test sites and develop their own criteria within these broad guidelines. The whole package was to be developed and blessed by OCHAMPUS in time to start the test on 1 February 1983.

The Medical Departments of the three Armed Services selected one site each to test this outpatient program. The Air Force selected the US Air Force Hospital at Vandenberg Air Force Base in Southern California. The Navy selected the Navy Aerospace Regional Medical Center at the Pensacola Naval Air Station, Florida and the Army selected Silas B. Hays Army Community Hospital, Fort Ord, California. The criteria for selecting the hospital at Fort Ord were:

- Absence of Catchment Area overlap with other service hospitals.
- Population stability.
- Balance between active duty and retired populations.
- Stable physical plant capacity.
- Stable manpower profile within the MTF.[4]

Joined with other recognized elements of command excellence and administrative acumen, Silas B. Hays was an excellent selection. It is also the test site for several other Army test programs.

B. Statement of the Problem

The problem is to test a proposal for reducing CHAMPUS costs for outpatient care within the vicinity of Silas B. Hays Army Community Hospital by optimizing (in the grammatical sense, not the statistical) the use of currently present outpatient treatment capabilities, and when not available, utilizing a Certificate of Nonavailability for those services. In addition, part of the problem is to evaluate the test program for its efficacy for possible adoption throughout the Army and possibly the entire Uniformed Services health system.

Inherent in this broad problem statement are elements of tangential issues such as patient information, patient satisfaction, workload capacity, program design and administration, data assembly and analysis, and resolution of human behavioral negativism intrinsic to beneficiaries, practitioners, clerical personnel and others affected by the change such as active duty sponsors and civilian clinicians.

C. Objectives, Criteria, Assumptions and Limitations

Objectives

Objective One: Design the test. This simple statement belies the complexity of the task. The "who, what, when, where, and how" of this program had to be determined. So involved was this undertaking that the technique of diagraming the events by using a flow chart was applied. Not attempting to determine how long the tasks identified would take, the Flow Chart only identified the tasks and their interrelation. It was assumed that things would occur as rapidly as possible because the constraint of having to be ready to begin the test by 1 February was placed by superior commands and was not negotiable. This flow chart appears below as Figure 10.

ACTIVITY FLOW CHART FOR PROPOSED CHAMPUS OUTPATIENT CERTIFICATE OF NON-AVAILABILITY TEST AT SILAS B. HAYS ARMY HOSPITAL

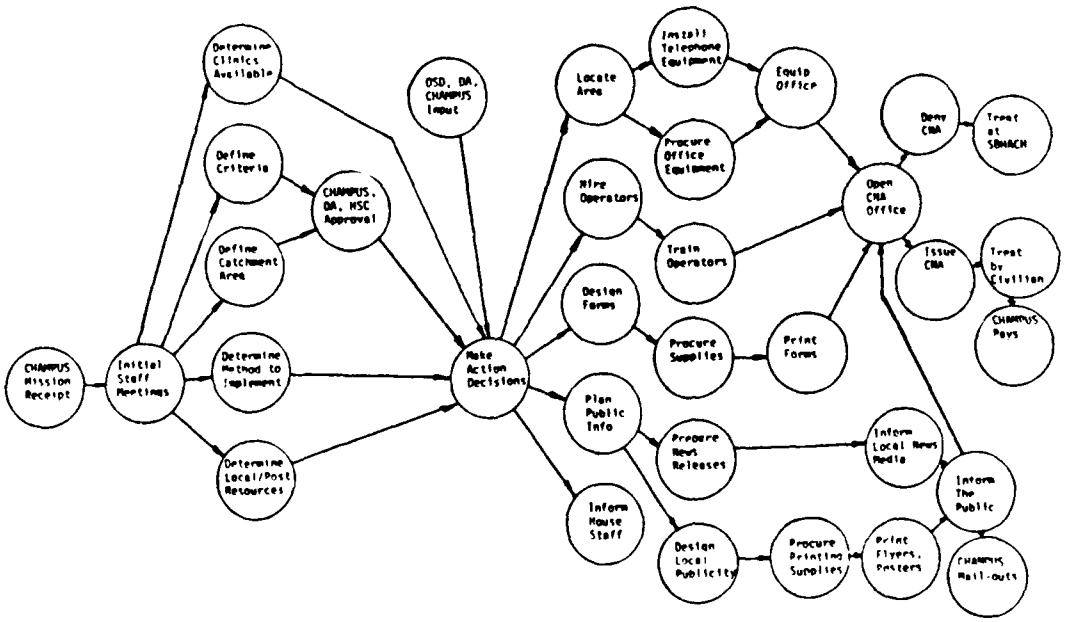


Figure 10.

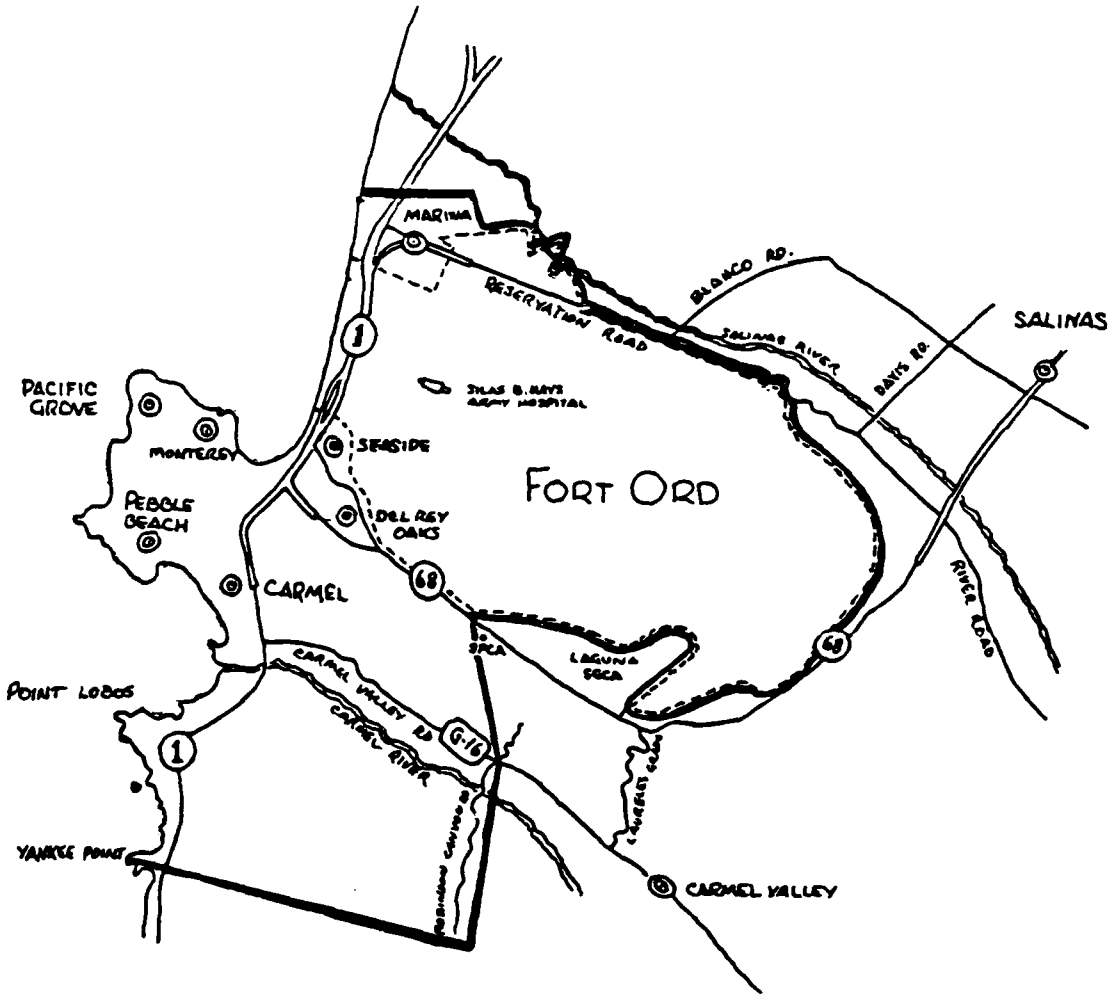
The following issues were decided before a 13 January 1983 meeting with representatives from OCHAMPUS, Health Services Command and The Surgeon General's Office:

Who: The Chief, Patient Administration Division (PAD) was tasked with providing personnel from his office to actually administer the CNA screening and issuance process. He selected three employees including the CHAMPUS Health Benefits Advisor (HBA) to staff the new office. The Comptroller was tasked with monitoring the costs associated with the test, and with collecting workload data generated in the hospital as a result of the test. Additionally, he was to devise a method of evaluation independently of this researcher in order that divergent opinions might be solicited. The hospital Adjutant, as Public Affairs Officer (PAO), was tasked to provide comprehensive public information program design and coordination. The hospital Executive Officer was tasked with responsibility for the entire effort.

What: The purpose of the test was to reduce the CHAMPUS costs in the hospital's catchment area by maximizing the use of current outpatient clinics in the US Army Medical Department Activity, Fort Ord area. This includes all clinics located within Silas B. Hays Army Community Hospital and the US Army Health Clinic, Presidio of Monterey. By "maximizing" the use of the clinics, it is meant that all the CHAMPUS workload that could be absorbed into the Army Hospital would be, until some constraint such as space or physician's time was hit. The test was to determine if the program recouped enough workload and reduced CHAMPUS costs sufficiently to cover the costs associated with running the program and the additional inconvenience to the beneficiary population. If thetest proves to be "successful" it may be the impetus to adopt a similar program throughout the CHAMPUS system.

When: The test began on 1 February 1983. The termination date has not been announced, but because of a quirk in the CHAMPUS claims processing rules which allow up to 31 December of the year after the time of the encounter to submit a claim, it should be allowed to run at least until 31 January 1985 to be valid.

Where: Silas B. Hays Army Community Hospital will be the Army's test site. In analysis of a catchment area, the proposed twenty-mile radius recommended by OCHAMPUS was rejected due to excessive road distances that affected some beneficiaries. Instead, a much smaller catchment area was selected based upon two criteria. Firstly, all beneficiaries who reside within the catchment area have relatively easy access to the hospital with no more than a thirty-minute drive to reach the facility. Secondly, statistics based on outpatient claims for FY-1981 show that 30,690 claims were paid within a twenty-mile radius, and that 23,355 of those claims were paid to beneficiaries residing in the selected catchment area. This meant that 76.1% of all outpatient claims paid within the twenty-mile radius were made from within the proposed area. It was felt that this was a significant proportion to validate the test. Other considerations in selecting the catchment area were minimization of inconvenience to the beneficiary, and saturation potential for the hospital's clinics. Like the CHAMPUS rules change on the forty-mile rule to Zip Codes, this catchment area was also defined by Zip Codes (see Figure 11).



CHAMPUS N.A.S (CNA) TEST CATCHMENT AREA FOR SILAS B. HAYS ARMY HOSPITAL
BY ZIP CODES

ZIP CODE	COMMUNITY
93921	Carmel-By-The-Sea
93922	"
93923	"
93933	Marina
93940	Monterey
93942	"
93941	Fort Ord
93950	Pacific Grove
93953	Pebble Beach
93955	Seaside

Figure 11.

This will facilitate communication with the beneficiaries and make data collection much easier. Since a twenty-mile radius was only a recommendation, any catchment area that would saturate the hospital's capacity will be acceptable. Should the test prove successful, each MTF must design its own appropriate catchment area and not use an arbitrary concept such as a twenty-mile radius. It will enhance computer support and will allow data manipulation by easily-definable subgroups.

How: The simplest approach to defining how the test will actually take place is to follow a fictitious person through the process, illustrating internal mechanisms as they occur. The patient is Miss Adventure, dependent daughter of Colonel Hi Adventure. She has Konkus of the Fonkus, a well-known Internal Medicine complaint occurring in post-pubescent adolescent females. She has been seeing Dr. Thump, a Board-certified Internist in Monterey for the past year utilizing CHAMPUS to defray the cost. She has read in the local newspaper that the rules for outpatient care under CHAMPUS have changed. This is due to a tremendous public information effort on the part of the hospital at Fort Ord, and CHAMPUS which has also mailed her a card personally, outlining the changes. Her Fonkus has been bothering her lately and she decides it is time for another treatment. She gets the article which has the telephone number for the CHAMPUS Health Benefits Advisor in it and dials.

"Hello, this is the CHAMPUS Health Benefits Hotline, may I help you?"

"Yes, this is Miss Adventure, and I need to see a doctor."

"What is the nature of your complaint, Miss Adventure?" asks the HBA.

"Well, my Fonkus is itching terribly and I need to see an Internist. You see, I have been seeing Dr. Thump, downtown under CHAMPUS, but I understand I have to come to Silas B. Hays for treatment now," said Miss Adventure.

"Yes, ma'am, that is true. If we can help you, that's what we're here for. Now you say you need to see an Internist?

"Yes, that's right."

"OK, would you please hold the phone for a moment?" Now the HBA does two things. First, he checks a list of clinics and services available (see Annex A) to see if the hospital has Internal Medicine. Of course, it does. Then he checks a chart behind his desk to see if the Internal Medicine Clinic has space available for an appointment within thirty days. This thirty-day period was selected by the Chief of Professional Services as to be a reasonable waiting time to get into a clinic. It is comparable to the normal wait to get an appointment with a civilian practitioner. The information to up-date the chart comes from a daily call by both the Central Appointment Services and self-appointing clinics notifying the HBA of waiting times in each clinic for appointments. Internal Medicine has an appointment wait time less than thirty days.

"Yes, ma'am, you can get an appointment with Internal Medicine. Please call our Central Appointments Desk at 899-4455," the HBA advises.

Miss Adventure calls the CAS and gets an appointment with Internal Medicine. She is told to go to her civilian physician and get copies of her medical records there and bring them with her to the appointment. She is also told to stop by the Hays Outpatient Records Section and have a Medical Record initiated on her before coming into the clinic (if she does not have a record at Silas B. Hays). If she does have a record, Outpatient Records will be notified a few days in advance of the appointment and will deliver Miss Adventure's medical record to the Internal Medicine Clinic the day before the appointment.

On the appointed day, Miss Adventure arrives to be seen by Major Probe, MC.

"Yes, Miss Adventure, what seems to be the problem?" asks Dr. Probe.

"Well, doctor, my Fonkus is itching so badly that I can't sit down!" she said, somewhat irritated.

"Uh-huh," said Dr. Probe. "Have you had this condition long?"

"Oh, yes sir! I have been seeing Dr. Thump, downtown for the past year. Here are my records from his office."

"Let me see. Huuum, very interesting. Well, let me get a chaperone in here and you please disrobe." The chaperone appears. Dr. Probe begins his examination.

"WELLLL, I see your problem! Your Fonkus is fine, but the skin around it seems very red and sore. You have a dermal inflammation. I'm afraid that this is a dermatological problem. Let me write you a consultation with Dermatology," remarked Dr. Probe.

Miss Adventure gets dressed, and calls Central Appointments to get an appointment at Dermatology. CAS informs her that the next appointment available is in thirty-six days. Obviously she can't wait that long. They inform her that she may get a CNA (Certificate of Non-Availability) from the CHAMPUS office and seek care in the civilian sector. She calls the HBA. He says that since she is in the building that she should come down to their office and he will issue the CNA on the spot. When she arrives, they ask to see her ID Card to verify eligibility. (If she had called in, they would have checked her status on the DEERS system.) The HBA issues the CNA based upon excessive waiting time and notes in the Remarks section that eligibility has been determined by viewing the ID Card. Miss Adventure departs, heading for her Dermatologist downtown.

This entire process has been outlined in a decision algorithm presented as Figure 12, below.

DECISION ALGORITHM FOR THE HEALTH BENEFITS ADVISOR

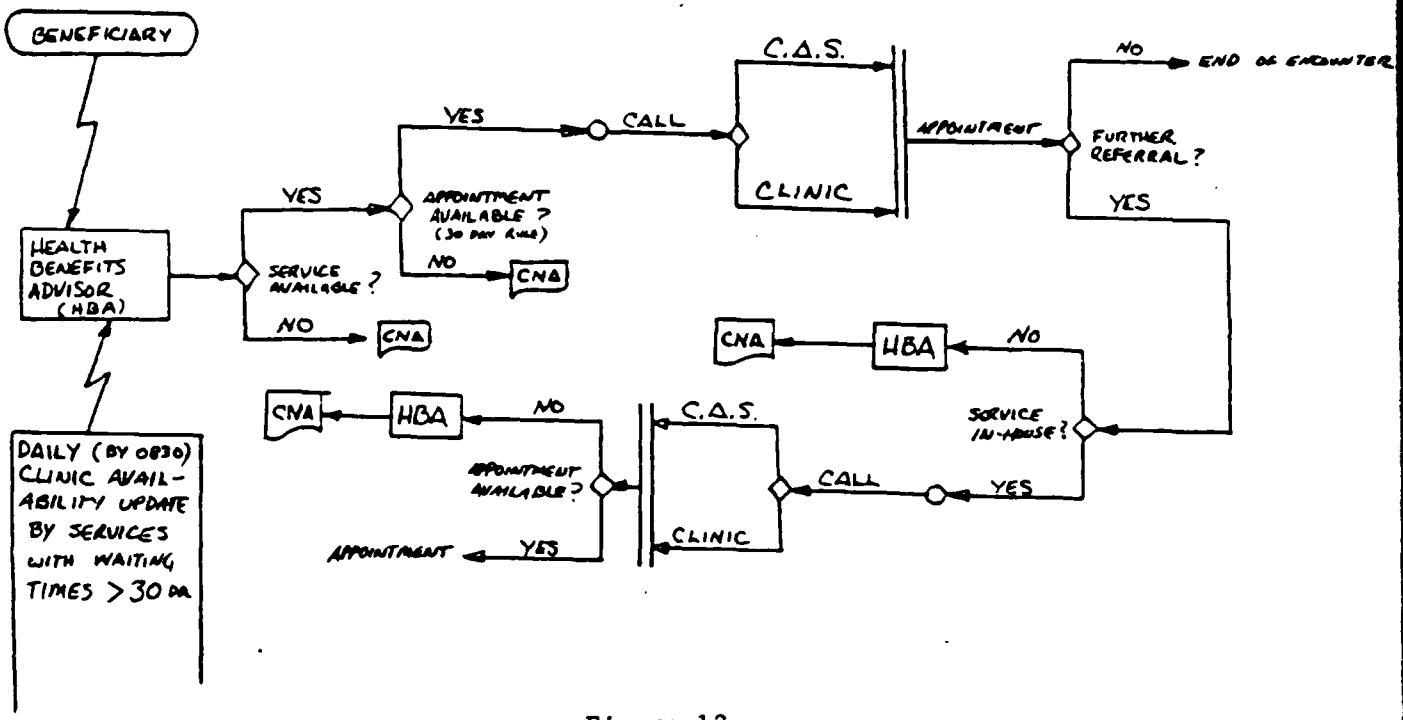


Figure 12

There are several rules or guidelines the HBA follows to govern the issuance of CNAs. They are outlined below:

IF the beneficiary lives within the Outpatient Catchment Area,

He will not need to come to Silas B. Hays or have a CNA for Emergency Medical treatment, Mental Health/Psychiatric Services, Pharmacy, Radiology or Laboratory Services.

He will not need to come to Silas B. Hays or have a CNA if he has personal health insurance that pays at least 75% of his health care costs (a current CHAMPUS doctrine).

He will be required to come to Silas B. Hays for all other conditions, but

If Silas B. Hays does not offer the specialty he needs, he will be issued a CNA valid for one year for that specific condition.

If Silas B. Hays has the specialty, but it is overbooked (greater than thirty days' wait for an appointment), he will be issued a CNA valid for one month for that specific condition.

If Silas B. Hays has the specialty and it is not overbooked, he must use that appointment.

Exceptions:

If pain or other mitigating circumstances obviate his ability to wait for the appointment, he may bring his records into the clinic for a physician to review and determine if the patient needs to be squeezed in or if he can wait. Here the physician can either see the patient, send him away to wait for his appointment, or call the HBA and recommend a CNA.

A clinical judgment may be made that even though the service is available, the patient should be allowed to continue seeing his civilian practitioner for either medico-legal reasons or definite therapeutic benefit not available at Hays.

Under this test, the need for prescreening by a General Medical Officer prior to being seen in a Specialty Clinic has been eliminated if the beneficiary has been seen by such a specialist in the civilian sector. It will be left to the specialist to determine if this type of care is warranted. Any other unusual issues that arise will be referred to the Chief of Clinical Support Division or the Chief of Professional Services for resolution. If the patient is adamant about receiving a CNA and it has been denied, there is an extensive appeal process outlined in the regulations which may be exercised.

This mechanism for the entire test was presented to the aforementioned conference on 13 January 1983 and received tentative approval. The assumption was made by the delegates at the meeting that Silas B. Hays was to proceed with the test as presented unless adjustments to the plan were received from higher headquarters. To date, there have been no further directions from above.

Objective Two: Determine data to be collected for evaluation. Data has to be collected for two basic time periods. The base year (defined to be CY 1982) and the test year (CY 1983). A more appropriate test year would be 1985. This would allow all claims for care under the old rules to be processed and out of

the system, thereby "purifying" the data from CHAMPUS. The interim years, 1983 and 1984, will have mixed claims, some with CNAs and some without. Also, not every beneficiary in the catchment area knows about the test, regardless of the extensive public information effort. As the old saw goes, "five percent never get the word." This year (1983) should be a "transitional" period and not be counted toward the test evaluation. However, knowing the immediacy of this problem, this period will be used for an initial evaluation, with appropriate caveats added recognizing the impurity of the data.

Source of data: OCHAMPUS, Denver, CO; CHAMPUS Health Benefits Office, Central Appointments Service, Comptroller, Patient Administration Division, and Data Processing Division, all of Silas B. Hays Army Community Hospital.

Data to be collected: Initial data will be collected for the Base Year (BY) and corresponding data will be subsequently collected for the Test Year (TY), as follows:

1. Workload figures for each clinic, monthly.
2. Patient Appointment waiting times, monthly.
3. Number of CNAs issued by Silas B. Hays for outpatient care, monthly.
4. Increase in hospital costs associated with the test.
    a. Fixed costs associated with program establishment.
    b. Variable costs associated with corresponding increase in workload.

Objective Three: Evaluate the data. Comparisons between the Base Year (BY) and Test Year (TY) will be made for each month, and ultimately, annually. These will be tested for significance using hypothesis testing: The difference between two population means with unknown variances with results evaluated using a .05 level of significance as the cutoff criterion.

Objective Four: Report evaluation and recommendations. Based upon any significant findings from the test, and any significant monetary differences not explained by statistical inference, a report of the test analysis and recommendations for either adoption of the test as policy throughout the system, a portion of the system, or rejection of the proposal will be made.

Criteria

Criterion One: If Silas B. Hays cannot provide care, certificates of non-availability (CNA) will be given to the beneficiary so that he may seek care in the civilian sector. Care may not be available at Silas B. Hays either due to inordinate waiting times for an appointment or complete lack of the specialty.

Criterion Two: Data collected (as listed under Objective Two) will be evaluated by comparing the Base Year data to the corresponding Test Year data utilizing hypothesis testing of the difference between two population means with unknown variances with a level of significance of 0.05 as the cutoff criterion.

Assumptions

Assumption One: Demographics of the Silas B. Hays Catchment area will not significantly change.

Assumption Two: No new military treatment facilities will be introduced into the catchment area; no significant changes to current capabilities will be made.

Assumption Three: Changes in CHAMPUS costs and clinic workload in the catchment area will be a direct result of the test.

Assumption Four: For the purposes of this paper, one hundred and twenty days will be assumed to be indicative of the entire test. To be acceptably valid,

this test should be allowed to run at least two years.

Assumption Five: The same types of illnesses will occur at the same proportion and will cost the same during the test year as occurred during the base year.

Assumption Six: The Base Year (1982) is indicative of a "normal" year for CHAMPUS utilization; that it contains no unusual events that would skew the data; likewise, the Test Year, 1983.

Assumption Seven: That waiting times, clinic visits, costs and other data collected are normally distributed.

Limitations

Limitation One: In order to assess the impact on the hospital clinics, one would need to know what types of illnesses and in what numbers they occurred in the population. This will be approximated using the "CHAMPUS Health Care Summary Report" for FY 1982.

Limitation Two: In order to assess how many more CHAMPUS beneficiaries utilized the MTF in the test year, one would have to differentiate between those beneficiaries who normally use the hospital and those who normally do not (the ones who normally utilize CHAMPUS). This is virtually impossible because they are one in the same. Not counting AD; dependents, retired, dependents of retired, and survivors are all eligible for care within the hospital or on CHAMPUS and some utilize both! Therefore, it is hopeless to try to make a distinction. Therefore, the additional workload generated by CHAMPUS eligible beneficiaries must be construed as having been caused by the test.

Limitation Three: Although guidelines given at the didactic portion of the Baylor Program stated that time was not to be considered as a constraint, in this case, it most certainly is. For this to be a valid test, it should run at least two years and three or four would be even better to get good pure data. Because this research project is due in June 1983, only the first quarter's data will be available for analysis. This presents a true constraint on the result's validity, but it should in no way affect the methodology that will be employed. That is to say, even though the particular numbers may not be valid, the method for assessing the efficacy of the system will still be viable. Should the test be allowed to run the suggested three years, this method of evaluation would be completely suitable to analyze the test.

Limitation Four: There is no way to stabilize the services available at the MTF. For instance, there is only one Otolaryngologist assigned to the MTF. Should he be reassigned during the test, that service might close, therefore affecting the amount of treatment service available at the MTF. This would statistically alter the base assumption that there will be no change in medical services available. Additionally, the MTF could receive more physicians, thereby expanding existing capabilities, again making the test results inconsistent.

Limitation Five: Assessing fixed costs to the hospital for conducting the test is not particularly difficult. However, determining the additional variable costs to the MTF for treating the newly acquired patient load will be difficult to determine because of two factors: An unknown inflation factor and possible increased (or decreased) utilization of hospital services by Active Duty (AD) personnel which would affect the variable cost factor.

Limitation Six: Only CHAMPUS beneficiaries residing within the catchment area will be required to seek care at Silas B. Hays Army Community Hospital, notwithstanding Active Duty (AD) personnel who must use the hospital by regulation, except for emergencies. In other words, the test procedures will only involve CHAMPUS beneficiaries, not AD personnel.

Limitation Seven: A test such as this has been attempted once before only utilizing different criteria and a different thrust. There is insufficient literature available for a good review. There is no civilian counterpart to CHAMPUS. There are no articles about Health Maintenance Organizations or Medicare or any other health plans that need systems to literally force their beneficiaries to use certain providers. The people enrolled in such health plans voluntarily use the mandated providers and have no alternatives. This is not true in this situation and therefore there is a dearth of information about the subject.

D. Review of the Literature

There appears to be no literature on the subject of requiring patients to use certain health care providers or facilities. Health Maintenance Organizations (HMOs) and Preferred Provider Organizations (PPOs) virtually by definition have rules that say exactly what facilities and practitioners their constituents must use. The topic is "marketing" and yet it is not; it is "reorganization to capture additional ambulatory workload" and yet it is not exactly that either. A test to coerce a beneficiary population to use a certain provider or lose paid health insurance has been conducted only once before in 1975-1977 at Fitzsimons Army Medical Center, Aurora, CO, in conjunction with CHAMPUS.

The federal government is not in this hot water alone. Many health care systems are faced with an abundance of patients and a dearth of funds. These conditions are causing the emergence of some creative management solutions. For DOD a part of the solution lies in this CHAMPUS test program. For other systems, the answers lie in reduced services, reduction in the number of employees, improved collection methods and cost shifting, and extension of outpatient and ambulatory care centers as suborganizations of inpatient facilities. A brief review of the literature follows:

Punch, Linda "Public Hospitals Trim Back, Branch Out to Stay Alive" Modern Healthcare, Vol 13, No 3, Mar 83, pp 93, 96.

In this article, the author discusses some of the alternatives adopted by public hospitals in an effort to remain solvent. They tried improved methods for collections, staff cutbacks, and major reductions in services. Some sought new sources of revenue and experimented with new delivery systems. Some even sought the sale of their facilities to investor-owned chains or other private

groups. The portion of the article that appeared applicable to this study addressed the expansion of hospital activities to include more and varied outpatient/ambulatory care services offered. Theirs was a marketing problem to draw patients away from more traditional outpatient providers. Since the majority of costs for outpatient care is born by the patient himself, cost was a significant draw. As such, an increase of only 3% to 5% was realized in revenue. However, as the programs establish themselves and expand, it is expected that this source of income will become more important to the hospitals. Relative to this study was the pursuit of patients now seeking outpatient care elsewhere, and a reflection of the need to maximize available services to optimize capital expenditure.

Johnson, Donald E. L., "If Hospitals and Physicians Don't Grab the PPO Market, Insurers Will" Modern Healthcare Vol 13, No 3, Mar 83, page 32.

In this article the author explains that a preferred provider organization (PPO) "is a group of physicians, hospitals or physicians and hospitals that provides services at reduced costs to employers or health insurers. In return, the employers or insurers give workers financial incentives to use the PPO instead of other health care providers." This somewhat parallels this study, but with certain limitations. The parallels are that DoD is the employer/insurer, this MTF is the PPO, and CHAMPUS eligible beneficiaries are the workers. What does not parallel is that each employer/insurer has a choice of what PPO to use, if any at all. Their employees have certain bargaining rights that CEBs do not have. The whole plan can be vetoed by workers. CHAMPUS beneficiaries do not have that right and feel forced into a situation that they are no so sure they like. The article explains that PPOs are a good idea. So good, in fact, that physicians and hospitals had better take advantage of them or the

insurance companies will form their own and squeeze the market for their services. DoD is already taking that tack. What this article lacks is any report on studies of PPOs to see how they were conducted and what the results were. Therein lies the weakness of this literature search; there appears to be no studies on PPOs requiring constituents to use their services; this is a matter of voluntary choice for them.

Sullivan, Daniel J. "Profit Maximization and Hospital-Based Outpatient Services" The Journal of Ambulatory Care Management, Vol 6, No 1, February 83, pages 16-25.

This article encourages the acceptance of adopting expanded outpatient services by primarily inpatient facilities as a way to increase revenues. The rest of the article is spent in rather detailed economic analysis of the elasticity of demand for outpatient health care, profit maximization formulae, and pricing models using the decision tree, none of which are germane to this topic.

Hubbart, J. A., Armstrong, T. S., and Mangelsdorf, A. D. "A Study of the Feasibility of Increased Utilization of Fitzsimons Army Medical Center (FAMC) by CHAMPUS Eligible Beneficiaries" [Report HSCD 77-003] Prepared for United States Health Services Command (HSOP-PA).

This report was the culmination of a research effort undertaken at FAMC starting 1 Feb 75 to demonstrate CHAMPUS eligible beneficiary (CEB) utilization of the medical center and to determine if the government share of CHAMPUS expenditures would be significantly changed by requiring FAMC utilization. The test required all CEBs living within a thirty-mile radius of the center to seek both inpatient and outpatient care at that facility. Those who could not be treated were given a certificate of non-availability. The study showed that during the first year, approximately 77% of the outpatient care and 39% of the inpatient

care provided at FAMC was to CEBs. A statistically significant difference did exist in the government share of CHAMPUS expenditures for the total cost of all Inpatient services. Apparent government savings of the combined services was $533,751. No statistical difference was demonstrated for expenditures for Outpatient services although the study did show actual savings of $52,383. This study did an Analysis of Variance Technique (one-way) and studied only four services and their totals (delivery, psychiatry, medicine, and surgery). This may have been an appropriate technique for the comparison of dollar costs from their point of view; however, this author does not agree with that method. It is felt that there is too much mixing of apples and oranges in this method and a better way would be to look at each separate service and compare them from a Base Year/Test Year point-of-view, using Hypothesis Testing:Comparing two means.

E. Research Methodology

The test was approved in design as outlined in Section D, above. It did in fact commence on 1 February 1983 as mandated. Other than minor adjustments required in the interpretation and administration of the criteria, the program has remained intact. The tasks remaining are limited to actual conduct of the test, and the gathering and analysis of data. Collection of data proceeds as follows:

Assessing Workload Impact: In order to start, one must have a point from which to depart. This point, for the purposes of this test, is an assessment of the population served. This is divided into a Set and a Subset. The Set is the entire population served; the Subset is that population within the test catchment area. Statistics for these two sets were taken from the Defense Enrollment Eligibility Reporting System (DEERS) as of 30 September 1982, the most current figures available.

Eligible Population Served by Silas B. Hays Army Community Hospital

Sponsors:	Active Duty . . .	22,009	Dependents:	Active Duty .	22,889
	Retired	16,587		Retired . . .	23,237
	Total	38,596		Survivors . .	3,310
				Total	49,436
GRAND TOTAL		88,032	CHAMPUS Eligible . .		66,023

Figure 13.

Eligible Population Within the Test Catchment Area

Sponsors:	Active Duty . . .	21,732	Dependents:	Active Duty .	22,482
	Retired	4,249		Retired . . .	6,361
	Total	25,981		Survivors . .	1,109
				Total	29,952
GRAND TOTAL		55,933	CHAMPUS Eligible . .		34,201

Figure 14.

Percentage of the Test Catchment Population to Total Population Served

Sponsors:	Active Duty . . .	98.7	Dependents:	Active Duty . .	98.2
	Retired	25.6		Retired	27.4
	Total	67.3		Survivors . . .	33.5
				Total	60.6
GRAND TOTAL		63.5	CHAMPUS Eligible . . .		51.8

Figure 15.

Assuming the DEERS data base is accurate and noting that there is an insignificant movement of beneficiaries into and out of the area, it is felt that a catchment area containing 51.8% of the total CHAMPUS-eligible beneficiaries is significant enough to produce a statistically sound test.

Knowing what is in the catchment area is not enough to evaluate impact upon the system caused by test-induced workload. Only through evaluation of past medical complaints and their distribution throughout the population can a true assessment of impact on the facility and possible success of the effort be made. Utilizing CHAMPUS data contained in its CHAMPUS Health Care Summary by Primary Diagnosis (based on care received from 01/10/81 thru 30/09/82 for Fort Ord, CA generated 19 March 1983), the following possible possible impact has been assessed:

CHAMPUS Experienced Clinic Visits and Costs for FY1982

Clinic/ Diagnosis	# of Visits	Total Cost	Average Total Cost/Visit	Average Govt Cost/Visit
Allergy	1,630	$ 53,727	$ 32.96	$ 16.86
Cardiology	2,152	166,991	77.60	43.76
Dermatology	643	57,720	89.77	50.65
Endocrinology	507	38,267	75.48	42.53
Gastroenterology	821	81,828	99.67	57.67
Neurology	665	115,565	173.78	101.63
Obstetrics	46	5,521	120.02	72.22

Clinic/ Diagnosis	# of Visits	Total Cost	Average Total Cost/Visit	Average Govt Cost/Visit
Gynecology	964	$ 101,939	$105.75	$ 61.41
Ophthalmology	429	34,561	80.56	45.14
Pediatrics	172	17,109	99.47	54.47
ENT	1,786	92,530	51.81	29.53
General Surgery	1,317	185,268	140.67	82.64
Orthopedics	2,660	215,708	81.09	46.11
Urology	600	81,338	135.56	82.28
Grand Total	25,292	$2,128,000	$ 84.14	$ 51.24

Figure 16.

For the purpose of this test, Psychiatry, Emergency Medical Care, and Dental Care have been extracted as being not relevant as well as other services not available at SBHACH. It is interesting to note, however, that psychiatric care on an outpatient basis is responsible for 27.5% of all CHAMPUS payments in dollar value for this population area. Data shows that fully 33.93% of CHAMPUS costs are generated by mental disorders and emergencies, two areas that have been excluded from this test. (Source: OCHAMPUS Report DS12R01R dated 11 January 1983). These figures could be seasonally adjusted and broken out by month, but this would be impractical. The comparison data from 1982 was taken from annual totals and divided by twelve to get a monthly average. It would not be statistically correct to compare average data with seasonally adjusted data.

In order to determine impact on the clinics, one must compare the clinic capacity (as determined by the staffing tables located in Department of the Army Pamphlet 570-557, Staffing Guide for US Army Medical Department Activities) with current workload and add the projected CHAMPUS workload to see if the clinic becomes saturated and at that point, how many CNAs will have to be issued. One problem

is noted here. Although many clinics are operating below capacity and this "slack" can be utilized by CHAMPUS beneficiaries, many other clinics are operating above their capacity. This is caused by one of two factors: Either the staffing tables are in need of adjustment, or the practitioners at SBHACH are more efficient and productive than their counterparts upon whom the staffing guides were based. In either case, it is very difficult to accurately predict how much workload can be absorbed, ergo how many CNAs will be issued. This comparison is located below at Figure 17.

Potential Saturation of Clinics
(Based Upon Monthly Averages for Clinics and CHAMPUS Claims)

Clinic	Capacity	'82 Average	%-Age	CHAMPUS	'-Age	# CNAs
Allergy	225	505	224%	136	285%	136
Cardiology	300	311	104	179	163	179
Endocrinology*	-	39	-	42	-	-
Gastroenterology	300	253	84	68	107	21
Hypertension*	-	55	-	-	-	-
Internal Medicine	1,450	1,188	82	853	141	591
Otorhinolaryngology	350	329	94	149	137	128
Ophthalmology	600	735	123	36	128	36
Neurology	150	90	60	55	97	0
Dermatology	1,200	1,228	102	54	107	54
Obstetrics/Gynecology	2,696	3,045	113	84	116	84
Orthopedics/Podiatry	1,654	1,605	97	222	110	173
Pediatrics	2,325	2,410	104	14	104	14
General Surgery	621	644	104	110	121	110
Urology	480	409	85	50	96	-

*These services are not fully staffed; therefore, capacities cannot be determined.

Figure 17.

Although Figure 17 shows that only two clinics, Neurology and Urology, can absorb all potential workload generated by the test, it is felt that others will be able to fit more additional workload in than is indicated. The fact that the clinics are all producing at or above capacity belies the veracity of the staffing guide. A comparison of clinic workload after the test commenced and the number of CNAs

issued and for which specialties will prove most revealing. Obviously, the assumption has been made that any increase in workload must be attributed to the test requiring CHAMPUS beneficiaries to use the MTF. In a broad sense, this should be true. There may be some minor fluctuations in clinic workload due to weather or field problems or some other factor, but they should not be significant. Additionally, the type and number of health care providers is in a state of flux and can effect clinic capabilities and capacity. In the discussion portion of this paper, a comparison of total CHAMPUS eligible beneficiary clinic volume by month, 1982 to 1983, will be made.

Assessing Costs: Assessing increased costs to Silas B. Hays Army Community Hospital likewise has an element of difficulty. Those fixed costs incurred for start-up are fairly easy to assess. Variable costs generated by the increased workload of CHAMPUS beneficiaries required to utilize the MTF and the ongoing administrative costs will be more difficult to capture. In order to determine what it costs SBHACH to treat outpatients, the cumulative report for FY82, Uniform Chart of Accounts is utilized. A summary of that report for outpatient services appears below as Figure 18.

UNIFORM CHART OF ACCOUNTS, FY 82
Ambulatory Care

CLINIC	TOTAL EXPENSE	OUTPATIENT VISITS	INPATIENT VISITS	COST PER VISIT
Allergy	$ 150,277	4,031	59	$37.28
Cardiology	70,331	3,509	126	20.04
Gastroenterology	37,465	2,695	263	13.90
Hypertension	2,642	711	0	3.71
Neurology	56,885	1,234	237	46.09
Nutrition	21,221	1,695	1,695	12.51
Dermatology	238,051	13,772	125	17.28
General Surgery	276,994	7,877	134	35.16
Ophthalmology	315,500	9,022	231	34.97
Otorhinolaryngology	92,273	4,050	93	22.78
Urology	340,861	5,210	158	65.42
Gynecology	455,378	17,440	11	25.66
Obstetrics	548,066	18,390	0	29.80
Pediatrics	510,865	28,931	109	17.65
Adolescent Peds	33,724	574	0	58.75
Well Baby	84,584	4,873	0	17.35
Orthopedic	548,813	14,186	476	38.65
Cast Clinic	163,617	4,801	279	34.07
Orthopedic Appliance	224,840	6,811	1,716	33.01
Podiatry	142,897	5,351	43	26.70
Psychiatric	140,643	3,267	186	43.04
Psychology	205,863	5,510	227	37.36
Primary Care	4,048,548	137,023	24	29.54
Physical Examinations	494,524	9,012	0	54.87
Optometry	348,403	14,001	10	24.88
Audiology	99,357	4,681	12	21.22
*4th Level Subaccounts	3,016,934	100,299	0	30.08
TOTAL	$13,404,067	444,838	5,746	30.13

*Special 4th Level Subaccounts apportion out common costs such as electricity, water, custodial support, etc. This is apportioned to the Ambulatory Care Account rather than to each actual clinic.

Figure 18.

Additional workload assumed to be generated by the test will be costed against these 1982 costs by clinic to determine variable costs to the hospital. When identifiable, these costs will be compared to CHAMPUS costs for similar services (see Figure 16). When not identifiable, the average CHAMPUS cost per outpatient claim ($51.24) will be the standard for comparison. This should give an approximate figure for savings to DOD. [CHAMPUS Cost - SBHACH Outpatient Cost = DOD Savings] Fixed costs and administrative costs will be charted and included in the final accounting. The following format will be used:

E*X*A*M*P*L*E

COST COMPARISON OF CHAMPUS FUNDED SERVICES TO COMPARABLE SERVICES PROVIDED BY SILAS B. HAYS

CLINIC	TEST VISITS*	CLINIC COSTS	CHAMPUS COSTS	SAVINGS
Cardiology	X	$20.04	$43.76	$23.72X
Gastroenterology	Y	$13.90	$57.67	$43.77Y
Allergy	Z	$37.28	$16.86	-($20.42Z)
		etc.		
TOTAL	XYZ	(Total UCA Costs)	(Total CHAMPUS Costs For Same Services)	(DOD Savings)
LESS		FIXED ADMINISTRATIVE COSTS		-PRQ
GRAND TOTAL				REAL SAVINGS

*Test visits are assumed to be the difference (increase) in CHAMPUS beneficiaries that use Hays during the Test Year when compared to those using it in 1982.

Figure 19.

Utilizing the format above, real world savings should be capable of being ascertained. Granted that there are some flaws in this logic because true costs are not captured, only averages. It is felt that these "rounding errors" will be insignificant.

Another cost not accounted for by dollar is inconvenience. The best measure of the inconvenience cost is patient waiting time for appointments. These will be assessed using the chart at Figure 20.

COMPARISON OF MEAN CLINIC APPOINTMENT WAITING TIMES
BY MONTH, 1982 TO 1983

CLINIC	JANUARY		FEBRUARY		MARCH		APRIL		MAY		ANNUAL AVERAGE	
	82	83	82	83	82	83	82	83	82	83	82	83
Allergy	49.0	21.0	37.5	16.0	45.0	5.0	34.5	**	29.5	**	42.3	**
Cardiology	40.0	41.5	53.0	61.5	29.5	30.5	34.5	16.0	50.0	8.0	44.5	31.5
Dermatology	3.5	2.0	1.5	6.0	5.0	5.5	5.5	4.5	1.5	1.5	4.5	3.9
Endocrinology	41.0	8.0	28.0	21.0	21.0	16.0	9.0	11.0	6.0	13.0	19.5	13.8
Gastroenterology	19.5	7.0	19.5	7.0	34.5	5.0	54.5	7.5	50.0	5.0	21.7	6.3
General Surgery	*	1.0	*	3.0	*	1.0	*	1.0	*	0.5	1.3	1.3
Gynecology	36.0	15.0	17.0	20.5	13.5	9.5	14.0	13.0	9.0	17.0	18.3	15.0
Internal Medicine	18.5	29.0	31.0	19.0	20.5	15.5	9.0	9.5	17.5	10.5	21.1	16.7
Neurology	15.0	30.5	15.5	55.5	49.5	5.0	22.5	14.5	26.5	9.0	41.5	22.9
Obstetrics	20.0	16.0	27.5	8.0	20.0	18.0	14.5	15.0	7.0	18.5	17.8	15.1
Ophthalmology	*	37.5	*	13.0	*	25.0	*	23.0	*	27.5	29.9	25.2
Orthopedic	6.5	6.0	10.5	6.5	7.5	4.0	7.5	4.5	5.0	4.0	8.0	5.0
Otorhinolaryngology	104.0	90.0	91.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	89.5	90.0
Pediatrics	1.0	6.5	1.0	6.0	1.0	2.0	21.0	3.5	18.5	7.5	8.7	5.1
Podiatry	27.5	9.5	23.5	10.5	41.0	4.0	47.0	9.0	41.5	9.0	38.7	8.4
Primary Care	1.0	+	1.0	+	1.0	+	1.0	+	1.0	+	+	+
Urology	1.0	7.0	1.0	7.0	1.0	2.5	1.0	3.0	1.0	3.0	4.6	4.5

* Data not available until July 1982

\+ Changed to a "Walk-in" Clinic in September 1982

** Physician departed, service referred to LAMC and/or CHAMPUS

Figure 20.

This comprehensive evaluation package that considers real costs, patient inconvenience cost and estimated savings to the Department of Defense should be sufficient to make an informed decision and recommendation about further adaptation of the test as an integral part of the CHAMPUS System.

Research Methodology Summation: Carrying out the objectives of the study. The first objective was to design the test. This has been done and appears in Section D. Objective Two was to determine the data to be collected. This will be as follows:

a. Workload data will be collected from Central Appointments Service (CAS).

b. Patient Appointment Waiting Times will likewise be collected from CAS.

c. Number of Certificates of Non-Availability issued by Silas B. Hays will be obtained from the CHAMPUS Health Benefits Advisor at this hospital.

d. Hospital cost data will be obtained from the Comptroller.

The third objective will be to evaluate the data. This data will be analyzed by hypothesis testing of the difference between two population means with unknown variance using .05 as a level of significance. Objective Four will be to report the evaluation and make a recommendation. This will be the significant portion of the last chapter of the finished research project.

Using the criteria to evaluate the results. The first criterion defined the basic rules of the test. Without this, there would be no research project in this field. The second criterion called for the use of hypothesis testing technique to evaluate the data by comparing Base Year data to Test Year data using a 0.05 level of significance as the cutoff. Where applicable, raw figures may be used.

SAMPLE CALCULATION USING HYPOTHESIS TESTING TECHNIQUE

A. DATA: Data consists of clinic workload collected for 12 months in 1982 compared with clinic workload collected for 5 months in 1983. This will be computed for each clinic observed.

$$N_{82} = 12, \quad \bar{X}_{82} = \frac{g}{N_{82}}$$

$$N_{83} = 5, \quad \bar{X}_{83} = \frac{h}{N_{83}}$$

where g = total clinic visits for 1982, and h = total clinic visits for first five months of 1983. Variance for each population is calculated by:

$$s^2 = \frac{\sum_{i=1}^{N} (X_i - \bar{X})^2}{N-1}$$

The "pooled estimate of common variance"is calculated by:

$$s_p^2 = \frac{(N_{82}-1)s_{82}^2 + (N_{83}-1)s_{83}^2}{N_{82} + N_{83} - 2}$$

B. ASSUMPTIONS: The data constitute two independent random samples each drawn from a normally distributed population. The population variances are unknown but assumed to be equal.

C. HYPOTHESES: $H_o : m_{82}-m_{83}=0$ where m_{82}= real mean of 1982 clinic workload

$H_a : m_{82}-m_{83}\neq 0$ m_{83}= real mean of 1983 clinic workload

D. TEST STATISTIC:

$$t = \frac{(\bar{X}_{82} - \bar{X}_{83}) - (m_{82} - m_{83})}{\sqrt{\frac{s_p^2}{N_{82}} + \frac{s_p^2}{N_{83}}}}$$

E. DISTRIBUTION OF TEST STATISTIC: When the null hypothesis is true, the test statist follows Student's t distribution with $N_{82} + N_{83} - 2$ degrees of freedom.

F. DECISION RULE: Let = .05. The critical values of t are $\pm$ 1.7530. Reject H_o unless $-1.7530 < t_{computed} < 1.7530$.

G. STATISTICAL DECISION: If the computed value for t falls outside the -1.7530 to +1.7530 limits, reject the null hypothesis that the means are equal. In other

words, if the computed value for t is greater than 1.7530 or less than -1.7530, then the hypothesis that there is no difference between the clinic workload from 1982 to 1983 should be rejected. It should be accepted that there is a difference between their means with a .95 level of confidence.

H. ADMINISTRATIVE DECISION: If the means are not considered equal based upon this test statistic, then it can be concluded that the change in the program for CHAMPUS eligible beneficiaries has in truth affected the clinic workload in that specific clinic. If the figure is less than -1.753, it can be concluded that there is a significant increase in workload. The same technique will be applied to every test clinic and to patient waiting times for appointments in every test clinic.

The development of an implementation plan is to be handled by the Office of the Secretary of Defense for Health Affairs. This study is only to determine the probable success of universal implementation of the test program by using Silas B. Hays Army Community Hospital as a model. Further, the collection, recording, analysis and interpretation of the data collected has been delineated in this proposal to completeness. Completeness of the data gathering and analysis, and presenting a recommendation based upon those findings is sufficient for satisfying the needs of this requirement. Any further development of the program is not a portion of this research effort and should not be so construed.

FOOTNOTES

1. Carlucci Memorandum, Office of the Secretary of Defense, 8 November 1982.

2. Robert Pear, "Health Costs Rise 12.5%, Most Since 1935." Vital Signs, Feb 82, p 1.

3. Memorandum through Chief of Staff, Army, to Assistant Secretary of the Army (Manpower and Reserve Affairs), SUBJECT: CHAMPUS Outpatient Certificate of Nonavailability (CNA) Test Site Selection and Army Goals for Inpatient CNA Issues for FY 83--Action Memorandum, LTG Bernard T. Mittemeyer, undated.

4. Action Memorandum, Ibid.

II. DISCUSSION

A. Assessing Workload Impact

As this experiment progressed, there were a few surprises. In light of all the attention that the press has been giving the "erosion of benefits", Silas B. Hays Army Community Hospital (hereafter referred to as SBHACH) girded up for the awful hue and cry from those CHAMPUS eligible beneficiaries (CEBs) who perceived this as another attempt by the government to deny them of their hard-earned rights. Although there was some of this, the hospital did not receive near the calls expected. In preparation for the test, the hospital purchased an automatic telephone call sequencer, a Code-a-phone for twenty-four hour response and four additional telephone lines. It reorganized some elements of the Patient Administration Division to free up additional clerical personnel and office space. It bought furniture and room dividers. It was anticipated that the CHAMPUS Health Benefits Advisor (HBA) was going to be a lot busier than he used to be. This happened indeed. The chart below shows how much additional impact the test had on the HBA.

CEB CONTACTS WITH THE HBA, BY MONTH

MONTH	TYPE OF CONTACT	REGULAR INQUIRIES	TEST INQUIRIES	ULTIMATE REFERRALS
FEBRUARY	Visits	203	119	34
	Calls	245	155	47
	Mail	27	22	1
	TOTAL	475	296	82
MARCH	Visits	309	181	22
	Calls	432	223	44
	Mail	100	21	0
	TOTAL	841	425	66
APRIL	Visits	322	106	8
	Calls	374	159	18
	Mail	83	22	0
	TOTAL	779	287	26
MAY	Visits	336	124	17
	Calls	258	123	5
	Mail	66	25	0
	TOTAL	660	272	22
	GRAND TOTAL	2,695	1,280	196

Figure 21.

Considering that nearly 2700 contacts were made that would have normally been made, there was an increase of roughly 47% in the number of contacts because of the test. This resulted in about 59 additional contacts per day. Of these, about 15% were referred to the Direct Care System. Considering that there are over 34,000 individuals directly affected by this test, it was expected that considerably more than 59 would call each day. This just wasn't the case.

If the HBA was not being overwhelmed each month by the expected 2,108 CEB protests and questions (a monthly average of the 25,292 clinic visits that CEBs made within the catchment area on which CHAMPUS claims were filed in 1982), then perhaps the outpatient clinics at SBHACH were absorbing all this workload and doing it so well that no shock waves were felt. If one eliminates the 33.3% of claims generated by mental health/psychiatry and emergency medical care, that leaves 1400 potential encounters each month. These are additional encounters, above and beyond the hospital's normal workload. According to the Executive Officer, Colonel Robert L. Herek, Medical Care Composite Units (MCCUs) for this MTF are at an all time high. However, an outpatient visit is worth only .3 of an MCCU. It will take quite a few outpatient visits to raise the MCCU level so significantly. A comparison was made on total clinic volume for the two periods (all of CY 1982 compared to the first five months of CY 1983). January was included, even though it was not a test month because of the publicity effort. It was felt that such a strong publicity campaign would pull patients into the hospital even before the test started. It also facilitated data manipulation and graphic representation. This comparison appears at Figure 22.

A STATISTICAL COMPARISON OF TOTAL CLINIC VOLUME, SBHACH

CLINIC	1982 MEAN	1982 VARIANCE	1983 MEAN	1983 VARIANCE	"POOLED" VARIANCE	COMPUTED t	
Cardiology	310.75	3,256.75	319.80	1,077.20	2,675.54	-0.33	
Dermatology	1,227.92	11,741.36	1,344.40	6,168.80	10,255.34	-2.16	*
Endocrinology	39.17	325.61	44.80	267.20	310.03	-0.6[illegible]	
Gastroenterology	253.17	6,065.42	329.20	5,501.70	5,915.09	-1.86	*
General Surgery	643.75	4,696.75	642.80	2,607.20	4,139.54	0.03	
Gynecology	1,518.08	31,363.36	1,466.00	21,322.50	28,685.30	[illegible]	
Internal Medicine	1,192.50	33,899.00	1,241.00	17,762.00	29,5[illegible].80	-0.5[illegible]	
Neurology	87.58	3,070.08	120.60	844.80	2,476.67	-1.25	
Obstetrics	1,526.50	22,868.45	1,632.60	27,066.80	23,988.01	-1.29	
Ophthalmology	734.50	17,851.00	799.60	23,147.30	19,263.35	-0.99	
Orthopedics	1,158.33	24,666.42	1,119.40	6,004.80	19,689.99	0.52	
Otorhinolaryngology	329.25	3,644.93	360.40	2,577.30	3,360.23	-1.01	
Pediatrics	2,410.17	74,934.70	2,748.80	42,324.70	66,238.70	-2.4[illegible]	*
Podiatry	446.33	10,665.97	667.80	91,841.20	32,312.70	-2.31	*
Primary Care	2,014.67	50,639.70	2,508.20	100,333.70	63,897.43	-3.67	*
Urology	413.25	3,762.93	449.40	698.80	2,945.83	-1.25	

* Statistically significant increase in workload; $t_{.95}$ = 1.7530 with 15 degrees of freedom

Figure 22.

There was an actual increase in clinic visits in 13 out of 16 observed clinics. However, only 5 were statistically significant. There were: Dermatology, Gastroenterology, Pediatrics, Podiatry, and the General Outpatient Clinic (Primary Care). Since the active duty soldiers have troop medical clinics, very few would be accessing the system through Primary Care, so that one is obviously a CEB dominated clinic and their workload is up significantly; a positive sign. Likewise, Pediatrics is almost a purely CEB dominated area. Very, very few active duty personnel need to see a pediatrician, regardless of how some of them act! Its workload also is well up over 1982. However, the other clinics are not so clearly defined. Their increase could have been caused by an upswing in active duty visits.

In order to determine the actual impact of only CHAMPUS-eligible beneficiaries, a comparison was made to see if there was a correlation between the clinics with the increases and CEB visits. This comparison (Figure 23) was indeed interesting.

Fourteen of the sixteen clinics showed an increase in visits thanks to CEBs, however, only four were statistically significant. These four were: Gastroenterology, General Surgery, Pediatrics and Primary Care. This comparison adds Gastro to Peds and Primary Care, but isn't it interesting how General Surgery, which had not shown a significant growth overall actually reduced its active duty participation and took on a greater percentage of CEB patients.

A STATISTICAL COMPARISON OF CHAMPUS-ELIGIBLE BENEFICIARY(CEB) GENERATED CLINIC VISITS

CLINIC	/------1982---------/ MEAN	VARIANCE	/------1983---------/ MEAN	VARIANCE	"POOLED" VARIANCE	COMPUTED t
Cardiology	258.67	1,961.70	271.60	1,033.30	1,714.13	-0.59
Dermatology	839.17	22,383.24	847.20	3,773.20	17,420.56	-0.11
Endocrinology	29.33	208.06	37.00	241.00	216.84	-0.[illegible]8
Gastroenterology	206.83	3,321.42	279.40	4,052.30	3,516.32	-2.30 *
General Surgery	345.00	681.64	403.00	1,237.50	829.87	-3.78 *
Gynecology	1,173.50	19,267.36	1,141.60	13,268.80	17,667.77	0.45
Internal Medicine	933.50	20,023.55	941.20	5,857.70	16,512.66	-0.11
Neurology	56.33	1,235.15	76.40	513.30	1,042.66	-1.17
Obstetrics	1,286.83	13,459.42	1,382.40	39,578.80	20,424.59	-1.26
Ophthalmology	579.25	17,339.48	631.60	18,964.30	17,772.77	-0.74
Orthopedics	404.58	4,404.45	384.80	663.20	3,406.78	0.64
Otorhinolaryngology	208.92	1,986.99	205.80	828.70	1,678.11	0.14
Pediatrics	2,407.25	74,838.93	2,746.00	42,080.00	66,103.22	-2.48 *
Podiatry	175.75	1,771.66	229.80	9,141.70	3,737.00	-1.66
Primary Care	1,908.42	40,737.72	2,321.80	86.664.70	52,984.91	-3.37 *
Urology	250.83	1,610.88	263.8	199.70	1,234.57	-0.69

* Statistically significant increase in workload; $t_{.95}$ = ±1.7530 with 15 degrees of freedom.

Figure 23.

To develop a perspective of the overall impact of CEBs to total workload, a series of charts depicting in graphic form this interrelation were produced. These appear at Annex B. They assist in visualizing which clinics are dominated by CEBs and those which are dominated by active duty personnel. For example, Pediatrics, Primary Care, Cardiology, Endocrinology, Gastroenterology, Neurology, Obstetrics and Ophthalmology are clearly the providence of retirees and dependents.

On the other hand, Dermatology, General Surgery, Orthopedics and Urology are more frequently used by active duty personnel. The remainder are pretty evenly divided. This data supports the findings of this research if only to confirm that those clinics that were suspected to be heavily used by CEBs actually are. At any rate, the comparison is interesting to note and could be the source for future studies on marketing, organizing, staffing, or equipment acquisition, depending upon the thrust an institution wishes to pursue.

The question comes to mind, "If one is comparing only five months of one year to the entirety of another, what about seasonal differences?" This problem was recognized and two comparisons were made to corroborate the earlier findings. In these two charts (Figures 24 and 25), the first five months of total visits and the first five months of CEB generated visits for both 1982 and 1983 were related respectively. Likewise, Student's Distribution was used to evaluate this data so that it would be consistent with the other. The one difference is in the degrees of freedom. In the earlier comparisons, there were 15 degrees of freedom giving a t value of 1.7530 with a .95 level of confidence. However, since these sample sizes are smaller, t .95 equals 1.8595 with 8 degrees of freedom. This produces some even more thoughtful data. Consider the chart below depicting total visits for just the first five months.

A STATISTICAL COMPARISON OF TOTAL CLINIC VISITS, SBHACH
JANUARY - MAY 1982 TO JANUARY - MAY 1983

CLINIC	1982 MEAN	1982 VARIANCE	1982 TOTAL	1982 MEAN	1982 VARIANCE	1982 TOTAL	"POOLED" VARIANCE	COMPUTED t
Cardiology	355.0	846.00	1,775	319.8	1,077.20	1,599	961.50	1.79
Dermatology	1,171.8	163.70	5,859	1,344.4	6,168.80	6,722	3,166.25	-4.85 *
Endocrinology	27.4	262.80	137	44.8	267.20	224	265.00	-1.69
Gastroenterology	187.2	1,873.70	936	329.2	5,501.70	1,646	3,687.70	-3.70 *
General Surgery	665.6	1,765.80	3,328	642.8	2,607.20	3,214	2,186.50	0.77
Gynecology	1,564.0	39,222.00	7,820	1,466.0	21,322.50	7,330	30,272.25	0.89
Internal Medicine	1,285.2	41,838.20	6,426	1,241.0	17,762.00	6,205	29,800.10	0.40
Neurology	99.4	4,702.30	497	120.6	844.80	603	2,773.55	-0.64
Obstetrics	1,460.6	11,262.80	7,303	1,632.6	27,066.80	8,163	19,164.80	-1.96 *
Ophthalmology	771.6	12,736.80	3,858	799.6	23,147.30	3,998	17,942.05	-0.33
Orthopedics	1,217.2	42,107.20	6,086	1,119.4	6,004.80	5,597	24,056.00	1.00
Otorhinolaryngology	356.0	3,641.00	1,780	360.4	2,577.30	1,802	3,109.15	-0.12
Pediatrics	2,567.4	128,987.30	12,837	2,748.8	42,324.70	13,744	85,656.00	-0.98
Podiatry	453.4	3,334.30	2,267	667.8	91,841.70	3,339	47,587.75	-1.55
Primary Care	1,981.8	63,274.70	9,909	2,508.2	100,333.70	12,541	81,804.20	-2.91
Urology	456.4	654.30	2,282	449.4	698.8	2,247	676.55	0.43

* Statistically significant increase in workload; $t_{.95} = \pm 1.8595$ with 8 degrees of freedom.

Figure 24.

Only eleven clinics showed an increase in visits. Of these, only four were significant: Dermatology, Gastroenterology, Obstetrics and Primary Care. This eliminates seasonal bias from Gastro and Primary Care, but clouds the issue with Dermatology and Obstetrics. Were these increases caused by CEB generated visits? Figure 25 below shows also eleven clinics with increased workload, but this time, five were the result of CEB visits: Dermatology, Endocrinology, Gastroenterology, General Surgery, and Primary Care.

These two charts (Figures 24 and 25) show conclusively that Dermatology, Gastroenterology and Primary Care are up totally and that increase was caused by CEBs. Obstetrics is up as a result of increased pressure from active duty personnel, reflecting current and frequently stated problems with pregnant soldiers due to the recent influx of women into the Army. The fact that Endocrinology and General Surgery show a significant increase in CEB workload without any significant increase in total workload demonstrates that CEBs have actually replaced some active duty

workload. It would be regrettable indeed if retireed and dependents are receiving care at the expense of active duty personnel. This would be in violation of a key principle of the Uniformed Services Health System. In the absence of complaints, it is suspected that workload in those areas just happens to be down in the active duty sector.

A STATISTICAL COMPARISON OF CHAMPUS ELIGIBLE BENEFICIARY (CEB) GENERATED CLINIC VISITS, SBHACH, JANUARY-MAY 1982 TO JANUARY-MAY 1983

CLINIC	1982 MEAN	1982 VARIANCE	1982 TOTAL	1983 MEAN	1983 VARIANCE	1983 TOTAL	"POOLED" VARIANCE	COMPUTED t
Cardiology	289.0	808.00	1,445	271.6	1,033.30	1,358	920.65	0.91
Dermatology	758.2	464.20	3,791	847.2	3,773.20	4,236	2,118.70	-3.06 *
Endocrinology	19.4	147.30	97	37.0	241.00	185	194.15	-2.00 *
Gastroenterology	160.2	1,482.70	801	279.4	4,052.30	1,397	2,767.50	-3.58 *
General Surgery	338.4	394.80	1,692	403.0	1,237.50	2,015	816.15	-3.58 *
Gynecology	1,220.8	23,722.70	6,104	1,141.6	13,268.80	5,708	12,058.75	1.14
Internal Medicine	966.8	33,662.70	4,834	941.2	6,857.70	4,706	20,260.20	0.28
Neurology	63.4	1,923.80	317	76.4	513.30	382	1,218.55	-0.59
Obstetrics	1,245.8	7,265.20	6,229	1,382.4	39,578.80	6,912	23,422.00	-1.41
Ophthalmology	611.0	12,544.50	3,055	631.6	18,964.30	3,158	15,754.40	-0.26
Orthopedics	423.8	7,363.20	2,119	384.8	663.20	1,924	4,013.20	0.97
Otorhinolaryngology	231.8	1,401.70	1,159	205.8	828.70	1,029	1,115.20	1.23
Pediatrics	2,563.6	128,738.30	12,818	2,746.0	42,080.00	13,730	85,409.15	-0.99
Podiatry	183.6	949.30	918	229.8	9,141.70	1,149	5,045.50	-1.03
Primary Care	1,902.0	66,170.50	9,510	2,321.8	86,664.70	11,609	76,417.6	-2.40 *
Urology	283.0	658.00	1,415	263.8	199.70	1,319	428.85	1.47

* Statistically significant increase in workload; $t_{.95}$ = 1.8595 with 8 degrees of freedom.

Figure 25.

Figure 26, below, shows all the certificates of nonavailability that were issued during the test, by service, by month. Those services marked by an asterisk are not available at SBHACH. The other CNAs were the result of either clinic saturation or a special procedure within an available service that could not be performed at this facility. It was anticipated that a considerably higher number would be issued. The two other test hospitals were issuing as many as 300 CNAs each month. The fact that SBHACH was issuing an average of 80 per month either shows that this

hospital has a greater capability than Pensacola and Vandenberg, or that the CEBs in this catchment area were not properly accessing health care through this MTF. The data will show that there is more of the former than the latter.

Outpatient Certificates of Nonavailability
Issued Since Start of Test for Outpaitent NAS in February

SERVICE	FEBRUARY	MARCH	APRIL	MAY	
ENT	55	62	49	39	
ALLERGY	1	3	7	12	
*ONCOLOGY	11	4	4	5	
*NEUROSURGERY	2	6	0	7	
*CARDIOVASCULAR SURGERY	0	1	1	1	
ORTHOPEDIC SURGERY	2	0	3	0	
GENERAL SURGERY	0	0	0	2	
ORAL SURGERY	0	0	1		
*SURGERY, OTHER THORACIC	1	1	0	0	
*SURGERY, OTHER PLASTIC-RECONSTR	2	0	0	0	
*PEDIATRIC ENDOCRINOLOGY	0	0	2	0	
*PEDIATRIC NEUROLOGY	1	0	1	0	
*PEDIATRIC HEMATOLOGY	0	1	0	0	
*PEDIATRIC NEPHROLOGY	1	0	0	0	
*PULMONARY DISEASE	1	2	1	1	
PODIATRY	0	1	0	0	
*SKILLED NURSE HOME VISIT	0	1	0	0	
*RENAL DIALYSIS	0	1	0	0	
CARDIOLOGY	4	4	0	0	
*HEMATOLOGY	0	1	0	0	
INTERNAL MEDICINE	0	1	0	0	
RHEUMATOLOGY	0	1	0	0	
*VISUAL TNG EXERCISES	0	1	0	0	
*NEUROPATHOLOGY	1	0	0	0	
NEUROLOGY	5	0	0	1	
*DIABETES	1	0	0	0	
GASTROENTEROLOGY	2	0	0	0	
OPHTHALMOLOGY	0	0	0	2	
TOTAL	90	91	69	70	320

Figure 26.

The chart at Figure 27 shows the actual differences generated by CEBs for the first five months of 1982 and 1983. Parenthetically included are the number of CNAs issued for the corresponding clinics. Also, extracted at the bottom of the

chart are those clinics that had statistically significant workload generated by CEBs, adjusted seasonally. It is here that a point of divergence is reached in research methodology. Although the prudent researcher would base the remainder of his calculations on only those clinics that showed a significant increase in workload, this researcher choses to use all the workload differences to calculate costs. The assumption being made that these clinic visits are actually above the normally expected workload. In view of the fact that this is an unsubstantiated assumption, cost figures reflecting both significant and insignificant increases are developed to assess the gross differences. This will be addressed in Section II-B, Assessing Costs.

ACTUAL DIFFERENCES IN CEB GENERATED VISITS TO OUTPATIENT CLINICS
JANUARY - MAY 1982 vs JANUARY - MAY 1983

	CLINIC	TOTAL VISITS	JAN	FEB	MAR	APR	MAY
	Cardiology	-87	-12	-64 (4)	2 (4)	-23	10
*	Dermatology	445	160	77	141	28	39
*	Endocrinology	88	44	12	11	-10	31
*	Gastroenterology	596	47	50 (2)	118	104	277
*	General Surgery	323	47	40	43	144	49 (2)
	Gynecology	-396	219	-3	-106	-202	-304
	Internal Medicine	-128	90	142	-252 (1)	-126	18
	Neurology	65	-46	20 (5)	8	6	77 (1)
	Obstetrics	683	148	-78	236	66	311
	Ophthalmology	103	-126	18	68	0	143 (2)
	Orthopedics	-195	73	35 (2)	-103	-171 (3)	-47
	Otorhinolaryngology	-130	7	8 (55)	-36 (62)	-61 (49)	-48 (39)
	Pediatrics	912	335	21	-18	38	536
	Podiatry	231	-29	16	180	15	49
*	Primary Care	2099	295	166	499	422	717
	Urology	-96	-31	-1	-41	-12	-11
	TOTAL	4513	1221	477 (68)	748 (68)	212 (52)	1847 (44)
	TOTAL Marginal Gain		1465	623	1306	823	2257

* Clinics with a statistically significant gain in workload for the five month period.

(#) CNAs issued for that service, by month.

Figure 27.

In summary, the assessing of workload impact has shown an increase of workload for outpatient clinics overall, both annually and seasonally. Granted, only four clinics show an annual increase and five clinics show a seasonal increase that is statistically greater than would have been expected to happen by chance, but nonetheless, a significant increase in any organization's marginal output in 25 to 30% of its production centers must be considered to be substantial.

Although Figure 17 on page 33 shows that many of the clinics were operating at or above capacity as determined by the staffing guides, how is it that they have been able to absorb so much additional workload? Actually, when spread around the twenty-odd clinics in this hospital, the maximum monthly increase of over 2200 patients, if evenly divided would give only 100 extra visits per month or about five extra visits per day per clinic. Only a few clinic appointment times have met or exceeded the thirty-day wait rule. In fact, in the next section, it will be noted that overall clinic waiting times have gone down during the test period. This may indicate a reason to expand the test catchment area. However, if the practitioners are using "extra effort" in order to handle this workload, they may not be able to sustain it for an extended period of time. Then it would truly cramp the system to add more workload. It is therefore recommended that no change in the catchment area be made at this time to allow the test to develop over a longer period. In other words, it would be wise to just wait and see what happens to productivity in the next few months.

B. Assessing Costs

Considering the impossibility of assessing OCHAMPUS test costs due to the expense and difficulty of acquiring the data in their current system, costs for this experiment will be based solely upon those generated in this MTF. Only two costs will be considered: the clinical costs and savings from providing services to CEB by this MTF and administrative costs borne as a result of preparing for and executing the test. Figure 28 below shows a five month assessment of government cost savings utilizing gross figures for marginal CEB visits. This is only for informational purposes and will not be used in the final evaluation. It will serve to demonstrate the potential savings from this program in just five months.

FIVE MONTH COST ASSESSMENT TO THE GOVERNMENT FOR SERVICES PROVIDED FOR MARGINAL VISITS BY CEB'S FOR ALL CLINICS STUDIED, SBHACH

CLINIC	TEST VISITS	SBHACH CLINIC COSTS	GOV'T SHARE CHAMPUS COSTS	SAVINGS FACTOR	TOTAL SAVINGS
Cardiology	12	$20.04	$43.76	$23.72	$ 284.64
Dermatology	445	17.28	50.65	33.37	14,849.65
Endocrinology	98	30.13**	42.53	12.40	1,215.20
Gastroenterology	596	13.90	57.67	43.77	26,086.92
General Surgery	323	35.16	82.64	47.48	15,336.04
Gynecology	219	25.66	61.41	35.75	7,829.25
Internal Medicine	250	30.13**	51.24**	21.11	5,277.50
Neurology	111	49.06	101.63	55.54	6,164.94
Obstetrics	761	29.80	72.22	42.42	32,281.62
Ophthalmology	229	34.97	45.14	10.17	2,328.93
Orthopedics *	336	30.60	46.11	15.51	5,211.36
Otorhinolaryngology	15	27.78	29.53	6.75	101.25
Pediatrics	930	17.65	54.47	36.82	34,242.60
Primary Care	2099	29.54	51.24**	21.70	45,548.30
Urology	0	65.42	82.28	16.86	-0-
GRAND TOTAL	6424				$196, 758.20

* Includes Podiatry

** Average of total clinic costs for that category, exact figures unavailable.

Only increases in CEB generated workload were used, not decreases. The assumption being that the decrease in workload was because the demand was not there, not because it went elsewhere.

Figure 28.

Administrative costs were based on four areas below. Using straight-line depreciation to determine monthly costs (and ultimately, the costs for the four months this experiment has progressed) and purely salary or base pay for personnel costs, the administrative expenses were obtained thusly:

I. Furniture (estimated life: 14 years)

Room Dividers	$ 400
Bulletin Board	18
Davenport	415
Chair	136
Light	37
Bookshelf	630
Files Stand	175
TOTAL	$1,811
Annual Depreciation	$ 129.36
4-month Depreciation	$ 43.12

II. Office Equipment (estimated life: 7 years)

Automatic Call Sequencer	$13,000
Code-a-phone	300
Typewriter	740
Fan, desk	54
TOTAL	$14,094
Annual Depreciation	$ 2,013.43
4-month Depreciation	$ 671.14

III. Telephones (one-time cost)

4 Phones @ $55 (including installation)	$ 220

IV. Personnel (base salary only)

1 GS-7/4	@ $1400/month	x 50% =	$700
1 GS-5/3	@ $1097/month	x 25% =	275
1 SP/5	@ $ 906/month	x 90% =	815
1 SP/4	@ $ 792/month	x 90% =	713
1 0-3	@ $2084/month	x 10% =	208
TOTAL			$ 2,711
4-month Total			$10,844

A four-month estimate of the associated costs and savings generated by the five significant clinics appears as Figure 29. It is worthy of note that so far, this test has saved the federal government approximately $74,558.80. If all trends continue for the next seven months, the annual gain from this project for 1983 will be about $205,000! This is a very positive step towards reducing CHAMPUS costs. One additional note about costs, even though the inconvenience costs to CEBs such as time and travel costs were not approximated, it is demonstrable that each clinic visit where a CEB utilized CHAMPUS, it cost that beneficiary about $32.90 out of his own pocket for his care. Ergo, a CEB can save $30 or more just be using an MTF as opposed to seeking outpatient care in the civilian sector.

FOUR MONTH GOVERNMENT COST ASSESSMENT FOR SERVICES PROVIDED DURING THE TEST
(MARGINAL VISITS BY CEB'S FOR THE FIVE STATISTICALLY SIGNIFICANT CLINICS)

CLINIC	TEST VISITS	SBHACH CLINIC COSTS	GOV'T SHARE CHAMPUS COSTS	SAVINGS FACTOR	TOTAL SAVINGS
Dermatology	285	$17.28	$50.65	$33.37	$ 9,510.45
Endocrinology	44	30.13	42.53	12.40	545.60
Gastroenterology	549	13.90	57.67	43.77	24,029.73
General Surgery	276	35.16	82.64	47.48	13,104.48
Primary Care	1804	29.54	51.24	21.70	39,146.80
TOTAL	2958				$86,337.06

Administrative Costs	Furniture	Office Equipment	Phones	Personnel	
	$43.12	$671.14	$220.00	$10,844	($11,778.26)
		GRAND TOTAL SAVINGS TO THE GOVERNMENT			$74,558.80

Figure 29.

One element of cost that was considered was patient inconvenience due to long waits to get an appointment in one of SBHACH's outpatient clinics. As is demonstrated by Figure 30, "A Statistical Comparison of Clinic Appointment Waiting Times for

SBHACH" appointment waiting times actually went down during the test. This was shown to be significant in only four clinics, however. Remarkable to note is that Gastroenterology, one of the clinics with a significant increase in workload has likewise enjoyed a significant reduction in clinic appointment waiting times. There must be some very positive management techniques applied in that clinic. Part of the reason that clinic waiting times have gone down is due to two major management interventions. The first, initiated by the new Commander of Silas B. Hays, Colonel Francisco Quinones, MD, was to eliminate an obligatory weekly afternoon off policy that was in effect. Historically, physicians were allowed to take one afternoon off each week at SBHACH. In anticipation of the large workload the test would generate, this privilege (reserved only for the physicians and no other staff) was curtailed. This was done in November 1982. This in effect added 10% to the potential productivity of this hospital. The question comes to mind, "Did this effect the outcome of the test?" The answer is, "Not significantly." The staffing guide was designed around a 100% effort and as has been demonstrated, many clinics were performing at or above that level. By adding to the productivity of the hospital, he was able to ensure that the new workload would be serviced and that CNAs would be minimized. Had the Commander made that decision and there was no test, clinic appointment waiting times would have gone down, but workload would have remained at the same relative level as 1982. Another management intervention was initiated by the Chief, Clinical Support Branch, Major Kenneth Leisher, MSC, in the Central Appointment Service. He assisted the supervisor, Mrs. Harris, to make several changes in procedures to fill appointment cancellations and improve the appointment procedures in general. These two events are generally regarded as having caused the desired decrease.

A STATISTICAL COMPARISON OF CLINIC APPOINTMENT WAITING TIMES FOR SBHACH

CLINIC	1982 MEAN	1982 VARIANCE	1983 MEAN	1983 VARIANCE	POOLED VARIANCE	COMPUTED t	
Cardiology	44.47	137.57	31.50	448.37	220.45	1.64	
Dermatology	4.45	6.86	3.90	4.17	6.14	0.42	
Endocrinology	19.54	84.61	13.80	24.70	68.63	1.30	
Gastroenterology	21.73	293.17	6.30	1.45	209.82	1.97	*
General Surgery	1.30	0.28	1.30	0.95	0.58	0	
Gynecology	18.31	44.74	15.00	17.12	37.37	1.02	
Internal Medicine	21.08	116.40	16.70	62.07	101.91	0.82	
Neurology	53.61	915.92	22.90	426.17	785.32	2.06	*
Obstetrics	17.78	51.97	15.10	17.80	42.86	0.77	
Ophthalmology	29.87	227.33	23.20	158.57	196.77	0.79	
Orthopedics	7.99	3.34	5.00	1.37	2.81	3.35	*
Otorhinolaryngology	89.53	56.62	90.00	0.00	41.52	-0.14	
Pediatrics	8.65	45.62	16.80	730.57	228.27	-1.01	
Podiatry	42.98	609.90	8.40	6.42	448.97	3.07	*
Urology	4.65	18.72	4.50	5.25	15.13	0.07	

* Statistically significant: $t_{.95}$ = 1.7530 with 15 degrees of freedom.

Figure 30.

A graphic representation of the four significant clinics in this regard is presented at Figure 31. Note that there is a break in data for Gastroenterology. Further, the excessive waiting times in Podiatry were caused when one of the two podiatrists normally present in the clinic was transferred and his replacement did not arrive until November 1982.

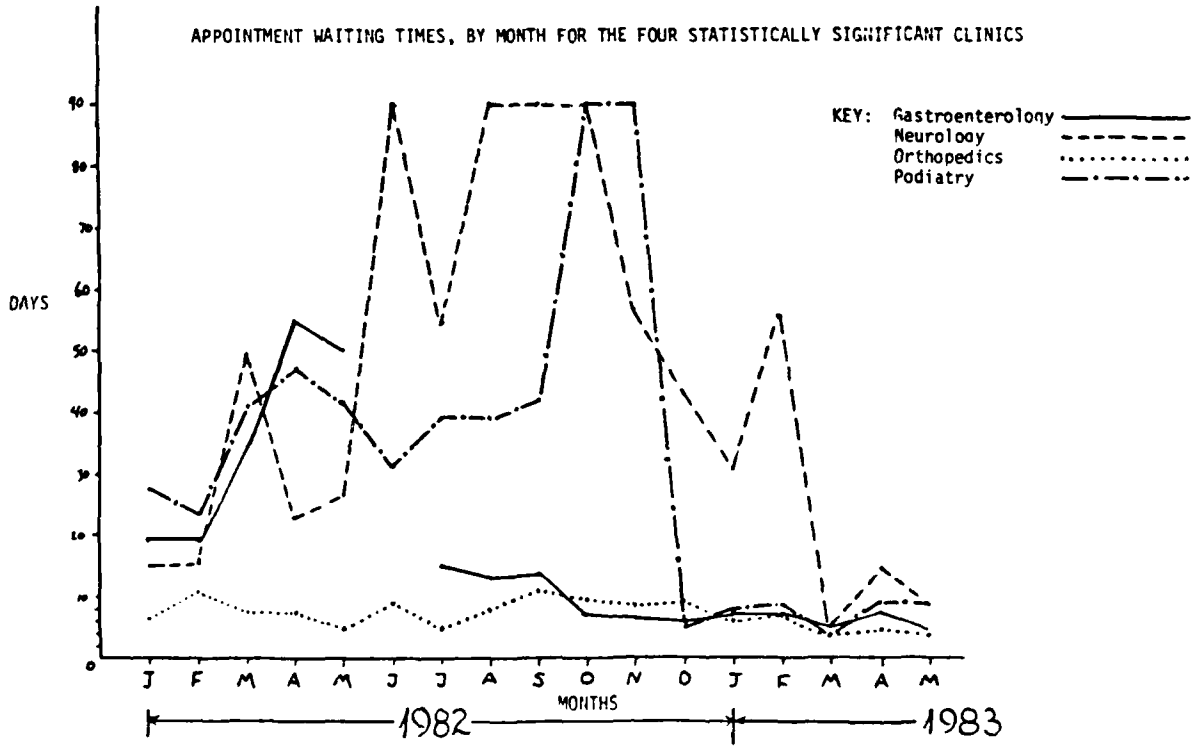


Figure 31.

In summary, assessing costs to both the government and the CHAMPUS eligible beneficiary, it is possible to statistically demonstrate a significant savings to both parties. By increasing utilization of SBHACH, the hospital will generate more revenue on the same amount of overhead. By absorbing CHAMPUS workload, the outflow of federal funds to the civilian health care market can, in part, be reduced. Finally, by inducing CEBs to utilize the MTF, the government can save them money for the deductible portion of their CHAMPUS health care. These are not enlightened new facts. They are facts that were known all along. This test has been a mechanism to demonstrate the viability of a proposed system to capture this portion of the market.

III. CONCLUSION

As Casey Stengel once said, "Two games do not a season make." The same logic applies to this work. Four months do not a test make. This is only a representative sample, if you will. There are many other elements of data that need to be brought into play before this test can be considered conclusive. One of the biggest sources of data and a most important one is OCHAMPUS. It is essential that they evaluate their experience for this period. Only they can provide information on the actual increase or decrease of CHAMPUS claims for this catchment area for this test time period. Only they will know what their costs have been, both administratively and in claims. They will ultimately decide if this is a working concept or not, regardless of surface appearances at the MTF end. Their Fiscal Intermediaries must carefully screen claims to note the date of the encounter, did it occur during the test? If it did, was there a Certificate of Nonavailability with it? Did the CEB reside in the catchment area? If the claim was paid, did it have all the required elements, or was the FI remiss in not developing an erroneous claim. (Developing means returning the claim to the CEB to provide the necessary documentation, i.e. the CNA.) Finally, how many CEB's utilized private insurance and billed CHAMPUS for the difference. What portion of their claims hit other insurance first when compared to earlier periods. The HBA at Silas B. Hays, Mr. George Rawson, is convinced that many CEBs are now selecting "high option" health insurance at their own expense in order to stay out of the military system. It must be recounted that in the dark days of the Army Medical Department, 1977-1981, physician strength in the service was at an all-time low. The Army was forced to close many clinics and services. This forced a lot of retirees and dependents to seek their health care in the civilian

sector under CHAMPUS. They thought then that the services had turned their backs on them and many left with a bitter taste in their mouths. Now the services are asking, nay, demanding that they turn back to the military treatment facility to receive their care. Many are reluctant to do so.

Of course when one carefully examines the question at hand, what is the true objective of this test? Is it to reduce costs to the CHAMPUS system, or is it to promote the use of MTFs and thereby saving CHAMPUS money? If it is the former, then there should be no concern about CEBs seeking private insurance. It is their right to do it and it definitely will save the government money. Naturally, there will be some hard feelings by some retirees and dependents, but if the objectiv is merely to save money, the government will not care. This is not the best alternative for an objective. If no one else recognizes it, the politicians know that each CEB is a voter. Taken in the aggregate, all possible CHAMPUS eligible beneficiaries can have a powerful effect in the legislature. It would behoove the system to take the tack that these beneficiaries are welcome back into the system and that the military medical treatment facility is just as good, if not better, than any other health care source in the land. This is an opportunity for the old cliche, "The Army takes care of its own" to come back into vogue. It will take more than a change in CHAMPUS rules to make this a reality. It will require a change in attitude throughout the system. A new motto should be coined, "Bring 'em back with a smile!"

Another issue that should be addressed is the inpatient workload generated by an increase in outpatient events. Although it is not germane to this project, one must bear in mind that nationwide statistics show that 1 out of every 18 clinic visits outpatient, results in an inpatient episode. This could cause a

"backdoor" constraint. So many inpatient needs could be generated that they would have to be put out on an inpatient Nonavailability Statement (NAS) which will also cause some discomfort for the patient, damage the reputation of the MTF and increase CHAMPUS costs even more. This is, thankfully, a remote possibility.

In summary, the problem was to test a proposal for reducing CHAMPUS costs for outpatient care within the vicinity of Silas B. Hays Army Community Hospital by optimizing the use of currently present outpatient treatment capabilities, and when not available, utilizing a Certificate of Nonavailability for those services. This has been done. The test was designed and executed. It continues until the end of 1983. It is recommended to let the test continue at least two more years to allow good pure data and a much larger sample size to develop. The missing data elements from CHAMPUS do not allow the researcher to make a direct correlation between this test and actual savings to CHAMPUS. This must be done later when that information is available. This research has allowed the researcher to reach some inferrences about the potential for CHAMPUS savings as was evidenced in the figures under cost assessment. A potential savings of $205,000 is a significant amount. As the test proceeds, it may be possible to generate even more. It is therefore concluded that the test is a success and hereby recommended that a system of Certificates of Nonavailability for outpatient care be adopted by the Uniformed Services Health System.

APPENDIX A

Lists of Specialties
(Available and Unavailable)

List of Specialties Not Available at Silas B. Hays Army Community Hospital

Aerospace Medicine
Alcohol Rehabilitation
Artificial Limbs
Aural Rehabilitation
Blind Rehabilitation
Burn Therapy
Cardiac Catheterization
Cardiovascular Surgery (Not Open Heart)
Cardiovascular Surgery (Open Heart)
Child Psychiatry
Computerized Axial Tomography
Corneal Transplant
Cytogenetics
Drug Rehabilitation
Electromyogram
Electroretinogram
Esophageal Motility
Hand Surgery
Head and Neck Oncology
Hematology
Hemodialysis
Hyperbaric Oxygen Therapy
Immunology
Infectious Disease
Intestinal Bypass Procedure
Intervertebral Disc Surgery
Neonatal Intensive Care
Neurosurgery
Oncology
Ophthalmology Laser
Organ Transplant
Orthopedic Internal Prosthesis
Pediatric Cardiology
Pediatric Endocrinology
Pediatric Neurology
Pediatric Surgery
Perinatology
Peripheral Vascular Surgery
Physical Medicine (Physiatry)
Plastic Surgery
Pulmonary Disease (Non-TB)
Radiotherapy Supervoltage
Rectal Reconstruction
Specialized Proctology
Speech Therapy
Thoracic Surgery
White Cell Separation

List of Specialties of Limited Availability Due to Current Workload

Allergy
Cardiology
Gynecology
Neurology
Chemotherapy Follow-Up
Hypertension
Oncology Follow-Up
Routine Internal Medicine
Otolaryngology

List of Available Specialties

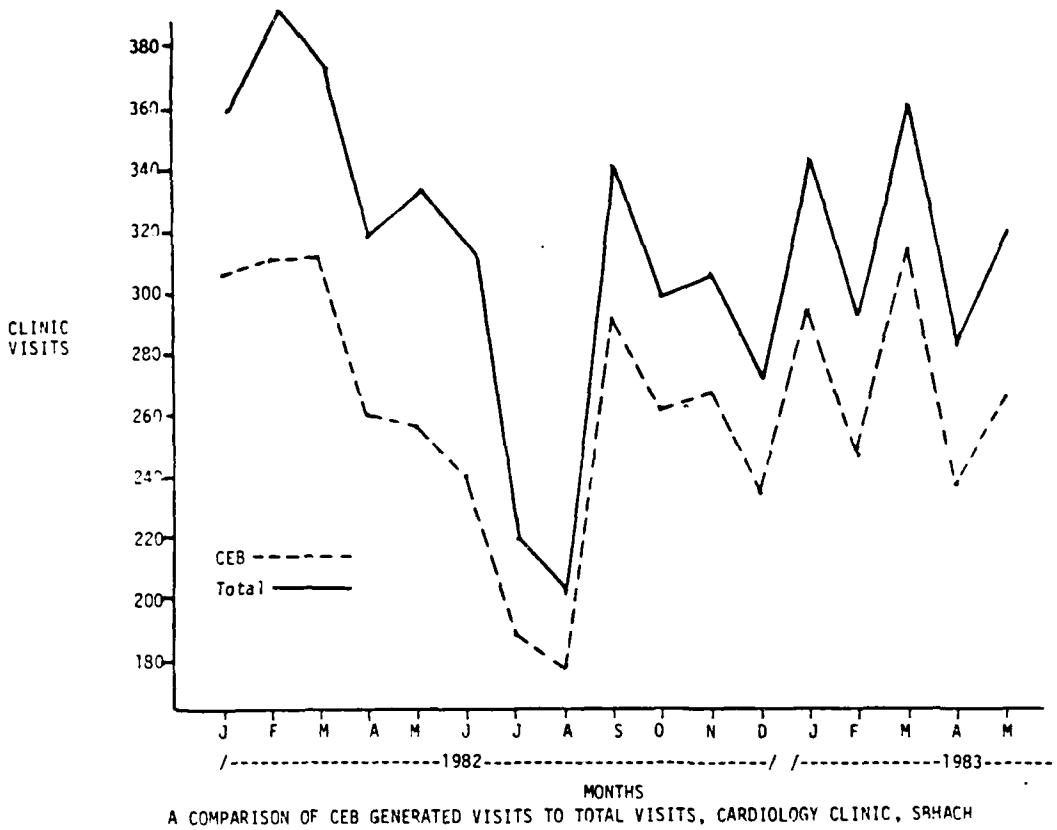
Adolescent Pediatrics
Audiology
Breast Clinic
Dermatology
Diabetic Clinic
Endocrinology
Gastroenterology
General Surgery
Internal Medicine
Nephrology
Nuclear Medicine
Nutrition
Obstetrics
Ophthalmology
Optometry
Orthopedics
Pediatrics
Physical Examinations
Podiatry
Primary Care
Pulmonary Function
Rheumatology
Thyroid
Urology
Well Baby

List of Services Deleted by Champus (Per FONECON with D. Van Brunt, 6 Jan 83)

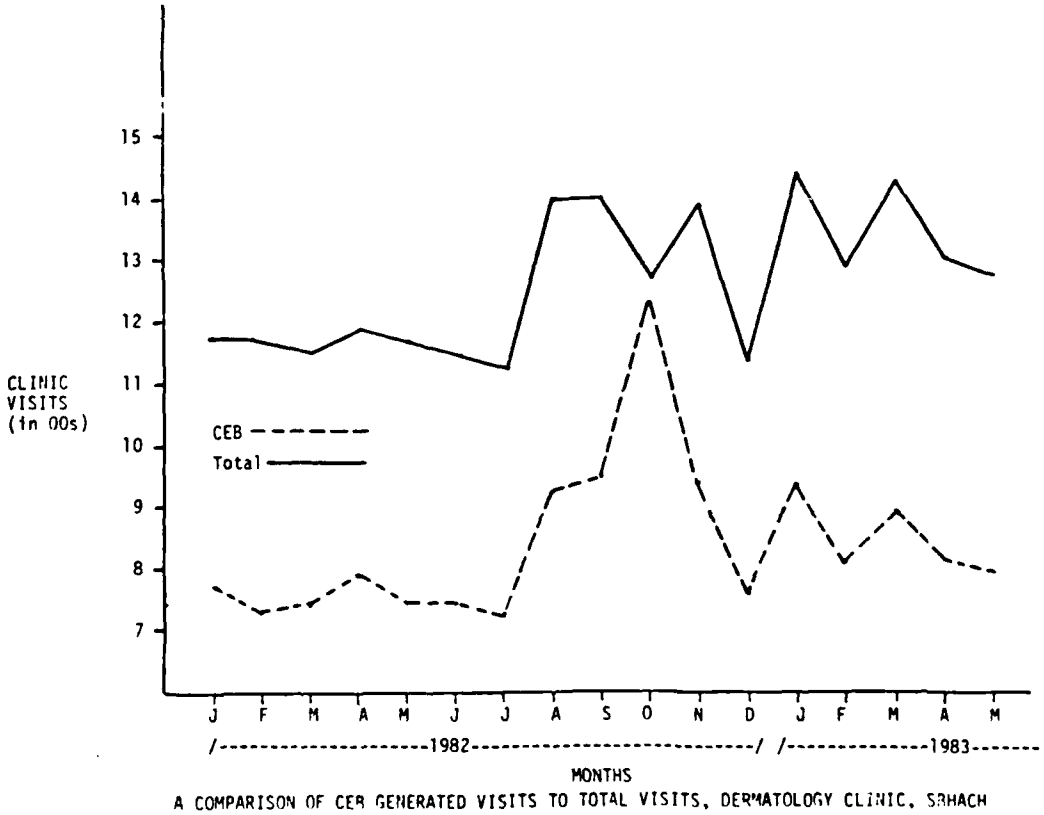
Psychiatry
Laboratory
Radiology
Pharmacy

APPENDIX B

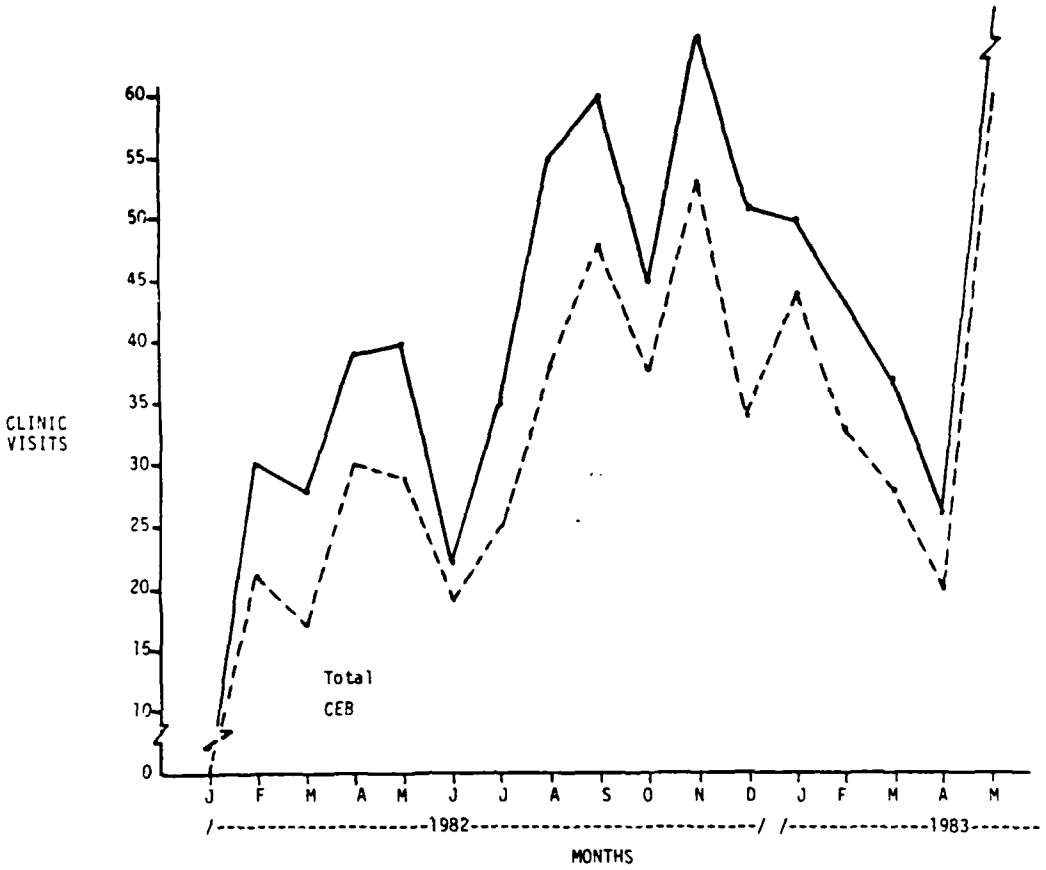
Graphic Comparisons of CEB Generated Visits to Total Visits for the Studied Clinics



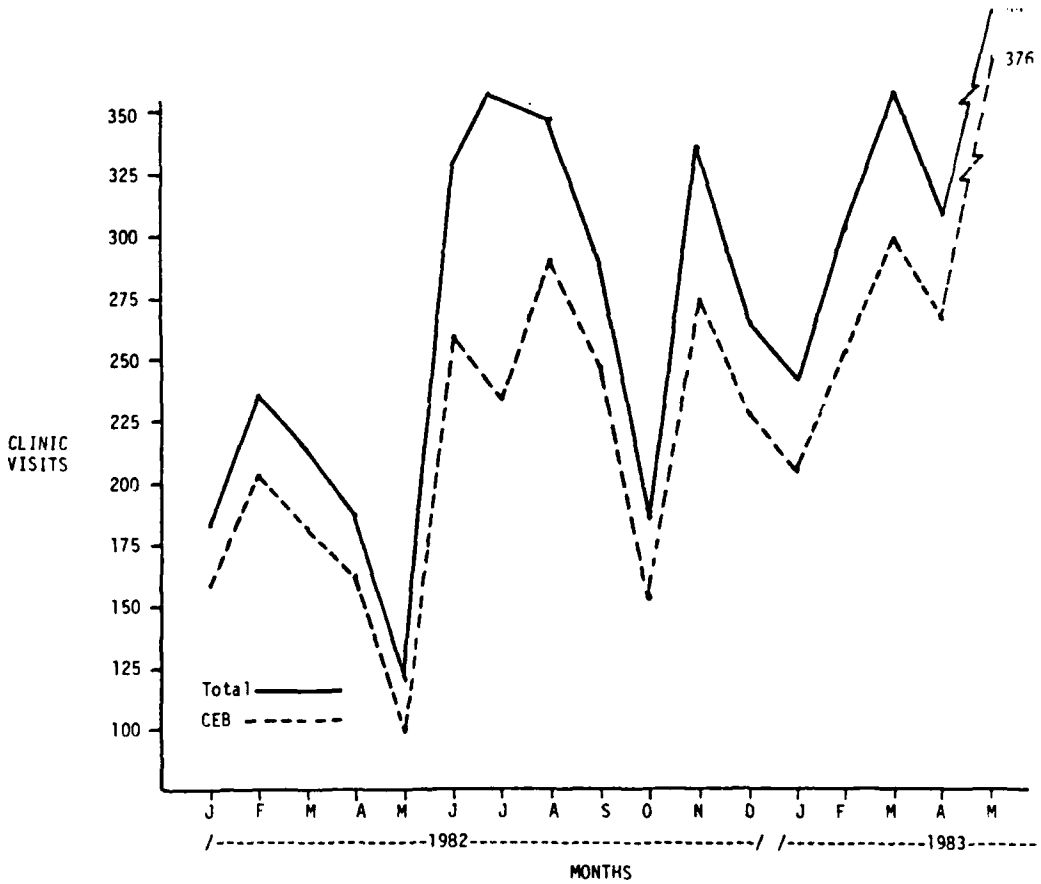
A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, CARDIOLOGY CLINIC, SRHACH



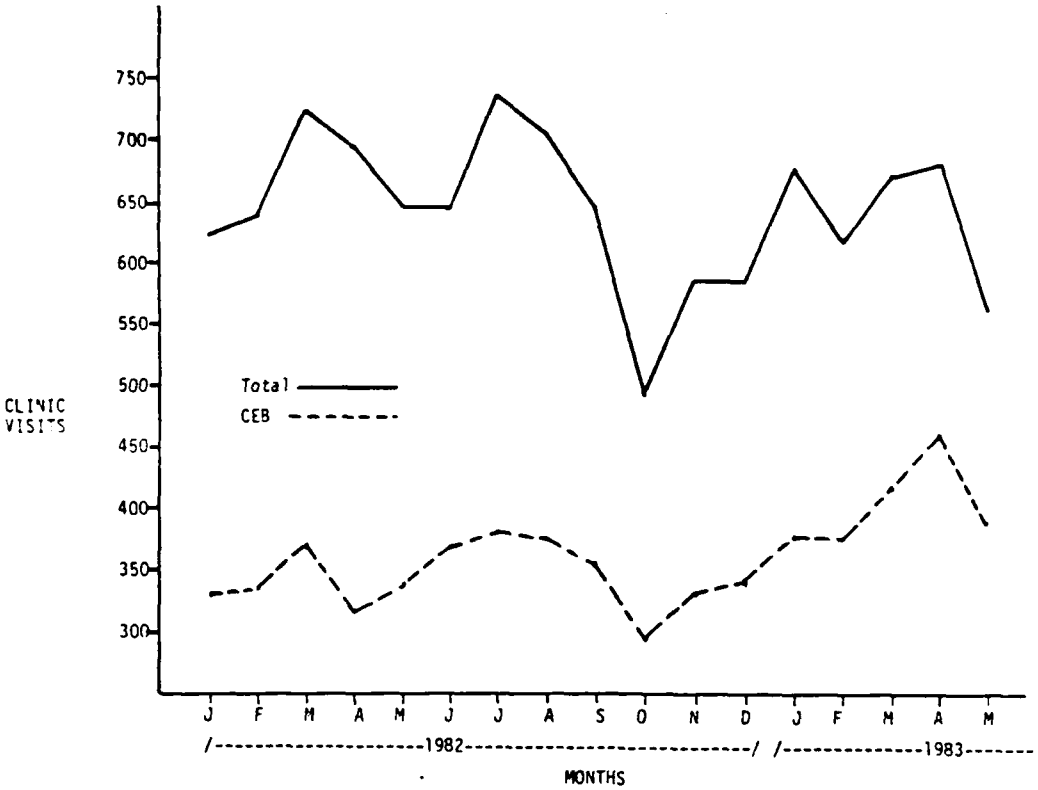
A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, DERMATOLOGY CLINIC, SRHACH



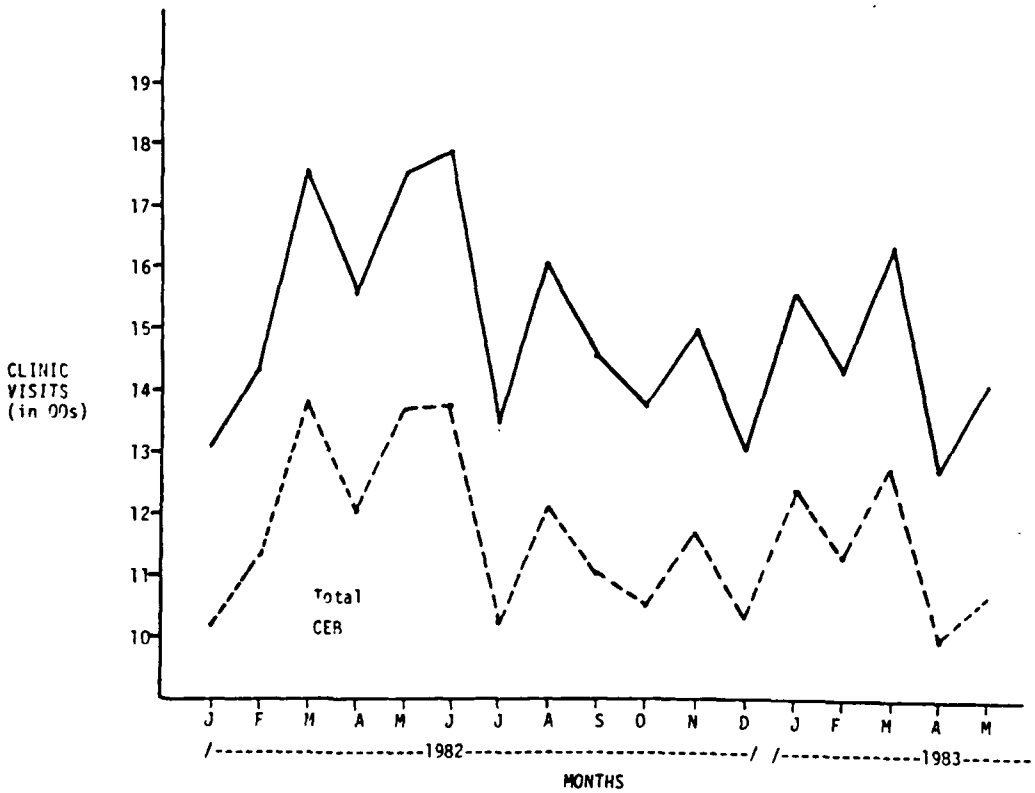
A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, ENDOCRINOLOGY CLINIC, SBHACH



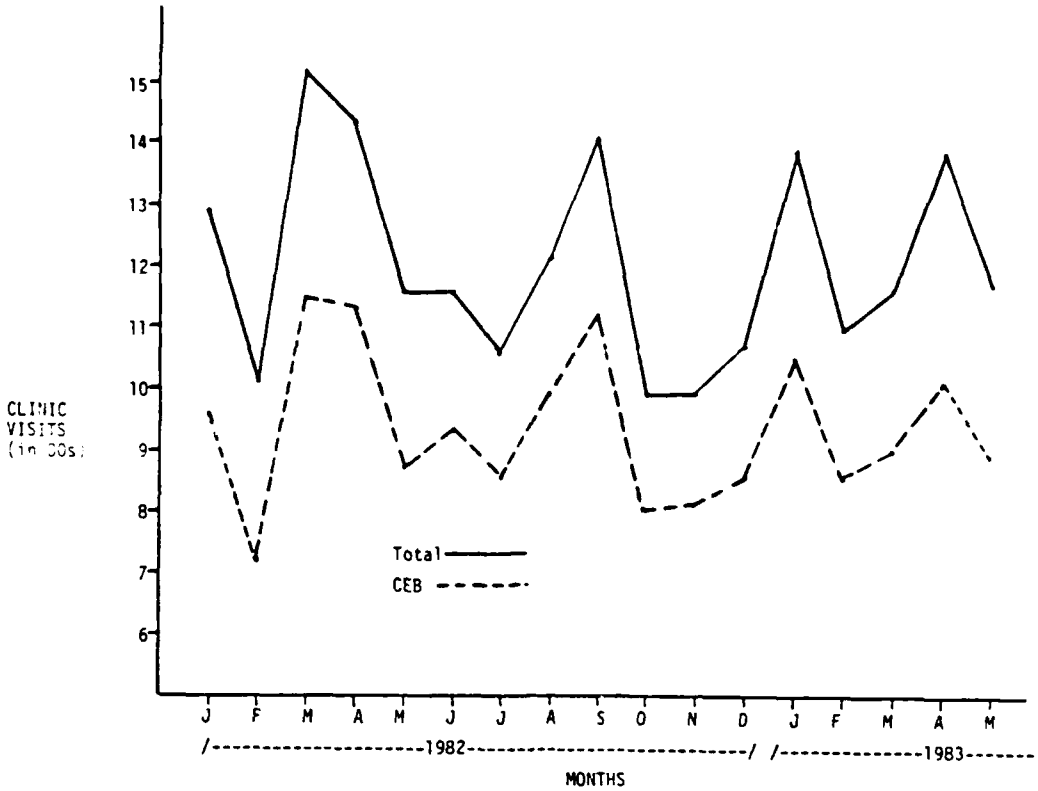
A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, GASTROENTEROLOGY CLINIC, SBHACH



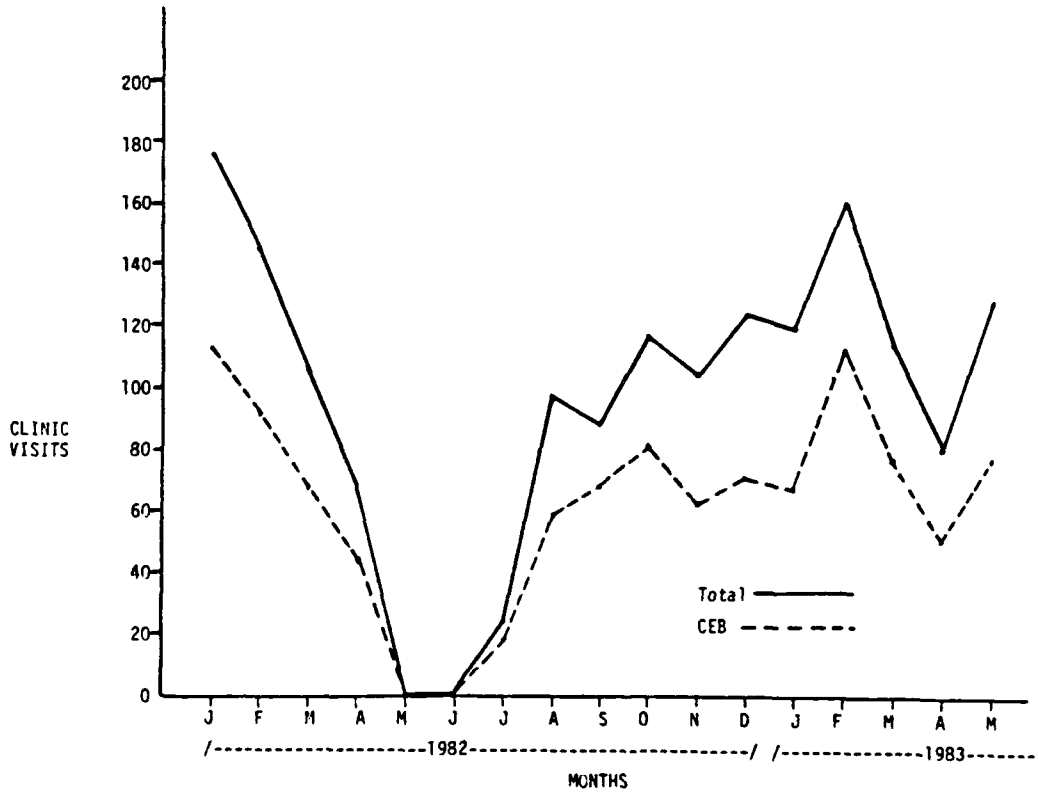
A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, GENERAL SURGERY CLINIC, SBHACH



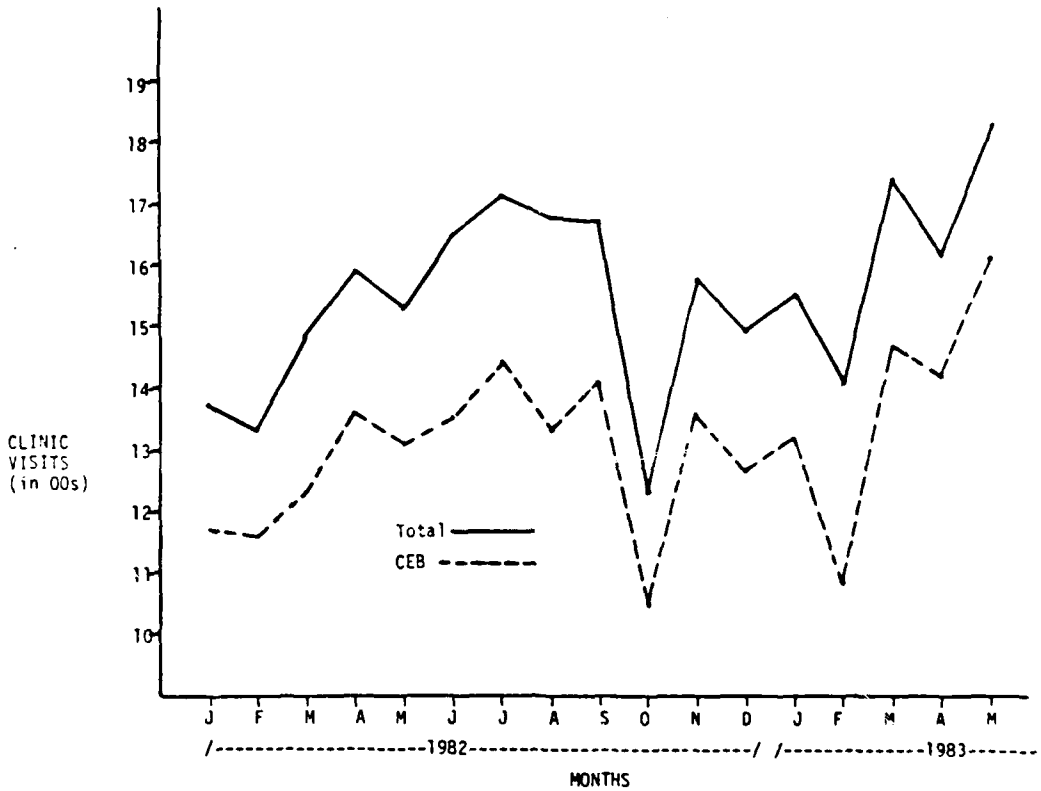
A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, GYNECOLOGY CLINIC, SBHACH



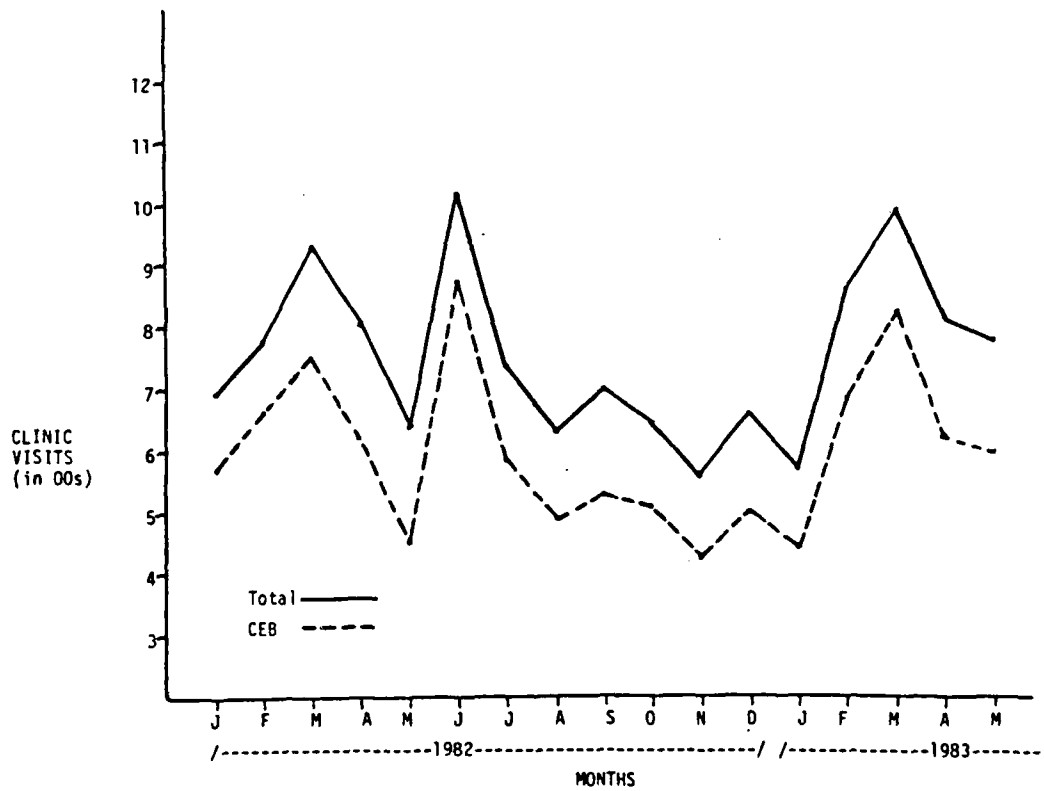
A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, INTERNAL MEDICINE CLINIC, SBHACH



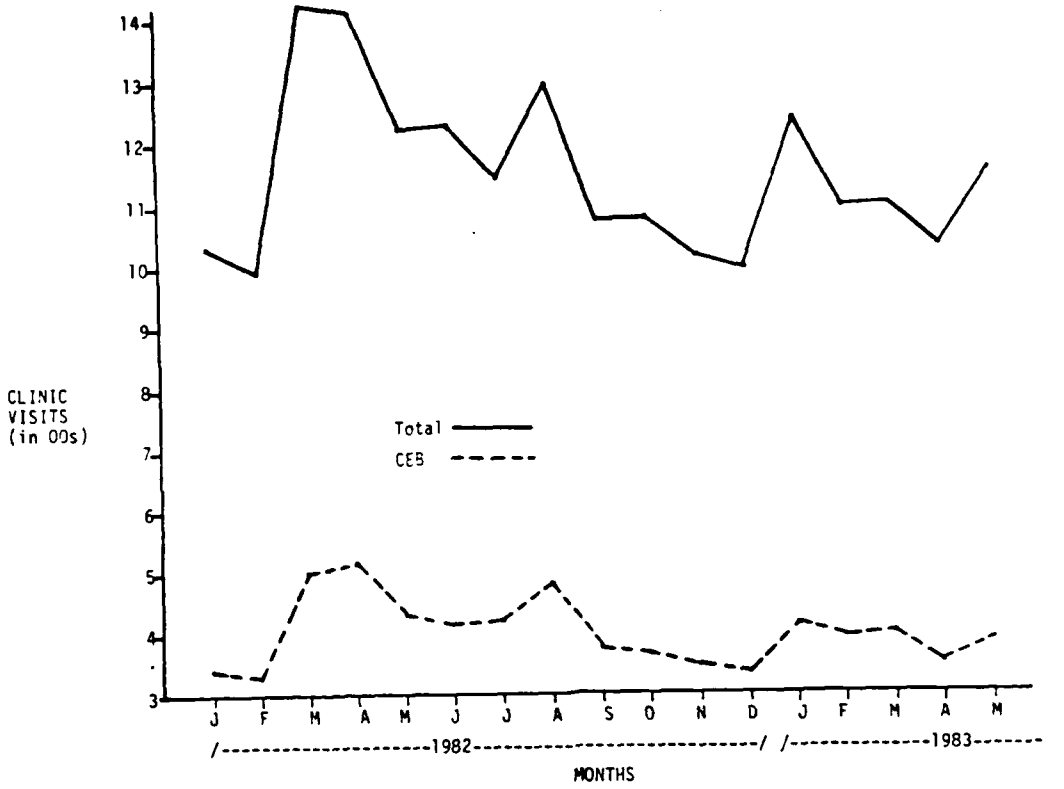
A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, NEUROLOGY CLINIC, SBHACH



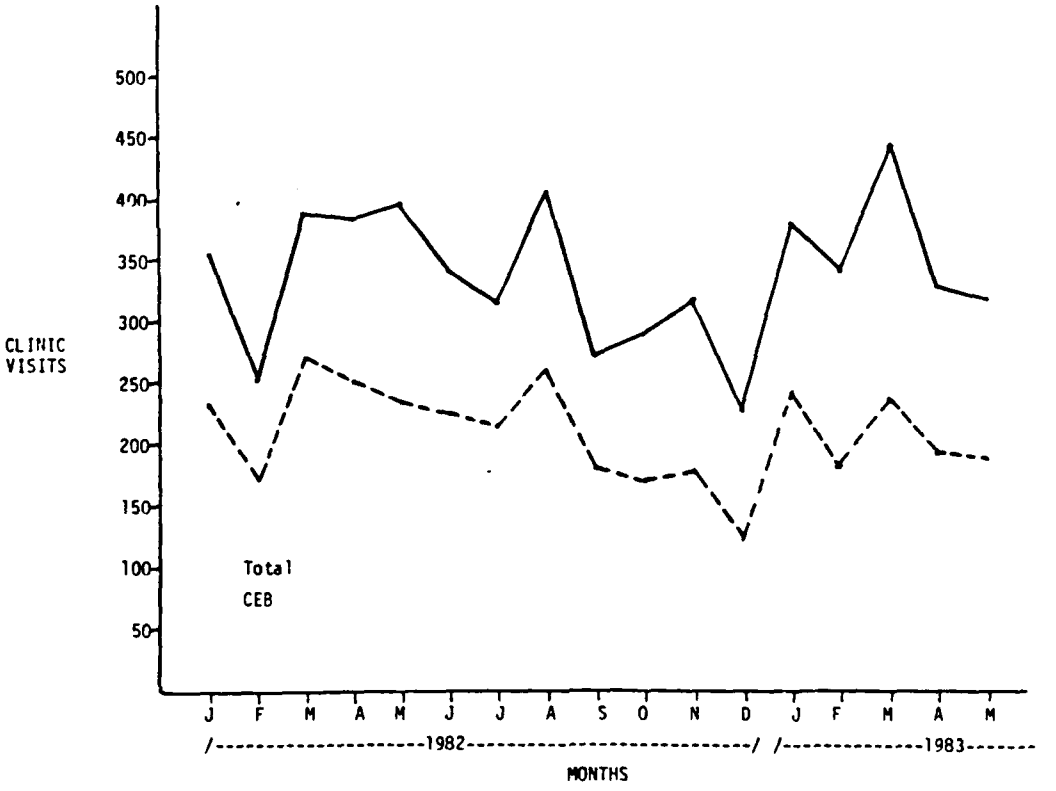
A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, OBSTETRICS CLINIC, SBHACH



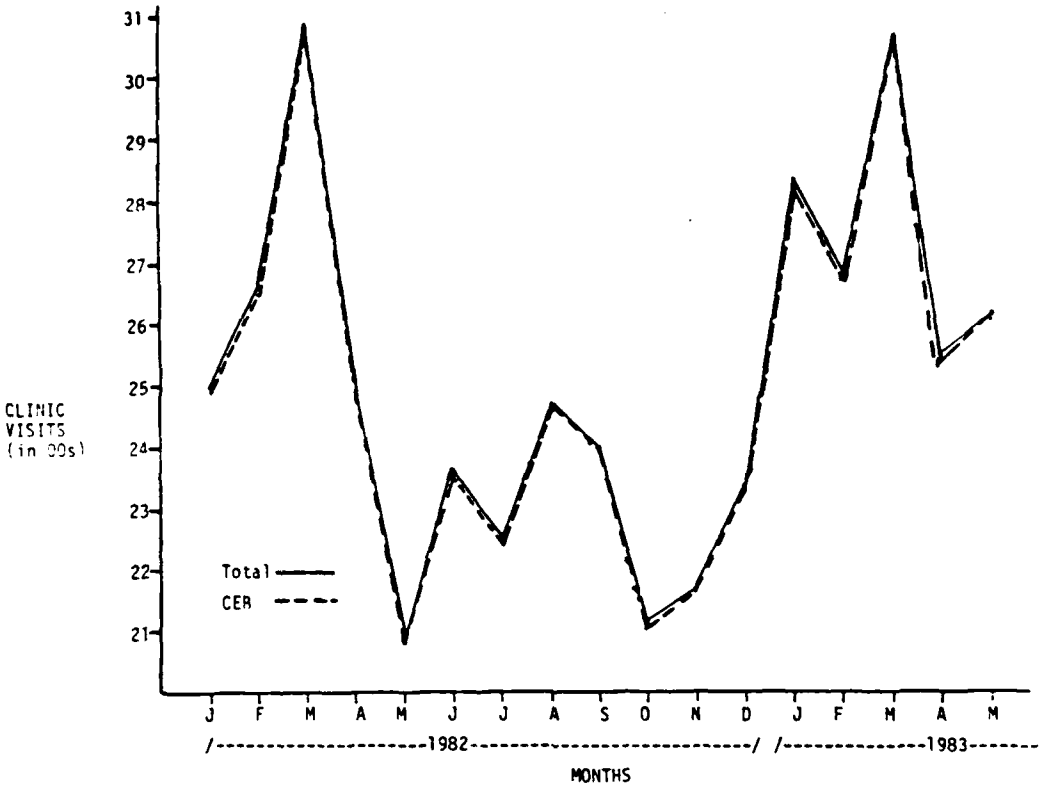
A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, OPHTHALMOLOGY CLINIC, SBHACH



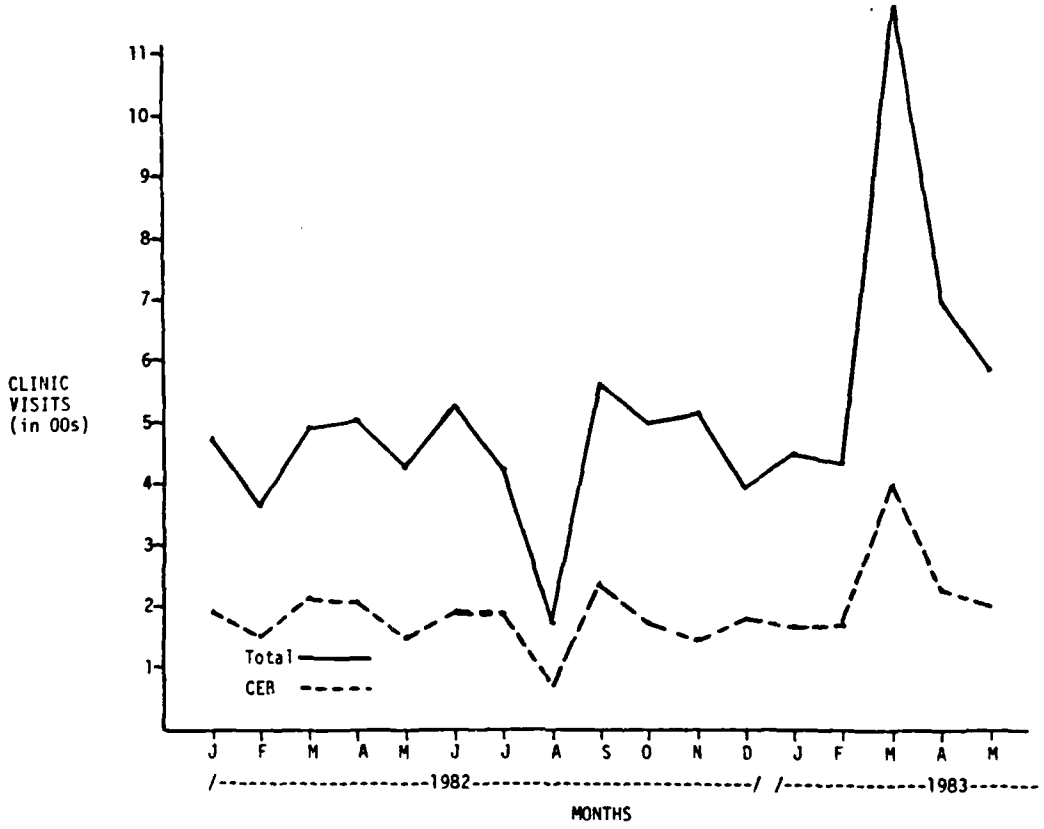
A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, ORTHOPEDIC CLINIC, SBHACH



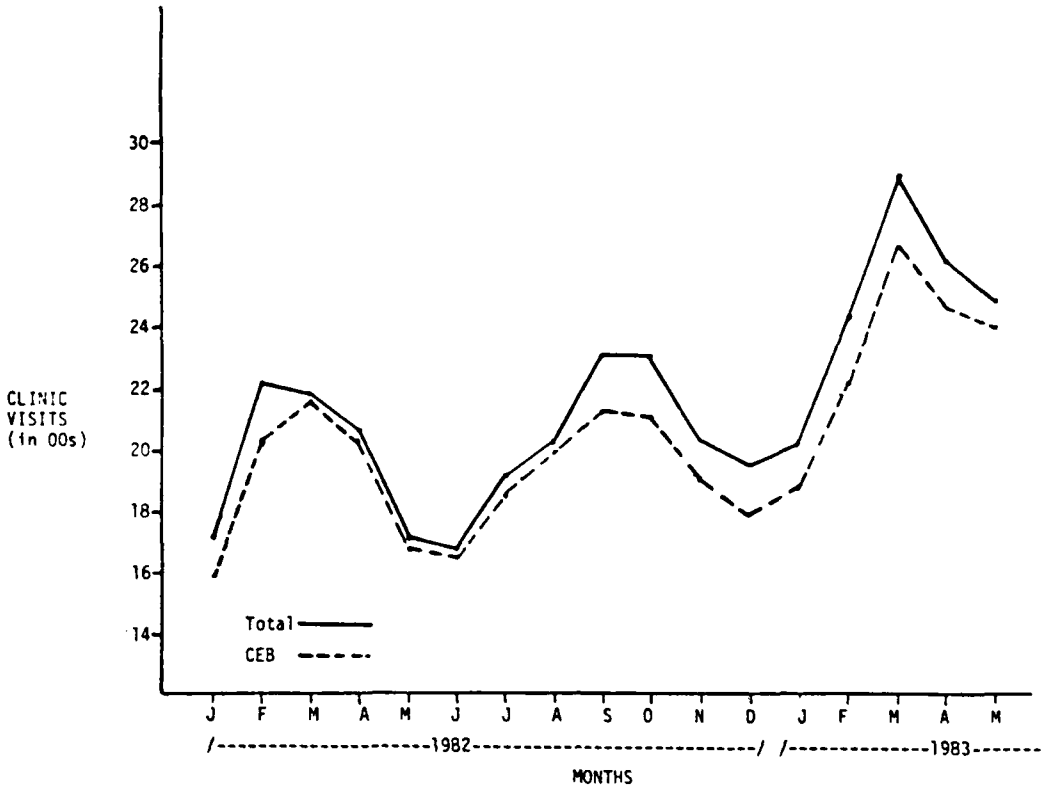
A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, OTORHINOLARYNGOLOGY CLINIC, SBHACH



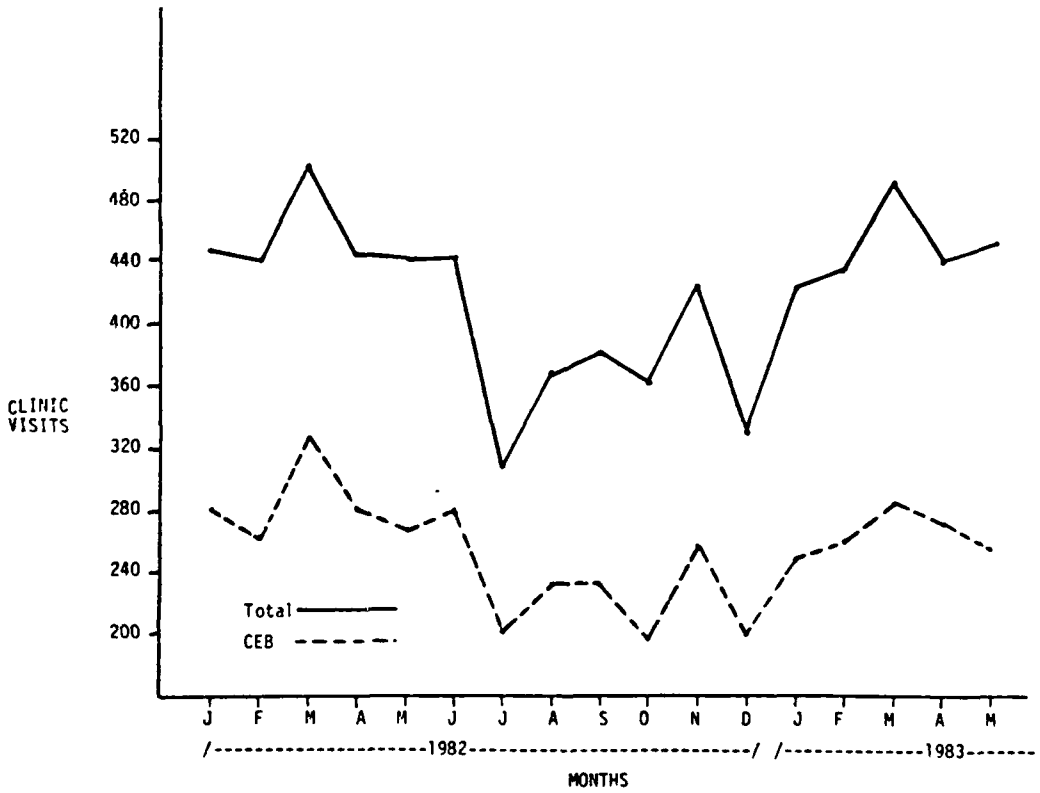
A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, PEDIATRICS CLINIC, SBHACH



A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, PODIATRY CLINIC, SBHACH



A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, PRIMARY CARE CLINIC, SBHACH



A COMPARISON OF CEB GENERATED VISITS TO TOTAL VISITS, UROLOGY CLINIC, SBHACH

BIBLIOGRAPHY

BIBLIOGRAPHY

Periodicals

"Army to Limit Patient Choice of Physicians." Salinas Californian, 6 Jan 83, p.1.

"CHAMPUS Issues Changes for '83." HSC Mercury, 10:3 (Jan 83): 1.

"CHAMPUS Revision Paying Off, Hospital Says." Monterey Peninsula Herald, 16 Feb 83 p. 9.

Craver, Martha Lynn. "Hill Will Scrutinize Medical Care, PCS Policy." Army Times, 17 Jan 83, p. 7.

Johnson, Donald E. L. "If Hospitals and Physicians Don't Grab the PPO Market, Insurers Will." Modern Healthcare, 13:3 (Mar 83): 32.

"Military Health Plan's Rules to Change Feb.1." The Sunday Peninsula Hearald, 23 Jan 83, p. 3A.

"New CHAMPUS Limits Tested." The Retired Officer, Feb 83, p. 43.

"New Military Medical Rules Won't Affect Salinas Area." Salinas Californian, 21 Jan 83, p. 3.

"PPO Hopes to 'Franchise' to Hospitals Nationwide." Modern Healthcare, 13:3 (Mar 83): 38.

Punch, Linda. "Public Hospitals Trim Back, Branch Out to Stay Alive." Modern Healthcare 13:3 (Mar 83) p. 93-96.

Smith, Paul. "CHAMPUS Cuts Force Military Hospital Use." Army Times, 22 Nov 82 p. 1, 30.

. "CHAMPUS Tests New Nonavailability Policy" Army Times, 7 Feb 83, p. 13.

. "CHAMPUS Use Curbs Proposed to Services." Army Times, 8 Nov 82, p. 1.

. "36% Increase Sought in CHAMPUS Budget." Army Times, 14 Feb 83, p. 7.

Sullivan, Daniel J. "Profit Maximization and Hospital-Based Outpatient Services." Journal of Ambulatory Care Medicine 6:1 (Feb 83): 16-25.

"Zips Now Govern CHAMPUS Nonavailability Statements." Fort Ord Panorama, 27 Jan 83, p. 2.

United States Government Documents

U.S. Department of Defense. Civilian Health and Medical Program of the Uniformed Services. CHAMPUS News: "Zip Codes to Determine CHAMPUS Nonavailability Statement Requirement." 82: 18 (6 Dec 82)

. Civilian Health and Medical Program of the Uniformed Services. Memorandum, Subject: Follow up to the December 17 Meeting on Publicity for the Outpatient Nonavailability Statement Test. 23 Dec 82.

U.S. Department of Defense. Civilian Health and Medical Program of the Uniformed Services. Memorandum, Subject: Publicity for Outpatient Nonavailability Statement Test. 11 Jan 83.

. The Secretary of Defense. Memorandum, Subject: CHAMPUS/ Direct Care Utilization and Cost Reduction Initiatives. 8 Nov 82.

U.S. Department of the Army. Health Services Command. Report HCSD 77-003: A Study of the Feasibility of Increased Utilization of Fitzsimons Army Medical Center (FAMC) by CHAMPUS-Eligible Beneficiaries. April 77.

. Health Services Command. Letter, Subject: Military Health Services System (MHSS) Catchment Area Directory for Medical Treatment Facilities (MTF). 30 Nov 82.

. The Surgeon General. Memorandum, Subject: CHAMPUS Outpatient Certificate of Nonavailability (CNA) Test Site Selection and Army Goals for Inpatient CNA Issuances for FY 83 -- ACTION MEMORANDUM. undated.

. The Surgeon General. Memorandum, Subject: Certificate of Non-Availability Test -- Ft. Ord, California -- INFORMATION MEMORANDUM. 7 Mar 83.

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0

1a. REPORT SECURITY CLASSIFICATION Unclassified	1b. RESTRICTIVE MARKINGS
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) 75-88	5. MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION US Army-Baylor University Graduate Program in Health Care Admin/HSHA-IHC 6b. OFFICE SYMBOL (If applicable)	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State, and ZIP Code) FT Sam Houston, TX 78234-6100	7b. ADDRESS (City, State, and ZIP Code)
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

11. TITLE (Include Security Classification)
A TEST PROGRAM TO REDUCE CHAMPUS COSTS BY OPTIMIZING THE OUTPATIENT SERVICES OF SILAS B. HAYS ARMY COMMUNITY HOSPITAL

12. PERSONAL AUTHOR(S)
MAJOR GEORGE S. ROBINSON

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
Study	FROM JUL 82 TO AUG 83	AUG 83	79

16. SUPPLEMENTARY NOTATION

17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	HEALTH CARE; CHAMPUS; COST CONTAINMENT

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

This study was test of a proposal to reduce CHAMPUS cost for outpatient care by optimizing the use of existing outpatient capabilities, and when necessary issuing a Certificate of Nonavailability. At the time the paper was written the test was still continuing, but indications were that the system could save a significant amount of money.

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS	21. ABSTRACT SECURITY CLASSIFICATION
22a. NAME OF RESPONSIBLE INDIVIDUAL Lawrence M. Leahy, MAJ(P), MS	22b. TELEPHONE (Include Area Code) (512) 221-6365/2326 22c. OFFICE SYMBOL HSHA-IHC

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

89 1 25 02