

Evaluation of the TRICARE Program

FY 1999 Report to Congress

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Contents

EXECUTIVE SUMMARY	1
1. INTRODUCTION	1-1
2. BACKGROUND	2-1
2.1 The Three TRICARE Options	2-2
2.1.1 Standard	2-2
2.1.2 Extra.....	2-3
2.1.3 Prime	2-6
2.1.4 Overseas Programs	2-7
2.2 Supplemental Programs	2-7
2.2.1 Medicare Subvention Demonstration.....	2-7
2.2.2 TRICARE Retiree Dental Program	2-8
2.2.3 National Mail Order Pharmacy Program.....	2-8
2.2.4 Federal Employees Health Benefits Program Demonstration.....	2-9
3. ACCESS TO AND QUALITY OF HEALTH CARE UNDER TRICARE	3-1
3.1 Methods and Data Sources.....	3-1
3.1.1 General Method	3-1
3.1.2 Data Sources (DoD Surveys)	3-2
3.1.3 Subpopulations	3-4
3.1.4 Presentation Scheme	3-6
3.2 Subpopulation Characteristics	3-6
3.3 Changes in Access	3-8
3.3.1 Realized Access	3-9
3.3.2 Availability of Care	3-11
3.3.3 Process of Obtaining Care	3-13
3.3.4 Effects of Provider Type on Perceptions of Prime Enrollees	3-15
3.4 Changes in Quality of Care	3-17
3.4.1 Meeting Standards Under TRICARE.....	3-18
3.4.2 Perceptual Measures of Quality of Care	3-19
3.5 Satisfaction With Filing Medical Claims Under TRICARE.....	3-22
3.6 Region 11 Changes	3-23
3.6.1 Access to Care	3-24
3.6.2 Quality of Care	3-26
3.7 Areas of Possible Concern.....	3-26
3.7.1 Satisfaction With Military vs. Civilian Care	3-26
3.7.2 Shortfalls in Meeting Quality-of-Care Goals	3-27
3.7.3 Claims Processing.....	3-28
3.8 What Went Right	3-28
4. EVALUATION OF TRICARE COSTS	4-1
4.1 Methods and Data Sources.....	4-1
4.1.1 Data Sources	4-1
4.1.2 Purchased Care Data.....	4-2
4.1.3 Direct Care Data	4-3
4.1.4 Utilization and Cost Models	4-4
4.1.5 Summary of Findings	4-6

4.2	Cost to the Government	4-17
4.2.1	Direct-Care Costs.....	4-17
4.2.2	Managed-Care Support Costs	4-21
4.2.3	FYDP Costs	4-24
4.2.4	Cost per User	4-24
4.2.5	Summary.....	4-25
4.3	Cost to Covered Beneficiaries.....	4-26
4.3.1	Beneficiary Expenses Under TRICARE	4-27
4.3.2	Effect of TRICARE on Insurance Coverage Decisions	4-29
4.3.3	Effect of TRICARE on Family Utilization Rates	4-30
4.3.4	Computation of Total Out-of-Pocket Expenses.....	4-31
4.3.5	Total Out-of-Pocket Expenses	4-33
4.3.6	Summary.....	4-35
APPENDIX A: DISTRIBUTION OF SUBPOPULATIONS IN THE 1994 AND		
	1997 SAMPLES	A-1
APPENDIX B: REGIONAL DEMOGRAPHICS (MEANS OF CONTROL		
	VARIABLES IN THE 1997 POPULATION).....	B-1
APPENDIX C: REGIONAL CHANGES FROM 1994 TO 1997 IN ACCESS		
	AND SATISFACTION WITH CARE INDICATORS	C-1
APPENDIX D: EFFECT OF PCM TYPE ON PERCEPTIONS OF PRIME		
	ENROLLEES BY TRICARE REGION.....	D-1
APPENDIX E: REGIONAL QUALITY-OF-CARE INDICATORS		
		E-1
APPENDIX F: REGIONAL DIFFERENCES IN SATISFACTION WITH		
	ADMINISTRATIVE ASPECTS OF TRICARE STANDARD	F-1
APPENDIX G: CHANGES IN ACCESS AND QUALITY-OF-CARE		
	OUTCOMES IN REGION 11: 1994, 1996, 1997	G-1
APPENDIX H: SAMPLE SELECTION PROCEDURES		
		H-1
APPENDIX I: BENEFICIARY ACCESS MEASURES FOR PREDICTING		
	UTILIZATION	I-1
APPENDIX J: REGIONAL ANALYSIS OF UTILIZATION AND		
	GOVERNMENT COSTS	J-1
APPENDIX K: EFFECT OF TRICARE ON OTHER INSURANCE		
	COVERAGE.....	K-1
ABBREVIATIONS		
		L-1

Tables

2-1. TRICARE Status (August 1999)	2-2
2-2. TRICARE Cost-Sharing Features	2-4
3-1. Effect of Time Enrolled in Prime During FY 1997 on Selected Outcomes	3-3
3-2. Distribution of Subpopulations Estimated from the 1994 and 1997 Samples	3-5
3-3. Comparison of Control Variables Between the 1994 and 1997 Populations	3-7
3-4. Control Variable Means in the 1997 Population	3-7
3-5. Changes in Percentage of Beneficiaries With a Medical Visit From 1994 to 1997 ...	3-9
3-6. Changes in Proportion of Beneficiaries Using the Emergency Room From 1994 to 1997	3-10
3-7. Changes in Realized Care Indicators From 1994 to 1997	3-10
3-8. Percentage Satisfied With Getting Care When Needed	3-12
3-9. Availability Measures of Access—All Regions Combined	3-12
3-10. Wait for a Medical Appointment (1997)	3-15
3-11. Process Measures of Access—All Regions Combined	3-15
3-12. Proportion of Prime Enrollees Choosing Own PCM.....	3-16
3-13. Effect of Choice of PCM on Prime Enrollee Perceptions of TRICARE.....	3-17
3-14. <i>Healthy People 2000</i> Goal Achievement by Subpopulation.....	3-20
3-15. Regional Changes in Perceived Overall Quality of Care	3-21
3-16. Measures of Perceived Quality of Care	3-22
3-17. Satisfaction With TRICARE Standard (CHAMPUS) Claims Procedures	3-23
4-1. Distribution of Beneficiary Population by Enrollment Status, Beneficiary Group, and Location.....	4-6
4-2. MTF Outpatient Utilization and Costs	4-14
4-3. Comparison of Baseline with TRICARE Costs in TRICARE Regions	4-18
4-4. MEPRS F Subaccounts Affected by TRICARE in TRICARE Regions	4-19
4-5. Sources of Government Cost Reductions Under TRICARE.....	4-25
4-6. Average Cost of TRICARE Supplemental Policies in FY 1997	4-28
4-7. Distribution of Source of Payment and Expected Cost of Private Insurance Policies in FY 1997	4-29
4-8. The Effect of TRICARE on Insurance Coverage	4-30
4-9. Changes in Family Purchased-Care Utilization Rates Under TRICARE.....	4-31
4-10. Effect of TRICARE on Total Family Out-of-Pocket Expenses	4-33
4-11. Changes in Family Out-of-Pocket Expenses Due to TRICARE.....	4-35

Figures

2-1. TRICARE Health Service Regions, Lead Agents, and Contractors.....	2-1
3-1. Getting Care When Needed.....	3-11
3-2. Ease of Making Appointments	3-14
3-3. Wait Time for an Appointment.....	3-14
3-4. Achievement of <i>Healthy People 2000</i> Goals in 1997	3-19
3-5. Change in Satisfaction With Overall Quality of Care.....	3-21
3-6. Satisfaction With Access to Care in Region 11.....	3-24
3-7. Satisfaction With Ease of Making Appointments in Region 11.....	3-25
3-8. Use of the ER for Care in Region 11.....	3-25
3-9. Satisfaction With Overall Quality of Care in Region 11.....	3-26
4-1. Sources of Data Used for Evaluation of TRICARE Costs	4-2
4-2. Average Annual Purchased-Care Outpatient Utilization per Beneficiary.....	4-8
4-3. Average Purchased-Care Outpatient Cost per Beneficiary	4-9
4-4. Average Annual Purchased-Care Inpatient Utilization per Beneficiary.....	4-10
4-5. Average Purchased-Care Inpatient Cost per Beneficiary	4-11
4-6. Average Annual Purchased-Care Prescription Utilization per Beneficiary	4-12
4-7. Average Purchased-Care Prescription Cost per Beneficiary.....	4-13
4-8. Average Annual MTF Inpatient Utilization per Beneficiary.....	4-15
4-9. Average MTF Inpatient Cost per Beneficiary.....	4-16
4-10. MCS Administrative Costs	4-23
4-11. Total Family Out-of-Pocket Expenses	4-34

EXECUTIVE SUMMARY

This year's evaluation, which covers FY 1997 TRICARE experience, is focused on Regions 3 (Southeast), 4 (Gulf South), 6 (Southwest), 9 (Southern California), 10 (Golden Gate), 11 (Northwest), and 12 (Hawaii) because they are the only regions for which at least one full year of data under TRICARE is available. With the exception of Region 11, which is being evaluated with regard to its second year of operation under TRICARE, each region is being evaluated for the first time. Access, quality, and costs under TRICARE are being compared with estimates of what those attributes would have been had the Department of Defense (DoD) continued the traditional military health care benefit that prevailed during the last complete fiscal year before TRICARE (FY 1994). There is no control group from which to infer what the access, quality, and cost of care would have been had the traditional health care benefit been extended through FY 1997. Therefore, the effects of TRICARE could not be completely isolated from the changes that would have occurred anyway.

Access to Care

The evaluation of changes in access and quality of care used data from the 1994 and 1997 Health Care Surveys of DoD Beneficiaries. These surveys sampled representative cross sections of all beneficiaries in each respective year. To isolate the effects of the TRICARE program, it was necessary to control for beneficiary population changes that could affect access, such as health status and various demographic characteristics. These effects were controlled using statistical regression analysis.

In the regions studied, access to health care generally improved under TRICARE. Enrollees in TRICARE Prime (the Health Maintenance Organization option) tended to be satisfied with their level of access. Those enrolled with a military Primary Care Manager (PCM) tended to report greater levels of satisfaction with access than those enrolled with a civilian PCM. Three kinds of access measures were used to reach these conclusions: realized access, availability, and the process of obtaining care. Table ES-1 summarizes the changes in access between 1994 and 1997.

Table ES-1. Summary of Changes in Access (All Regions Combined)

Measure	Statistically Significant Change Under TRICARE	
	Overall	Prime
Realized Access		
Likelihood of having a visit	Increased	Increased
Use of preventive care ^a	Mostly increased	Mostly increased
Use of the emergency room	Decreased	Decreased
Availability		
Getting care when needed	Increased	Increased
Process of Obtaining Care		
Satisfaction with ease of making appointment	Increased	Increased
Wait time for an appointment	Decreased	Decreased

^a Increases in blood pressure and cholesterol checks, physical exams, wellness advice and immunizations; decreases in Pap tests and prenatal care first trimester.

Quality of Care

This evaluation considered two major aspects of quality: meeting national standards, and quality of care as perceived by DoD beneficiaries. DoD has adopted as its standard the national health-promotion and disease-prevention objectives specified by the U.S. Department of Health and Human Services in *Healthy People 2000*.¹ Care levels under TRICARE were compared with these national standards. Most of the goals are being met or are nearly being met under TRICARE.

Also examined were beneficiaries' perceptions of the quality of their health care under TRICARE. The general pattern of results suggests that most beneficiaries were satisfied with the quality of their care. Where the changes in perceived quality between 1994 and 1997 were significant, the general pattern was in the positive direction.

Satisfaction with Filing Medical Claims

Fewer people have had to file claims under TRICARE. Beneficiary satisfaction with the level of coverage, providers' willingness to file claims, and time to solve claims problems under TRICARE have improved. At the same time, however, levels of satisfaction with claims processing procedures and the time it takes for beneficiaries to be reimbursed have fallen.

Cost to the Government

Absent a control group, an FY 1994 baseline was constructed by adjusting actual FY 1994 costs for inflation, rightsizing Military Treatment Facilities (MTFs), and changing the size and composition of the beneficiary population. Table ES-2 summarizes the evaluation findings with regard to government costs.

**Table ES-2. Summary of Government Costs in TRICARE Regions
(Millions of FY 1997 Dollars)**

Source	FY 1994 Baseline	FY 1997 TRICARE	Difference
Direct Care	\$4,549	\$4,440	-\$109
Managed Care Support	1,840	1,607	-233
Other Government Costs	419	443	24
Total Government Cost	\$6,808	\$6,490	-\$318

There is some evidence that managed care has been successfully implemented at MTFs. Although outpatient costs increased under TRICARE, inpatient costs decreased by twice as much. That pattern is consistent with what typically occurs in commercial managed-care settings. On balance, direct care costs under TRICARE were \$109 million lower than those in the FY 1994 baseline.

¹ *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, Department of Health and Human Services, Office of Disease Prevention and Health Promotion, 1991.

Civilian-sector care under TRICARE is arranged by Managed Care Support (MCS) contractors, who supplement the care provided at MTFs. MCS costs under TRICARE were \$233 million lower than CHAMPUS costs in the FY 1994 baseline. Administrative costs comprised an average of 17 percent of total MCS contract value throughout the TRICARE regions. However, administrative costs in Region 11 were much higher—some 22 percent of total contract value. This anomaly occurred because the MCS contract in Region 11 (the first of the MCS contracts in place) contained no provision to reduce administrative costs in response to reductions in direct health care costs.

Prescription costs increased by a total of \$81 million throughout the TRICARE regions. These increases included prescriptions filled at MTF pharmacies in connection with MTF visits (up \$21 million); prescriptions written by civilian physicians but filled at MTF pharmacies (up \$22 million); and prescriptions filled at MCS network pharmacies (up \$38 million).

Despite the increases in prescription costs and the administrative costs on the MCS contracts, total government costs under TRICARE were \$318 million lower than those in the FY 1994 baseline.

Although the government realized a decrease in its costs under TRICARE, the source of most of the decrease appears to be reduced utilization of the Military Health System by nonenrolled beneficiaries. Direct-care inpatient utilization by nonenrollees declined by 30 percent, and purchased-care inpatient and outpatient utilization each declined by 15 percent. According to the 1997 Health Care Survey of DoD Beneficiaries, 15 percent of nonenrollees added private insurance coverage because of TRICARE. Furthermore, under TRICARE there has been a decline in the incidence of purchased-care claims filing by nonenrollees with private health insurance.

Cost to Covered Beneficiaries

Out-of-pocket costs include deductibles and copayments for purchased care, TRICARE Prime enrollment fees, and premiums for TRICARE supplemental and other private health insurance policies. For beneficiaries age 65 or older, expenses also include Medicare Part B and Medicare supplemental (Medigap) premiums, and unreimbursed Medicare expenses. Because of a lack of data on the latter expenses, Medicare-eligible beneficiaries were excluded from the evaluation of out-of-pocket costs.

For active-duty families who enrolled in TRICARE Prime, out-of-pocket costs were essentially unchanged from the FY 1994 baseline values. For active-duty families who did not enroll, annual costs increased by about \$100.

For retiree families who enrolled in TRICARE Prime, out-of-pocket costs increased by about \$80 per family. This increase occurred because Prime enrollment fees (which averaged about \$400 per family) more than offset declines in deductibles, copayments, and insurance costs.

Retiree families who did not enroll in Prime saw their out-of-pocket costs increase by almost \$500. Because of TRICARE, about 15 percent of nonenrolled retirees added private health insurance coverage. The resulting increase in private insurance expenses accounts for most of the increase in out-of-pocket costs for nonenrolled retirees.

Overall Conclusion

During FY 1997, TRICARE improved both the access to and quality of health care for DoD beneficiaries. Government costs under TRICARE were lower than the estimated costs had the traditional health care benefit been extended through FY 1997. Beneficiary out-of-pocket costs were about the same for active-duty families, but they increased by an average of about \$350 for retiree families.

1. INTRODUCTION

The 104th Congress, through enactment of the National Defense Authorization Act for fiscal year (FY) 1996, Section 717, directed the Secretary of Defense to arrange for an ongoing, independent evaluation of the TRICARE program. The legislation requires that the evaluation assess the effectiveness of the TRICARE program in meeting the following objectives:

- Improving the access to and quality of health care received by eligible beneficiaries, and
- Keeping both government and beneficiary costs at levels the same as or lower than before TRICARE was implemented.

In response to the congressional tasking, the FY 1998 evaluation considered the additional issue of identifying noncatchment areas¹ in which the Health Maintenance Organization (HMO) option (Prime) of the TRICARE program is available or proposed to become available. Because that report and others have already extensively addressed the issue of extending the Prime option, there are no plans to reevaluate it this year.

The legislation further states that the Secretary may use a Federally Funded Research and Development Center to conduct the evaluation. The Office of the Assistant Secretary of Defense for Health Affairs [OASD(HA)] selected the CNA Corporation and the Institute for Defense Analyses (IDA) to conduct the evaluation.

This year's report extends the evaluation of the TRICARE program to seven Health Service Regions—3 (Southeast), 4 (Gulf South), 6 (Southwest), 9 (Southern California), 10 (Golden Gate), 11 (Northwest), and 12 (Hawaii). A common framework is developed for the analysis of access and quality of care and the analysis of utilization and cost. Access, quality, and costs under TRICARE in FY 1997 are compared with estimates of those attributes under the traditional military benefit of direct care and the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) that prevailed in FY 1994. The latter estimates are adjusted for known changes in the military beneficiary population composition and size. The FY 1994 cost estimates are also adjusted for inflation, changes in Military Treatment Facility (MTF) accounting, and Base Realignment and Closure (BRAC) and other Service "rightsizing" initiatives.

FY 1997 is the second full year under TRICARE for Region 11 and the first for the other regions covered by this evaluation. Regions 7 and 8 (consolidated into TRICARE Central) experienced their first full year under TRICARE in FY 1998 and will be evaluated in the FY 2000 report. The remaining regions [1 (Northeast), 2 (Mid-Atlantic), and 5 (Heartland)] will be covered in the FY 2001 report.

As with last year's evaluation of Region 11, there is no control group from which direct inferences can be made on how access, quality, utilization, and cost would have

¹ A catchment area is an approximately 40-mile-radius region around a military hospital, allowing for natural geographic boundaries and transportation accessibility. Noncatchment areas lie outside catchment area boundaries.

progressed in the absence of TRICARE. For this evaluation, a control group would consist of regions with similar MTF services and capacities, serving similar beneficiary populations in terms of size, composition, health, and private insurance coverage. Furthermore, the control regions would have to conduct business in a manner uninfluenced by TRICARE. Because it is believed that no such control regions exist, all comparisons under TRICARE are made with the traditional approach to military health care delivery adjusted, where possible, for known changes that would likely have occurred even in the absence of TRICARE. Thus, if TRICARE is found to be effective in terms of its stated objectives, this does not mean that it is more effective than alternative managed care models—only that it is more effective than the way the military used to deliver health care.

Because most of the expected cost savings and improvements in access and quality are purportedly due to features of the Prime option, estimates of cost, access, and quality are broken out, whenever possible, by beneficiaries' enrollment status [i.e., enrolled with a military Primary Care Manager (PCM), enrolled with a civilian PCM, or not enrolled].

Whenever possible, an attempt is made to discern the reasons for any differences between the traditional and TRICARE systems. For example, the efficacy of the Prime option could be affected by favorable selection in the early stages of the TRICARE program. That is, beneficiaries who select the Prime option may be younger or healthier than the general Department of Defense (DoD) beneficiary population and, consequently, use fewer medical services (affecting cost) and have better treatment outcomes (affecting quality). Conversely, improved benefits under TRICARE may have attracted “ghost” beneficiaries back into the system, thereby increasing total costs. These and other effects will be investigated in an effort to understand the cost differences between the traditional system and TRICARE.

This report begins with some background information about the TRICARE program. That section is followed by the findings regarding the impact of TRICARE on beneficiary access to health care and on the quality of health care. Then come the findings regarding government and beneficiary costs, respectively. The main text presents the evaluation results for all TRICARE regions combined; the appendices present additional details by region.

2. BACKGROUND

TRICARE is the DoD's regional managed-care program for delivering health care to members of the Armed Services and their families, survivors, and retired members and their families. Congress has mandated that the program be modeled on HMO plans offered in the private sector and other similar government health-insurance programs. In addition, those who enroll in the HMO option are to have reduced out-of-pocket costs and a uniform benefit structure. Congress further directed that the TRICARE program be administered so that the costs incurred by the DoD are no greater than the costs that would otherwise have been incurred under the traditional benefit of direct care and CHAMPUS.

The program offers three choices to CHAMPUS-eligible beneficiaries. They can:

- Enroll in an HMO-like program called "TRICARE Prime,"
- Use a network of civilian preferred providers on a case-by-case basis under "TRICARE Extra," or
- Receive care from non-network providers under "TRICARE Standard" (same as standard CHAMPUS).

TRICARE is administered on a regional basis. The country is divided into 11 geographical regions, as shown in Figure 2-1, and a Military Treatment Facility (MTF) commander in each region is designated as Lead Agent. The Lead Agents are responsible for coordinating care within their regions. They ensure the appropriate referral of patients between the direct-care system and civilian providers and have oversight responsibility for delivering care to both active-duty and non-active-duty beneficiaries.

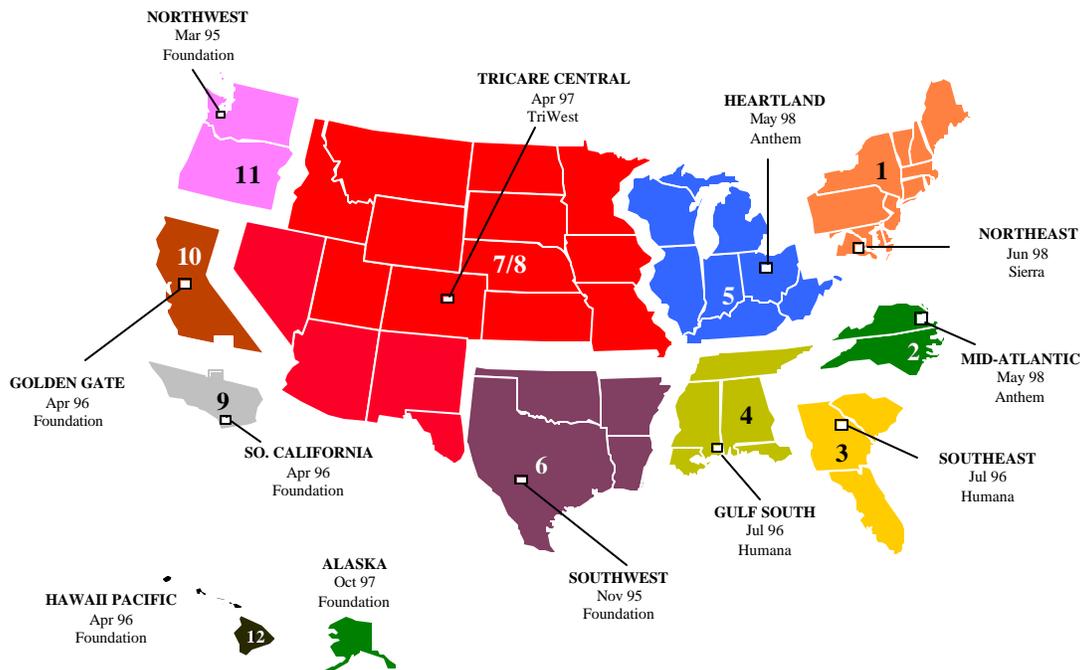


Figure 2-1. TRICARE Health Service Regions, Lead Agents, and Contractors

Because of the size and complexity of the program, the DoD phased in the implementation of TRICARE region-by-region over approximately a 3-year period. Health care is arranged under a Managed Care Support (MCS) contract that supplements the care provided in MTFs. Table 2-1 shows the MCS health care delivery start dates and the number of beneficiaries enrolled under active contracts, by region, as of August 1999. The current evaluation covers Regions 3, 4, 6, 9, 10, 11, and 12. With the exception of Region 11, which is being evaluated with regard to its second year of operation, each region is being evaluated for the first time.

Table 2-1. TRICARE Status (August 1999)

TRICARE Region	Beneficiary Population	Prime Start Date	Enrollment		
			Active Duty	Active Duty Family Members	Retirees and Family Members
1. Northeast	1,012,716	Jun 98	125,188	144,334	98,109
2. Mid-Atlantic	837,690	May 98	132,685	196,788	49,362
3. Southeast	1,090,732	Jul 96	94,694	182,148	120,953
4. Gulf South	599,014	Jul 96	52,090	98,715	69,205
5. Heartland	635,679	May 98	57,356	91,759	48,449
6. Southwest	951,911	Nov 95	114,521	194,689	144,481
7/8. Central	1,082,966	Apr 97	132,644	215,969	124,432
9. Southern California	625,549	Apr 96	57,125	127,620	58,952
10. Golden Gate	278,540	Apr 96	20,753	38,858	38,665
11. Northwest	372,733	Mar 95	31,788	84,464	64,199
12. Pacific (Hawaii)	146,025	Apr 96	32,598	55,097	10,675
Western Pacific	165,825	Oct 96	96,876	55,501	427
Alaska	69,478	Oct 96	16,827	7,223	48,788
Europe	268,760	Oct 96	106,417	128,938	538
Latin America	15,524	Oct 96	5,821	6,551	49

2.1 The Three TRICARE Options

TRICARE offers beneficiaries three options—Standard, Extra, and Prime. The following subsections provide descriptions of each option. Table 2-2 shows the cost-sharing features of the three options.

2.1.1 Standard

TRICARE Standard is the new name for the health care option formerly known as CHAMPUS (a DoD-administered indemnity plan). All persons eligible for military health care, except active-duty members and most Medicare-eligible beneficiaries, can use TRICARE Standard. No enrollment is required. Under this option, eligible beneficiaries can choose any civilian physician they want for health care, and the government will pay a percentage of the cost.

For active-duty families, TRICARE Standard pays 80 percent of the CHAMPUS Maximum Allowable Charge (CMAC) for outpatient health care after the annual deductible has been met. For retirees and their families, TRICARE Standard pays 75 percent of the CMAC.

Active-duty family members pay \$10.20 per day or a \$25 minimum fee for inpatient care at civilian hospitals. Retiree families pay considerably more: \$360 per day or 25 percent of the charges, whichever is less. Also, retiree families must pay 25 percent of the cost for any separately billed physician and professional fees, which can amount to an additional several hundred dollars per day.

Beneficiaries can seek care from a military hospital or clinic before receiving care from civilian sources (beneficiaries residing in a catchment area *must* first seek care from a military hospital for inpatient care and for selected outpatient procedures). Outpatient visits, when available, are free, as are prescriptions filled at the MTF pharmacy. For inpatient care, MTFs charge flat fees of \$8.00 per day for active-duty personnel and \$10.20 per day for all others; retired enlisted personnel are exempted. Finally, TRICARE Prime enrollees receive first priority for care in MTFs.

2.1.2 Extra

All persons eligible for military health care, except active-duty and most Medicare-eligible beneficiaries, can use a network of preferred providers under TRICARE Extra. Like TRICARE Standard, no enrollment is required for TRICARE Extra. Beneficiaries simply use the network providers, who have agreed to charge a discounted rate for medical treatment and procedures. The rates are discounted from the CMACs, as agreed upon with the MCS contractor.

As with TRICARE Standard, the government shares the costs of health care. For using this network of preferred providers, the government pays an additional 5 percent of outpatient costs incurred. This saving applies equally to active-duty families and retirees, raising the government's cost shares to 85 percent and 80 percent, respectively. Although outpatient costs are subject to a deductible, prescriptions filled under Extra receive first-dollar coverage (unlike prescriptions filled under Standard). Health-care providers participating in the Extra network also agree to use the allowable rate schedule (based on a discount from the CMAC rates), so the beneficiaries do not incur any additional charges.

Another advantage of TRICARE Extra is that participating providers will always file claims for the patient. With TRICARE Standard, some eligible beneficiaries may occasionally have to pay for their health care first and then apply for reimbursement. With TRICARE Extra, the participating provider is paid directly by the MCS contractor, requiring the patient to pay only the cost share amount at time of treatment.

Beneficiaries can also use a combination of health care professionals—some who are part of the Extra network and others who are not. Because there is no formal enrollment in either TRICARE Standard or TRICARE Extra, beneficiaries are free to switch back and forth among providers as they prefer. Beneficiaries can continue to seek care from a military hospital or clinic on a space-available basis. They can also seek care from civilian sources subject to the same restrictions for beneficiaries residing in catchment areas.

Table 2-2. TRICARE Cost-Sharing Features

	TRICARE Prime	TRICARE Extra	TRICARE Standard
Choice of civilian doctors, hospitals, clinics	Must choose from government-approved network	Can choose from government-approved network for lower cost	Unlimited
Annual enrollment fees			
All active duty ^a	None	None	None
Retirees	Individual: \$230 Family: \$460	None	None
Annual outpatient deductibles			
E-4 and below ^a	None	Individual: \$50 Family: \$100	Individual: \$50 Family: \$100
All other active duty ^a	None	Individual: \$150 Family: \$300	Individual: \$150 Family: \$300
Retirees	None	Individual: \$150 Family: \$300	Individual: \$150 Family: \$300
Catastrophic cap			
All active duty ^a	\$1,000	\$1,000	\$1,000
Retirees	\$3,000	\$7,500	\$7,500
Copayments for visit to civilian doctor			
E-4 and below ^a	\$6	15 percent ^c	20 percent ^b
All other active duty ^a	\$12	15 percent ^c	20 percent ^b
Retirees	\$12	20 percent ^c	25 percent ^b
Prescription drugs (retail network)			
All active duty ^a	\$5	15 percent ^c	20 percent ^b
Retirees	\$9	20 percent ^c	25 percent ^b
Mail order pharmacy			
All active duty ^a	\$4 for up to a 90-day supply	\$4 for up to a 90-day supply	Unavailable
Retirees	\$8 for up to a 90-day supply	\$8 for up to a 90-day supply	Unavailable

Table 2-2 (Continued)

	TRICARE Prime	TRICARE Extra	TRICARE Standard
Copayments at civilian hospitals for inpatient care			
All active duty ^a	\$11 per day (\$25 minimum per stay); \$20 per day for mental health	\$10.45 per day (\$25 minimum per stay); 20 percent for mental health	\$10.45 per day (\$25 minimum per stay); 20 percent for mental health
Retirees	\$11 per day (\$25 minimum per stay); \$40 per day for mental health	Less of \$250 per day or 25 percent of hospital charges, plus 20 percent of professional fees; for mental health, 20 percent of all charges ^c	Lesser of \$376 per day or 25 percent of hospital charges, plus 25 percent of professional fees; for mental health, lesser of \$140 per day or 25 percent of all charges ^b
Ambulance service			
E-4 and below ^a	\$10	20 percent ^c	20 percent ^b
All other active duty ^a	\$15	20 percent ^c	20 percent ^b
Retirees	\$20	25 percent ^c	25 percent ^b
Outpatient surgery			
All active duty ^a	\$25	\$25	\$25
Retirees	\$25	20 percent ^c	25 percent ^b
Preventive services	\$0	Not covered	Not covered
Medical equipment patient takes home			
E-4 and below ^a	10 percent ^b	20 percent ^c	20 percent ^b
All other active duty ^a	15 percent ^b	20 percent ^c	20 percent ^b
Retirees	20 percent ^b	25 percent ^c	25 percent ^b

Source: adapted from *TRICARE/CHAMPUS User's Guide*, Special Section in *Army Times*, *Navy Times*, *Air Force Times*, March 8, 1999.

^a Figures in the table apply to active-duty family members only. For active-duty sponsors, care is generally available at MTFs only. All such care is free, except for an \$8.00 daily subsistence fee during inpatient stays at MTFs.

^b Percentages are applied to the CMAC. In addition, for non-participating providers, beneficiaries pay the excess above the CMAC; however, providers are forbidden by law from charging more than 115 percent of the CMAC.

^c Percentages are applied to the negotiated amount, which is less than the CMAC.

2.1.3 Prime

All active-duty military personnel are automatically enrolled in TRICARE Prime at their nearest MTF. All other persons eligible for military health care, except Medicare-eligibles, can enroll in TRICARE Prime. Enrollment is open at all times and is not restricted to any “open season.” There are also no restrictions on enrollment based on pre-existing medical conditions.

Medicare-eligible retirees are not ordinarily eligible to enroll in Prime. However, this rule is being relaxed at six sites under the TRICARE Senior Project. Under this program, Medicare-eligible retirees will be able to enroll at selected MTFs, and the DoD will receive reimbursement from the Department of Health and Human Services (DHHS). Medicare rates are approximately equal to the CMAC rates and are typically higher than the discounted rates offered by network providers. Reimbursement will begin only after the DoD has expended the historical level of resources provided to care for Medicare-eligible beneficiaries. The two departments will work together to monitor the program and determine whether its expansion to other sites would prove cost effective.

Each enrollee chooses or is assigned a PCM. The PCM is a health-care professional or medical team that patients see first for their health-care needs. PCMs are supported by military and civilian medical specialists to whom patients are referred if they need specialty care. Referrals are facilitated by a Health Care Finder (HCF), a contractor employee who coordinates with the PCM to help beneficiaries find specialty care in the civilian community when the needs of the patient cannot be met by the MTF (HCF services are available to all beneficiaries, not just those enrolled in Prime). Depending on the enrollees’ status, the locale, and the availability of medical professionals, they can either select a PCM at a nearby military hospital or clinic or request a civilian professional who is a member of the contracted Prime network in a nearby community. In some cases, the Lead Agent may either direct patients to a military PCM at an MTF if there is unused capacity or assign them a civilian PCM if MTF capacity is exceeded.²

All beneficiaries enrolled in TRICARE Prime are guaranteed access to care according to strict time standards. Emergency services are available within the Prime service area 24 hours per day, 7 days per week. Primary care should be available within a 30-minute drive from the beneficiary’s home. The maximum waiting times for primary-care appointments are 1 day for acute care; 1 week for routine, non-urgent care; and 4 weeks for health maintenance and preventive care. Specialty care should be available within a 1-hour drive from home, and the maximum waiting time for specialty-care appointments is 4 weeks.

Retirees and their families pay a fee of \$230 per year to enroll in Prime, with a \$460 family cap. In return for these fees, enrollees make nominal copayments and are not required to meet a deductible. TRICARE Prime covers a variety of preventive and wellness services. Examples of such services include eye examinations, immunizations,

² Throughout this report, the term “military PCM” refers to a provider at a military facility, regardless of whether the provider is in the uniformed services or a civilian. Similarly, the term “civilian PCM” refers to a provider at a network facility.

hearing tests, mammography, Pap smears, prostate examinations, and other cancer-prevention and early-diagnosis examinations. All clinical preventive services are free under Prime, whether performed at an MTF or at a network facility.

Non-active-duty Prime enrollees can seek care from non-network providers through a point-of-service option, but they must pay a substantial penalty in the form of an even higher cost share than under TRICARE Standard.

2.1.4 Overseas Programs

TRICARE overseas programs have been implemented in Europe, the Western Pacific, Alaska, and Latin America under agreements with individual providers rather than through at-risk contractors. TRICARE overseas offers two options: Prime and Standard. The Prime option is currently open to all active-duty personnel and family members who choose to enroll. The Prime benefit is the same as in the United States, except that the copayment is waived (except in Alaska) for family members who must obtain care from host-nation sources.

2.2 Supplemental Programs

The DoD introduced several new programs in FY 1998 that could potentially affect subsequent evaluations of the TRICARE program. The new programs are:

- TRICARE Senior (Medicare subvention) demonstration,
- TRICARE Retiree Dental Program,
- National Mail Order Pharmacy program, and
- Federal Employees Health Benefits Program demonstration.

Because none of these programs was available in FY 1997, the year covered by this report, they have no impact on this year's evaluation. Brief descriptions of each program follow.

2.2.1 Medicare Subvention Demonstration

In February 1998, the DHHS, the Health Care Financing Administration (HCFA), the DoD, and the OASD(HA) completed a Memorandum of Agreement to conduct a demonstration, or test project, under which the DHHS would reimburse the DoD from the Medicare Trust Fund for certain health care services provided to Medicare-eligible military (dual-eligible) beneficiaries at MTFs or through contracts. The program, called TRICARE Senior, was authorized by Section 1896 of the Social Security Act, amended by Section 4015 of the Balanced Budget Act of 1997 (Public Law 105-33). The statute authorized the DoD and the DHHS to conduct a 3-year Medicare subvention demonstration, ending in December 2000.

TRICARE Senior consists of two types of health care delivery systems: TRICARE Senior Prime and Medicare Partners. Under TRICARE Senior Prime, the Medicare program treats the DoD and its Military Health System (MHS) similar to a Medicare+Choice plan for dual-eligible Medicare/DoD beneficiaries. Medicare will pay for dual-eligibles enrolled in the DoD managed care program after DoD meets its current level of effort, measured in terms of health care expenditures for the dual-eligible

population. Medicare-eligible military retirees who enroll in the program are assigned a PCM at the MTF. Enrollees are referred to specialty care providers at the MTF and to participating members of the existing TRICARE Prime network. TRICARE Senior Prime enrollees are afforded the same priority access to MTF care as military retiree families enrolled in TRICARE Prime. Under Medicare Partners, DoD will receive payment from Medicare+Choice plans whenever DoD provides inpatient or physician specialty care services to dual-eligible beneficiaries enrolled in those plans.

Under Medicare subvention, the DoD, for the first time, is able to enroll its Medicare-eligible retirees into the TRICARE Prime program and receive Medicare reimbursement. The Secretary of Defense and the Secretary of Health and Human Services selected six demonstration sites to test this TRICARE initiative in 1998. The sites are:

- Keesler Air Force Base, Biloxi, Mississippi;
- Wilford Hall Air Force Medical Center and Brooke Army Medical Center, San Antonio, Texas; Sheppard Air Force Base, Wichita Falls, Texas; and Fort Sill, Lawton, Oklahoma (for the purposes of this demonstration, San Antonio, Fort Sill and Sheppard are considered as one site);
- Fort Carson and the Air Force Academy, Colorado Springs, Colorado;
- Naval Medical Center San Diego, San Diego, California;
- Madigan Army Medical Center, Fort Lewis, Washington; and
- Dover Air Force Base, Dover, Delaware.

The MTFs participating in the demonstration were required to apply and be accepted into Medicare under the rules that apply to all other health plans serving Medicare. Military retirees enrolling in the demonstration must have received some care from military providers in the past or have become Medicare-eligible after December 31, 1997. Also, TRICARE Senior Prime enrollees must be in the Medicare fee-for-service program or switch from a Medicare HMO, continue to pay monthly Medicare Part B premiums, and agree to receive all their care through the demonstration. Beneficiaries in TRICARE Senior Prime do not pay the annual TRICARE Prime enrollment fee. To participate in Medicare Partners, a military retiree must be enrolled in a Medicare+Choice plan that contracts with one of the participating MTFs.

2.2.2 TRICARE Retiree Dental Program

On February 1, 1998, the DoD began offering retirees an optional dental plan similar to one already available to active-duty family members. This voluntary dental plan is administered by the DDP*Delta division of Delta Dental Plan of California. Services are provided in the 50 United States, the District of Columbia, Puerto Rico, Guam, the U.S. Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, and Canada. The DoD incurs no costs for this program; beneficiaries are responsible for all premiums.

2.2.3 National Mail Order Pharmacy Program

In October 1998, the DoD contracted with Merck-Medco Managed Care to operate a National Mail Order Pharmacy (NMOP) program. The mail-order services provided by the individual MCS contractors are being consolidated, region by region, with the NMOP

in an attempt to simplify ordering maintenance prescriptions by mail and reduce costs. Beneficiaries can still use the walk-in services of MTF or contractor pharmacies as long as there is no overlap or conflict with prescriptions ordered through the NMOP (the DoD maintains a computerized patient profile to avoid conflicts).

The following beneficiaries are eligible to participate in the NMOP:

- All active-duty service members worldwide,
- CHAMPUS-eligible beneficiaries residing in the Continental United States,
- Overseas CHAMPUS-eligibles with APO or FPO addresses,
- Medicare-eligible patients affected by a BRAC action,
- Medicare-eligible retirees enrolled in TRICARE Senior, and
- Uniformed Services Treatment Facility enrollees.

Beneficiaries can receive up to a 90-day supply of non-narcotic medications and up to a 30-day supply of narcotic medications. The service is free for active-duty service members, but there is a \$4 copayment per prescription for active-duty family members and an \$8 copayment per prescription for retirees and their family members. There are no deductibles for prescriptions filled through the NMOP.

2.2.4 Federal Employees Health Benefits Program Demonstration

In accordance with the National Defense Authorization Act for FY 1999, the DoD and the Office of Personnel Management are developing a demonstration that will allow some MHS beneficiaries to enroll with the Federal Employees Health Benefits Program (FEHBP) to receive their health care. The demonstration, which will provide medical care for up to 66,000 retirees and their family members, gives the DoD an opportunity to collect valuable information about the cost and feasibility of alternative approaches to improving the access to health care for those beneficiaries.

The DoD has selected eight sites for the FEHBP demonstration:

- Dover Air Force Base, Delaware;
- Commonwealth of Puerto Rico;
- Fort Knox, Kentucky;
- Greensboro/Winston-Salem/High Point, North Carolina;
- Dallas, Texas;
- Humboldt County, California area;
- Naval Hospital, Camp Pendleton, California; and
- New Orleans, Louisiana.

Under the demonstration, MHS beneficiaries can join the FEHBP during the autumn 1999 open season. Eligible beneficiaries include retirees over the age of 65 who are Medicare-eligible and their family members, former spouses of military members who have not remarried, and family members of deceased members or former members. Medicare eligibility is not required for the family members of retirees and the latter two groups. Coverage will begin in January 2000 and end in December 2002.

Beneficiaries must enroll in an FEHBP plan and pay any applicable premiums to receive benefits. During the demonstration, enrollees cannot use MTFs for any services. Premiums will be based on a separate risk pool for MHS beneficiaries. The government's contribution will be computed in the same way as it is currently done under the FEHBP.

3. ACCESS TO AND QUALITY OF HEALTH CARE UNDER TRICARE

The FY 1998 evaluation³ was limited to measuring changes in a single TRICARE region—Region 11 (Northwest)—because it was the only region at that time for which a full year of data under TRICARE was available. In summary, the results of the limited Region 11 evaluation showed that under TRICARE:

- Access improved, and
- Most quality-of-care goals were met or nearly met.

The current FY 1999 evaluation looks at changes in six additional regions that have now been online for at least 1 year and have sufficient data for analysis. In addition, trends from 1994 to 1997 in access and quality of care in Region 11 are examined.

3.1 Methods and Data Sources

3.1.1 General Method

For the most part, this year's evaluation of TRICARE's effects on the access to and quality of health care uses the same methodology as was used in the past. The single exception relates to how the additional year of data for Region 11 was used.

The evaluation compares data on access and quality of care collected before TRICARE was implemented in any region (1994) and after TRICARE had been enrolling people in Prime for about 1 year. Because the date of TRICARE enrollment differed across regions, the time between the baseline period and the follow-up also varied. The choice of the baseline period was, to a great extent, determined by the data available for the evaluation.

To isolate the effects of the TRICARE program, it was necessary to control for possible changes in the beneficiary population over time that could also affect access. These effects were controlled by statistical regression analysis. The control variables included measures of health status of the population and various demographic characteristics. The summary data reported here are estimated from regression models, which hold health status and demographics constant at the FY 1997 population means. This allows an estimation of how the current (FY 1997) population would have perceived access and quality factors in FY 1994, in the absence of TRICARE.

The initial intention was to construct a quasi-control group from which inferences could be made on how access and quality would have been experienced under *status quo* conditions—had TRICARE not been implemented. The aim in constructing a quasi-control group is to find a subpopulation of beneficiaries who were unaffected by TRICARE.

³ Stoloff, Peter H. (CNA); Lurie, Philip M. (IDA); Goldberg, Matthew S. (IDA); Miller, Richard D. (CNA); Sharma, Ravi (IDA). *Evaluation of the TRICARE Program: FY 1998 Report to Congress*, 18 Sep. 1998.

The use of a control group would allow for the separation of the effects of changes that would have occurred in the absence of TRICARE. For example, suppose there were advances in telephone appointment technology that would have been implemented even if the current TRICARE system did not exist. Further, suppose that this system would remove barriers to making medical appointments, which would, in turn, reduce waiting time for an appointment by 1 day. At the same time, suppose that measures, before and after TRICARE implementation, of the number of days people wait for an appointment shows an improvement of 2 days. The reduction in days waiting for a medical appointment *attributable to TRICARE* would actually be only 1 day after the exogenous effect is removed.

After statistical investigation, however, no group that was unaffected by the TRICARE program in FY 1997 could be identified. Therefore, it was necessary to use a before-and-after design for the current evaluation in lieu of one with a control group. This methodology compares measures of access and quality-of-care outcomes in 1997 with historical outcomes measured in 1994, before TRICARE was implemented anywhere. A disadvantage of a before-and-after design is the possible confounding of TRICARE effects with other influences.

Despite this shortcoming, the before-and-after procedure was used as the method of analysis, and all changes in outcome measures are being attributed to TRICARE. No one knows what would have happened in the absence of TRICARE.

3.1.2 Data Sources (DoD Surveys)

The data come from the 1994, 1996, and 1997 administrations of the Health Care Survey of DoD Beneficiaries. The focus of the surveys was the perceived access to and quality of health care. The surveys sampled representative cross sections of all beneficiaries—regardless of whether they had used the health care system. This permits the possible identification of lack of access as the reason for not using the military health care system.

These surveys were not specifically designed to measure changes over time. This is evident from the different phrasing of questions and the different response scales used in the surveys. Other limitations of using the surveys to measure changes are related to the context in which perceptions about interactions with the health care system were elicited. Respondents were asked to evaluate access on the basis of experiences of the past 12 months. This becomes somewhat problematical when trying to isolate experiences since enrolling in Prime—which may have occurred within the past 12 months. For example, a response to the question, “Did you have trouble gaining access to health care during the past 12 months?”, could be describing access before *or* after enrolling in Prime or both before *and* after enrolling.

While it was not possible to determine whether those enrolled in Prime for fewer than 12 months were responding to encounters with the medical system before or after enrollment, it was possible to compare responses of these enrollees with those who were

enrolled for a full year. Of the 57 outcome variables derived from the surveys, significant differences were found for only 6 of the measures, as shown in Table 3-1.⁴

Table 3-1. Effect of Time Enrolled in Prime During FY 1997 on Selected Outcomes

Outcome Measure ^a	Months Enrolled	
	< 12	12+
Number of calls to get appointment	3.49	3.80
Prenatal care first trimester	0.83	0.92
Received wellness advice past 12 months	0.55	0.59
Satisfaction with attention given by provider	0.78	0.81
Satisfaction with provider personal concern	0.78	0.82
Satisfaction with thoroughness of exam	0.78	0.82

^a Significant difference on outcome for those enrolled less than 12 months.

The results suggest that those enrolled for the full period had more favorable outcomes than those enrolled fewer than 12 months (with the exception of the number of phone calls to get an appointment). Based on the similar response patterns of these two groups of Prime enrollees, the responses of all Prime enrollees were treated as if they had been enrolled for the entire period.⁵

Most items in the 1994 survey had counterparts in the 1996 and 1997 surveys. Where the response alternatives differed for similar questions in the two surveys, the responses were rescaled for comparability. In some cases, this resulted in a loss of information. For example, in 1994, respondents were asked how long they had to wait between making a “generic” appointment and seeing their provider. In 1996, the question was refined to elicit wait-times for urgent and routine appointments and care for chronic problems and minor illnesses. When measuring change, it was necessary to collapse (or average) wait-times for the four different kinds of appointments in 1996 to be comparable to what was asked in 1994. In addition to reporting differences from 1994 to 1997 in the rescaled wait-time, the 1997 data are reported at the greater level of detail.

The survey used a variety of response scales. Satisfaction items were typically five-point scales, anchored by response alternatives “very satisfied” and “very dissatisfied.” Responses to these items were transformed to a two-point (dichotomous)

⁴ Regression analyses were performed to test the significance of the coefficient of an indicator variable whose value was set to 0 if an individual had been enrolled less than 12 months when responding to the survey, or to 1 if the individual had been enrolled for the full time. The full set of demographic control variables was also included.

⁵ It was not possible to use a variable, such as “time enrolled in Prime,” to control for bias associated with the ambiguity. The analysis compares future Prime enrollees in 1994 (those who will subsequently enroll) with Prime enrollees in 1996. A time-enrolled variable does not apply to those in the 1994 survey group; i.e., there would be zero variance for this group.

scale of “satisfied” and “not satisfied.”⁶ Items thus transformed can then be reported in terms of the proportion of respondents who were “satisfied.”

3.1.3 Subpopulations

Health-care beneficiaries were placed into four mutually exclusive and exhaustive *subpopulation* groups based on their source of health care:

- *Active duty*. Composed of survey respondents who were on active duty (AD) when they completed a survey.
- *Prime*. Composed of 1994 non-AD [active-duty family members (ADFM) and retirees] survey respondents who subsequently enrolled⁷ in Prime when the option became available (future enrollees), plus 1996/1997 non-AD survey respondents who enrolled in Prime before responding to the survey.⁸
- *Some military care*. Composed of nonenrolled respondents who received some of their care at MTFs during the survey recall period and who may have received some of their care at civilian facilities.
- *All civilian care*. Composed of nonenrolled respondents who reported never having used an MTF during the survey recall period.

An additional breakout of the beneficiary population is provided based on whether the beneficiary was *retired* from the service. Membership in the retiree group is independent of the source of care (i.e., retirees are also included in one of the non-AD subpopulations).

Table 3-2 shows the distribution of subpopulations in the seven regions of the survey samples. The values shown in parentheses represent the proportion of non-active duty beneficiaries in the population, and sum to one (100 percent) within a fiscal year. These data suggest that there has been a shift over time from those using MTF space-available (MTF/SA) to TRICARE Prime and civilian care as their source of health care. On average, 15 percent fewer (0.21–0.36) non-AD people used MTF/SA as their source of care. This was paralleled by a 3- and 12-percent shift into the civilian-care-only (0.45–0.42) and TRICARE Prime categories (0.34–0.22), respectively, for non-AD beneficiaries.

The shift from space available MTF care is a result of the introduction of managed care into the military environment. For the MTF to provide the health care benefits under the TRICARE Prime program, it was necessary to decrease space available care based on limited resources.

⁶ Responses of “very satisfied” and “somewhat satisfied” were scored as *satisfied*, and responses of “somewhat dissatisfied” and “very dissatisfied” were scored as *not satisfied*. In most instances, responses of “neither satisfied nor dissatisfied” were dropped because of the low statistical reliability of these responses. Principal Components Analysis of item clusters showed significantly higher reliability of scales that did not include respondents with no opinion, or those “neither satisfied nor dissatisfied.” On an alternative response scale, responses of “excellent,” “very good,” and “good” were scored as *satisfied*; responses of “fair” and “poor” were scored as *not satisfied*.

⁷ Subsequent enrollment in Prime by those in the 1994 sample was determined by searching the TRICARE Prime enrollment database maintained by the DoD.

⁸ Includes those in the samples who may have also disenrolled before responding to the survey.

Table 3-2. Distribution of Subpopulations Estimated from the 1994 and 1997 Samples—All Regions Combined

Population	Proportion of Population			
	FY 1994		FY 1997	
	P(total)	P(non-AD)	P(total)	P(non-AD)
Prime care (AD)	.24	--	.23	--
Prime care (ADFM, retired)	.16 ^a	(.22) ^a	.26 ^b	(.34) ^b
MTF/SA care	.27	(.36)	.16	(.21)
Civilian-only care	.32	(.42)	.35	(.45)
Total	.76	(1.00)	.77	(1.00)

^a Proportion of non-AD who subsequently enrolled when Prime became available.

^b Prime available in all regions sampled. Approximates the enrollment rate among non-AD.

Regression analysis⁹ was used to determine the statistical significance of the changes of the outcome variables over time and as the basis for estimating average values within subpopulations (as determined by source of care and retirement status) for a given year. This was accomplished by using interaction terms between the year-of-survey variable and the indicator variables for the various subpopulations. Separate regression equations were estimated for each region. In addition, a regression equation aggregating over regions was also estimated.

The regression models were structured to isolate the effects of certain sources of variation in the access measures. The sources of variation accounted for include:

- Health status (SF-12 summary scales),
- Demographics (age, gender, ethnicity, marital status),
- Travel time to nearest MTF,
- In-catchment indicator, and
- Medical insurance coverage.

These controls, combined with indicator variables for “time” and subpopulation group (source of care and retirement status of military sponsor), composed the explanatory variables used in the regression analyses.

The survey data were weighted to adjust the sample composition to reflect the actual composition of the population more closely. The weight assigned to each respondent was related to the inverse probability of being in the sample. Using weighted data in regression analysis will often result in incorrect estimates of the standard errors and, hence, the significance levels of the coefficients. Although the weights have the desired effect of changing the means of the variables, they have the undesirable effect of underestimating the standard errors. The procedure suggested by Huber¹⁰ and White^{11, 12}

⁹ Logistic regression was used for dichotomous outcome measures, and ordinary least squares linear regression was used for continuous measures, such as “number of days waited for appointment.”

¹⁰ Huber, Peter J., The behavior of maximum likelihood estimates under non-standard conditions. In *Proceedings of the Fifth Berkeley Symposium in Mathematical Statistics and Probability*. Berkeley, California: University of California Press, 1, 221–233, 1976.

was used to correct the standard errors for design effects and possible lack of independence of errors produced by weighting and sample stratification.

3.1.4 Presentation Scheme

Over the course of the evaluation, an attempt was made to identify TRICARE effects that were common to the seven regions examined. The results shown in this section are aggregate results that combine the data across regions. Appendices A through G show the results of parallel analyses performed at the regional level. However, significant departures from the aggregate results are identified.

Tables showing breakouts by subpopulation summarize results by beneficiary source of care and for retirees. Although active duty personnel are Prime enrollees, they are broken out separately. Retirees are also included in the source of care groups. The column labeled *total* represents an estimate for the entire beneficiary population, regardless of source of care or retirement status.

3.2 Subpopulation Characteristics

Population demographics and health status can moderate people's perceptions about health care and are related to the need for services. For example, analysis of the changes in perceptions of overall quality of care (all seven regions combined) indicates a 6-percentage-point rise from 1994 to 1997. As Table 3-3 shows, the age of the beneficiary was related to perceptions of overall quality—each year of age contributes 0.5 percentage point to the satisfaction level. The difference in the average ages of the 1994 and 1997 populations is 3.5 years, which accounts for 2 percentage points of the increase in satisfaction. Therefore, the TRICARE effect is actually a 3-percentage-point gain, after adjusting for age differences in the 1994 and 1997 populations.

Tables 3-3 and 3-4 show the changes in demographics over the evaluation period. In particular, beneficiaries in 1997 were:

- Older,
- Better educated,
- More likely to have private insurance,
- More likely to live in catchment,
- More likely to be married,
- Healthier, and
- Traveling farther to get to an MTF.

The increased travel time to an MTF and the higher likelihood of having private insurance were identified in last year's evaluation. The trends continue for a broader

¹¹ White, Halbert, A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica* 48: 817–838, 1980.

¹² White, Halbert, Maximum likelihood estimation of misspecified models. *Econometrica* 50: 1–25, 1982.

scope of the population (i.e., seven regions). These and the other changes were statistically controlled for in this analysis.

Table 3-3. Comparison of Control Variables Between the 1994 and 1997 Populations—All Regions and Groups Combined

Measure	FY94	FY97
African-Americans (proportion of population)	0.09	0.10*
Age (years)	45.64	49.15*
Any other insurance ^a (proportion of population)	0.47	0.57*
Caucasians (proportion of population)	0.80	0.82*
Four or more years of college (proportion of population)	0.22	0.27*
High school graduate only (proportion of population)	0.73	0.68*
Hispanics (proportion of population)	0.06	0.08*
In catchment (proportion of population)	0.72	0.64*
Males (proportion of population)	0.51	0.51
Married (proportion of population)	0.76	0.79*
Mental health status (SF-12 scale score)	51.60	52.02*
Physical health status (SF-12 scale score)	44.96	47.90*
Private insurance ^b (proportion of population)	0.21	0.26*
Travel time to treatment facility (minutes)	18.18	20.85*

* Indicates statistically significant change ($p < .05$).

^a Includes Medicare Parts A and B, and CHAMPUS supplemental.

^b Includes plans such as Blue Cross, Kaiser (HMO, or otherwise).

Table 3-4. Control Variable Means in the 1997 Population—All Regions Combined

Variable	Subpopulation					Retired
	AD	Prime	MTF/SA	Civilian	Total	
African-Americans (proportion of population)	0.17	0.11	0.10	0.06	0.10	0.08
Age (years)	31.78	45.55	53.24	60.22	49.15	58.60
Any other insurance (proportion of population)	0.19	0.38	0.68	0.90	0.57	0.76
Caucasians (proportion of population)	0.77	0.78	0.80	0.89	0.82	0.85
Four or more years of college (proportion of population)	0.29	0.26	0.26	0.27	0.27	0.26
High school graduate only (proportion of population)	0.70	0.69	0.68	0.66	0.68	0.68
Hispanics (proportion of population) ^a	0.11	0.08	0.08	0.04	0.08	0.06
In catchment (proportion of population)	0.86	0.73	0.72	0.43	0.64	0.54
Males (proportion of population)	0.86	0.29	0.41	0.47	0.51	0.48
Married (proportion of population)	0.68	0.87	0.78	0.80	0.79	0.79
Mental health status (SF-12 scale score)	51.29	51.59	51.76	52.70	52.02	52.50
Physical health status (SF-12 scale score)	52.73	48.34	45.86	44.96	47.90	45.23
Private insurance (proportion of population)	0.09	0.20	0.27	0.42	0.26	0.35
Travel time to treatment facility (minutes)	17.23	21.84	28.93	18.86	20.85	22.54

^a Includes all racial groups.

Note that retirees are also included in the Prime, MTF/SA, and civilian care-only groups.

3.3 Changes in Access

Access to health care continues to improve under TRICARE. Enrollees in TRICARE Prime are generally satisfied with their level of access to the health care system. Being able to choose one's own provider was the greatest contributor to satisfaction among Prime enrollees. There was a tendency for those enrolled with a military PCM to report greater levels of satisfaction with access than those enrolled with a civilian PCM.

Three categories of access were examined to reach this conclusion:

- Realized access, based on use of preventive care,
- Availability and ease of obtaining care, and
- Efficiency of the process of receiving care.

A set of measures was developed for each of these categories.

Realized access. One class of measures that relates to the use of care has been termed *realized access*. These measures are used to indicate the ability of people to gain entry to the health care system. Medical visits for preventive care (well-care), as well as visits for illness and injury, fall into this category.

For preventive-care measures, estimates were made of the proportion of beneficiaries who, in a 12-month period, reported having a:

- Physical examination,
- Blood pressure reading,
- Cholesterol screening,
- Gynecological examination (women only),
- Mammogram (women only),
- Prostate exam (men only).

Availability. Availability addresses the issue of whether people are able to get care when they feel they need it. Measures of availability that were examined include:

- Being able to get care at one's facility of choice,
- Being able to see a particular doctor, and
- Access to one's provider by telephone.

Having a usual source of care should improve one's ability to obtain care, and it is often the first step in gaining access to the system. Under the Prime option, all enrollees are assigned a PCM and, therefore, do have a usual source of care [other than the emergency room (ER)].

Another measure of the availability of care is being able to visit the facility of choice. As mentioned earlier, with the inception of the Prime option came a priority system for appointments at the MTF. Active duty personnel and those enrolled in Prime get first priority for appointments. This could potentially squeeze out others depending on space-available appointments.

The following additional measures of health care availability were also used:

- Access to health care when needed,
- Access to specialists,
- Access to hospital care,
- Access to care in an emergency,
- Availability of advice over the telephone, and
- Availability of prescription services.

Process. Another class of access measures is related to the process of gaining entry into the health care system. These process measures focus on administrative aspects of access, including making an appointment and waiting time to see a provider after arriving for the appointment. The following process measures of access were examined:

- Time waiting to see a provider (time between appointment and visit, and time waiting in office),
- Ease of making an appointment by telephone,
- Travel time to facility,
- Perceived convenience of location, and
- Perceived convenience of hours.

3.3.1 Realized Access

Two aspects of realized access were evaluated: general use of the health-care system (medical visits) and use for preventive care.

Table 3-5 shows that access, as measured by the use of medical care, rose dramatically in all regions during the period of analysis as TRICARE evolved. Prime enrollees had the highest level of access.

Table 3-5. Changes in Percentage of Beneficiaries With a Medical Visit From 1994 to 1997

Region	Subpopulation									
	Active Duty		Prime		Other ^a		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
3	0.68	0.82*	0.87	0.92*	0.85	0.88*	0.82	0.88*	0.84	0.88*
4	0.76	0.82*	0.89	0.91*	0.84	0.86*	0.83	0.87*	0.84	0.87*
6	0.69	0.85*	0.87	0.90*	0.85	0.86*	0.82	0.87*	0.85	0.86*
9	0.73	0.86*	0.83	0.89*	0.86	0.87*	0.82	0.87*	0.86	0.86*
10	0.74	0.86*	0.90	0.93*	0.88	0.86*	0.86	0.88*	0.88	0.88*
11	0.72	0.83*	0.83	0.91*	0.85	0.87*	0.82	0.87*	0.84	0.87*
12	0.72	0.87*	0.83	0.97*	0.83	0.88*	0.78	0.90*	0.83	0.89*
All	0.71	0.84*	0.86	0.91*	0.85	0.87*	0.82	0.87*	0.85	0.87*

^a It was not possible to identify the source of medical care for those not reporting a visit to a health care provider. MTF space-available, civilian-care only, and “unclassifiables” are combined into the *Other* category.

* Indicates significant change (p < .05).

Note that retirees are also included in the Prime, MTF/SA, and civilian care-only groups.

Emergency room use is another indicator of access. Lacking access to a “regular” source of care could result in the use of the ER for this purpose. Table 3-6 shows a dramatic drop in the use of ER visits.

Table 3-6. Changes in Proportion of Beneficiaries Using the Emergency Room From 1994 to 1997

Region	Subpopulation										Retired	
	Active Duty		Prime		MTF/SA		Civilian		Total			
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
3	0.47	0.25*	0.48	0.30*	0.48	0.34*	0.34	0.21*	0.43	0.25*	0.40	0.23*
4	0.44	0.24*	0.47	0.28*	0.51	0.34*	0.31	0.23*	0.41	0.25*	0.39	0.25*
6	0.51	0.27*	0.41	0.26*	0.48	0.34*	0.29	0.21*	0.40	0.24*	0.36	0.23*
9	0.45	0.22*	0.38	0.25*	0.44	0.26*	0.35	0.19*	0.40	0.22*	0.37	0.19*
10	0.32	0.23*	0.35	0.29	0.49	0.34*	0.35	0.20*	0.38	0.23*	0.37	0.23*
11	0.44	0.22*	0.48	0.27*	0.53	0.32*	0.36	0.19*	0.45	0.22*	0.41	0.21*
12	0.48	0.23*	0.48	0.25*	0.56	0.38*	0.29	0.22	0.49	0.25*	0.45	0.23*
All	0.47	0.24*	0.43	0.28*	0.48	0.33*	0.33	0.21*	0.41	0.24*	0.38	0.22*

* Indicates statistically significant change ($p < 0.05$).

Note that retirees are also included in the Prime, MTF/SA, and civilian care-only groups.

TRICARE has placed an emphasis on well-care and preventive medicine. As shown in Table 3-7, there has been a general increase in the receipt of preventive care from 1994 to 1997. The exception to this trend has been for GYN procedures, which include Pap tests, and prenatal care during the first trimester.

Table 3-7. Changes in Realized Care Indicators¹ From 1994 to 1997

Measure	Subpopulation										Retired	
	Active Duty		Prime		MTF/SA		Civilian		Total			
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
BP check	0.79	0.92*	0.79	0.92*	0.88	0.94*	0.91	0.96*	0.81	0.91*	0.84	0.92*
Cholesterol check	0.45	0.41*	0.45	0.50*	0.56	0.58	0.69	0.69	0.52	0.54*	0.61	0.63*
Flu shot	0.79	0.85*	0.32	0.40*	0.42	0.51*	0.46	0.59*	0.45	0.57*	0.41	0.54*
Mammogram (40+)	0.75	0.62	0.63	0.63	0.67	0.64	0.71	0.66*	0.64	0.62	0.65	0.63
Mammogram (50+)	(Note 2)		0.65	0.71	0.71	0.71	0.72	0.68*	0.67	0.67	0.67	0.67
Pap test	0.87	0.78*	0.73	0.70*	0.73	0.67*	0.69	0.65*	0.70	0.66*	0.66	0.62*
Physical exam	0.49	0.50	0.51	0.59*	0.57	0.62*	0.69	0.70	0.55	0.59*	0.58	0.63*
Prenatal care (first trimester)	0.99	0.93*	0.92	0.90	0.89	0.82	0.94	0.91	0.94	0.90*	0.78	0.82
Prostate exam (40+)	0.51	0.41	0.60	0.60	0.69	0.64*	0.72	0.72	0.63	0.63	0.63	0.63
Wellness advice ³	0.40	0.50*	0.37	0.61*	0.40	0.60*	0.53	0.69*	0.43	0.61*	0.48	0.67*

Note 1. Procedures performed in the 12 months preceding survey.

Note 2. Insufficient sample size to estimate.

Note 3. Based on those having a medical visit.

* Indicates statistically significant change ($p < 0.05$).

Note that retirees are also included in the Prime, MTF/SA, and civilian care-only groups.

3.3.2 Availability of Care

There has been a perception of increased availability of care. A greater proportion of the population reported that they were able to get care when they felt they needed it, as shown in Figure 3-1. This figure and subsequent ones like it display the 1994 baseline values at the bottom and graph the changes between the 1997 values and the baseline for each subpopulation group. Baseline values are given in parentheses and are highlighted with an asterisk to indicate that the changes from the baseline (1994) are statistically significant. The pattern shown in the figure, which is a composite of the seven regions being studied, is similar for most regions, as shown in Table 3-8.

The greatest increases in perceived access are among those who enrolled in Prime. Note however, that the level of perceived access to care when needed, in general,¹³ is considerably higher for those receiving care outside the military system (about 90 percent satisfied, with no change over time). Thus, while TRICARE seems to result in an impression of improved access to care, it still has room for improvement.

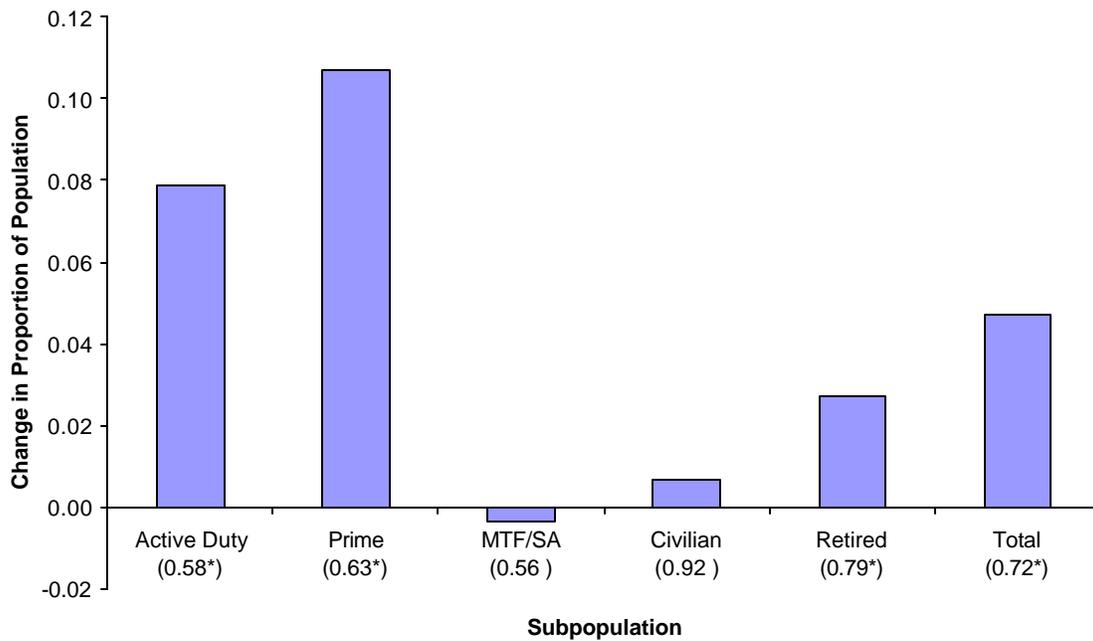


Figure 3-1. Getting Care When Needed—All Regions Combined

¹³ Includes specialty and Primary care.

Table 3-8. Percentage Satisfied With Getting Care When Needed—All Regions Combined

Region	Subpopulation											
	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
3	0.59	0.60	0.62	0.72*	0.54	0.52	0.89	0.91	0.71	0.75*	0.77	0.81*
4	0.55	0.64*	0.61	0.72*	0.51	0.46	0.92	0.94	0.71	0.75*	0.77	0.79
6	0.54	0.65*	0.50	0.72*	0.49	0.52	0.93	0.92	0.65	0.75*	0.74	0.80*
9	0.59	0.70*	0.76	0.79	0.72	0.69	0.93	0.92	0.76	0.79	0.86	0.85
10	0.54	0.67*	0.74	0.77	0.62	0.56	0.91	0.93	0.77	0.80	0.83	0.84
11	0.60	0.70*	0.72	0.78	0.57	0.63	0.93	0.94	0.74	0.80*	0.82	0.86*
12	0.71	0.73	0.65	0.73	0.65	0.59	0.97	0.96	0.71	0.74	0.83	0.81
All	0.58	0.66*	0.63	0.74*	0.56	0.55	0.92	0.92	0.72	0.76*	0.79	0.82*

* Indicates statistically significant change ($p < 0.05$).

Note that retirees are also included in the Prime, MTF/SA, and civilian care-only groups.

Several additional measures of availability of care were examined. A similar pattern of increased availability of care was perceived. Table 3-9 gives the details. Note also that a smaller proportion of beneficiaries reported that they did not use the MTF for care because of difficulty in obtaining an appointment—even those using MTF space-available as their source of care. A small proportion of those using civilian-only care reported they did not use the MTF because of the difficulty in getting an appointment there (0.26 and 0.29 in 1994 and 1997, respectively). This suggests that some people using civilian-only sources of care might have used space-available MTF care if they could have gotten an appointment.

Table 3-9. Availability Measures of Access—All Regions Combined

Measure	Subpopulation											
	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
Satisfaction with:												
Access to care	0.67	0.73*	0.73	0.78*	0.66	0.67	0.92	0.94*	0.78	0.81*	0.84	0.86*
Access to hospital care	0.67	0.75*	0.75	0.81*	0.64	0.65	0.94	0.94	0.79	0.83*	0.85	0.86
Access to specialists	0.41	0.48*	0.54	0.63*	0.45	0.49*	0.89	0.90	0.64	0.68*	0.74	0.78*
Available information by phone	0.36	0.54*	0.53	0.67*	0.40	0.54*	0.81	0.83	0.60	0.69*	0.69	0.75*
Choice and continuity of care	0.32	0.35	0.50	0.55*	0.46	0.44	0.85	0.86	0.61	0.62*	0.73	0.74
Ease of making appointments	0.47	0.58*	0.55	0.69*	0.45	0.51*	0.94	0.93*	0.67	0.73*	0.76	0.80*
Ease of seeing provider of choice	0.26	0.38*	0.47	0.58*	0.41	0.46*	0.89	0.87	0.60	0.65*	0.73	0.76*
Ability to choose provider	0.27	0.39*	0.48	0.59*	0.43	0.46*	0.88	0.88	0.60	0.65*	0.74	0.77*
Did not use MTF (difficulty getting appointment)	0.21	0.16	0.34	0.26*	0.43	0.36*	0.26	0.29*	0.30	0.28*	0.30	0.29

* Difference between 1994 and 1997 statistically significant, $p < 0.05$.

Note that retirees are also included in the Prime, MTF/SA, and civilian care-only groups.

3.3.3 Process of Obtaining Care

Two measures that reflect the process of obtaining care are the ease of making an appointment and the waiting time between making the appointment and seeing the health-care provider. As shown in Figures 3-2 and 3-3, TRICARE has made it easier to make a medical appointment, and people can see their providers more quickly. The gap between making an appointment and seeing a provider has dropped dramatically since 1994—particularly for Prime enrollees, whose wait times for appointments decreased from about 13 to 6 days. Lack of specificity in the 1994 survey does not allow a breakdown of the type of care being sought. However, the 1997 survey data allow a finer level of detail.

Table 3-10 shows estimated waiting times and the percentage of a given subpopulation who were seen within TRICARE guidelines. Results are broken down by military and civilian providers. The estimates indicate that those receiving care from civilian providers generally have shorter wait times for appointments. Furthermore, TRICARE goals for appointment wait time are met about 95 percent of the time by civilian providers, in contrast to 92 percent by military providers.

Table 3-11 lists other process measures that were examined. The general pattern shown in the data is for improved satisfaction with access under TRICARE, but the levels of satisfaction of those using the military system are considerably less than for those using the civilian-only care. One anomaly observed from 1994 to 1997 is the general increase in the number of telephone calls needed to get an appointment. This was observed for both those with military and civilian sources of care. The increase may reflect the adoption of the managed care concept. The number of walk-in clinics decreased within the MTFs when TRICARE was established, and patients now had to make an appointment to be seen. In addition, the number of beneficiaries previously seeking care at the ER decreased. Most likely, these people are now seeking care where an appointment is needed. This would also result in an increased number of telephone calls for appointments. This suggests that the telephone appointment system did not expand to meet the additional demand.

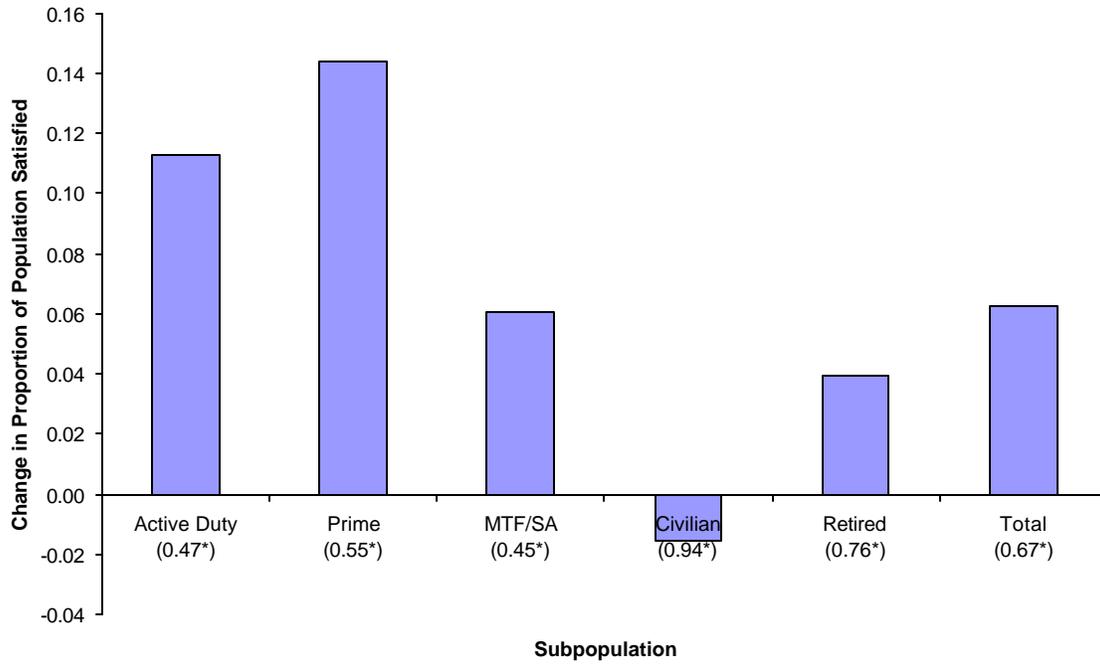


Figure 3-2. Ease of Making Appointments—All Regions Combined

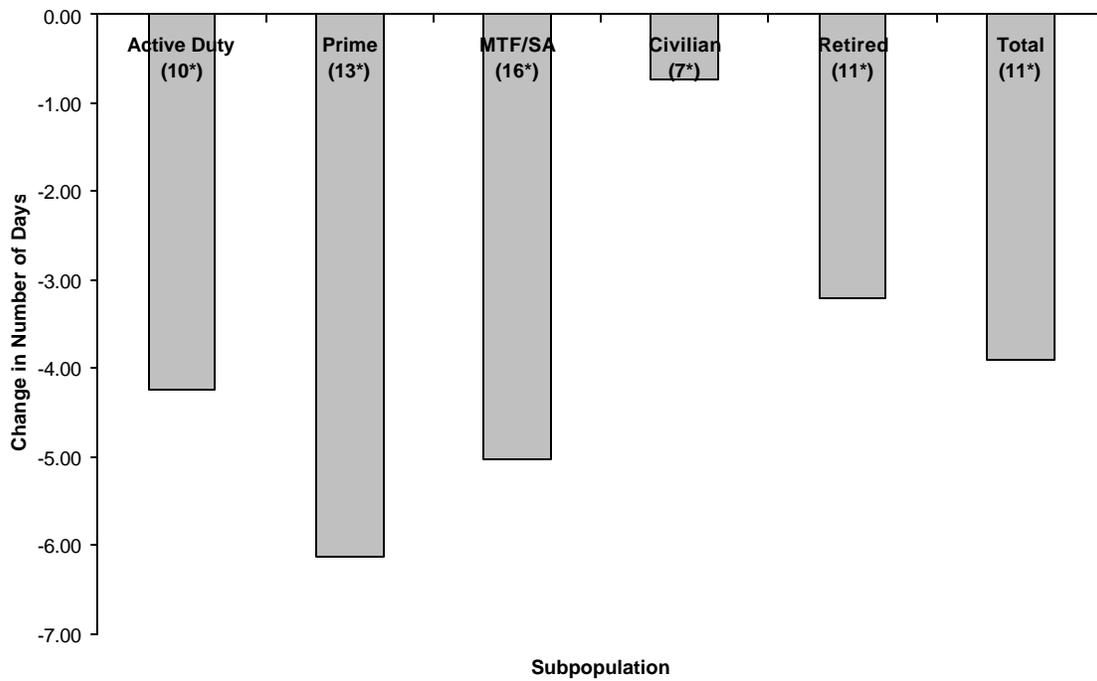


Figure 3-3. Wait Time for an Appointment—All Regions Combined

Table 3-10. Wait for a Medical Appointment (1997)

Metric and Appointment Type	Subpopulation/Provider								
	Active Duty (Mil.)	Prime		MTF/SA (Mil.)	Civilian Only (Civ.)	Total		Retired	
		Mil.	Civ.			Mil.	Civ.	Mil.	Civ.
Days waited									
Chronic	10	9	6	14	7	11	7	13	7
Minor	2	3	2	4	2	3	2	4	2
Routine	9	11	10	15	11	11	11	14	11
Urgent	1	1	1	2	1	1	1	1	1
Proportion seen in specified time ¹									
Chronic	0.92	0.94	1.00	0.85	0.94	0.91	0.94	0.88	0.94
Minor	0.96	0.93	1.00	0.88	0.98	0.93	0.98	0.88	0.97
Routine	0.96	0.94	0.90	0.87	0.91	0.93	0.92	0.89	0.92
Urgent	0.90	0.92	0.90	0.89	0.95	0.91	0.94	0.89	0.94

¹ Specified waiting times: chronic (30 days), minor (3 days), routine (30 days), urgent (1 day).

Note that retirees are also included in the Prime, MTF/SA, and civilian care-only groups.

Table 3-11. Process Measures of Access—All Regions Combined

Measure	Subpopulation										Retired	
	Active Duty		Prime		MTF/SA		Civilian		Total		FY94	FY97
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97		
Satisfaction with:												
Convenience of hours	0.63	0.68*	0.78	0.83*	0.74	0.83*	0.94	0.94	0.80	0.84*	0.88	0.91*
Convenience of treatment location	0.80	0.84*	0.81	0.85*	0.68	0.76*	0.91	0.91	0.82	0.86*	0.83	0.86*
Ease of making appointments	0.47	0.58*	0.55	0.69*	0.45	0.51*	0.94	0.93*	0.67	0.73*	0.76	0.80*
Ease of seeing provider of choice	0.26	0.38*	0.47	0.58*	0.41	0.46*	0.89	0.87	0.60	0.65*	0.73	0.76*
Time from making to having appointment	0.51	0.62*	0.61	0.71*	0.51	0.59*	0.89	0.88	0.68	0.74*	0.76	0.80*
Wait time in office	0.44	0.56*	0.59	0.67*	0.53	0.62*	0.84	0.83	0.64	0.70*	0.74	0.77*

* Difference between 1994 and 1997 statistically significant, p < 0.05.

Note that retirees are also included in the Prime, MTF/SA, and civilian care-only groups.

3.3.4 Effects of Provider Type on Perceptions of Prime Enrollees

Only some Prime enrollees were able to choose their own PCMs.¹⁴ Table 3-12 shows the proportions of Prime enrollees with civilian and military PCMs, and the proportions of those who were able to choose their particular PCMs. (While the table combines the results across regions, the patterns were similar for individual regions.) In general, more people are enrolled with military PCMs (72 percent) but are less likely to have chosen their own if the

¹⁴ The PCM could be either an individual or a team of providers. This applies to both military and civilian PCMs.

PCM is military (46 percent vs. 81 percent for those enrolled with civilian PCMs). During 1997, the DoD did not have an explicit policy of assigning a particular physician to a Prime enrollee. In many cases, people are assigned to military clinics with no specific PCMs. However, if a person was allowed to enroll in the non-military network of civilian providers, he or she was typically able to choose a particular provider as PCM.

Table 3-12. Proportion of Prime Enrollees Choosing Own PCM¹—1997, All Regions Combined

Duty Status	Measure	PCM Type		
		Civilian	Military	Combined
ADFM/Retired	P(choose PCM)	0.83	0.53	0.64
	P(PCM type)	0.37	0.63	
Active Duty	P(choose PCM)	0.60	0.34	0.36
	P(PCM type)	0.09	0.91	
Total	P(choose PCM)	0.81	0.46	0.55
	P(PCM type)	0.28	0.72	

¹ The PCM could be either an individual provider or a facility (where a particular health care provider may not be specified).

Free choice of a PCM has a profound effect on satisfaction with many aspects of the military health care system. The results indicate that Prime enrollees with military providers report greater levels of access than those with civilian providers, and those who get to choose their providers have higher satisfaction with the health care system. Table 3-13 shows estimated values of various measures for Prime enrollees broken down by provider type (military or civilian) and whether they could choose their providers. These results suggest that those with military providers seem to be more satisfied with their level of access. In particular, those with military (vs. civilian) PCMs:

- Felt Prime would increase access to care,
- Felt Prime would make it easier to see a specialist,
- Are more satisfied with their choice of providers,
- Have a greater understanding of how to make an appointment,
- Are less confused about costs,
- Have a greater understanding of TRICARE options,
- Are more satisfied with care,
- Are more likely to recommend Prime to a friend, and
- Felt it would cost them less under Prime.

On the other hand, those Prime enrollees with civilian providers were more positive with respect to:

- Ease of making an appointment,
- Being able to see the same provider on each visit, and
- Promptness of bill payment.

Perhaps the best discriminator leading to satisfaction with TRICARE is ability to choose one's own PCM. For all the measures shown in Table 3-13, those who were able to choose their own PCM were more satisfied with all aspects of TRICARE than were those who could not choose.

Table 3-13. Effect of Choice of PCM on Prime Enrollee Perceptions of TRICARE (Proportion of Subgroup—1997, All Regions Combined)

Measure ¹	PCM Type		Choose PCM	
	Military	Civilian	No	Yes
<u>Satisfaction with:</u>				
Access to health care if needed	0.72	0.71	0.67	0.75*
Ease of making appointments	0.64	0.69*	0.61	0.68*
Outcome of health care	0.78	0.78	0.74	0.82*
Overall quality of care	0.80	0.78	0.76	0.82*
<u>Believe that:</u>				
Under Prime it will be harder to see a specialist	0.39	0.50*	0.48	0.38*
Are confused about costs under Prime	0.37	0.44*	0.42	0.36*
Prime enrollment will improve access to care	0.73	0.68*	0.64	0.78*
Prime enrollment will result in better preventive care	0.69	0.64	0.59	0.74*
Had clear information on Prime enrollment process	0.85	0.79*	0.79	0.87*
Know exactly how to make appointment	0.86	0.85	0.82	0.89
Know how to use the health care finder	0.62	0.65	0.55	0.70*
Need more information about Prime	0.57	0.60	0.64	0.54*
Prime will make it easier to get advice over telephone	0.67	0.63	0.60	0.70*
Quality of health care has improved under Prime	0.50	0.48	0.36	0.59*
Would recommend Prime to a friend	0.76	0.72*	0.65	0.83*
Satisfied with care under Prime	0.81	0.76*	0.72	0.85*
Satisfied with choice of providers under Prime	0.73	0.66*	0.58	0.78*
Satisfied with promptness of bill payment	0.52	0.59*	0.49	0.58
Under Prime can see same provider on each visit	0.68	0.87*	0.65	0.79*
Understand difference between TRICARE options	0.73	0.68*	0.66	0.76*
Will have to use more of own money under Prime	0.42	0.59*	0.52	0.44*

¹ Proportions based on those expressing an opinion other than "don't know."

* Difference between groups statistically significant, $p < 0.05$.

3.4 Changes in Quality of Care

Quality of care has many dimensions. This evaluation considers two major aspects of quality: meeting national standards and quality of care as perceived by DoD beneficiaries. In a departure from the established methodology, standards are evaluated from the perspective of a single point in time, during 1997 when the seven regions had been under the TRICARE program for at least 1 year. This approach was necessary because the 1994 survey did not include items designed to measure the achievement of many national goals. The methodology compares levels of quality achieved in 1997 with levels specified in the national goals.

3.4.1 Meeting Standards Under TRICARE

TRICARE Prime offers additional enhanced benefits that are not covered under TRICARE Standard. These enhanced benefits include such services as periodic examinations and preventive-care procedures. Counseling on well-care issues, such as nutrition, exercise, and substance abuse, are integrated into routine office visits. In addition, Prime offers increased continuity of care through the selection of a PCM, who either provides or coordinates all the beneficiary's health care services.

DoD has adopted as its standard the national health-promotion and disease-prevention objectives specified by the U.S. Department of Health and Human Services in *Healthy People 2000*.¹⁵ Care levels under TRICARE were compared with these national standards. Prime covers specific well-care procedures at stated frequencies that tend to coincide with or exceed these national goals. Beneficiaries' survey responses were compared with the national objectives in the following areas:

- Smoking cessation,
- Dental care,
- Prenatal care (first trimester),
- Blood pressure checks,
- Cholesterol screening,
- Prostate checks,
- Mammography, and
- Pap smears.

Healthy People 2000 identifies both current national care levels and target levels for the year 2000. It identifies outcome targets for such things as smoking cessation and immunizations. In 1987, for example, 30 percent of the 20- to 24-year-olds were regular cigarette smokers. The national target is to reduce that percentage to 15 percent by 2000. In addition, *Healthy People 2000* identifies targets for frequency of well-care procedures. For example, by 2000, the national objective is for 90 percent of the adult population to have had their blood pressure checked by a trained professional within the previous 2 years. The care levels under TRICARE were compared with these national targets.

Figure 3-4 shows the average levels achieved in the seven TRICARE regions combined along with the *Healthy People 2000* goals. Results are shown for the total population only. Subpopulation results are shown in Table 3-14, and regional statistics are given in Appendix E. These data indicate that TRICARE is meeting (or nearly meeting) most of the *Healthy People 2000* goals examined. Shortfalls include:

- Prostate exams (males 40 and older),
- Counseling for smokers, and
- Use of tobacco products (both cigarettes and chewing tobacco).

¹⁵ *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, Department of Health and Human Services, Office of Disease Prevention and Health Promotion, 1991.

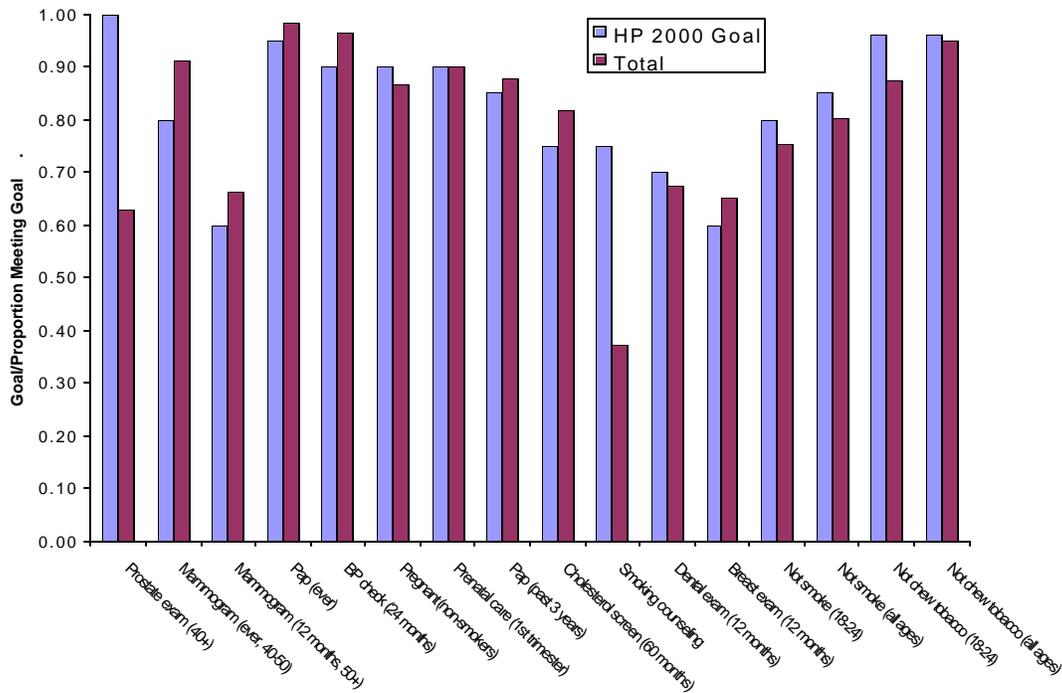


Figure 3-4. Achievement of *Healthy People 2000* Goals in 1997 (Entire Population, Averaged Across TRICARE Regions)

3.4.2 Perceptual Measures of Quality of Care

Changes in beneficiaries' perceptions of quality under TRICARE were examined based on their survey responses. The perception measures examined include beneficiaries' ratings of:

- Overall quality of health care,
- Thoroughness of examination,
- Ability to diagnose health care problems,
- Thoroughness of treatment,
- Skill of provider, and
- Perceived outcomes of the health care.

Figure 3-5 shows that the levels of perceived overall quality of care have increased significantly from 1994 to 1997. While there have been improvements in perceived quality by those receiving care in the military system, their levels still fall behind those using civilian care. Similar patterns were observed in most of the regions, as displayed in Table 3-15.

Table 3-14. Healthy People 2000 Goal Achievement by Subpopulation—All Regions Combined (Proportion Meeting Goal)

Measure	HP 2000 Goal	Subpopulation					Total	Retired
		Active Duty	Prime	MTF/SA	Civilian Care			
Prostate exam past 12 months (40+ African-Americans, 50+ other males)	1.00	0.41	0.61	0.65	0.72	0.63	0.64	
Ever had mammogram (age 40–49 females)	0.80	0.93	0.92	0.92	0.92	0.91	0.91	
Mammogram past 12 months (females age 50+)	0.60	n/a	0.69	0.69	0.69	0.66	0.66	
Ever had a Pap test (females)	0.95	0.99	0.99	0.98	0.98	0.98	0.98	
Blood pressure check past 24 months	0.90	0.98	0.97	0.98	0.99	0.97	0.96	
Pregnant and did not smoke	0.90	0.86	0.87	0.89	0.83	0.87	0.79	
Prenatal care began first trimester	0.90	0.94	0.90	0.85	0.93	0.90	0.79	
Pap test past 3 years (females)	0.85	0.98	0.92	0.88	0.86	0.88	0.84	
Cholesterol screening past 60 months	0.75	0.78	0.77	0.82	0.91	0.82	0.88	
Ever had smoking counseling (smokers)	0.75	0.37	0.39	0.39	0.43	0.37	0.38	
Dental exam past 12 months	0.70	0.85	0.62	0.60	0.67	0.68	0.61	
Breast exam past 12 months (females)	0.60	0.72	0.66	0.66	0.69	0.65	0.65	
Not smoke cigarettes (age 18–24)	0.80	0.70	0.81	0.80	0.79	0.75	0.81	
Not smoke cigarettes (all ages)	0.85	0.77	0.80	0.82	0.83	0.80	0.81	
Not chew tobacco (age 18–24)	0.96	0.77	0.97	0.97	0.97	0.87	0.95	
Not chew tobacco (all ages)	0.96	0.86	0.98	0.98	0.97	0.95	0.97	
Flu shot past 12 months	None	0.85	0.40	0.51	0.59	0.57	0.54	
General physical past 12 months	None	0.50	0.59	0.62	0.71	0.59	0.64	
Healthy living advice past 12 months	None	0.46	0.57	0.61	0.69	0.57	0.63	

Notes: Differences between the goal and observed value of more than 2 percentage points, in the overall population, were statistically significant, $p < 0.05$. Retirees are also included in the Prime, MTF/SA and civilian care-only groups.

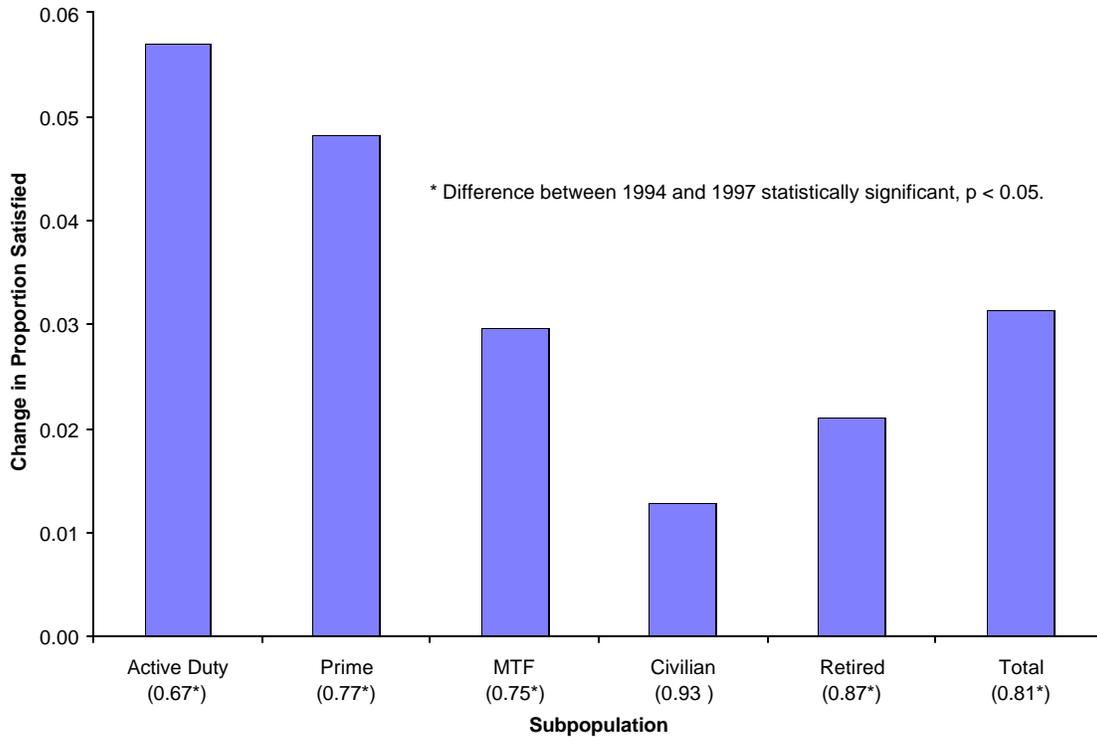


Figure 3-5. Change in Satisfaction With Overall Quality of Care—All Regions Combined

Table 3-15. Regional Changes in Perceived Overall Quality of Care (Percentage of Subpopulation Satisfied)

Region	Subpopulation											
	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
3	0.66	0.67	0.78	0.82	0.71	0.73	0.91	0.93	0.80	0.82*	0.86	0.88*
4	0.69	0.76*	0.76	0.82*	0.73	0.76	0.92	0.95	0.81	0.85*	0.85	0.88*
6	0.68	0.71	0.68	0.81*	0.71	0.81*	0.95	0.93	0.78	0.83*	0.85	0.89*
9	0.66	0.74	0.84	0.81	0.83	0.78	0.94	0.96	0.83	0.83	0.91	0.90
10	0.61	0.77*	0.82	0.86	0.82	0.76	0.92	0.94	0.84	0.87*	0.89	0.90
11	0.67	0.78*	0.82	0.86	0.77	0.85*	0.93	0.96	0.82	0.88*	0.89	0.93*
12	0.57	0.76*	0.75	0.76	0.76	0.74	0.98	0.96	0.72	0.78	0.90	0.90
All	0.67	0.72*	0.77	0.82*	0.75	0.78*	0.93	0.94	0.81	0.84*	0.87	0.89*

* Difference between groups statistically significant, $p < 0.05$.

Note that retirees are also included in the Prime, MTF/SA, and civilian care-only groups.

Table 3-16 shows the effects of TRICARE on various quality-of-care attributes. Improvements under TRICARE were observed for each aspect of quality. The familiar pattern of greater levels of satisfaction for those with civilian-only (vs. military) sources of care is observed for these data. The pattern and levels of satisfaction with quality attributes exhibited by those using MTF/SA and Prime enrollees are nearly identical. This is to be expected because these groups receive their health care mostly at the same facilities.

**Table 3-16. Measures of Perceived Quality of Care—All Regions Combined
(Proportion of Subpopulation Satisfied with Attribute)**

Measure	Subpopulation											
	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
Ability to diagnose	0.63	0.67*	0.76	0.79*	0.71	0.75*	0.91	0.91	0.78	0.80*	0.86	0.87
Advice to avoid illness	0.69	0.74*	0.73	0.79*	0.74	0.76	0.88	0.90*	0.79	0.82*	0.84	0.86*
Attention given by provider	0.67	0.72*	0.75	0.80*	0.73	0.77*	0.89	0.91	0.79	0.82*	0.85	0.87*
Courtesy of admin. staff	0.62	0.71*	0.75	0.77	0.73	0.78*	0.94	0.93	0.79	0.82*	0.88	0.89
Courtesy of providers	0.76	0.82*	0.83	0.88*	0.84	0.87*	0.96	0.96	0.87	0.89*	0.92	0.93
Interpersonal concern of providers	0.50	0.58*	0.62	0.69*	0.62	0.67*	0.85	0.86	0.68	0.72*	0.78	0.81*
Outcome of health care	0.68	0.72*	0.79	0.81*	0.76	0.77	0.92	0.92	0.81	0.82*	0.87	0.88
Overall quality of health care	0.67	0.72*	0.77	0.82*	0.75	0.78*	0.93	0.94	0.81	0.84*	0.87	0.89*
Provider concern for privacy	0.77	0.81*	0.83	0.88*	0.83	0.87*	0.95	0.96	0.87	0.89*	0.92	0.93*
Provider explanation of medical tests	0.66	0.72*	0.77	0.81*	0.76	0.77	0.90	0.91	0.80	0.82*	0.86	0.87*
Provider explanation of procedures	0.68	0.73*	0.78	0.82*	0.77	0.78	0.91	0.92	0.81	0.83*	0.87	0.88
Provider interest in outcomes	0.53	0.62*	0.64	0.72*	0.63	0.68*	0.88	0.89	0.71	0.76*	0.80	0.83*
Provider personal concern (for patient)	0.67	0.73*	0.74	0.80*	0.74	0.77*	0.91	0.92	0.79	0.83*	0.86	0.88*
Provider reassurance and support	0.67	0.71*	0.74	0.79*	0.73	0.74	0.91	0.91	0.79	0.81*	0.86	0.87*
Thoroughness of exam	0.65	0.72*	0.76	0.81*	0.72	0.77*	0.91	0.93*	0.79	0.83*	0.86	0.89*
Thoroughness of treatment	0.66	0.70*	0.79	0.81	0.75	0.77*	0.93	0.93	0.81	0.83*	0.87	0.89
Time with provider	0.60	0.67*	0.69	0.74*	0.69	0.72*	0.87	0.88	0.74	0.78*	0.82	0.84*

* Difference between 1994 and 1997 statistically significant, $p < 0.05$.

Note that retirees are also included in the Prime, MTF/SA, and civilian care-only groups.

3.5 Satisfaction With Filing Medical Claims Under TRICARE

When seeking care outside the managed care network, a medical claim must be filed for reimbursement.¹⁶ Use of CHAMPUS (TRICARE Standard) by those using civilian care-only dropped from 40 percent in 1994 to 30 percent in 1997, suggesting that fewer claims are now being filed.¹⁷ As shown in Table 3-17, there was improvement from 1994

¹⁶ In principle, those enrolled in Prime and nonenrollees using the Extra network do not have to file claims. Participating providers in the Extra network and providers receiving referrals from PCMs of Prime enrollees are supposed to handle the necessary claims filing. Before TRICARE, filing a CHAMPUS claim was the responsibility of the patient.

¹⁷ Information on the proportion of beneficiaries who had to file their own claims was not available from the survey data.

to 1997 in both the satisfaction with provider willingness to submit claims¹⁸ and the time required to solve problems with claims. However, those filing claims in 1997 were less satisfied with the overall filing procedures and the level of coverage, compared with what was reported in 1994, before TRICARE. Levels of satisfaction with most aspects of claims filing are relatively low in comparison to satisfaction levels with access to and quality of care.

**Table 3-17. Satisfaction With TRICARE Standard (CHAMPUS) Claims Procedures—
All Regions Combined (Proportion of Subpopulation Satisfied)**

Satisfaction Measure	Source of Care					
	Purchased Care		MTF/SA ¹		Prime ²	
	FY94	FY97	FY94	FY97	FY94	FY97
Provider willingness to submit claims	0.64	0.79*	0.75	0.86*	0.78	0.83*
Claims processing procedures	0.67	0.62*	0.68	0.64	0.70	0.67
Time to solve claims problems	0.42	0.48*	0.44	0.48	0.49	0.56*
Time waiting for payment	0.49	0.51	0.50	0.53	0.55	0.60*
Amount of deductible	0.44	0.41	0.39	0.43	0.43	0.60*
Amount of copayment	0.41	0.42	0.41	0.47	0.51	0.60*
Coverage	0.52	0.43*	0.54	0.49	0.57	0.60*
Proportion that used CHAMPUS/Standard	0.40	0.30*	0.37	0.37	0.61	0.41*

¹ Used MTF/SA and some purchased care (CHAMPUS/TRICARE Standard or Extra).

² Used CHAMPUS/Standard prior to enrolling in Prime, or referred out-of-network by PCM in 1997.

* Change statistically significant, $p < 0.05$.

Large regional differences in satisfaction with the various aspects of claims filing were observed (see Appendix F). These differences are partially the result of differences in procedures followed by the managed care contractor responsible for processing claims in a given region.¹⁹

3.6 Region 11 Changes

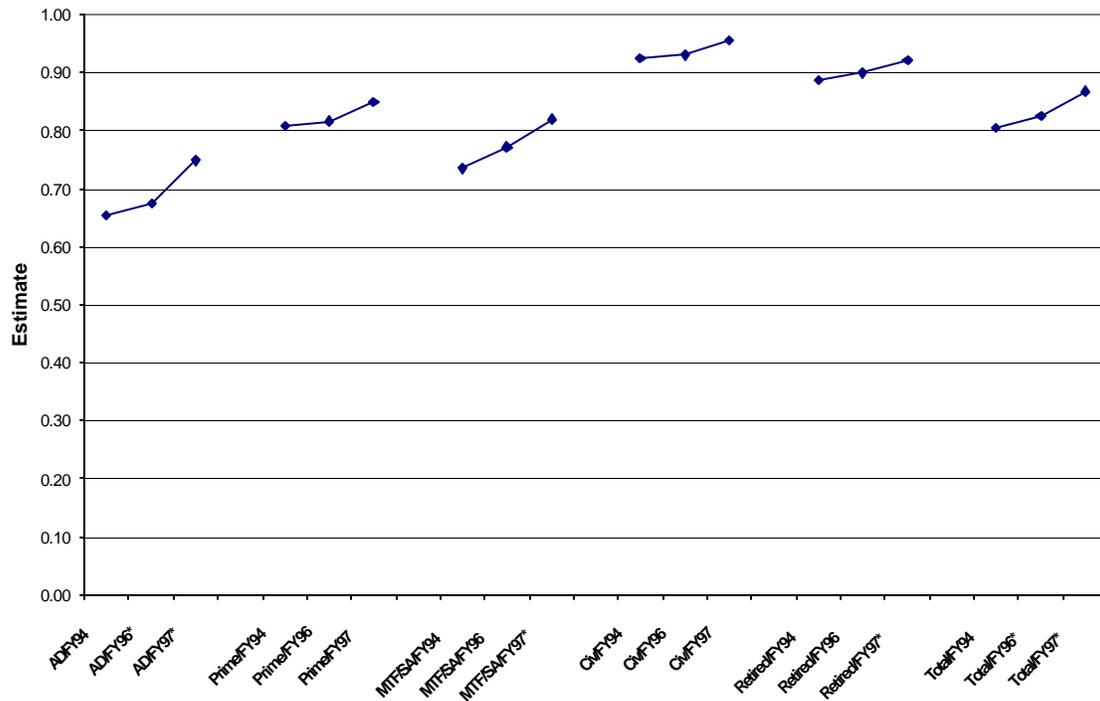
Region 11 was the first TRICARE site and has been enrolling people in Prime since March 1995. The FY98 evaluation focused on this single region because it was the only one that had been operational long enough at the time with meaningful data. The results of that evaluation suggested that TRICARE had resulted in increased access and that quality of care was being maintained. A second look is now taken for evidence of a continued trend in access and quality of care in Region 11.

¹⁸ With the advent of TRICARE, there has been an increase in the number of providers willing to accept assignment. Providers accepting assignment are also required to submit claims.

¹⁹ CHAMPUS claims were handled differently in 1994 and 1997. In 1994, before TRICARE, claims were filed directly with a fiscal intermediary who processed claims for the beneficiary's state of residence. In 1997, each region under TRICARE has a contractor responsible for handling claims. Procedures can vary from region to region.

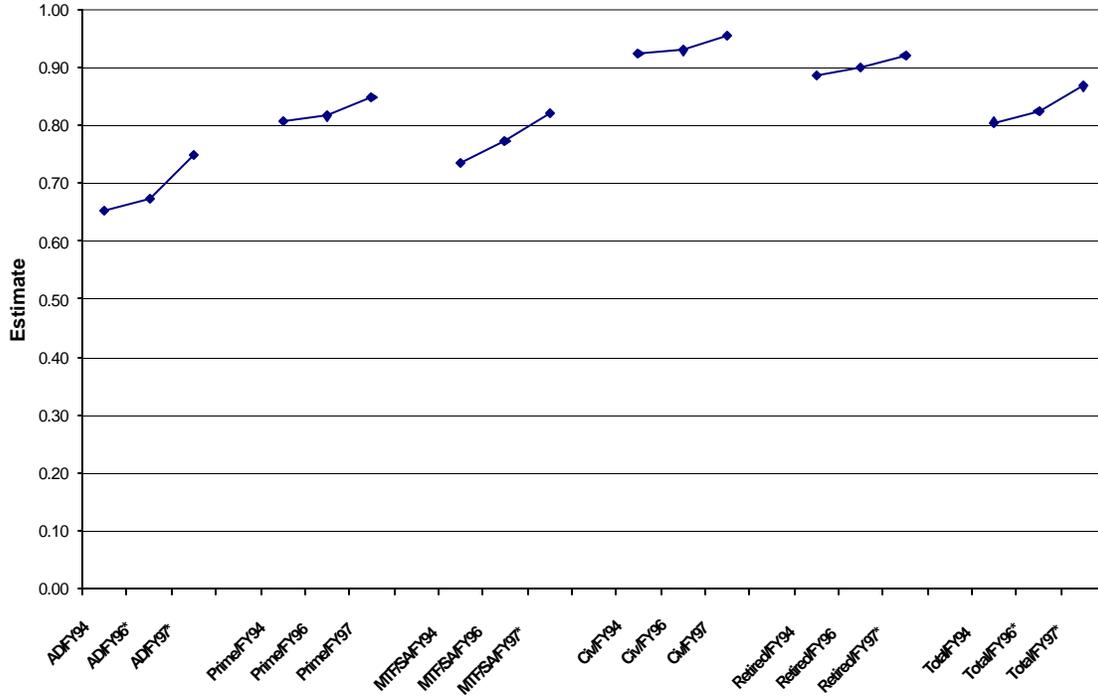
3.6.1 Access to Care

Figures 3-6 through 3-8 show 3-year trends for beneficiary satisfaction with access to care when needed, ease of making an appointment, and use of the ER as source of care, respectively, for each of the defined subpopulations (Appendix G provides supporting data). The results show that levels of satisfaction continue to rise, and ER use generally continues to fall, as TRICARE matures. Levels of satisfaction with access for those with civilian sources of care were the highest—consistently above 90 percent. Satisfaction with access to Prime and MTF/SA rose by more than 20 percentage points over the 3-year period, but it is still below that of access to civilian care.



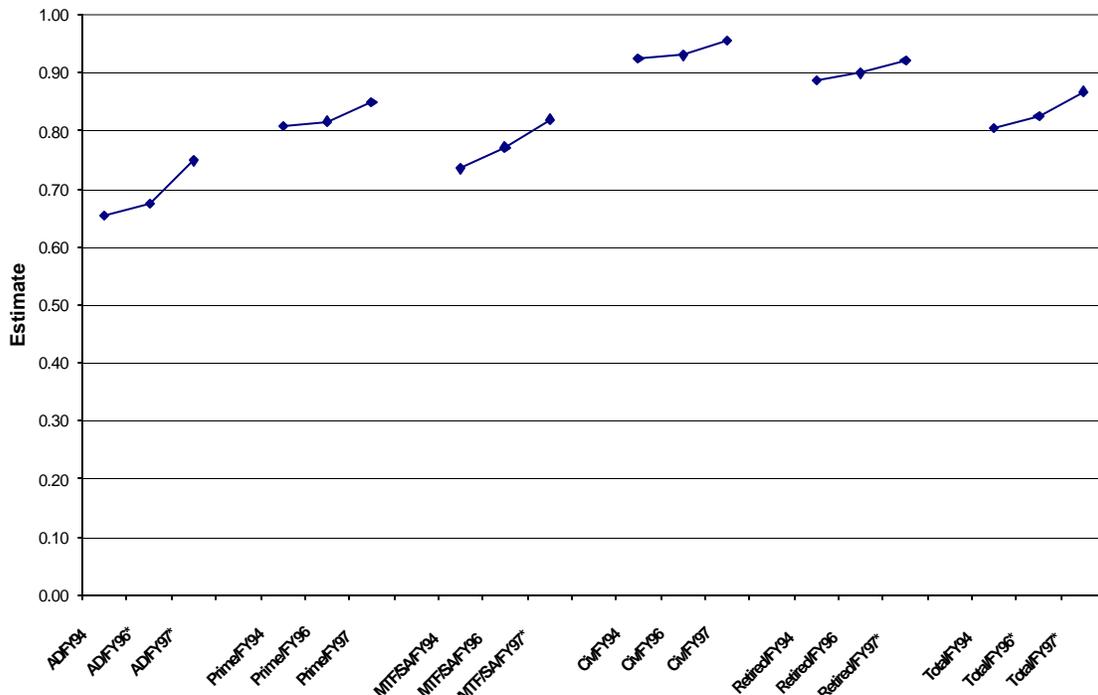
FY94*=significant change 94–96; FY96*=significant change 96–97
 FY97*=significant change 94–97

**Figure 3-6. Satisfaction With Access to Care in Region 11
 (Proportion of Subpopulation Satisfied)**



FY94*=significant change 94-96; FY96*=significant change 96-97
 FY97*=significant change 94-97

Figure 3-7. Satisfaction With Ease of Making Appointments in Region 11 (Proportion of Subpopulation Satisfied)



FY94*=significant change 94-96; FY96*=significant change 96-97
 FY97*=significant change 94-97

Figure 3-8. Use of the ER for Care in Region 11 (Proportion of Subpopulation Using ER)

3.6.2 Quality of Care

Figure 3-9 shows the 3-year trends for satisfaction with quality of care in Region 11. The general trend (*total* group) suggests a gradually improving perception of quality of care. The levels of satisfaction with quality of care received at military facilities are approaching those received at civilian ones in Region 11.

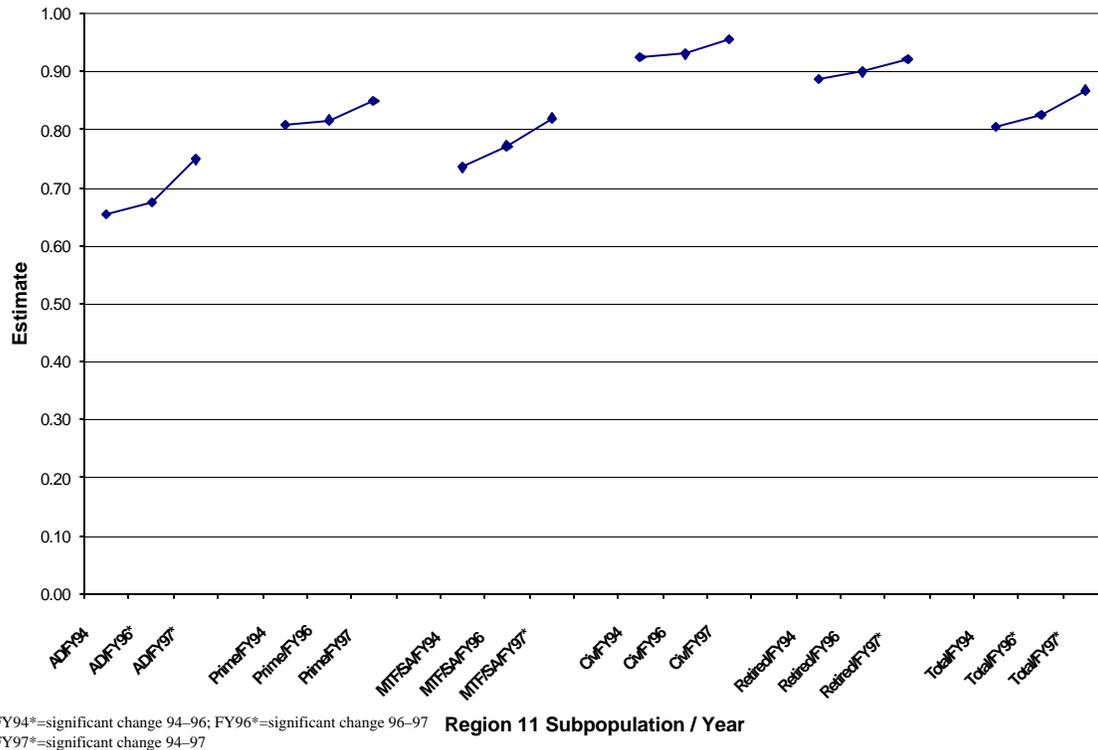


Figure 3-9. Satisfaction With Overall Quality of Care in Region 11 (Proportion of Subpopulation Satisfied)

3.7 Areas of Possible Concern

While the general pattern of results shows that TRICARE has made dramatic improvements in access to care, and that most quality-of-care goals are being met, this study has identified several problem areas. These are summarized below.

3.7.1 Satisfaction With Military vs. Civilian Care

Levels of satisfaction with most aspects of access were shown to be markedly greater for those with a source of care outside the military system. Why are those who use military providers as a source of care less satisfied? Two characteristics of the group not using the military system distinguish them from those who do.

Those in the civilian-care group are demographically different: they are older, more likely to live out of catchment, and more likely to have private insurance. Older people in the sample tend to have greater levels of satisfaction with their health care—regardless of the source of care. However, age alone does not account for the observed differences in

satisfaction. Those who only use civilian sources of care are also different in a more subtle way—they *chose* not to use the military system. This “taste” for civilian care likely accounts for some of the differences in satisfaction. While it is possible to “adjust” the data and statistically predict the outcomes of a subpopulation on the basis of different demographics, it is not possible to account for the factors underlying the choice of the source of health care with the available data.

However, it was possible to identify attributes of the military system leading to lower levels of satisfaction among those who use it. These include:

- Inability to choose one’s own PCM, and
- Difficulty making an appointment by telephone.

Those enrolled in Prime who were able to choose their own PCM had significantly greater levels of satisfaction with most aspects of their health care—even such things as how long it takes to get an appointment. Greater satisfaction with these “process” measures suggests an ambiguity. Given that one can choose one’s PCM, does one do so on the basis of prior knowledge of how easy it might be to see a particular provider, or of expected levels of quality of care? If so, then choosing one’s own PCM will not lead to satisfaction by itself. Rather, an *informed* choice, leading to positive expectations fulfilled by experience, is the more likely scenario.

This study found that it is becoming more difficult to make an appointment by telephone. This is particularly true for those with military providers. However, while there has been an increase over time in the number of phone calls needed to get an appointment, the level of satisfaction with ease of making appointments has risen for those using military providers. This suggests that difficulty in getting through on the telephone may be only a minor annoyance. Alternatively, difficulty in making an appointment by telephone may have curtailed the satisfaction level from increasing even more than it had.

3.7.2 Shortfalls in Meeting Quality-of-Care Goals

While most *Healthy People 2000* goals were being met, a few were not. Some of these goals are described below.

3.7.2.1 Tobacco Use

The use of tobacco products (cigarettes and smokeless tobacco) is prevalent among the enlisted population and for pregnant women. There was also a shortfall in the level of counseling in the use of tobacco.

While it may be difficult to achieve a reduction in the use of tobacco, providing counseling services is less problematical.

3.7.2.2 Healthy Living Advice

Although no goal had been set for FY 1997, only 57 percent of the Prime group and 46 percent of active duty personnel reported receiving healthy living advice during that year. Everyone enrolled in Prime should have received this advice.

3.7.2.3 MTF Prenatal Care

There was a shortfall in the receipt of first-trimester prenatal care for pregnant women with MTF space-available sources of care (85 actual vs. 90 percent goal).

3.7.2.4 Prostate Exams

The DoD uses an implicit goal for prostate testing—all (100 percent) males, 50 years of age and over, and all African-American males, 40 and over. As shown previously in Table 3-14, the level of testing was 63 percent of that population—well below the goal.

3.7.2.5 Pap Tests

As reported earlier in Table 3-7, the level of *annual* Pap tests dropped from 70 to 66 percent, over the period of analysis, for women in the overall population. This is somewhat mitigated by the FY 1997 achievement of the *Healthy People 2000* goal of “Pap test in past 3 years.”

Specific screening mechanisms tend to increase the chance of early detection and improve treatment outcomes. Therefore, it is in both the DoD’s and the beneficiaries’ best interests to use these screening mechanisms because they save lives and dollars.

3.7.3 Claims Processing

Those choosing to seek care out of the managed care network under TRICARE were very satisfied with access to and quality of care—with satisfaction levels exceeding 90 percent. However, levels of satisfaction with claims processing for this group were relatively low (in many cases below 50 percent).

3.8 What Went Right

Despite these few glitches, the net effect of TRICARE is continued improvement in access to care, as evidenced by increased satisfaction with:

- Access to care,
- Ease of making appointments,
- Wait-times for getting an appointment,
- Wait-times for seeing a doctor during an appointment,
- Convenience of hours, and
- Being able to see a provider of choice.

The greatest increases in satisfaction with these aspects of access to care generally occurred for those enrolled in the Prime option of TRICARE.

TRICARE has also resulted in increased satisfaction with overall quality of care for the population as a whole. Quality of care has mostly been maintained under TRICARE. Most of the quantifiable *Healthy People 2000* goals examined were met, or nearly met, for the population as a whole.

4. EVALUATION OF TRICARE COSTS

The evaluation of TRICARE costs considered both the costs to the government and to covered beneficiaries. Actual TRICARE utilization and costs in FY 1997 were compared with the corresponding quantities in FY 1994. To make these quantities comparable, FY 1994 direct care and CHAMPUS costs were inflated to FY 1997 dollars, and both utilization and costs were adjusted to reflect the beneficiary composition in FY 1997 as well as the effects of BRAC and other Service rightsizing initiatives. Throughout the remainder of this document, the latter estimates are referred to as the FY 1994 baseline. Also, the term “purchased care” is used to refer to both CHAMPUS in FY 1994 and to MCS contractor care in FY 1997.

4.1 Methods and Data Sources

4.1.1 Data Sources

The evaluation of government and beneficiary costs was based on data from several sources. To ensure adequate sample sizes, independent samples were drawn from the FY 1994 and FY 1997 Defense Enrollment Eligibility Reporting System (DEERS) databases so that both direct-care and purchased-care inpatient costs could be estimated with a desired level of precision. Appendix H provides a detailed description of the sampling considerations, sample sizes, and weighting procedures. Because inpatient care is the most infrequent health care service, sample sizes determined to estimate hospitalization rates and costs should also be sufficient to estimate outpatient and prescription utilization and costs.

Beneficiaries in the FY 1997 sample were matched to the FY 1997 DEERS enrollment database to determine their Prime enrollment status (enrolled or nonenrolled), enrollment intervals, PCM type (military or civilian), and region of enrollment. In many cases, beneficiaries had two or more enrollment intervals, usually involving a move from one region to another, but sometimes involving a shift from a military to a civilian PCM or vice versa. For comparability with the FY 1997 sample, beneficiaries in the FY 1994 sample were prospectively matched to the FY 1997 DEERS enrollment database and classified in the same manner as the FY 1997 sample, with the exception that some beneficiaries were not eligible for military health care in FY 1997. The latter group of beneficiaries was included in the estimation of the baseline but excluded from the estimation of the TRICARE effect.

The health care experience of sampled beneficiaries was obtained by matching them to FY 1994 and FY 1997 purchased-care claims and Standard Inpatient Data Records (SIDRs—MTF hospitalization records). The purchased-care claims data were aggregated into inpatient, outpatient, and prescription episodes, with corresponding government and beneficiary out-of-pocket costs. For FY 1997, provider information on the claims records permitted utilization and costs to be classified further into Prime, Extra, and Standard options. Although the SIDR data did not indicate the enrollment status of beneficiaries who had a hospital stay, MTF discharges could be classified as Prime or space-available by matching the discharge dates to the Prime enrollment file.

Figure 4-1 graphically depicts the data sources used in this evaluation and summarizes the information derived from each source.

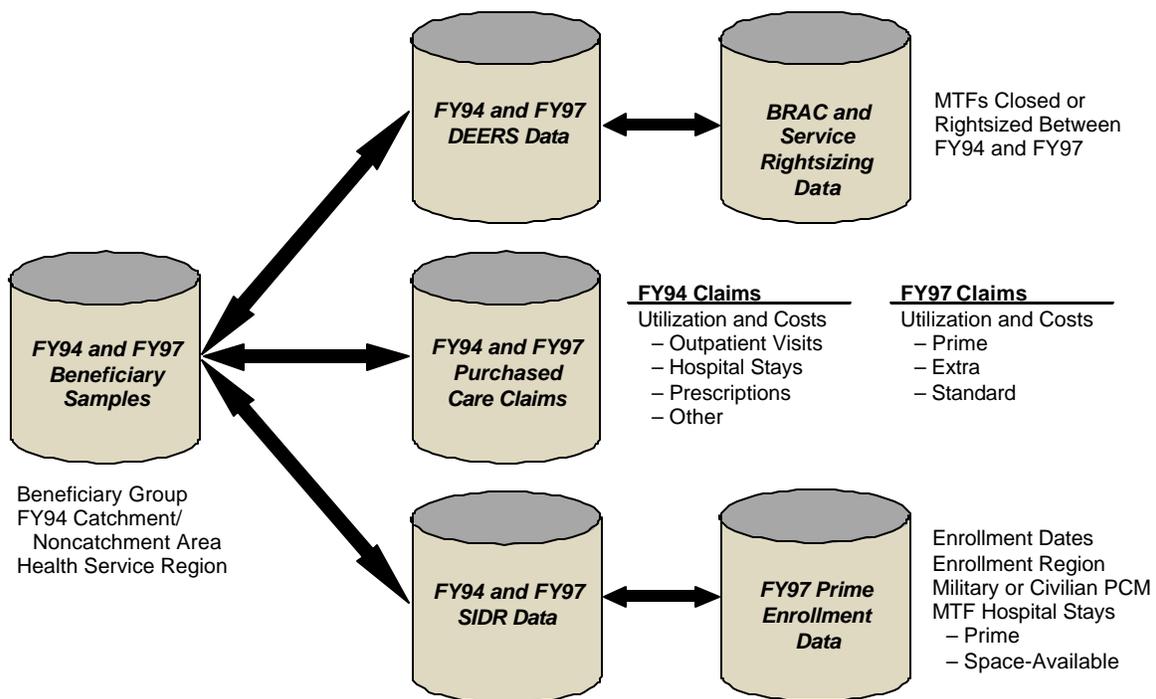


Figure 4-1. Sources of Data Used for Evaluation of TRICARE Costs

4.1.2 Purchased Care Data

The FY 1997 purchased-care claims files used in this evaluation were based on 20 months of data (i.e., claims submitted up to 8 months after the close of the fiscal year). According to the CHAMPUS Regulation (DoD 6010.8-R), all claims submitted for benefits must, with a few exceptions, be filed no later than 1 year after services are provided. Claims adjudications, often involving large sums of money, can further extend the time period before the claims files can be considered complete. To avoid having to wait much longer before processing the purchased-care claims, it was decided to estimate their completeness using 30-month CHAMPUS Medical Information System (CMIS) data available from the TRICARE Management Activity (TMA)–Aurora. Separate completion factors were derived for inpatient, outpatient, and prescription services for every combination of Health Service Region, Service, and beneficiary category (active-duty family members, retirees, and retiree family members). The completion factors were then applied to the appropriate cost and utilization elements in FY 1997 to estimate a full year of claims experience. A similar procedure was followed for FY 1994 claims data (even though those data are already complete) to correct for sampling error in estimating total utilization and costs.

The FY 1994 purchased-care costs were burdened with the costs of the Office of the Civilian Health and Medical Program of the Uniformed Services (OCHAMPUS) in Colorado, plus the Fiscal Intermediary (FI) contractors who processed claims in each region.

At a national level, the cost of these activities was 5.95 percent relative to the direct payments from OCHAMPUS to medical providers.²⁰ The situation was different in FY 1997. The OCHAMPUS cost was still borne by the Defense Health Program through direct appropriation to TMA–Aurora (the successor to OCHAMPUS and the TRICARE Support Office), but the FI and certain other administrative costs migrated to the MCS contractors. The allocation of FY 1997 administrative costs is described later in this chapter.

4.1.3 Direct Care Data

MTFs record inpatient stays in the SIDR data. As with purchased care claims, the SIDR data remain incomplete until several months have elapsed beyond the end of the fiscal year. To adjust for incompleteness, the SIDR data were reconciled with data from the Medical Expense and Performance Reporting System (MEPRS), which were virtually complete 6 months after the close of FY 1997.

An additional adjustment was made to MTF inpatient utilization and costs to account for a change in the treatment of ambulatory (same-day) surgeries between FY 1994 and FY 1997. In FY 1994, all ambulatory surgeries were recorded on SIDRs along with other procedures requiring an overnight stay. However, as MTFs began shifting to the Ambulatory Data System (ADS) in FY 1996, ambulatory surgeries were recorded on Standard Ambulatory Data Records (SADRs), and corresponding costs were allocated to new MEPRS outpatient accounts. This posed a problem because FY 1994 and FY 1997 inpatient and outpatient utilization and costs were no longer comparable. Whereas all MTFs recorded ambulatory surgeries on SIDRs and MEPRS inpatient accounts in FY 1994, those MTFs using the ADS recorded them on SADRs and MEPRS outpatient accounts in FY 1997, and those not yet using the ADS recorded them as in FY 1994.

Two possible approaches were considered to correct this accounting anomaly. First, because ambulatory surgeries are now treated as outpatient procedures, all ambulatory surgeries identified on FY 1994 SIDRs could be moved to the outpatient side of the ledger. This would obviously require that the corresponding costs be moved as well. However, there was no separate visibility into ambulatory surgery costs in FY 1994 MEPRS. This left the only feasible approach of moving all ambulatory surgeries identified on FY 1997 SADRs back to the inpatient side of the ledger. Because new MEPRS accounts were created to identify ambulatory surgery costs for MTFs using the ADS, the corresponding costs could also be moved to the inpatient side.

Although the SIDR data contain individual patient identifiers, these identifiers are absent from the MTF outpatient data. Instead, MTF outpatient services are recorded only at an aggregate level in terms of workcenters and broad beneficiary categories. Therefore, the analysis of MTF outpatient services was necessarily conducted at a lesser degree of detail. In particular, the impact of TRICARE on MTF outpatient costs was estimated by simply comparing actual FY 1997 costs with FY 1994 costs adjusted for inflation, changes in demographics, and BRAC and other Service rightsizing initiatives. It was not possible to partition the cost difference into components due to the Prime and space-available options.

²⁰ “CHAMPUS Chartbook of Statistics,” Office of the Civilian Health and Medical Program of the Uniformed Services, OCHAMPUS Guide 5400.2-CB, December 1995, p. III-9.

The direct-care costs were developed from MEPRS, which records costs and workload by workcenter at each MTF. MEPRS classifies final operating costs into five accounts:

- A (Inpatient),
- B (Outpatient),
- C (Dental),
- F (Special Programs), and
- G (Readiness).

MEPRS also records intermediate operating costs in accounts D (Ancillary Services, e.g., pharmacy, pathology, and radiology) and E (Support Services, e.g., base operations and real property maintenance). However, these costs are fully allocated or “stepped down” to the five final operating accounts, so they need not be considered separately in this analysis.

In particular, most pharmacy costs are recorded in the three-digit account DAA (Pharmacy), and are stepped down to the final operating accounts. Some pharmacy costs are stepped down to the three-digit accounts FCC (CHAMPUS Beneficiary Support) and FCD (Support to Other Military Medical Activities). All non-active-duty beneficiaries have the option of obtaining a prescription from a civilian physician, and filling the prescription free of charge at an MTF pharmacy. For CHAMPUS-eligible beneficiaries, the prescription costs are stepped down to the FCC account. For Medicare-eligible beneficiaries, the costs are recorded in the DAA account and are stepped down. Thus, the latter costs are included in MEPRS but are not separately identifiable. This report considers the FCC costs along with those of the A and B accounts. Indeed, as will be seen later, 18 three-digit F-accounts are included in the analysis because they were judged to be potentially affected by TRICARE.

4.1.4 Utilization and Cost Models

Using the above data sources, models were developed to estimate the impact of Prime enrollment on utilization and costs. A further distinction was made between Prime enrollees with a military PCM and those with a civilian PCM. Prior to model estimation, some measures of beneficiary access were created to help predict utilization. Appendix I gives a detailed description of these measures.

Because individuals were observed over varying time periods, the potential for seasonal variation in utilization was also considered. For example, winter utilization tends to be higher than during the rest of the year. Consequently, annual utilization would probably be overestimated if utilization during the winter months were simply scaled by a factor of four. By analyzing the variation in monthly DoD-wide utilization and costs over the past several years, factors were derived that enabled utilization and costs observed over fractional MHS eligibility and Prime enrollment intervals to be scaled appropriately into annual equivalents.

Utilization of MHS services for any individual is measured in terms of counts—number of hospital stays, number of outpatient visits, and number of prescriptions. Models that take account of the discrete nature of count data, and the intervals over which they are observed, were used for all the utilization analyses. For the purchased-care outpatient and prescription analyses, two-stage models were used. In the first stage, the

probability that an episode occurred during the period of observation was estimated. In the second stage, the expected number of episodes, conditional on having at least one, was estimated. The models were then combined to produce an estimate of the expected utilization for each eligible beneficiary. For both the purchased care and MTF inpatient analyses, two-stage models were neither feasible nor necessary because very few beneficiaries had more than one hospital stay. Therefore, single-stage models were used to estimate the expected number of hospital stays.

Two-stage models were also used to estimate purchased-care unit costs (i.e., cost per unit of service—hospital stays, outpatient visits, and prescriptions). In the first stage, the probability of a positive government cost was estimated. Government costs can be zero when a beneficiary has not met his or her deductible or has private insurance that covers the full CHAMPUS allowed amount. In the second stage, the unit cost was estimated conditional on its being positive. To obtain an estimate of total cost, the utilization and unit-cost estimates for each beneficiary were multiplied, weighted (using the sampling weights described in Appendix H), and summed across all eligible beneficiaries.

A single-stage model was used to estimate MTF inpatient costs. Because MTFs do not bill beneficiaries for a hospital stay, the SIDRs do not contain any information on cost. Rather, they contain a measure of relative resource consumption for each discharge. This measure, called a Relative Weighted Product (RWP), is computed by applying what is referred to as the TRICARE Grouper²¹ and associated weights that reflect the resources expended relative to the nationwide average. It is normalized so that a procedure that consumes the nationwide average amount of resources receives an RWP of 1.0.

To estimate the cost of a discharge, it was necessary to convert the associated RWP to dollars. The conversion was complicated by the fact that some MTFs recorded ambulatory surgeries on SADR in FY 1997. Ambulatory surgeries reported on SADR (which are intended to report outpatient procedures) do not contain an RWP field; therefore, a method was needed to assign an RWP value to each ambulatory surgery to make it comparable with ambulatory surgeries recorded on SIDRs. The assignment was accomplished by applying the TRICARE Grouper to the diagnosis and treatment codes recorded on the SADR. However, because the SADR are designed for outpatient procedures, they use different treatment codes than the SIDRs, which are designed for inpatient procedures. Therefore, the SADR treatment codes had to first be converted to the SIDR coding scheme before the TRICARE Grouper could be applied. Commercially available software (*CodeBreaker*, produced by Info-X Incorporated, includes a CPT to ICD-9 crosswalk) was used for this purpose.

The cost of a discharge was computed by multiplying each RWP by the average cost per RWP. Total inpatient and ambulatory surgery costs were obtained from MEPRS. However, MEPRS records only total discharges and bed-days, not RWPs. Consequently, total RWPs were obtained from SIDRs and scaled to the total number of discharges recorded in MEPRS (the scale factor for most MTFs was slightly over 1.0). Because the

²¹ Produced by 3M Health Information Systems, the TRICARE Grouper takes account of the length of stay, diagnoses, treatments, complications, and comorbidities associated with a hospitalization to assign procedures to Diagnosis Related Groups (DRGs). Version number 14, applicable to FY 1997, was used for this analysis.

SIDRs record the discharging MTF, it was possible to apply an MTF-specific cost factor to each RWP. Once the cost of each discharge was computed in this manner, a unit cost regression model was estimated in a manner similar to the second stage of the purchased-care cost models.

As previously noted, MTF outpatient services are recorded only at an aggregate level in terms of workcenters and broad beneficiary categories. Although some ADS data were available in FY 1997, no such individual patient-level accounting system was in place during FY 1994. The evaluation of MTF outpatient costs was therefore done on an aggregate level, without recourse to statistical models to estimate the FY 1994 baseline. Furthermore, no models were developed for MTF prescription costs because they are already allocated to the MEPRS inpatient and outpatient accounts.

4.1.5 Summary of Findings

Many of the tables and figures in this section display results in terms of the enrollment status of military health care beneficiaries. Considerations of space and clarity of exposition preclude displaying the information in greater detail. The displays can better be put in context, however, by knowing something about the composition of beneficiaries within and among enrollment status (i.e., enrolled with a military PCM, enrolled with a civilian PCM, or nonenrolled). Table 4-1 shows the distribution of beneficiaries by enrollment status, beneficiary group, and location (catchment area or noncatchment area). Beneficiaries are broken out by these characteristics because they are probably the most influential in determining utilization patterns.

Table 4-1. Distribution of Beneficiary Population by Enrollment Status, Beneficiary Group, and Location

Enrollment Status	Beneficiary Group	Location	End FY 1997 Population Size	Overall Percent	Percent Within Enrollment Group
Military PCM	Active Duty	Catchment	596,282	16.2	90.4
Military PCM	Active Duty	Noncatchment	63,264	1.2	9.6
Military PCM	Active-Duty Family Members	Catchment	584,328	15.9	68.8
Military PCM	Active-Duty Family Members	Noncatchment	46,177	1.3	5.4
Military PCM	Retirees<65 and Family Members	Catchment	198,517	5.4	23.4
Military PCM	Retirees<65 and Family Members	Noncatchment	20,356	0.6	2.4
Civilian PCM	Active-Duty Family Members	Catchment	122,558	3.3	31.9
Civilian PCM	Active-Duty Family Members	Noncatchment	59,412	1.6	15.4
Civilian PCM	Retirees<65 and Family Members	Catchment	114,240	3.1	29.7
Civilian PCM	Retirees<65 and Family Members	Noncatchment	88,553	2.4	23.0
Nonenrolled	Active-Duty Family Members	Catchment	217,545	5.9	16.3
Nonenrolled	Active-Duty Family Members	Noncatchment	74,423	2.0	5.6
Nonenrolled	Retirees<65 and Family Members	Catchment	595,162	16.2	44.6
Nonenrolled	Retirees<65 and Family Members	Noncatchment	445,914	12.1	33.5
Ineligible	Retirees≥65 and Family Members	Catchment	239,691	6.5	52.4
Ineligible	Retirees≥65 and Family Members	Noncatchment	217,424	5.9	47.6

A brief summary of the findings from the various models is presented below. The results are presented for all TRICARE regions combined. Appendix J presents more detailed findings by region. Although some exceptions are noted in Appendix J, the overall findings are generally consistent across regions. The combined results displayed in this chapter are therefore representative of the TRICARE program as a whole and do not obscure any major differences across regions. Because the sample sizes in both the baseline and TRICARE years are so large, nearly all the differences in utilization and cost are statistically significant.

In all the tables and figures to follow, the FY 1994 baseline was calculated by applying the FY 1994 models to the FY 1997 population so that the baseline represents an estimate of what would have happened in FY 1997 without TRICARE. Of course, without a control group, any inferences on what would have happened without TRICARE are incomplete. For example, utilization and costs could have been influenced by capitated funding, trends in the standard of care, or other unidentified reasons not related to TRICARE. The only changes explicitly controlled for by the statistical models are inflation, the effects of BRAC and other Service rightsizing initiatives, changes in MTF accounting practices, and changes in the beneficiary composition and size.

4.1.5.1 Purchased Care Outpatient Utilization and Costs

Figure 4-2 compares the average annual purchased-care outpatient utilization per beneficiary by enrollment type in the FY 1994 baseline with the FY 1997 TRICARE experience. Purchased care outpatient utilization was measured as the number of visits per eligible beneficiary. With presumably improved access to care at MTFs, beneficiaries enrolled with a military PCM can be expected to be treated more often at the MTF and referred to the network for specialty care only when necessary. The drop of 28 percent in outpatient utilization by beneficiaries enrolled with a military PCM is consistent with that hypothesis. On the other hand, beneficiaries enrolled with a civilian PCM show a 16-percent increase in outpatient utilization, which can be partly explained by lower beneficiary cost shares (lower out-of-pocket costs tend to increase utilization) and a greater emphasis on preventive care under Prime.²² The increase in outpatient utilization by beneficiaries with a civilian PCM is consistent with what occurs in commercial managed-care settings (i.e., outpatient utilization increases in response to tightening controls on inpatient utilization). The overall result is an 11-percent drop in purchased-care outpatient utilization.

Also of note in Figure 4-2 is a 15-percent decline in outpatient utilization by nonenrollees. This drop would appear to be counterintuitive because beneficiaries who choose not to enroll in Prime should have more difficulty obtaining access to MTF care, which, in turn, should force them to seek more care from the civilian sector. A possible explanation, however, is that beneficiaries who do not enroll in Prime may feel the need to pick up additional private insurance to cover expected increases in civilian sector costs. To examine this possibility, a question was added to the FY 1997 Health Care Survey of DoD Beneficiaries, asking whether TRICARE had any effect on the respondent's

²² The same emphasis on preventive care is also present for enrollees with a military PCM but is reflected in outpatient utilization and costs at the MTFs rather than at civilian providers.

decision to be covered by private insurance. Table K-2 of Appendix K shows the results, broken out by Health Service Region, beneficiary group, and enrollment status. To summarize, retirees and family members, who constitute almost 80 percent of nonenrollees (see Table 4-1), had a net increase of 15 percent in private insurance coverage from FY 1994 to FY 1997 because of TRICARE. That fact, together with nationwide statistics showing a trend away from standard fee-for-service plans and toward more HMOs and PPOs²³ (resulting in lower copayments that reduce the likelihood of filing a network claim), likely explains most of the drop in outpatient utilization among nonenrollees. Another likely factor in the drop is restrictions imposed in FY 1997 on the number of visits allowed for mental health care,²⁴ but the precise impact of those restrictions is difficult to determine.

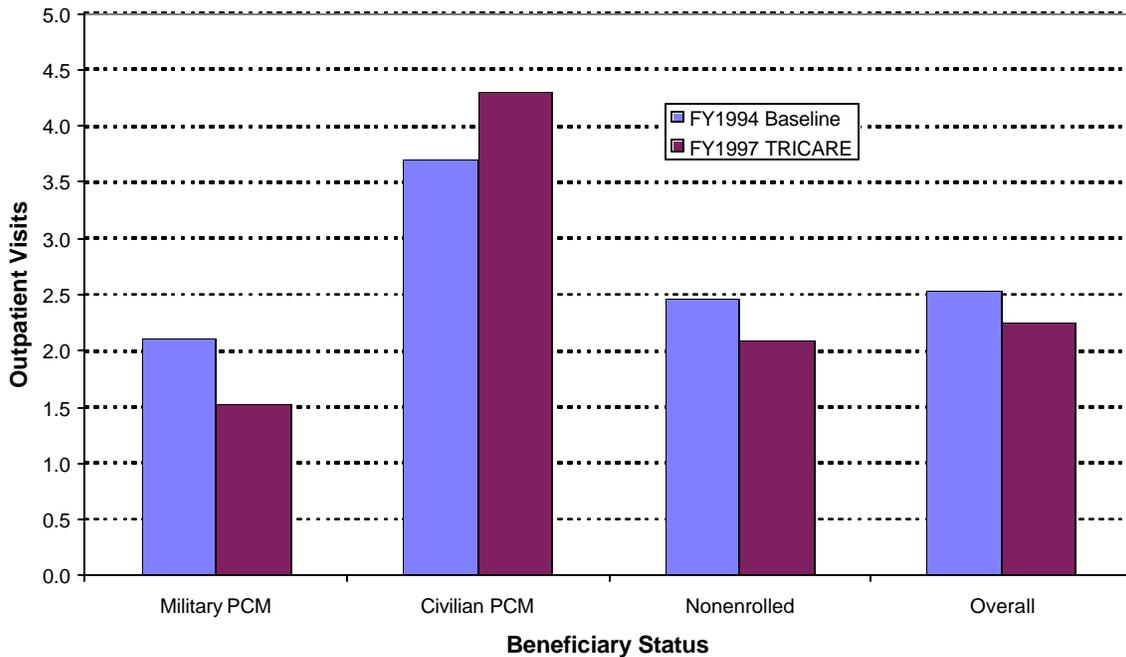


Figure 4-2. Average Annual Purchased-Care Outpatient Utilization per Beneficiary

Figure 4-3 shows the impact of TRICARE on the average purchased-care outpatient cost per beneficiary. FY 1994 costs were inflated by the Medicare Economic Index (3-year cumulative inflation of 6.6 percent) because that index is one of the factors used by TMA–Aurora in setting its maximum allowable charges. The general trends in cost are very similar to those observed for outpatient utilization, but the magnitudes are somewhat different. First, although utilization by beneficiaries enrolled with a military PCM declined by 28 percent, corresponding costs declined by only 10 percent. This phenomenon occurs because beneficiaries are not usually referred to the network unless they need specialty

²³ From 1994 to 1997, civilian HMO enrollment increased from 25 percent to 33 percent, while PPO utilization increased from 30 percent to 40 percent. The source is Bureau of Labor Statistics, United States Department of Labor, *News*, January 7, 1999, Table 5, p. 9.

²⁴ The maximum allowed number of self-referred visits for mental health care declined from 24 to 6 between FY 1994 and FY 1997.

care, which tends to be more costly. Second, the cost for beneficiaries enrolled with a civilian PCM increased by 28 percent, compared with 16 percent for utilization. This pattern is likely caused by beneficiaries dropping their private insurance coverage (see Table K-2 of Appendix K for evidence of this) because of anticipated reductions in their out-of-pocket costs upon enrollment in Prime, thereby increasing the cost to the government. Finally, the cost for nonenrollees declined by almost 40 percent, compared with only a 15-percent drop in utilization. The disproportionate drop results from an increase in nonenrolled beneficiaries with private insurance coverage (which reduces the amount the government needs to cover) and savings due to discounted provider fees when beneficiaries use the Extra option. Overall, outpatient costs decreased by 20 percent.

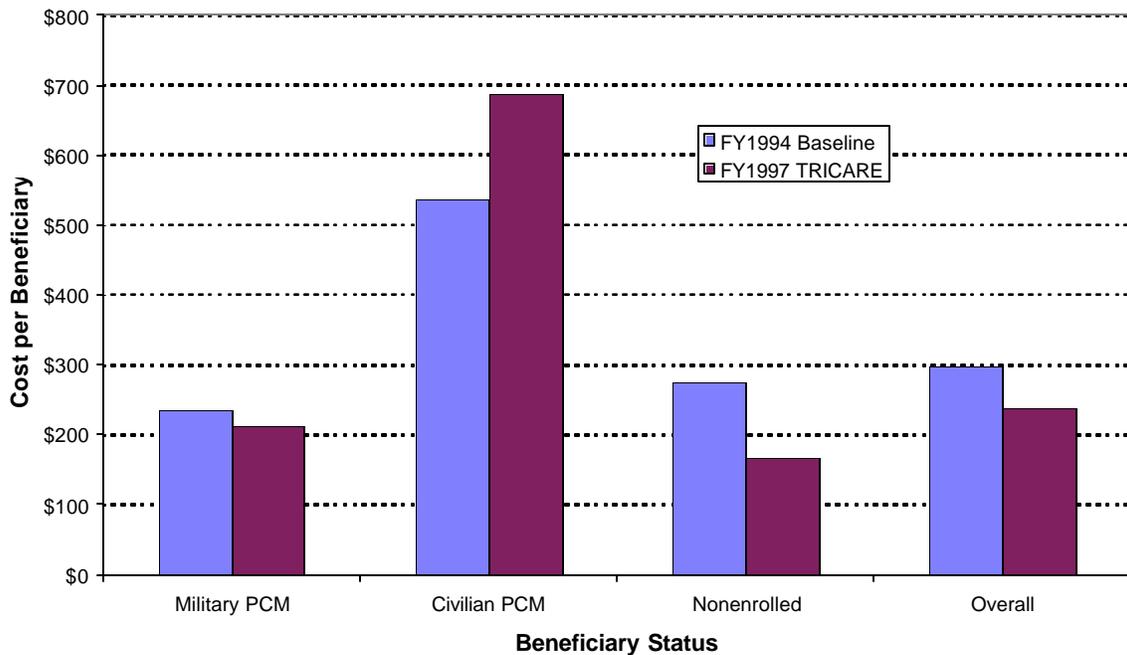


Figure 4-3. Average Purchased-Care Outpatient Cost per Beneficiary

The total cost can be expressed as the product of the total number of visits and the average cost per visit. The average cost per visit can be expected to increase for Prime enrollees because the government is picking up a greater share of the cost. For nonenrollees, the average cost per visit should decline because of increased third-party collections and discounted provider fees when beneficiaries use the Extra option. The estimated trends in the cost per visit are consistent with these expectations. For enrollees with a military PCM, the cost per visit increased by 24 percent; for enrollees with a civilian PCM, it increased by only 5 percent. On the other hand, the government experienced a 28-percent drop in the cost per visit for nonenrollees. Overall, the average cost per visit declined by 10 percent.

4.1.5.2 Purchased Care Inpatient Utilization and Costs

In theory, managed care programs apply utilization management (UM) initiatives to reduce the incidence of unneeded hospitalizations. Utilization management includes prospective reviews by physicians, discharge planning, disease management programs,

demand management programs, and other techniques to exercise clinical oversight. If a hospitalization is deemed necessary, managed care programs additionally apply quality management to reduce the length of stay without compromising the health of the patient. Therefore, much of the savings realized under TRICARE is expected to come from containing the costs of expensive inpatient care. Some of the potential cost savings could come from the UM initiatives just described; the remainder could come from discounts that the MCS contractor negotiates with civilian network hospitals and physicians.

Figure 4-4 compares the average annual purchased-care inpatient utilization per beneficiary by enrollment type in the FY 1994 baseline with the FY 1997 TRICARE experience. Purchased-care inpatient utilization was measured as the number of hospital discharges per 1,000 eligible beneficiaries. The effect of TRICARE on purchased-care inpatient utilization is similar to that for outpatient utilization for each beneficiary group. Beneficiaries with a military PCM show a decline of almost 20 percent in their purchased-care inpatient utilization, consistent with the application of UM at MTFs including referrals to the network only when needed. Conversely, beneficiaries enrolled with a civilian PCM show a 10-percent increase in inpatient utilization. The reason for the increase is related to that for the parallel increase in outpatient utilization (i.e., reduced beneficiary cost shares and improved preventive benefits under Prime cause beneficiaries to increase their utilization of outpatient services, thereby increasing their chances of having an illness detected that requires hospitalization). The magnitude and reasons for the 14-percent decline in inpatient utilization among nonenrollees are also analogous to those for outpatient utilization (i.e., increased private insurance coverage and a requirement for pre-authorization of inpatient mental health services in FY 1997). Overall, the purchased-care inpatient hospitalization rate declined by 11 percent.

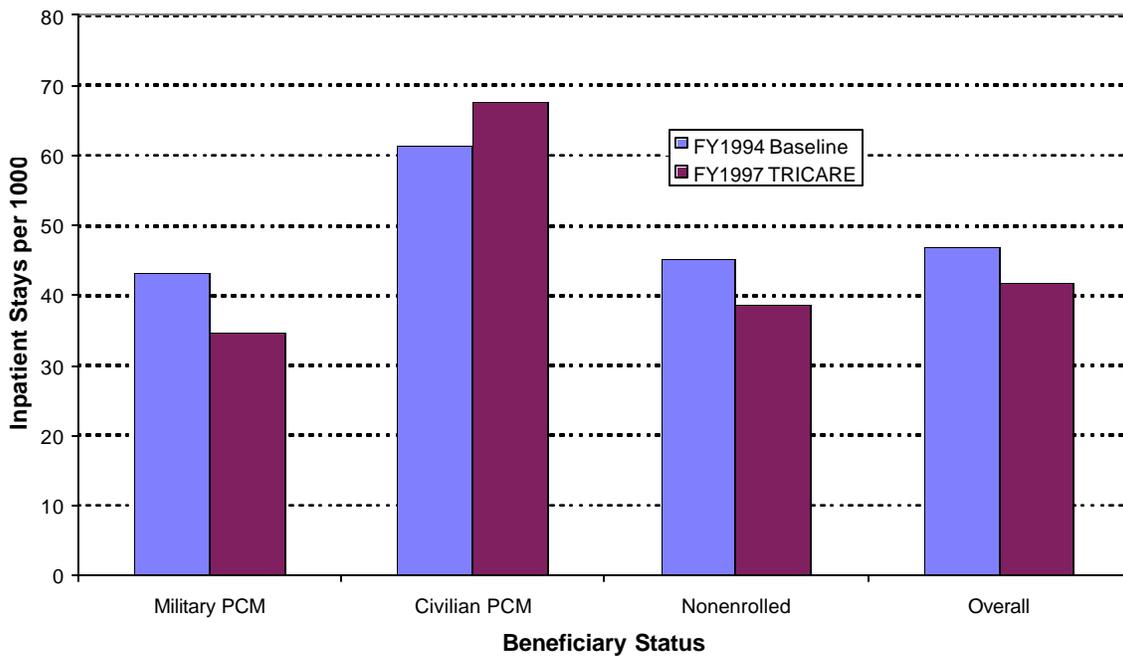


Figure 4-4. Average Annual Purchased-Care Inpatient Utilization per Beneficiary

In addition to the hospitalization rate, the average length of stay was considered as a measure of inpatient utilization. Because TRICARE is likely to affect the case-mix of procedures performed in the hospital, it is necessary to hold the case mix constant when comparing the average length of stay before and after TRICARE. This was done by computing the average length of stay within the same Diagnosis Related Groups (DRGs)²⁵ and applying the FY 1997 case mix (i.e., the percentage of procedures within each DRG) to both years. From FY 1994 to FY 1997, the case-mix-adjusted average length of stay decreased from 6.4 to 5.1 days (a 21-percent decrease).

Figure 4-5 shows the effect of TRICARE on purchased-care inpatient costs. FY 1994 costs were inflated by the HCFA Hospital Input Price Index (8.1 percent). Government costs were almost 20-percent lower for enrollees with a military PCM and roughly level for enrollees with a civilian PCM. Again, the largest drop in cost (50 percent) is for nonenrollees because of their increased reliance on private insurance and because of discounted provider fees when beneficiaries choose the Extra option. The overall drop in purchased-care inpatient costs was 34 percent.

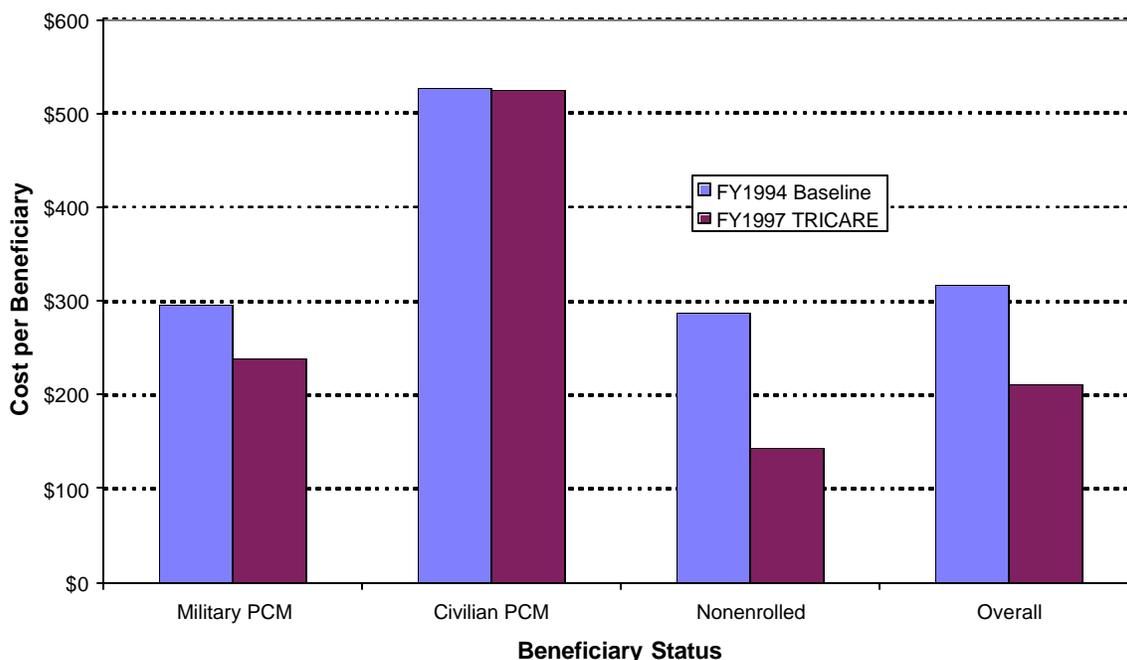


Figure 4-5. Average Purchased-Care Inpatient Cost per Beneficiary

There was no change in the average cost per stay for beneficiaries enrolled with a military PCM. Although the average length of stay declined from 5.6 to 4.7 days for that group of beneficiaries, the resource consumption per stay increased, as evidenced by an increase in the average RWP from 0.92 to 1.02. The likely reason for the increased

²⁵ DRG is a patient classification system that relates demographic, diagnostic, and therapeutic characteristics of patients to the length of inpatient stays and amount of resources consumed. It provides a framework for specifying hospital case mix and identifies classifications of illnesses and injuries for which payment is made under prospective pricing programs.

resource consumption is that beneficiaries with a military PCM are hospitalized in civilian facilities only if the procedure that is needed cannot be performed in the MTF. These procedures tend to be more complex and costly than the “typical” procedure performed in a civilian hospital. The average cost per stay declined by 11 percent for beneficiaries with a civilian PCM and by 42 percent for nonenrollees, again reflecting the higher level of private insurance coverage by the latter group of beneficiaries. Overall, the average cost per stay declined by 26 percent.

4.1.5.3 Purchased Care Prescription Utilization and Costs

Figure 4-6 presents a comparison of average annual purchased-care prescription utilization per beneficiary. Prescriptions include all initial and refill prescriptions filed on purchased-care claims or filled at network pharmacies but are, by their nature, difficult to quantify (a single prescription can embody varying numbers of pills and/or dosages). It is of interest to note that Prime enrollees with a civilian PCM were already significantly more frequent users of purchased-care prescription services than those with a military PCM before TRICARE began, as evidenced by their higher FY 1994 baseline estimates. Under Prime, their prescription utilization increased by 174 percent—almost three times greater than the baseline estimate. One possible explanation is that the increased reliance by MTFs on formularies under TRICARE has forced some beneficiaries to fill their prescriptions at civilian pharmacies. Another possibility is that under Prime, the participating pharmacy files all prescription claims, regardless of cost. Under the traditional benefit, if a prescription cost did not meet the deductible, some beneficiaries may not have bothered to file a claim. Consequently, the additional utilization may be associated with low-cost prescriptions.

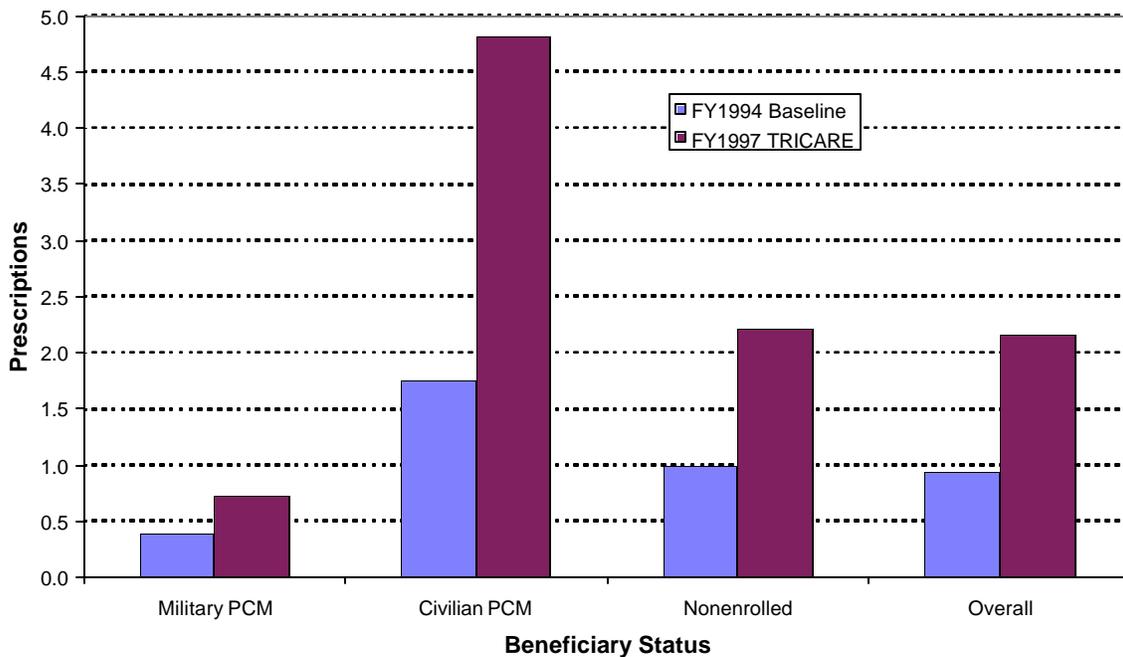


Figure 4-6. Average Annual Purchased-Care Prescription Utilization per Beneficiary

Although the TRICARE benefit appears to have its greatest impact on Prime enrollees with a civilian PCM, utilization by other beneficiary groups also increased significantly. For Prime enrollees with a military PCM, purchased-care prescription utilization almost doubled, whereas utilization more than doubled for nonenrollees. The greatly increased utilization of prescriptions by nonenrollees may seem surprising in light of the significant decline in their use of purchased-care outpatient and inpatient services. However, unlike purchased-care outpatient and inpatient services, there is no deductible for prescriptions filled at a network pharmacy. The lack of a deductible, together with a 5-percent savings off an already discounted price, is likely attracting beneficiaries receiving care in the private sector to the Extra network. TRICARE also provides a mail-order benefit, which makes it cheaper and more convenient for nonenrolled beneficiaries to obtain purchased-care prescriptions. Overall, there was a 132-percent increase in the prescription utilization rate under TRICARE.

Figure 4-7 shows the corresponding impact of TRICARE on purchased-care prescription costs. FY 1994 costs were inflated by the Consumer Price Index (CPI) for prescription drugs (3-year cumulative inflation of 7.8 percent). Although prescription costs increased significantly for all beneficiary groups, the magnitude was much smaller than the increase in utilization. Under the traditional CHAMPUS benefit, if a prescription cost did not meet the deductible or met it only marginally, some beneficiaries might not have bothered to file a claim. Under TRICARE Prime and Extra, network pharmacies file all prescription claims regardless of cost. The additional government costs shown in Figure 4-7 may be a consequence of automatic claims filing. Moreover, first-dollar coverage of Extra prescriptions contributed to the increases in utilization and government cost.

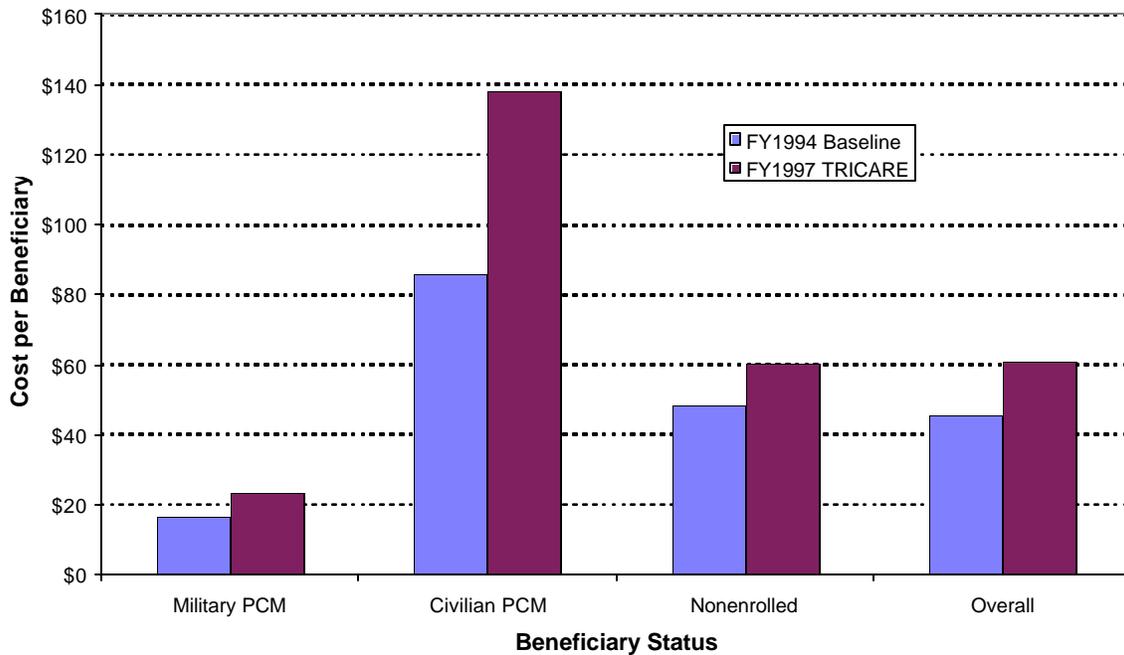


Figure 4-7. Average Purchased-Care Prescription Cost per Beneficiary

The average cost per prescription declined for each beneficiary group, consistent with the earlier conjecture that increased utilization may be associated with low-cost prescriptions. The average cost per prescription declined by 25 percent for enrollees with a military PCM and by 41 percent for those with a civilian PCM. As with outpatient and inpatient services, nonenrollees experienced the largest drop—45 percent—in the average cost per prescription. Overall, the average cost per prescription declined by 43 percent.

4.1.5.4 MTF Outpatient Utilization and Costs

As of the end of FY 1997, there was no widely available, centralized patient-level accounting system with information on MTF outpatient workload and costs. The ADS had been only partially implemented by the end of FY 1997. Information on outpatient workload and costs are captured in MEPRS on an aggregate basis by clinical area only. In particular, no distinction is made between Prime and space-available visits. Consequently, it was not possible to determine the effect of Prime on MTF outpatient utilization and cost.

Because of the lack of individual patient identifiers, it was not possible to estimate MTF utilization and cost models to rigorously compute the FY 1994 baseline. It was also not possible to decompose utilization and costs by enrollment option. A different procedure was used to compute the FY 1994 baseline directly from the MEPRS data. First, all MEPRS B (Outpatient) accounts that record ambulatory surgeries were eliminated from consideration (recall that ambulatory surgeries were considered as inpatient procedures for this evaluation). Next, the remaining MEPRS B accounts were partitioned into BRAC and non-BRAC areas depending on where the reporting MTF was located (including in the BRAC areas those MTFs that were rightsized based on Service initiatives).

In the BRAC areas, baseline MEPRS visit counts and costs were set equal to the FY 1997 values. The assumption here is that those levels would have been observed even in the absence of TRICARE (without a utilization model, it was not possible to separate BRAC from TRICARE effects). In the non-BRAC areas, FY 1994 utilization was scaled by the ratio of the total eligible population in FY 1997 to the total eligible population in FY 1994. FY 1994 costs were inflated using the HCFA Hospital Input Price Index plus a factor for medical intensity and technology (a total of 10.4 percent). The latter index was used because, unlike civilian care, most MTF outpatient care is provided in a hospital setting. Finally, the BRAC and non-BRAC area results were combined. Table 4-2 summarizes the results.

Table 4-2. MTF Outpatient Utilization and Costs

	Visits per Capita	Average Cost per Visit	Total Cost (\$Millions)
FY 1994 Baseline	4.60	\$102.02	\$1,763
FY 1997 TRICARE	4.34	\$118.20	\$1,928

It should be noted that MTF “visits” cannot be easily compared with purchased-care visits because they are measured differently. An MTF visit does not necessarily involve a face-to-face contact with a physician; it could be a phone call for medical advice. Assuming that MTFs have recorded visits consistently between FY 1994 and FY 1997,

the average number of visits per beneficiary declined by 6 percent under TRICARE, while the average cost per visit increased by 16 percent. This is a somewhat surprising result considering that the government bears the entire cost of an outpatient visit, and that outpatient visits might be expected to increase under TRICARE because of improved access to primary care and greater emphasis on preventive care. It follows that the average cost per visit might be expected to decrease given that preventive care visits are relatively inexpensive and that there should be fewer visits for expensive specialty care.

4.1.5.5 MTF Inpatient Utilization and Costs

Under the traditional military health care benefit of direct care and CHAMPUS, there was a priority system for access to the MTF. The group with the highest priority was (and still is) active-duty service members. Next came active-duty family members and then retirees and their family members. Because of this priority system, baseline utilization and cost estimates should vary significantly by beneficiary category. For this reason, MTF inpatient utilization and cost estimates are displayed at a greater level of detail than their purchased care counterparts. Figure 4-8 shows the effect of TRICARE on MTF inpatient utilization.

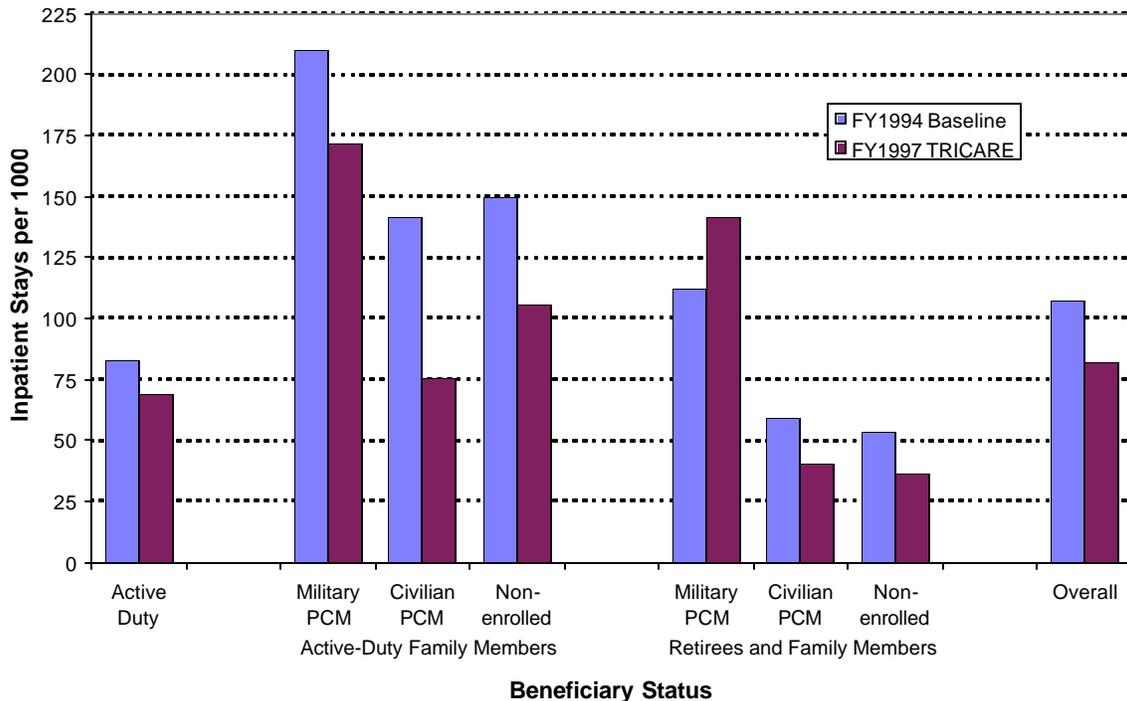


Figure 4-8. Average Annual MTF Inpatient Utilization per Beneficiary

MTF inpatient utilization per beneficiary declined for all the groups studied, except for a 26-percent increase among retirees and family members enrolled with a military PCM. The latter finding is not surprising in light of the priority system for access to MTFs. Before the implementation of TRICARE, retirees had the lowest priority for obtaining space-available MTF care. Once enrolled in Prime with a military PCM, retirees receive guaranteed access to care and have a greater likelihood of being hospitalized, if needed, at an MTF rather than at a civilian facility.

Active-duty family members enrolled with a civilian PCM and nonenrolled active-duty family members experienced the largest drops in utilization (47 and 30 percent, respectively). The large drop for the former group is likely a result of successful application of UM at military facilities [successful because utilization has been reduced without reducing beneficiary satisfaction with the quality of care (although no reliable objective measures of health outcomes are available)]. The decline in inpatient utilization for nonenrolled active-duty family members is expected because they no longer have priority access to care at the MTFs, having ceded that access to Prime enrollees. Overall, MTF inpatient utilization declined by 23 percent.

Analogous to the evaluation of purchased-care inpatient utilization, the average length of stay was also considered as a measure of inpatient utilization. As before, the case mix was held constant when comparing the average length of stay before and after TRICARE. From FY 1994 to FY 1997, the case-mix-adjusted average length of stay decreased from 4.3 to 3.5 days (a 19-percent decrease).

Figure 4-9 shows the effect of TRICARE on MTF inpatient costs. MTF inpatient costs in FY 1994 were inflated using the HCFA Hospital Input Price Index plus a factor for medical intensity and technology. The trends are virtually identical to those for utilization, declining in proportion to the number of hospital stays. The result is a 24-percent drop in MTF inpatient costs.

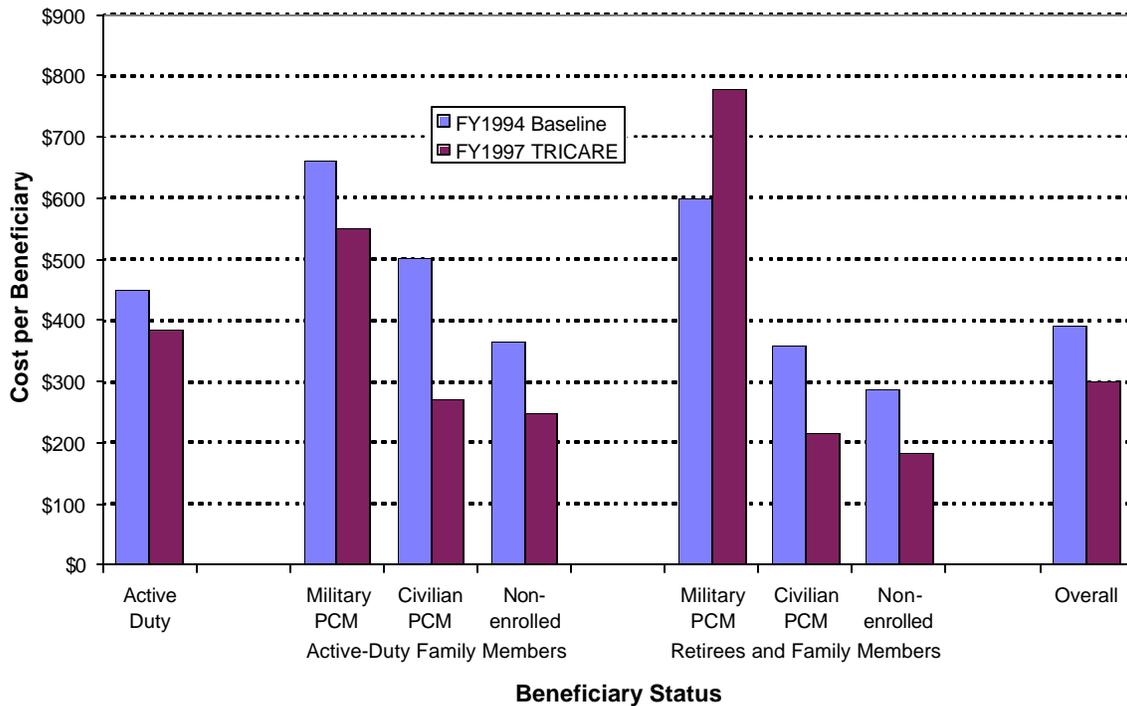


Figure 4-9. Average MTF Inpatient Cost per Beneficiary

The average government cost per MTF hospital stay remained roughly the same under TRICARE for both active-duty members and their families. The only notable changes were a 12-percent drop for retirees and family members with a civilian PCM and a 5-percent drop for nonenrolled retirees and family members. Overall, the average

government cost per MTF inpatient stay remained roughly constant. Note that these results contrast with those for purchased-care inpatient stays because, unlike the former, the government bears virtually the entire cost of an MTF stay.

4.2 Cost to the Government

In addition to the direct costs of delivering health care, the government incurs substantial indirect, or overhead, costs to support the MHS. The indirect costs are distributed into three general categories:

- Costs incurred at MTFs,
- MCS costs for purchased care, and
- System-wide overhead costs developed from the DoD budget [specifically, the Future Years Defense Program (FYDP)].

The MCS contractor collects all Prime enrollment fees (for beneficiaries having both military and civilian PCMs), and the resulting revenue reduces the net contract price. The MCS costs reported in subsequent tables are net of this revenue.

The MTFs also collect revenue from third-party collections and inpatient subsistence charges. Third-party collections are already captured in the MEPRS EBH subaccount (Third-Party Collection Administration) and are stepped down to the final operating accounts. Inpatient subsistence charges are currently zero for retired enlisted personnel, \$8.00 per day for active-duty personnel, and \$10.20 per day for all other beneficiaries. Because so few beneficiaries are hospitalized in an MTF during a given 1-year window, these charges contribute a negligible offset to total direct-care cost.

Table 4-3 summarizes the estimated FY 1994 baseline costs and the actual FY 1997 TRICARE costs within the above categories. A detailed discussion of Table 4-3, as well as a description of the content of each cost category, is provided in the following subsections.

4.2.1 *Direct-Care Costs*

The estimation of inpatient and outpatient direct-care costs has already been explained. In particular, the FY 1994 baseline costs were obtained by inflating FY 1994 actual costs, adjusting for BRAC and other Service rightsizing initiatives, and standardizing the beneficiary population. Table 4-3 reveals that outpatient costs increased slightly under TRICARE, but inpatient costs decreased by over twice as much. The 2:1 offset in costs from substituting outpatient for inpatient care indicates successful application of managed care at MTFs.

The pharmacy costs associated with inpatient and outpatient care are recorded in the DAA account of MEPRS and stepped down to the inpatient and outpatient accounts shown in Table 4-3. The DAA costs in the TRICARE regions increased from \$443 million (after adjusting the FY 1994 costs for 8.7 percent cumulative inflation in the Producer Price Index for pharmaceutical preparations—prescription) to \$464 million. The increase in MTF pharmacy costs is almost exclusively attributable to regions not formerly under the CHAMPUS Reform Initiative (CRI). Pharmacy costs in the CRI regions (9, 10, and 12) actually decreased.

No major changes to the dental benefit have occurred under TRICARE. Actual FY 1997 dental costs in the TRICARE Regions were \$308 million. Rather than inflating the actual FY 1994 cost to represent the baseline, the actual FY 1997 cost (i.e., the \$308 million) was used in both columns. The judgment here is that costs of \$308 million would have been incurred even in the absence of TRICARE. Placing this figure in both columns provides a complete accounting of FY 1997 costs, while forcing to zero the difference in dental costs attributable to TRICARE.

**Table 4-3. Comparison of Baseline with TRICARE Costs in TRICARE Regions
(Millions of FY 1997 Dollars)**

Source	Account/Program Element	FY 1994 Baseline	FY 1997 TRICARE	Difference
Direct Care	MEPRS A (Inpatient)	\$1,472.6	\$1,125.4	-\$347.2
	MEPRS B (Outpatient)	1,763.0	1,928.2	165.2
	MEPRS C (Dental)	308.2	308.2	0.0
	MEPRS F (Special Programs)			
	Affected by TRICARE	302.1	373.3	71.2
	Unaffected by TRICARE	377.0	377.0	0.0
	MEPRS G (Readiness)	96.5	96.5	0.0
	Military Pay Adjustment	78.2	76.2	-2.0
	Military Construction	151.2	147.3	-3.9
	Contractor Administrative Cost ^a	0.0	8.0	8.0
	Subtotal	\$4,548.9	\$4,440.2	-\$108.7
Managed Care Support	Inpatient	\$800.0	\$529.9	-\$270.1
	Outpatient	746.6	599.8	-146.8
	Prescriptions	115.0	153.4	38.4
	Capital Construction/DME ^a	74.8	49.9	-24.9
	Special and Emergent Care ^a	4.2	4.2	0.0
	Other Pass-Through Costs ^a	0.0	1.8	1.8
	Resource Sharing Adjustment	0.0	-33.7	-33.7
	Contractor Administrative Cost ^a	0.0	257.9	257.9
	Government Administrative Cost ^{b,c}	98.9	43.7	-55.1
	Subtotal	\$1,839.5	\$1,606.9	-\$232.5
FYDPd	Affected by TRICARE			
	Management Headquarters	\$26.5	\$26.5	\$0.0
	Defense Medical Program Activity	128.3	150.8	22.5
	Armed Forces Institute of Pathology	25.7	26.8	1.1
	Unaffected by TRICARE			
	Examining Activities – Health Care	19.0	19.0	0.0
	USUHS	11.4	11.4	0.0
	Armed Forces Health Scholarship	36.0	36.0	0.0
Other Health Activities	172.4	172.4	0.0	
	Subtotal	\$419.3	\$442.9	\$23.6
Overall	Total Government Cost	\$6,807.6	\$6,489.9	-\$317.7

^a Weighted average of two option years for each TRICARE region, where weights are proportions of those years that fell within FY 1997.

^b Includes both the costs of OCHAMPUS and fiscal intermediaries in FY 1994; includes only the cost of TMA–Aurora in FY 1997. The cost of fiscal intermediaries in FY 1997 is already captured in the contractor administrative cost.

^c Allocated to TRICARE regions by share of total purchased care operating cost.

^d Allocated to TRICARE regions by share of total MHS operating cost.

The same procedure was followed in the other rows of Table 4-3 corresponding to cost categories that were not affected by TRICARE. For example, the F (Special Programs) account in MEPRS contains some subaccounts that may be affected by TRICARE and others that, by their nature, should not be affected by TRICARE. The former set of subaccounts is shown in Table 4-4 and was arrived at by a committee representing the TMA and the Surgeons General of the three Military Services. As detailed in Table 4-4, the costs affected by TRICARE increased from \$302 million to \$373 million.²⁶

**Table 4-4. MEPRS F Subaccounts Affected by TRICARE in TRICARE Regions
(Millions of FY 1997 Dollars)**

Subaccount	Description	FY 1994 Baseline	FY 1997 TRICARE	Difference
FAA	Area Reference Laboratories	\$2.6	\$2.4	-\$0.2
FAH	Clinical Investigation Program	19.3	22.8	3.5
FAL	Continuing Health Education	32.8	36.8	4.0
FBI	Immunizations	22.4	38.4	16.0
FBJ	Early Intervention Services	0.2	2.2	2.0
FBK	Medically Related Services	0.0	0.0	0.0
FBL	Multidisciplinary Team	0.1	0.6	0.5
FCA	Supplemental Care	24.7	19.9	-4.8
FCB	Guest Lecturer and Consultant Program	0.9	1.1	0.2
FCC	CHAMPUS Beneficiary Support	131.6	154.0	22.4
FCD	Support to Other Military Medical Activities ^a	31.3	47.2	15.9
FCG	Support to Non-MEPRS Reporting Medical Activities	0.9	2.2	1.3
FCH	Active Duty Emergency	1.9	5.9	4.0
FCZ	Health Care Services Support, Not Elsewhere Classified	0.0	0.0	0.0
FDG	Urgent Minor Construction	1.1	6.1	5.0
FEA	Patient Transportation	28.3	28.2	-0.1
FEB	Patient Movement Expenses	3.8	5.3	1.5
FEZ	Patient Movement and Military Patient Administration, Not Elsewhere Classified	0.2	0.2	0.0
Total		\$302.1	\$373.3	\$71.2

^a Cost in table equals half of total cost reported in this subaccount.

The largest contributors to the increase in F-account costs were the FBI subaccount, covering immunizations and reflecting TRICARE's emphasis on preventive care; the FCC subaccount, covering prescriptions written by civilian physicians but filled at MTFs; and the FCD subaccount, covering support to other military medical activities. The FCD account records the costs associated with personnel loaned between MTFs and prescriptions written by a physician at one MTF but filled by the pharmacy at a different MTF. In the former case, the personnel costs are recorded in both the FCD account of the lending MTF and in the A or B account of the borrowing MTF. Thus, to the extent that

²⁶ The former figure is already adjusted for cumulative inflation of 5.8 percent between FY 1994 and FY 1997, using the DoD outlay deflator for Operations and Maintenance less fuel and pay. The source is "National Defense Budget Estimates for FY 2000," Office of the Under Secretary of Defense (Comptroller), March 1999, Table 5-9, p. 61.

FCD includes borrowed labor, these costs are double-counted. However, the prescription costs embedded in FCD are counted only once (at the pharmacy that fills the prescription), and must be included for a complete analysis. There is no simple way to partition the borrowed labor costs from the prescription costs in the FCD account. In this report, it is arbitrarily assumed that 50 percent of the cost falls into each category. Hence, 50 percent of the FCD cost is included in the analysis, but the other 50 percent is excluded because it would duplicate personnel costs already recorded in the A or B accounts. The implications of the 50/50 assumption are explored at the end of this section.

MEPRS estimates military personnel costs by applying standard DoD Comptroller pay factors to full-time equivalent labor utilization. However, these pay factors are based on the average of bonuses and special pays across an entire Military Service and are not specific to the medical occupations. Thus, they may understate the pay of military physicians, who earn more than the typical officer of the same rank. Conversely, they may overstate the pay of medical enlisted personnel, who do not receive as much sea pay or hazardous-duty pay as their non-medical counterparts. The military pay adjustment in Table 4-3 is obtained by substituting medical-specific pay factors for the generic pay factors used internally to MEPRS. The pay adjustment turns out to be almost identical in the baseline and TRICARE columns, so the net effect of this adjustment on the comparison is negligible.

Minor military construction is funded by the Operations and Maintenance (O&M) appropriation, is included in the MTF budget, and is reported in MEPRS. However, major military construction is centrally funded by the Military Construction (MilCon) appropriation and is neither included in the MTF budget nor reported in MEPRS. During the Section 733 Study, IDA developed a military-construction adjustment factor.²⁷ That factor was updated for use in the current study. The actual MilCon appropriation tends to be volatile from one year to another, as major construction projects (e.g., building a new hospital or adding a new wing to an existing hospital) are started or completed. Instead, it was determined that a fund could be established, earning interest at the 30-year Treasury rate, to generate enough revenue to eventually replace every MTF in the continental United States after a 40-year life span. This fund would require annual deposits equal to 3.5 percent of reported MEPRS operating costs. Thus, a 3.5-percent factor was adopted as a smooth estimate of military construction costs. Because the MEPRS costs are almost identical in the baseline and TRICARE columns, the net effect of this adjustment on the comparison is negligible.

Finally, Contractor Administrative Cost represents services that the MTFs chose to purchase through the MCS contractor rather than directly from the civilian economy. For example, the Region 11 Lead Agent paid the MCS contractor to install and maintain a region-wide clinic appointment system. These same services may have been purchased during FY 1994, albeit directly by the MTFs because the MCS contracts were not yet in place. Thus, the corresponding costs are presumably embedded in the preceding figures

²⁷ Matthew S. Goldberg et al., "Cost Analysis of the Military Medical Care System: Final Report," Institute for Defense Analyses, Paper P-2990, September 1994.

in the baseline column, and the figure zero is shown for Contractor Administrative Cost in the baseline.

On balance, direct-care costs were \$109 million lower under TRICARE than in the baseline estimate.²⁸

4.2.2 Managed-Care Support Costs

Because the actual cost to the government is determined by the value of the fixed-price MCS contracts, including change orders and bid-price adjustments (BPAs), the purchased care claims do not accurately reflect the true government cost. In particular, the claims submitted by network subcontractors report costs estimated from the TRICARE Standard price schedules (e.g., the CMAC and DRG rates) rather than true costs.²⁹ However, the claims are still useful for allocating costs to regions³⁰ (see Appendix J), beneficiary groups, and inpatient, outpatient, and prescription services.

All the at-risk health care prices (including profit) reported here are current as of the second BPA. The first BPA updated the health care prices for actual base period data (the Data Collection Period—the year immediately preceding the first contract option period) and for revised government projections of the beneficiary population and MTF utilization in the option periods. The second BPA accounts for the impact of actual data for Option Period 1, including risk sharing, and reflects the impact of updated projections for population and MTF utilization for Option Periods 2 through 5, but not actual data or risk sharing for those option periods.³¹ The health care prices, and the administrative prices shown, also reflect the most current settled contract modifications.

The health care prices also include an adjustment for the non-claims portion of FY 1997 resource sharing costs.³² These costs are included in the MCS contract in FY 1997 but have been deleted for the purpose of this evaluation because the corresponding FY 1994 Partnership Program costs were unavailable.

²⁸ Recall that, in an effort to avoid double-counting, only half of the costs in MEPRS subaccount FCD were included in the calculation. To the extent that FCD is composed primarily of borrowed labor, none of the FCD costs should be included, raising the direct-care savings to \$125 million. On the other hand, to the extent that FCD is composed primarily of pharmacy costs, all the FCD costs should be included, implying a smaller, but still substantial, cost savings of \$92 million.

²⁹ Some network subcontractors are funded through capitated arrangements with the MCS contractors. Their capitated payments do not exactly correspond to the total government costs reported on the purchased care claims.

³⁰ With the exception of Regions 6 and 11, the MCS contracts cover more than one region. A single contract covers Regions 3 and 4, and another covers Regions 9, 10, and 12.

³¹ Additional BPAs will eventually be negotiated to reflect actual workload and cost experience during Option Periods 2 through 5. In principle, subsequent BPAs may involve either increases or decreases in contract costs.

³² There are two components to the purchased-care portion of resource sharing (formerly Partnership Program) costs: expenditures for physician services on a fee-for-service basis, and salaries for physicians contracted to provide services at MTFs. The former are already included in the purchased-care claims; the latter, though included in the FY 1994 CHAMPUS program totals, are not separately identifiable.

As determined from the most recent purchased-care claims, both outpatient and inpatient MCS costs decreased substantially under TRICARE. However, this simple comparison ignores prescriptions, an expense that was implicitly included when calculating the 2:1 offset reported earlier for MTFs. Although there was a 33-percent increase in prescription costs, the increase was not nearly enough to offset the savings in outpatient and inpatient services. Overall, purchased health care costs under TRICARE are \$379 million lower than the baseline estimate.

There are several additional cost elements for which the government is responsible but for which the MCS contractors are not at risk. These include capital construction and direct medical education (DME),³³ special and emergent care, and other pass-through costs. In FY 1997, these cost elements were obtained explicitly as line items in the MCS contract. Capital construction and DME were estimated as 4.5 percent of the total health care cost in FY 1994.³⁴ In FY 1997, the total nationwide amount expended on capital construction and DME (\$96 million) was allocated to the TRICARE regions using the proportion of non-mental-health inpatient costs incurred in those regions. The cost of special and emergent care in FY 1994 was set equal to the FY 1997 figure because that element was considered to be unaffected by TRICARE. Finally, the other pass-through costs did not apply in FY 1994 and were set to zero in that year.

The most striking feature of the MCS contracts is the large increase in administrative costs. The cost accounting system changed between FY 1994 and FY 1997. The MCS contracts were not yet in place during FY 1994; thus, the Contractor Administrative Costs were zero. The Government Administrative Costs for FY 1994 represent OCHAMPUS and the FIs. The \$98.9 million figure in Table 4-3 represents the 5.95 percent overhead rate applied to the nearly \$1.7 billion of direct health-care costs in the TRICARE regions. The FI function was shifted to the MCS contractor in FY 1997. Thus, at a national level, the only remaining Government Administrative Cost was \$79.9 million for TMA–Aurora, of which \$43.7 million was allocated to the TRICARE regions based on their share of total purchased-care operating cost.

The Contractor Administrative Cost of \$258 million includes the FI function now performed under the MCS contract. It also includes the following new functions introduced under TRICARE:

- Peer Review Organizations (a panel of physicians who monitor hospitals to assure the medical necessity and quality of services provided to beneficiaries),
- UM for referrals (a process that determines the need for specialty care and directs referrals to the appropriate provider),
- Case management (a collaborative process that evaluates and implements options and services to meet complex health needs through communication and available resources to promote quality, cost-effective outcomes),

³³ DME includes stipends for residents, salaries for teaching personnel, and overhead for residency programs.

³⁴ This factor was provided by OASD(HA).

- Health Care Information Line (a free 24-hour telephone line that beneficiaries can call to receive pre-recorded information on various health topics, or to receive medical advice and assistance from registered nurses),
- Handbooks and newsletters (literature that provides information about health issues and benefits), and
- TRICARE Service Centers (offices staffed by Health Care Finders and a Beneficiary Services Representative who can help beneficiaries with their health care questions).

Notice that the costs for these functions are classified in the managed-care support category rather than in the direct-care category. Some of these functions are designed to reduce the utilization of beneficiaries already using the MTFs, thereby freeing space to recapture some workload into the MTFs that had previously been purchased from the civilian sector. If these efforts are successful, the net effect should be an overall reduction in MCS contract costs. As Table 4-3 shows, there was a net reduction in costs of over \$230 million, of which \$121 million were net savings from health care costs (i.e., health care savings minus administrative costs).

Including Contractor Administrative Cost in both the direct care (\$8 million) and MCS (\$258 million) categories, administrative costs make up 17 percent of the total MCS contract value. Figure 4-10 compares administrative costs in FY 1997 across the TRICARE regions.

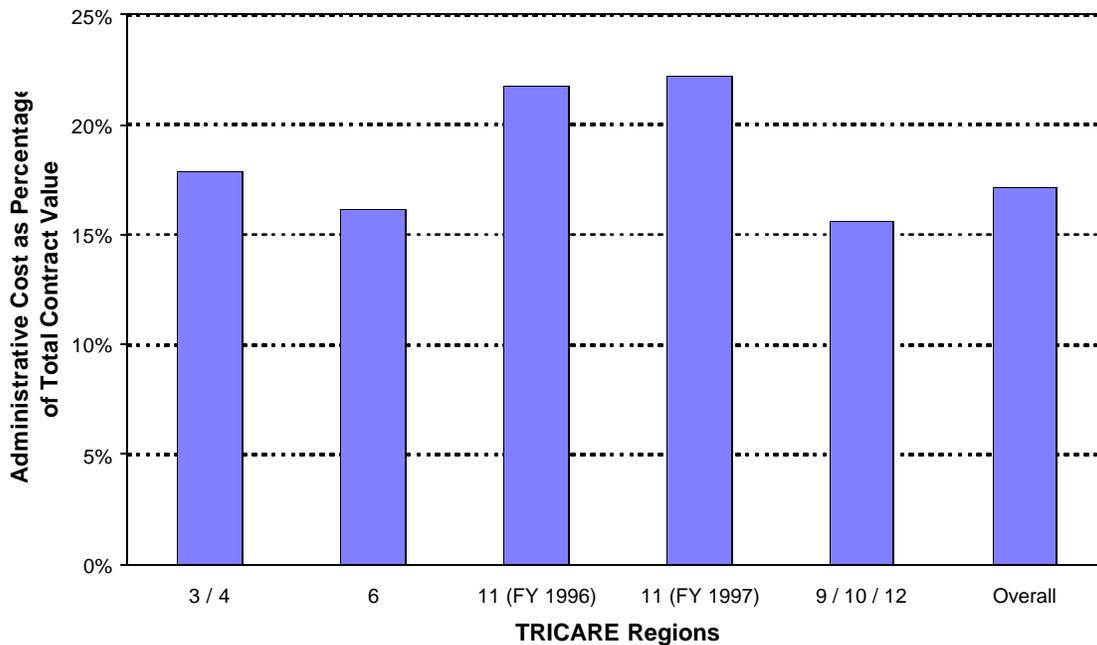


Figure 4-10. MCS Administrative Costs

As was the case in FY 1996, administrative costs in Region 11 were inordinately high. In terms of the original health-care price for Region 11 in FY 1997 (a weighted average of option periods 2 and 3), administrative cost should have been 16 percent of total contract

value. The original price for FY 1997 was subsequently revised downward by 32 percent, in accordance with new baseline values for beneficiary population and MTF workload. However, no adjustment was made to the administrative cost in the MCS contract. Thus, administrative cost increased from 16 percent to 22 percent of total contract value.³⁵ Had the administrative cost been held to 16 percent of the revised contract value, the dollar amount would have declined by \$7 million.

The large increase in Region 11 administrative costs was anomalous for the following reasons. The initial baseline values for population and MTF workload were based partly on the erroneous assumption that the 7th Infantry Division would relocate to Fort Lewis, Washington. Furthermore, the DoD overestimated the number of Nonavailability Statements that would be issued by MTFs. Although the MCS health-care price was subsequently revised downward to reflect the MTF workload more accurately, there was no contractual provision for revising the MCS administrative cost.

4.2.3 FYDP Costs

Several other costs of running the DoD health-care system were estimated. These costs, which were determined not to be already included in MEPRS or the MCS contracts, were identified from the FYDP and then allocated to the TRICARE regions based on their 48-percent share of total MHS operating costs. For example, the Program Element for the Defense Medical Program Activity captures the oversight costs of OASD(HA). These costs may well have been affected by TRICARE.³⁶ Conversely, the Other Health Activities category captures readiness and other costs that are not affected by TRICARE. Thus, the FY 1997 allocation of \$172 million to the TRICARE regions was placed in both the baseline and TRICARE columns. The net effect of the FYDP costs on the comparison is almost a \$24-million increase as a result of TRICARE. The increase is attributable almost exclusively to OASD(HA) administration costs.

4.2.4 Cost per User

Total government cost is but one measure of the efficacy of TRICARE. It is an incomplete measure in the sense that it does not account for the number of beneficiaries who actually use the MHS. Thus, it is possible for the total cost to be lower under TRICARE but for the cost per user to be higher. To examine this possibility, estimates of the percentage of beneficiaries in FY 1994 and FY 1997 who were reliant on the MHS for at least some of their health care were obtained from the TMA (Office of Resource Management). The TMA estimated those percentages from responses to the MHS User Surveys, conducted twice annually.

³⁵ “TRICARE Administrative Prices in the Northwest Region May Be Too High,” U.S. General Accounting Office, GAO/HEHS-97-149R, June 1997. GAO also reports that the original health-care price was revised downward by 33 percent in aggregate over the five option periods in Region 11.

³⁶ The FY 1994 costs affected by TRICARE were adjusted for cumulative inflation before making the comparison. Appropriate deflators were applied separately to the O&M and Military Pay components of each program element. In this case, the deflators used were the DoD Total Obligational Authority for O&M less fuel and pay, and for Military Pay, respectively. The source is “National Defense Budget Estimates for FY 2000,” Table 5-5, p. 57.

Adjusting for the change in the beneficiary distribution between FY 1994 and FY 1997, the estimated percentage of MHS-reliant beneficiaries in the TRICARE regions declined slightly from 72.4 percent to 70.2 percent. TRICARE has therefore maintained approximately the same number of MHS-reliant beneficiaries while not attracting “ghost” beneficiaries back into the system. However, from the same User Surveys, the percentage of MHS-reliant beneficiaries in the non-TRICARE regions declined by a greater amount, from 73.5 percent to 69.5 percent. Thus the drop in MHS-reliance is apparently related to factors outside the scope of TRICARE (e.g., an improved economy, resulting in higher levels of private insurance coverage). Applying the estimated percentages to the beneficiary population in FY 1997 yields a cost per user of \$2,500 under the baseline and \$2,458 under TRICARE. Thus, even with a smaller user base, TRICARE is somewhat less costly to the government than the traditional health care benefit.

4.2.5 Summary

Overall, MHS costs in the TRICARE regions were \$318 million lower than those estimated for the baseline.³⁷ Considering only those costs that could reasonably have been affected by TRICARE (i.e., all direct care costs except dental, readiness, and MEPRS F accounts unaffected by TRICARE; all MCS costs except special and emergent care; and certain FYDP costs enumerated in Table 4-3), the net savings in FY 1997 was 5.5 percent. However, TRICARE costs could have been even lower had it not been for a large administrative cost built into the MCS contracts. Moreover, prescription costs increased across the board: prescriptions filled at MTF pharmacies in connection with MTF visits (up \$21 million); prescriptions written by civilian physicians but filled at MTF pharmacies (up \$22 million); and prescriptions filled at MCS network pharmacies (up \$38 million).

Although the government realized a decrease in its costs under TRICARE, the source of most of the decrease appears to be reduced utilization of the MHS by nonenrolled beneficiaries. As shown earlier in this chapter, MTF inpatient utilization by nonenrollees declined by 30 percent, and purchased-care inpatient and outpatient utilization each declined by 15 percent. Table 4-5 shows the resulting impact on the reduction in government costs. Only health-care costs are included in Table 4-5, as other costs (e.g., administrative costs) cannot easily be allocated by beneficiary type. It was not possible to break out MTF outpatient costs by beneficiary category.

Table 4-5. Sources of Government Cost Reductions Under TRICARE

Enrollment Status	Purchased Care	Direct Inpatient Care
Active Duty	N/A	-\$44.0
Military PCM	-41.3	-10.3
Civilian PCM	58.9	-54.5
Nonenrolled	-396.2	-238.4
Total	-\$378.6	-\$347.2

³⁷ Once again, sensitivity to the treatment of the MEPRS FCD subaccount should be noted. Based on this factor, cost reductions under TRICARE range between \$301 million and \$334 million.

According to the 1997 Health Care Survey of DoD Beneficiaries, 15 percent of nonenrollees added private insurance coverage because of TRICARE. Furthermore, under TRICARE there has been a decline in the incidence of purchased-care claims filing by nonenrollees with private health insurance. As alluded to earlier, one of the likely reasons for reduced claims filing by beneficiaries with private health insurance is the general population trend toward more HMO and preferred-provider plans and away from traditional fee-for-service plans. The minimal copayments typically required by the former plans may obviate the desire of beneficiaries to file claims.

4.3 Cost to Covered Beneficiaries

Besides access to high-quality health care, beneficiaries care most about their out-of-pocket expenses. This section evaluates the effect of TRICARE on the out-of-pocket expenses of military health care beneficiaries. Out-of-pocket expenses include deductibles and copayments for purchased care, TRICARE Prime enrollment fees, and premiums for TRICARE supplemental and other private health insurance policies.³⁸ Since MTF charges are negligible, these are not considered in the analysis.

Note that Medicare-eligible beneficiaries are not included in this evaluation. These beneficiaries are generally ineligible for purchased care and, consequently, have no purchased-care claims activity. TRICARE may have an impact on these beneficiaries by reducing their access to MTFs, forcing them to rely more on Medicare for their health care needs and possibly to add Medigap insurance coverage to protect against potentially large increases in health care expenses. Unfortunately, data on the Medicare expenses of Medicare-eligible beneficiaries were not available for this evaluation. An attempt is being made to collect these data from HCFA, so it may be possible to include them in next year's evaluation.

Unlike the evaluation of government costs, the unit of analysis for the evaluation of beneficiary costs is the family. This is because insurance decisions are generally made on a family basis, and because deductibles are capped for families. The evaluation is based on the FY 1994 and FY 1997 family samples (see Appendix H). The deductibles and copayments for each family member were aggregated to the family level. Active-duty sponsors with no other family members were excluded from the analysis because they receive all their care from MTFs and should not have any purchased-care claims activity. Also excluded were eligible families who did not live exclusively in the areas that are the focus of this study (Regions 3, 4, 6, and 9 through 12), families with members in more than one of the TRICARE regions, and families living in locations affected by BRAC. Further excluding eligible families with missing or implausible data, the final samples include 90,145 families in FY 1994 and 103,362 families in FY 1997.³⁹

³⁸ Under TRICARE, the incidence of outpatient surgeries has increased while the length of hospital stays has decreased. This may force some beneficiaries to obtain post-surgical nursing/health care at home. No data are available to estimate TRICARE's effect on those expenses.

³⁹ About 7 percent of families were excluded because of missing information on TRICARE region or sponsor characteristics.

Family members were classified prospectively in FY 1994 based on whether they enrolled in Prime in FY 1997 and, if so, whether they were assigned a military or a civilian PCM. The costs for their families were then compared with their FY 1997 counterparts.

The evaluation of beneficiary out-of-pocket expenses begins with a presentation of cost-related issues that bear upon the computational methodology and analysis. The following section discusses the cost-sharing features of TRICARE and the costs of supplemental and other private health insurance policies. Next comes a discussion of the effects of TRICARE on insurance coverage decisions and utilization rates. This is followed by a description of the computational methodology and the estimates of out-of-pocket expenses. The presentation concludes with a summary of the key findings.

4.3.1 Beneficiary Expenses Under TRICARE

The cost-sharing features of TRICARE were presented earlier in Table 2-2. There are no deductibles under TRICARE Prime. For nonenrolled family members of junior-enlisted personnel (paygrade E1–E4), the annual outpatient deductible is \$50 per individual and \$100 per family. For all other beneficiaries (excluding active-duty members, who receive all their care at military facilities), the deductible is \$150 per individual and \$300 per family.

For Prime enrollees, copayments for visits to a civilian doctor, hospital stays, prescription drugs, and outpatient surgery are minimal.⁴⁰ On the other hand, nonenrollees (especially retirees) incur substantial copayments. For example, under TRICARE Standard, a retiree can pay up to \$360 per day for a hospital stay. A TRICARE Prime enrollee pays much less—only \$11 per day.

Under TRICARE Prime, retirees must pay an annual enrollment fee of \$230 per individual, with a family limit of \$430. The enrollment fee policy was changed in FY 1997 to ensure that beneficiaries who moved to and re-enrolled in another region during the year did not have to pay an additional enrollment fee. There are no enrollment fees for active-duty family members.

Under all TRICARE options, there is a catastrophic cap, which varies by sponsor type. For active-duty families, the catastrophic cap is \$1,000 per year, regardless of whether or not they enroll in Prime. For retiree families, it is \$3,000 under TRICARE Prime and \$7,500 under the other options.

Under TRICARE Standard and Extra, the beneficiary must pay a deductible before the government shares in the cost. Under all the TRICARE options, beneficiaries face the prospect of copayments, although these are very limited under Prime as long as the beneficiary uses network providers exclusively. While catastrophic caps limit financial losses, the beneficiary may not be prepared to pay the maximum liability under a plan. To cover the financial risk above the plan's deductible, the beneficiary can purchase a TRICARE supplemental policy.

⁴⁰ If, however, enrollees use an out-of-network provider without prior authority, there can be substantial "point-of-service" copayments.

Table 4-6 gives the average cost of TRICARE supplemental policies in FY 1997 for active-duty and retiree families. The cost of a TRICARE Prime supplemental policy is much lower than that of a Standard policy because there are lower copayments under Prime and, for retirees, the catastrophic cap is lower. For retiree families, the cost of a supplemental policy varies with age. The costs for retiree families are also much higher than for active-duty families, but the cost for a sponsor is less than that for his or her spouse of the same age.

Table 4-6. Average Cost of TRICARE Supplemental Policies in FY 1997^a

Beneficiary Group	Family Member	Standard Supplemental ^a	Prime Supplemental
Active-Duty Families	Sponsor	N/A	N/A
	Spouse	\$97	\$84
	Each Child	79	52
Retiree and Spouse Under 40	Sponsor	235	72
	Spouse	263	96
	Each Child	208	60
Retiree and Spouse 40–44	Sponsor	250	76
	Spouse	285	102
	Each Child	208	60
Retiree and Spouse 45–49	Sponsor	292	92
	Spouse	334	118
	Each Child	208	60
Retiree and Spouse 50–54	Sponsor	378	120
	Spouse	421	140
	Each Child	208	60
Retiree and Spouse 55–59	Sponsor	462	128
	Spouse	491	149
	Each Child	208	60
Retiree and Spouse 60–64	Sponsor	557	155
	Spouse	596	161
	Each Child	208	60

^a Average cost of policies with no deductible for inpatient or outpatient services. Source is the *Army Times*, Special Section, “CHAMPUS/TRICARE User’s Guide,” March 10, 1997.

Another means of covering the cost of TRICARE copayments is to obtain other private health insurance. In this case, TRICARE becomes the “second payor” and virtually all costs above the TRICARE deductible are paid by either the private insurance policy or TRICARE. However, most families who purchase a private health insurance policy apparently “opt out” of the TRICARE system entirely (i.e., they do not bother to file any purchased-care claims).⁴¹

⁴¹ For retiree families with two or more eligibles, only 25 percent with private health insurance filed a claim for reimbursement from TRICARE in FY 1997. The filing rate was much lower for all other family groups with private health insurance.

In the civilian economy, approximately three out of four full-time employees participate in employer-sponsored health plans.⁴² Most employers pay at least a share of the premium cost, as shown in Table 4-7.⁴³ Unlike TRICARE supplemental insurance, the cost for an individual under a company's group policy is not based on an employee's age; all employees are charged the same amount. According to the Bureau of Labor Statistics, in FY 1997, the employee's average share of the premium cost was \$470 for an individual policy and \$1,560 for a family policy.⁴⁴

Table 4-7. Distribution of Source of Payment and Expected Cost of Private Insurance Policies in FY 1997

Policy Type	Source of Payment			Expected Cost
	Employee Only (19.3%)	Shared by Employee and Employer (54.0%)	Employer or Other Party Only (26.7%)	
Individual Policy	\$2,779	470	0	\$685
Family Policy	\$5,364	1,560	0	\$1,599

Unpublished data from the 1996 Medical Expenditure Panel Survey (available from the Agency for Health Care Policy and Research) indicate that employees pay on average 17 percent of the cost of an individual policy and 29 percent of the cost of a family policy. Based on these statistics, the total premium cost in 1997 was estimated to be \$2,779 for an individual policy and \$5,364 for a family policy.

Not everyone obtains other health insurance through an employer. Some pay the premium entirely themselves; others may have the payment made by a union or some other source. The 1994–95 Health Care Survey of DoD Beneficiaries asked respondents with private insurance coverage to indicate the source of payment. The responses indicate that 19 percent pay for the entire premium themselves, while 54 percent share the cost with the employer. For the remaining 27 percent, the employer or another source pays the entire cost of the premium. These responses were used to estimate the expected costs of a private insurance policy in FY 1997. These were \$685 for an individual policy and \$1,599 for a family policy.⁴⁵

4.3.2 Effect of TRICARE on Insurance Coverage Decisions

The 1997 Health Care Survey of DoD Beneficiaries asked beneficiaries about their insurance coverage and whether TRICARE had any effect on their insurance coverage

⁴² Bureau of Labor Statistics, "Employee Benefits in Medium and Large Private Establishments, 1997," Press Release USDL-99-02, January 7, 1999, p. 2.

⁴³ *Ibid*, p. 10.

⁴⁴ The employee's average share is based on data from companies where the employee must make some contribution to the cost.

⁴⁵ The source of payment varied by beneficiary type. The evaluation took account of this variation, but the numbers shown here are weighted averages across all beneficiary types.

decisions. Separate questions were asked about supplemental insurance and other private health insurance. The FY 1994 baseline was derived by subtracting the net effect of TRICARE (the percentage who added insurance minus the percentage who dropped it) from the FY 1997 coverage level.⁴⁶ Table 4-8 summarizes the results by beneficiary group and enrollment status.

Table 4-8 shows that it is more common for retiree families to purchase private insurance than for active-duty families. Also, nonenrollees in each beneficiary group tend to have higher levels of private health insurance coverage (other than supplemental insurance) than enrollees. On balance, the benefits of Prime induced enrollees to reduce their private insurance coverage, whereas diminished access to direct care for nonenrollees caused them to increase their coverage.

Table 4-8. The Effect of TRICARE on Insurance Coverage

Beneficiary Group	Enrollment Status	FY 1994 Baseline		FY 1997 TRICARE	
		Supplemental Insurance	Other Health Insurance	Supplemental Insurance	Other Health Insurance
Active-Duty Family Members, E1-E4	Military PCM	14%	5%	13%	4%
	Civilian PCM	16	8	15	6
	Nonenrolled	8	13	11	18
Active-Duty Family Members, E5 and Above	Military PCM	13	5	12	4
	Civilian PCM	13	11	12	8
	Nonenrolled	14	17	20	23
Retirees and Family Members	Military PCM	24	18	18	11
	Civilian PCM	24	22	21	15
	Nonenrolled	16	39	28	55

4.3.3 Effect of TRICARE on Family Utilization Rates

The effect of TRICARE on the total amount paid by beneficiary families for deductibles and copayments is determined both by changes in the cost per episode of care and in the utilization of health care services. Changes in the cost per episode of care were described earlier in Table 2-2. Table 4-9 compares average purchased-care utilization rates per family in FY 1994 with those in FY 1997. Although outpatient visits tended to decline in most cases, they increased for those enrolled with a civilian PCM. The number of prescriptions (drugs) increased for all families, especially for those enrolled with a

⁴⁶ The estimate of the effect of TRICARE on private insurance coverage was considered unreliable for junior-enlisted families. Unlike other beneficiaries who evaluated the impact of TRICARE relative to their former health care benefit, junior-enlisted families apparently interpreted the question as the impact of joining the military on insurance coverage. It was therefore assumed that the percentage impact of TRICARE for junior-enlisted families was the same as that for senior-enlisted/officer families. For example, nonenrolled senior-enlisted/officer families increased their private insurance by 6 percentage points, from 17 to 23 percent. Therefore, without TRICARE, coverage would have been 26 percent lower (i.e., scaled down by the factor 17/23) than the actual amount observed in FY 1997. For nonenrolled junior-enlisted families, private health insurance coverage was also assumed to be 26 percent lower than the actual observed level of 18 percent.

civilian PCM. Hospital bed-days declined in most cases, but the declines were lowest for enrollees with a civilian PCM. Given sponsor type, declines in utilization were greatest for families that did not enroll in TRICARE Prime. Utilization was greatest and tended to increase the most for families enrolled with a civilian PCM.

Table 4-9. Changes in Family Purchased-Care Utilization Rates Under TRICARE

Beneficiary Group	Enrollment Status	FY 1994			FY 1997		
		Visits	Drugs	Bed-Days	Visits	Drugs	Bed-Days
Active-Duty	Military PCM	3.22	0.34	0.48	4.07	0.76	0.62
Family Members, E1-E4	Civilian PCM	4.04	0.71	0.71	8.57	3.45	0.95
	Nonenrolled	3.29	0.44	0.60	2.55	0.77	0.21
Active-Duty	Military PCM	5.11	0.89	0.72	4.94	1.02	0.37
Family Members, E5 and Above	Civilian PCM	6.80	2.07	0.62	9.71	5.11	0.59
	Nonenrolled	6.12	1.82	0.92	5.55	2.56	0.48
Retirees and Family Members	Military PCM	4.38	1.34	0.52	4.28	1.83	0.36
	Civilian PCM	7.94	6.33	0.63	10.6	10.1	0.51
	Nonenrolled	4.75	3.22	0.57	4.25	4.99	0.32

4.3.4 Computation of Total Out-of-Pocket Expenses

Out-of-pocket expenses (*OPE*) are the sum of health care costs minus insurance reimbursements. That is,

$$OPE = D\&C + EnrlFee + CostSupp + CostOHI - ReimbSupp - ReimbOHI,$$

where health care costs include deductibles and copayments (*D&C*) for purchased care, TRICARE Prime enrollment fees (*EnrlFee*), and insurance premiums for TRICARE supplemental policies (*CostSupp*) and other private health insurance (*CostOHI*). Offsetting health care costs are reimbursements for TRICARE supplemental policies (*ReimbSupp*) and other private health insurance (*ReimbOHI*).

For greater accuracy, calculations were made for 54 separate family groups that have different purchased care utilization rates, deductibles and copayments, enrollment fees and/or insurance premium costs. The grouping factors include TRICARE Prime enrollment status (three categories), sponsor type (three categories), family size (two categories), and whether the family has private health insurance and files for reimbursement from TRICARE (three categories).⁴⁷

Families were classified by their FY 1997 enrollment status:

- At least one family member enrolled in Prime with a military PCM,
- At least one family member enrolled in Prime with a civilian PCM, or
- No family members enrolled in Prime.

⁴⁷ Separate calculations were made for each of the 54 family groups and then aggregated by sponsor type and enrollment status for simplicity of presentation.

Grouping families by enrollment status is important because it affects their deductibles, copayments, enrollment fees, and supplemental insurance premium costs.⁴⁸

Families were further classified by their sponsor's status:

- Active-duty enlisted, paygrade E4 or below;
- Active-duty enlisted, paygrade E5 or above, or active-duty warrant or commissioned officer; or
- Eligible retiree.

This distinction is important because deductibles are a function of sponsor type, and supplemental insurance policy costs differ greatly for active duty vs. retiree families.

Families were grouped into those with one eligible member and those with two or more because family size affects both insurance costs and utilization rates. Families were also grouped according to whether they had private health insurance because this factor greatly affects the average value of deductibles, copayments, and insurance expenses. Families with health insurance were further grouped into those that filed purchased-care claims and those that did not. Families that file are likely to have higher purchased-care utilization rates than the vast majority of those with private health insurance who do not bother to seek reimbursement from TRICARE for their health expenses.

The purchased-care claims for FY 1994 and FY 1997 identify the amount paid by the government on behalf of each beneficiary. They also identify the amount billed by health care providers, allowable charges, and the amount paid by other (private) health insurance (OHI). From these data, deductibles and copayments owed by beneficiaries were estimated (i.e., the beneficiary's obligation for the *balance* of the allowable charge net of OHI reimbursements).

Legally, other health insurance must pay before TRICARE reimburses any unpaid residual. However, if the beneficiary has a TRICARE supplemental policy, TRICARE pays first, and the supplemental policy reimburses the policyholder directly. The purchased-care claims records include OHI payments made by primary insurance policies but do not include the amounts paid by TRICARE supplemental policies. An estimate of the average deductibles and copayments paid by a typical family, net of OHI payments, was obtained by summing deductibles and copayments for purchased-care claims (inpatient, outpatient, and prescription) for all eligible family members. The expected supplemental insurance reimbursement⁴⁹ was then subtracted from the estimate of deductibles and copayments for those families who purchased a supplemental policy.

The preceding approach understates the deductibles and copayments paid by users of the MHS because of two types of problems. First, some families who use purchased care

⁴⁸ In FY 1994, the premiums were estimated for a CHAMPUS Supplemental policy for all families. In FY 1997, the premiums were estimated for a Prime Supplemental policy for enrolled families, and for a Standard Supplemental policy for nonenrolled families.

⁴⁹ It is assumed that the supplemental insurance policy purchased covers any expenses in excess of the scheduled deductible under the TRICARE option selected by the family. For families with supplemental insurance, the value of deductibles and copayments was set equal to the minimum of the scheduled deductible and the average value of the deductibles and copayments for the beneficiary subgroup.

do not accumulate enough medical bills to meet their annual deductible and do not file a claim. This problem should be minimal because purchased-care providers have automatically filed claims directly since FY 1993.

Second, many families have other health insurance and do not use the MHS. Their apparent zero deductibles and copayments result in an understatement of the average deductibles and copayments for the users of the system. This bias is addressed by excluding non-filers who have other health insurance from the estimation of average deductible and copayment expenses. The correction is especially important for nonenrolled retirees, because 41 percent have private health insurance *and* do not file TRICARE claims.

The values of deductibles and copayments in FY 1994 were adjusted for inflation by applying the appropriate deflators separately to inpatient, outpatient, and prescription costs. The deflators used were the 3-year cumulative growth rate in the CPIs for Hospital and Related Services (12.9 percent), Professional Medical Services (11.8 percent), and Prescription Drugs (7.9 percent).

4.3.5 Total Out-of-Pocket Expenses

Table 4-10 displays the estimated average out-of-pocket expenses per family under CHAMPUS in FY 1994 (adjusted for inflation through FY 1997) and under TRICARE in FY 1997, by sponsor type and enrollment status. The findings are also depicted graphically in Figure 4-11.

Table 4-10. Effect of TRICARE on Total Family Out-of-Pocket Expenses

Beneficiary Group	Enrollment Status	Deductibles and Copayments		Enrollment Fees		Other Insurance		Total	
		FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
Active-Duty Family Members, E1–E4	Military PCM	\$51	\$58	\$0	\$0	\$48	\$24	\$99	\$82
	Civilian PCM	61	131	0	0	92	40	153	171
	Nonenrolled	56	54	0	0	27	112	83	166
Active-Duty Family Members, E5 and Above	Military PCM	102	72	0	0	62	36	164	108
	Civilian PCM	129	171	0	0	119	56	248	227
	Nonenrolled	148	154	0	0	78	192	226	346
Retirees and Family Members	Military PCM	186	114	0	412	384	106	570	632
	Civilian PCM	323	270	0	414	425	162	748	846
	Nonenrolled	334	415	0	0	402	791	736	1,206

For all beneficiary groups, out-of-pocket expenses in FY 1997 are lowest for those enrolled with a military PCM. With the exception of junior-enlisted families, expenses are highest for those who are not enrolled. Expenses vary from a low of \$82 for junior-enlisted families who enroll in Prime with a military PCM to \$1,206 for retiree families who do not enroll. Because of higher utilization of health care services, the out-of-pocket expenses of junior-enlisted families with a civilian PCM are \$5 greater than those of junior-enlisted families who do not enroll.

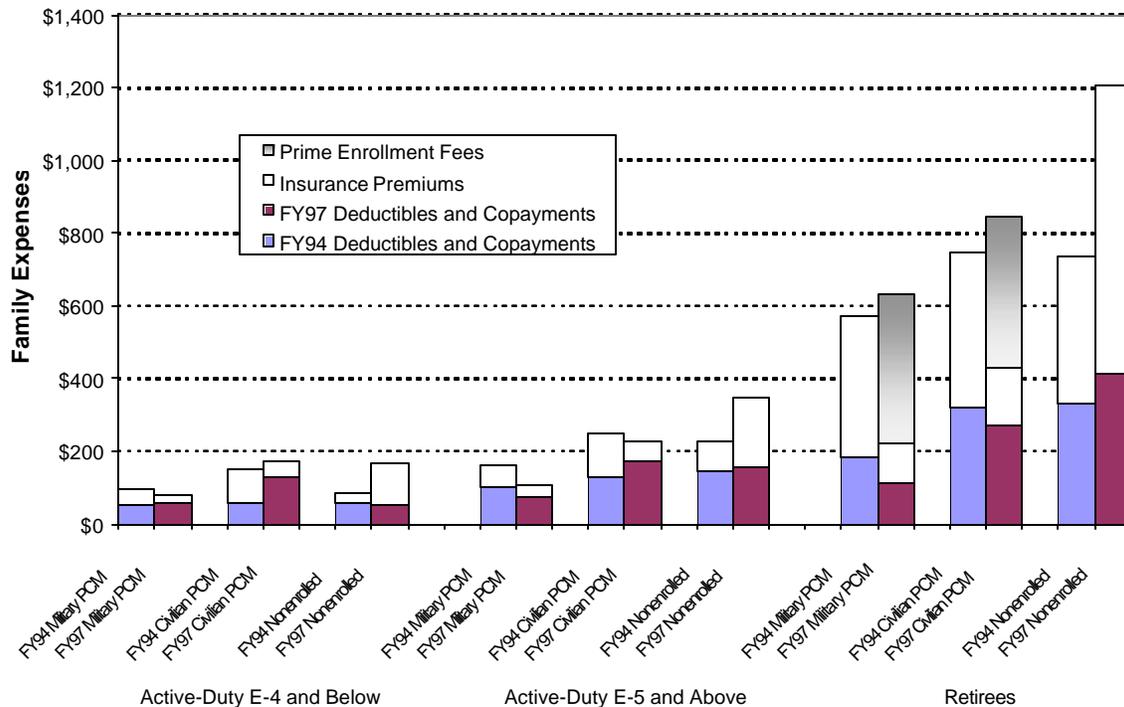


Figure 4-11. Total Family Out-of-Pocket Expenses

Active-duty families enrolled in Prime have very low insurance expenses: \$56 or less per family. Those who choose not to enroll have higher average insurance costs: \$112 for junior-enlisted and \$192 for senior-enlisted/officer families. Retirees spend the most for insurance in each enrollment group: \$106 for those enrolled with a military PCM, \$162 for those with a civilian PCM, and \$791 for those not enrolled in Prime.

Unlike active-duty families, retiree families must pay enrollment fees. For those enrolled in TRICARE Prime, the average fee was \$413 per family. This accounts for 49 percent of total out-of-pocket expenses for retirees with a civilian PCM and 65 percent for those with a military PCM.

To highlight the sources of change in total out-of-pocket expenses, Table 4-11 reports the change in expense by cost category in FY 1997 vs. the baseline. For active-duty families with a civilian PCM, out-of-pocket expenses were essentially unchanged (an \$18 increase for junior-enlisted families, and a \$21 decline for senior-enlisted/officer families). Small increases in deductibles and copayments (attributable to greater utilization) were offset by declines in insurance expenses. For active-duty families who did not enroll in Prime, deductibles and copayments were essentially unchanged. The increase in total out-of-pocket expenses for this group is due solely to higher insurance costs.

For retiree families who enrolled in TRICARE Prime, declines in deductibles, copayments, and insurance expenses were more than offset by an increase in enrollment fees of \$413 per family. The net effect was an increase in the out-of-pocket expenses for retirees who enrolled (\$62 if enrolled with a military PCM, \$98 if enrolled with a civilian PCM). Out-of-pocket expenses increased by \$470 for nonenrolled retiree families, most of which resulted from a \$389 increase in insurance expenses.

Table 4-11. Changes in Family Out-of-Pocket Expenses Due to TRICARE

Beneficiary Group	Enrollment Status (Percent in Group)	Deductibles and Copays	Enrollment Fees	Other Insurance	Total
Active-Duty Family Members, E1–E4	Military PCM (52%)	\$7	\$0	–\$24	–\$17
	Civilian PCM (14%)	70	0	–52	18
	Nonenrolled (34%)	–2	0	85	83
Active-Duty Family Members, E5 and Above	Military PCM (59%)	–30	0	–26	–56
	Civilian PCM (19%)	42	0	–63	–21
	Nonenrolled (22%)	6	0	114	120
Retirees and Family Members	Military PCM (15%)	–72	412	–278	62
	Civilian PCM (11%)	–53	414	–263	98
	Nonenrolled (74%)	81	0	389	470

4.3.6 Summary

TRICARE Prime enrollment rates vary greatly by beneficiary type. Whereas 70 percent of active-duty families enrolled in Prime, only 26 percent of retiree families enrolled. Active-duty families who enrolled experienced little change in their out-of-pocket expenses. Nonenrolled active-duty families, on the other hand, saw their out-of-pocket expenses increase by a modest (less than \$120) amount. Retiree families who enrolled also experienced modest increases (less than \$100) in out-of-pocket expenses, attributable primarily to Prime enrollment fees. Retiree families who did not enroll, however, experienced the largest increase in out-of-pocket expenses of any beneficiary group—almost \$500.

APPENDICES

APPENDIX A: DISTRIBUTION OF SUBPOPULATIONS IN THE 1994 AND 1997 SAMPLES

Table A-1 shows estimates of the distribution of the 1994 and 1997 subpopulations by source of care for the seven regions examined in the study. The proportions, p_i , were weighted to reflect the population distribution using the relationship:

$$p_i = n_i \times w_i / \text{Mean}(w_i),$$

where n_i is the number of individuals in the sample survey for a given year in a given region in a particular subpopulation, w_i is the sampling weight (N_i/n_i), and N_i is the number of people in the eligible population for a given year and region in a particular subpopulation.

**Table A-1. Distribution of Subpopulations in the 1994 and 1997 Samples
(Proportion of Those With Particular Source of Care Within Region)**

Region	Source of Care	FY94	FY97
3	Prime (AD)	0.22	0.21
	Prime (ADFM, Retirees)	0.14	0.25
	MTF/SA	0.30	0.16
	<u>Civilian Care Only</u>	<u>0.34</u>	<u>0.38</u>
	Total	1.00	1.00
Region	Source of Care	FY94	FY97
4	Prime (AD)	0.21	0.19
	Prime (ADFM, Retirees)	0.15	0.27
	MTF/SA	0.28	0.18
	<u>Civilian Care Only</u>	<u>0.36</u>	<u>0.37</u>
	Total	1.00	1.00
Region	Source of Care	FY94	FY97
6	Prime (AD)	0.23	0.23
	Prime (ADFM, Retirees)	0.16	0.26
	MTF/SA	0.29	0.16
	<u>Civilian Care Only</u>	<u>0.31</u>	<u>0.35</u>
	Total	1.00	1.00
Region	Source of Care	FY94	FY97
9	Prime (AD)	0.32	0.32
	Prime (ADFM, Retirees)	0.17	0.25
	MTF/SA	0.24	0.15
	<u>Civilian Care Only</u>	<u>0.28</u>	<u>0.28</u>
	Total	1.00	1.00

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Table A-1—Continued

Region	Source of Care	FY94	FY97
10	Prime (AD)	0.21	0.16
	Prime (ADFM, Retirees)	0.20	0.27
	MTF/SA	0.25	0.15
	<u>Civilian Care Only</u>	<u>0.34</u>	<u>0.42</u>
	Total	1.00	1.00
Region	Source of Care	FY94	FY97
11	Prime (AD)	0.21	0.21
	Prime (ADFM, Retirees)	0.20	0.29
	MTF/SA	0.23	0.14
	<u>Civilian Care Only</u>	<u>0.36</u>	<u>0.36</u>
	Total	1.00	1.00
Region	Source of Care	FY94	FY97
12	Prime (AD)	0.45	0.45
	Prime (ADFM, Retirees)	0.17	0.31
	MTF/SA	0.27	0.12
	<u>Civilian Care Only</u>	<u>0.11</u>	<u>0.12</u>
	Total	1.00	1.00

APPENDIX B: REGIONAL DEMOGRAPHICS (MEANS OF CONTROL VARIABLES IN THE 1997 POPULATION)

Table B-1 shows mean values for the demographic variables used as “controls” in the regression analyses to estimate changes in outcomes. The data are broken down by TRICARE region and subpopulation. Note that data for retirees are also included in the Prime, MTF/SA, and civilian care-only (Civ) subpopulations.

Table B-1. Mean Values for Demographic Variables (Region by Subpopulation)

Region	Name	AD	Prime	MTF/SA	Civ	Total	Retired
3	African Americans (proportion of population)	0.22	0.16	0.16	0.07	0.13	0.10
	Age (years)	31.79	46.22	51.98	59.91	49.84	58.27
	Any other insurance (proportion of population)	0.21	0.41	0.67	0.89	0.60	0.78
	Caucasians (proportion of population)	0.75	0.79	0.78	0.92	0.83	0.87
	Four or more years of college (proportion of population)	0.29	0.23	0.26	0.28	0.26	0.25
	High school graduate only (proportion of population)	0.71	0.71	0.67	0.66	0.69	0.68
	Hispanics (proportion of population)	0.11	0.07	0.06	0.05	0.07	0.05
	In catchment (proportion of population)	0.85	0.76	0.73	0.44	0.64	0.56
	Males (proportion of population)	0.85	0.31	0.40	0.46	0.50	0.49
	Married (proportion of population)	0.70	0.86	0.79	0.82	0.80	0.81
	Mental health status (SF-12 scale score)	51.38	51.47	51.40	52.98	52.07	52.45
	Physical health status (SF-12 scale score)	52.49	47.96	46.32	44.59	47.42	45.02
	Private insurance (proportion of population)	0.09	0.21	0.30	0.40	0.27	0.35
	Travel time to treatment facility (minutes)	18.18	23.07	29.51	19.20	21.58	22.88
4	African Americans (proportion of population)	0.15	0.11	0.09	0.06	0.10	0.08
	Age (years)	32.76	46.81	53.91	58.80	50.11	57.67
	Any other insurance (proportion of population)	0.17	0.41	0.75	0.90	0.61	0.79
	Caucasians (proportion of population)	0.82	0.84	0.87	0.91	0.87	0.89
	Four or more years of college (proportion of population)	0.36	0.26	0.23	0.25	0.27	0.24
	High school graduate only (proportion of population)	0.63	0.69	0.72	0.66	0.68	0.68
	Hispanics (proportion of population)	0.09	0.05	0.05	0.02	0.05	0.03
	In catchment (proportion of population)	0.74	0.69	0.66	0.45	0.60	0.55
	Males (proportion of population)	0.80	0.30	0.43	0.46	0.48	0.48
	Married (proportion of population)	0.68	0.88	0.78	0.79	0.79	0.79
	Mental health status (SF-12 scale score)	51.57	52.16	52.00	52.83	52.35	52.63
	Physical health status (SF-12 scale score)	52.76	48.00	44.40	45.12	47.39	44.93
	Private insurance (proportion of population)	0.08	0.22	0.28	0.42	0.28	0.36
	Travel time to treatment facility (minutes)	18.40	22.62	31.03	19.72	22.11	23.67

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Table B-1—Continued

Region	Name	AD	Prime	MTF/SA	Civ	Total	Retired
6	African Americans (proportion of population)	0.16	0.12	0.11	0.05	0.10	0.07
	Age (years)	31.80	45.05	55.28	59.16	49.11	58.07
	Any other insurance (proportion of population)	0.18	0.36	0.66	0.89	0.56	0.73
	Caucasians (proportion of population)	0.79	0.81	0.84	0.92	0.85	0.88
	Four or more years of college (proportion of population)	0.32	0.26	0.28	0.28	0.28	0.26
	High school graduate only (proportion of population)	0.68	0.69	0.65	0.66	0.68	0.67
	Hispanics (proportion of population)	0.12	0.11	0.11	0.05	0.09	0.08
	In catchment (proportion of population)	0.90	0.73	0.72	0.36	0.62	0.50
	Males (proportion of population)	0.83	0.27	0.44	0.47	0.50	0.48
	Married (proportion of population)	0.71	0.88	0.79	0.82	0.80	0.81
	Mental health status (SF-12 scale score)	51.82	52.43	52.51	52.31	52.29	52.57
	Physical health status (SF-12 scale score)	52.90	48.50	44.96	44.61	47.69	45.00
	Private insurance (proportion of population)	0.07	0.17	0.25	0.45	0.26	0.34
Travel time to treatment facility (minutes)	16.84	21.57	29.99	19.62	21.13	23.21	
9	African Americans (proportion of population)	0.19	0.08	0.08	0.06	0.11	0.07
	Age (years)	31.13	44.42	51.30	62.34	46.78	59.95
	Any other insurance (proportion of population)	0.17	0.39	0.63	0.93	0.51	0.77
	Caucasians (proportion of population)	0.70	0.68	0.70	0.84	0.73	0.77
	Four or more years of college (proportion of population)	0.24	0.31	0.26	0.28	0.27	0.27
	High school graduate only (proportion of population)	0.75	0.65	0.68	0.65	0.69	0.66
	Hispanics (proportion of population)	0.11	0.12	0.08	0.06	0.10	0.08
	In catchment (proportion of population)	0.90	0.76	0.84	0.53	0.74	0.63
	Males (proportion of population)	0.92	0.28	0.36	0.46	0.54	0.48
	Married (proportion of population)	0.62	0.86	0.76	0.78	0.74	0.76
	Mental health status (SF-12 scale score)	50.72	50.60	51.00	52.54	51.42	52.17
	Physical health status (SF-12 scale score)	52.63	49.06	47.74	45.42	49.05	45.84
	Private insurance (proportion of population)	0.09	0.22	0.27	0.41	0.24	0.34
Travel time to treatment facility (minutes)	16.25	19.83	25.28	16.45	18.71	20.17	
10	African Americans (proportion of population)	0.07	0.12	0.09	0.07	0.09	0.09
	Age (years)	31.76	48.97	55.17	64.10	53.80	61.14
	Any other insurance (proportion of population)	0.15	0.38	0.73	0.93	0.64	0.80
	Caucasians (proportion of population)	0.86	0.70	0.74	0.82	0.78	0.77
	Four or more years of college (proportion of population)	0.34	0.29	0.24	0.28	0.28	0.27
	High school graduate only (proportion of population)	0.66	0.65	0.72	0.67	0.67	0.68
	Hispanics (proportion of population)	0.08	0.06	0.09	0.05	0.07	0.06
	In catchment (proportion of population)	0.60	0.45	0.44	0.30	0.40	0.34
	Males (proportion of population)	0.83	0.33	0.47	0.46	0.49	0.49
	Married (proportion of population)	0.66	0.85	0.76	0.77	0.77	0.77
	Mental health status (SF-12 scale score)	50.67	51.56	52.04	52.57	52.13	52.60
	Physical health status (SF-12 scale score)	53.68	47.44	45.10	45.12	47.34	45.26
	Private insurance (proportion of population)	0.08	0.19	0.28	0.40	0.29	0.35
Travel time to treatment facility (minutes)	17.83	21.54	28.92	16.87	20.16	20.81	

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Table B-1—Continued

Region	Name	AD	Prime	MTF/SA	Civ	Total	Retired
11	African Americans (proportion of population)	0.09	0.05	0.04	0.03	0.05	0.04
	Age (years)	31.64	44.90	54.24	59.86	49.28	58.36
	Any other insurance (proportion of population)	0.19	0.37	0.66	0.85	0.55	0.72
	Caucasians (proportion of population)	0.82	0.82	0.87	0.90	0.86	0.87
	Four or more years of college (proportion of population)	0.25	0.22	0.23	0.28	0.24	0.24
	High school graduate only (proportion of population)	0.75	0.72	0.69	0.68	0.71	0.69
	Hispanics (proportion of population)	0.09	0.07	0.06	0.03	0.06	0.04
	In catchment (proportion of population)	0.90	0.75	0.75	0.44	0.66	0.56
	Males (proportion of population)	0.88	0.29	0.42	0.49	0.50	0.49
	Married (proportion of population)	0.70	0.89	0.80	0.79	0.79	0.79
	Mental health status (SF-12 scale score)	50.97	51.49	51.20	52.96	51.97	52.64
	Physical health status (SF-12 scale score)	52.71	48.16	46.44	45.76	48.17	45.79
	Private insurance (proportion of population)	0.09	0.20	0.24	0.42	0.26	0.34
	Travel time to treatment facility (minutes)	17.89	22.36	28.15	19.75	21.28	22.82
12	African Americans (proportion of population)	0.13	0.09	0.01	0.02	0.09	0.03
	Age (years)	32.14	38.82	46.20	58.98	39.44	57.75
	Any other insurance (proportion of population)	0.26	0.29	0.67	0.91	0.41	0.77
	Caucasians (proportion of population)	0.71	0.65	0.67	0.37	0.63	0.43
	Four or more years of college (proportion of population)	0.29	0.30	0.27	0.27	0.29	0.28
	High school graduate only (proportion of population)	0.71	0.67	0.67	0.67	0.69	0.65
	Hispanics (proportion of population)	0.12	0.10	0.09	0.05	0.10	0.08
	In catchment (proportion of population)	0.99	0.97	0.98	0.81	0.96	0.88
	Males (proportion of population)	0.87	0.16	0.38	0.46	0.54	0.48
	Married (proportion of population)	0.75	0.89	0.79	0.79	0.80	0.76
	Mental health status (SF-12 scale score)	51.32	49.28	52.37	52.31	50.94	52.43
	Physical health status (SF-12 scale score)	52.48	50.52	47.50	46.04	50.61	46.69
	Private insurance (proportion of population)	0.12	0.15	0.31	0.57	0.22	0.43
	Travel time to treatment facility (minutes)	15.10	19.68	24.29	17.92	18.01	22.26
All	African Americans (proportion of population)	0.17	0.11	0.10	0.06	0.10	0.08
	Age (years)	31.78	45.55	53.24	60.22	49.15	58.60
	Any other insurance (proportion of population)	0.19	0.38	0.68	0.90	0.57	0.76
	Caucasians (proportion of population)	0.77	0.78	0.80	0.89	0.82	0.85
	Four or more years of college (proportion of	0.29	0.26	0.26	0.27	0.27	0.26
	High school graduate only (proportion of population)	0.70	0.69	0.68	0.66	0.68	0.68
	Hispanics (proportion of population)	0.11	0.08	0.08	0.04	0.08	0.06
	In catchment (proportion of population)	0.86	0.73	0.72	0.43	0.64	0.54
	Males (proportion of population)	0.86	0.29	0.41	0.47	0.51	0.48
	Married (proportion of population)	0.68	0.87	0.78	0.80	0.79	0.79
	Mental health status (SF-12 scale score)	51.29	51.59	51.76	52.70	52.02	52.50
	Physical health status (SF-12 scale score)	52.73	48.34	45.86	44.96	47.90	45.23
	Private insurance (proportion of population)	0.09	0.20	0.27	0.42	0.26	0.35
	Travel time to treatment facility (minutes)	17.23	21.84	28.93	18.86	20.85	22.54

APPENDIX C: REGIONAL CHANGES FROM 1994 TO 1997 IN ACCESS AND SATISFACTION WITH CARE INDICATORS

Table C-1 shows regional changes from 1994 to 1997 in outcome measures for each subpopulation. Estimates are based on 1997 population characteristics. An entry of “n/a” (not available) indicates that there were too few observations to make a reliable estimate. Entries marked with an asterisk (*) indicate a statistically significant change ($p < 0.05$). Note that while data for retirees are broken out separately, retirees are also included in the Prime, MTF/SA, and civilian care-only (Civilian) subpopulations.

Table C-1. Regional Changes in Outcome Measures

Region	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
<i>Appointment gap (days)</i>												
3	11	6 *	14	7 *	15	10 *	8	7	12	7 *	11	8 *
4	8	6 *	12	7 *	15	9 *	7	7	10	7 *	10	7 *
6	11	7 *	17	8 *	21	15 *	6	6	13	8 *	13	9 *
9	11	6 *	11	6 *	11	7 *	7	7	10	6 *	9	7 *
10	9	6 *	9	7 *	15	10 *	9	7 *	10	7 *	10	8 *
11	9	6 *	15	8 *	15	9 *	8	7	11	7 *	11	8 *
12	10	5 *	12	7 *	14	9 *	6	5	11	6 *	10	8 *
All	10	6 *	13	7 *	16	11 *	7	7 *	11	7 *	11	8 *
<i>BP check past 12 months</i>												
3	0.79	0.90 *	0.79	0.91 *	0.88	0.94 *	0.91	0.97 *	0.82	0.92 *	0.84	0.93 *
4	0.79	0.93 *	0.80	0.93 *	0.87	0.95 *	0.88	0.96 *	0.79	0.92 *	0.81	0.92 *
6	0.79	0.92 *	0.76	0.92 *	0.90	0.93 *	0.91	0.96 *	0.81	0.91 *	0.85	0.91 *
9	0.77	0.93 *	0.83	0.92 *	0.86	0.95 *	0.91	0.96 *	0.82	0.92 *	0.85	0.92 *
10	0.76	0.90 *	0.84	0.93 *	0.88	0.95 *	0.92	0.95	0.84	0.91 *	0.86	0.92 *
11	0.83	0.93 *	0.76	0.90 *	0.87	0.95 *	0.89	0.94 *	0.80	0.91 *	0.82	0.90 *
12	0.85	0.92	0.81	0.93 *	0.91	0.96 *	0.92	0.98 *	0.83	0.92 *	0.85	0.90 *
All	0.79	0.92 *	0.79	0.92 *	0.88	0.94 *	0.91	0.96 *	0.81	0.91 *	0.84	0.92 *
<i>Cholesterol check past 12 months</i>												
3	0.46	0.42	0.45	0.52 *	0.57	0.59	0.71	0.72	0.54	0.57 *	0.61	0.66 *
4	0.45	0.39	0.48	0.52	0.56	0.60	0.69	0.66	0.52	0.54	0.60	0.62
6	0.47	0.44	0.42	0.49 *	0.62	0.60	0.65	0.70	0.51	0.55 *	0.59	0.63
9	0.37	0.38	0.47	0.48	0.51	0.59	0.73	0.70	0.49	0.51	0.65	0.64
10	0.41	0.42	0.53	0.50	0.58	0.55	0.71	0.68	0.56	0.55	0.65	0.61
11	0.49	0.42	0.38	0.45 *	0.50	0.56	0.64	0.64	0.48	0.51	0.55	0.59
12	0.54	0.46	0.37	0.41	0.52	0.48	0.74	0.70	0.47	0.46	0.62	0.62
All	0.45	0.41 *	0.45	0.50 *	0.56	0.58	0.69	0.69	0.52	0.54 *	0.61	0.63 *

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Table C-1—Continued

Region	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
<i>Did not use MTF due to difficulty in getting appointment</i>												
3	0.27	0.22	0.40	0.30 *	0.43	0.35 *	0.28	0.34 *	0.32	0.32	0.31	0.32
4	0.34	0.18	0.35	0.24 *	0.48	0.37 *	0.29	0.32	0.33	0.30	0.32	0.31
6	0.17	0.21	0.41	0.28 *	0.56	0.45 *	0.30	0.31	0.36	0.31 *	0.36	0.32
9	n/a	n/a	0.29	0.23	0.29	0.30	0.22	0.20	0.23	0.20	0.24	0.22
10	n/a	n/a	0.25	0.22	0.33	0.24	0.20	0.21	0.23	0.21	0.23	0.22
11	n/a	n/a	0.36	0.20 *	0.43	0.32	0.23	0.27	0.28	0.25	0.26	0.26
12	n/a	n/a	0.45	0.33	0.50	0.43	0.34	0.33	0.40	0.30 *	0.42	0.32 *
All	0.21	0.16	0.34	0.26 *	0.43	0.36 *	0.26	0.29 *	0.30	0.28 *	0.29	0.29
<i>ER use past 12 months</i>												
3	0.47	0.25 *	0.48	0.30 *	0.48	0.34 *	0.34	0.21 *	0.43	0.25 *	0.40	0.23 *
4	0.44	0.24 *	0.47	0.28 *	0.51	0.34 *	0.31	0.23 *	0.41	0.25 *	0.39	0.25 *
6	0.51	0.27 *	0.41	0.26 *	0.48	0.34 *	0.29	0.21 *	0.40	0.24 *	0.36	0.23 *
9	0.45	0.22 *	0.38	0.25 *	0.44	0.26 *	0.35	0.19 *	0.40	0.22 *	0.37	0.19 *
10	0.32	0.23 *	0.35	0.29	0.49	0.34 *	0.35	0.20 *	0.38	0.23 *	0.37	0.23 *
11	0.44	0.22 *	0.48	0.27 *	0.53	0.32 *	0.36	0.19 *	0.45	0.22 *	0.41	0.21 *
12	0.48	0.23 *	0.48	0.25 *	0.56	0.38 *	0.29	0.22	0.49	0.25 *	0.45	0.23 *
All	0.47	0.24 *	0.43	0.28 *	0.48	0.33 *	0.33	0.21 *	0.41	0.24 *	0.38	0.22 *
<i>Immunized past 12 months</i>												
3	0.81	0.82	0.28	0.36 *	0.38	0.46 *	0.44	0.57 *	0.43	0.54 *	0.38	0.52 *
4	0.75	0.84 *	0.29	0.38 *	0.39	0.52 *	0.42	0.54 *	0.40	0.53 *	0.37	0.51 *
6	0.78	0.89 *	0.36	0.44 *	0.44	0.57 *	0.44	0.60 *	0.45	0.60 *	0.42	0.57 *
9	0.82	0.88	0.27	0.40 *	0.41	0.47	0.52	0.61 *	0.49	0.61 *	0.45	0.55 *
10	0.76	0.80	0.29	0.43 *	0.49	0.54	0.51	0.65 *	0.46	0.59 *	0.46	0.59 *
11	0.81	0.87 *	0.36	0.43 *	0.44	0.53 *	0.47	0.62 *	0.46	0.59 *	0.41	0.57 *
12	0.75	0.81	0.43	0.33	0.49	0.51	0.52	0.56	0.57	0.58	0.48	0.50
All	0.79	0.85 *	0.32	0.40 *	0.42	0.51 *	0.46	0.59 *	0.45	0.57 *	0.41	0.54 *
<i>Mammogram past 12 months (50+)</i>												
3	n/a	n/a	0.73	0.74	0.71	0.74	0.76	0.68 *	0.69	0.69	0.69	0.69
4	n/a	n/a	0.67	0.68	0.62	0.63	0.74	0.66	0.67	0.63	0.67	0.63
6	n/a	n/a	0.45	0.68 *	0.69	0.73	0.64	0.67	0.60	0.66	0.60	0.66
9	n/a	n/a	0.68	0.76	0.71	0.66	0.73	0.70	0.69	0.67	0.70	0.68
10	n/a	n/a	0.73	0.69	0.87	0.84	0.75	0.70	0.73	0.69	0.73	0.69
11	n/a	n/a	0.63	0.72	0.76	0.68	0.66	0.71	0.66	0.67	0.65	0.67
12	n/a	n/a	n/a	n/a	n/a	n/a	0.59	0.72	0.63	0.68	0.64	0.68
All	n/a	n/a	0.65	0.71	0.71	0.71	0.72	0.68 *	0.67	0.67	0.67	0.67
<i>Mammogram past 12 months (age 40+)</i>												
3	n/a	n/a	0.67	0.66	0.71	0.67	0.73	0.65 *	0.66	0.64	0.67	0.65
4	n/a	n/a	0.69	0.64	0.57	0.61	0.72	0.65	0.63	0.60	0.64	0.61
6	n/a	n/a	0.53	0.62	0.63	0.64	0.64	0.63	0.59	0.61	0.59	0.62
9	n/a	n/a	0.67	0.64	0.72	0.58 *	0.72	0.68	0.67	0.62	0.68	0.64
10	n/a	n/a	0.69	0.62	0.79	0.78	0.72	0.69	0.69	0.65	0.70	0.66
11	n/a	n/a	0.59	0.59	0.68	0.66	0.65	0.67	0.62	0.61	0.62	0.61
12	n/a	n/a	0.61	0.64	0.62	0.56	0.62	0.73	0.59	0.63	0.63	0.65
All	0.75	0.62	0.63	0.63	0.67	0.64	0.71	0.66 *	0.64	0.62	0.65	0.63

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Table C-1—Continued

Region	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
<i>Minutes waited in office</i>												
3	27.40	30.40 *	27.50	24.10 *	30.50	29.10	23.60	19.30 *	26.10	23.80 *	25.80	21.70 *
4	25.70	26.70	26.40	23.50 *	28.60	27.70	25.60	19.90 *	26.20	23.20 *	26.60	22.30 *
6	26.90	28.80	28.10	25.20 *	29.80	29.10	23.10	19.50 *	26.40	24.30 *	25.80	22.90 *
9	27.20	27.60	24.50	25.10	27.80	28.10	18.50	16.40 *	23.90	23.60	21.20	20.00
10	28.10	23.80	21.20	22.50	26.60	23.60 *	17.40	16.90	21.50	20.20 *	19.90	19.10
11	26.50	25.80	25.10	22.80 *	28.20	26.40	18.70	19.80	23.20	22.60	21.60	21.50
12	28.90	26.70	27.80	27.10	27.30	27.30	18.40	18.40	26.60	25.70	22.90	22.70
All	26.90	28.00	25.90	24.30 *	28.90	28.10	21.80	18.90 *	25.10	23.50 *	24.20	21.60 *
<i>Number of calls to get appointment</i>												
3	3.18	4.03 *	3.82	3.91	3.41	4.45 *	2.56	2.73	3.03	3.48 *	2.91	3.25 *
4	3.36	3.46	3.57	3.66	3.79	4.08	2.35	2.81 *	3.06	3.35 *	2.93	3.26 *
6	3.39	3.90 *	3.55	3.65	4.16	4.53	2.47	3.09 *	3.35	3.60 *	3.18	3.47 *
9	3.27	3.67	2.92	3.77 *	2.91	3.73 *	2.46	2.87 *	2.76	3.44 *	2.58	3.28 *
10	2.82	3.38	2.81	3.55 *	3.23	3.63	2.52	3.02 *	2.75	3.30 *	2.72	3.21 *
11	3.09	3.51	3.44	3.59	3.62	3.60	2.27	2.90 *	2.92	3.30 *	2.68	3.18 *
12	2.96	4.01	3.52	4.39	4.05	4.12	2.58	3.41	3.31	4.08 *	3.19	3.56
All	3.18	3.77 *	3.41	3.75 *	3.59	4.15 *	2.48	2.90 *	3.03	3.48 *	2.89	3.30 *
<i>Pap test past 12 months</i>												
3	0.89	0.70 *	0.71	0.71	0.73	0.69	0.71	0.69	0.70	0.68	0.66	0.65
4	0.86	0.78	0.69	0.69	0.65	0.66	0.71	0.69	0.67	0.67	0.63	0.64
6	0.89	0.76 *	0.74	0.70	0.74	0.68	0.64	0.62	0.69	0.65	0.64	0.61
9	0.90	0.91	0.78	0.72	0.80	0.61 *	0.70	0.61 *	0.73	0.66 *	0.68	0.60 *
10	0.76	0.71	0.69	0.65	0.78	0.69	0.70	0.58 *	0.69	0.61 *	0.67	0.58 *
11	0.88	0.83	0.74	0.67	0.68	0.70	0.72	0.60 *	0.70	0.63 *	0.67	0.58 *
12	n/a	n/a	0.66	0.73	0.76	0.72	0.59	0.71	0.67	0.71	0.64	0.62
All	0.87	0.78 *	0.73	0.70 *	0.73	0.67 *	0.69	0.65 *	0.70	0.66 *	0.66	0.62 *
<i>Physical exam past 12 months</i>												
3	0.51	0.47	0.48	0.61 *	0.57	0.63 *	0.71	0.73	0.56	0.61 *	0.58	0.66 *
4	0.54	0.54	0.45	0.59 *	0.57	0.65 *	0.66	0.70	0.53	0.60 *	0.55	0.63 *
6	0.50	0.51	0.48	0.58 *	0.55	0.59	0.68	0.69	0.53	0.58 *	0.57	0.62 *
9	0.42	0.53 *	0.56	0.57	0.59	0.59	0.70	0.69	0.55	0.57	0.61	0.63
10	0.50	0.45	0.60	0.61	0.59	0.59	0.68	0.68	0.59	0.59	0.61	0.62
11	0.57	0.51	0.48	0.58 *	0.52	0.66 *	0.72	0.68	0.55	0.59 *	0.57	0.62 *
12	0.47	0.41	0.47	0.51	0.55	0.59	0.66	0.73	0.50	0.49	0.54	0.61 *
All	0.49	0.50	0.51	0.59 *	0.57	0.62 *	0.69	0.70	0.55	0.59 *	0.58	0.63 *
<i>Prenatal care first trimester</i>												
3	n/a	n/a	0.85	0.86	n/a	n/a	n/a	n/a	0.92	0.88	n/a	n/a
4	n/a	n/a	0.90	0.88	n/a	n/a	n/a	n/a	0.91	0.90	n/a	n/a
6	n/a	n/a	0.91	0.86	n/a	n/a	n/a	n/a	0.93	0.89	n/a	n/a
9	n/a	n/a	0.98	0.89 *	n/a	n/a	n/a	n/a	0.98	0.89 *	n/a	n/a
10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.92	0.90	n/a	n/a
11	n/a	n/a	0.95	0.95	n/a	n/a	n/a	n/a	0.92	0.91	n/a	n/a
12	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
All	0.99	0.93 *	0.92	0.90	0.89	0.82	0.94	0.91	0.94	0.90 *	0.78	0.82

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Table C-1—Continued

Region	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
<i>Prostate exam past 12 months (40+)</i>												
3	n/a	n/a	0.48	0.61 *	0.68	0.68	0.67	0.77 *	0.58	0.67 *	0.59	0.68 *
4	n/a	n/a	0.63	0.65	0.67	0.64	0.73	0.69	0.61	0.62	0.61	0.63
6	n/a	n/a	0.59	0.59	0.69	0.62	0.75	0.71	0.64	0.60	0.64	0.61
9	n/a	n/a	0.63	0.56	0.74	0.63 *	0.74	0.70	0.66	0.59 *	0.67	0.62
10	n/a	n/a	0.78	0.69	0.69	0.59	0.78	0.70 *	0.71	0.65 *	0.71	0.64 *
11	n/a	n/a	0.56	0.54	0.63	0.69	0.76	0.70	0.63	0.62	0.63	0.62
12	n/a	n/a	n/a	n/a	0.57	0.55	0.70	0.60	0.57	0.53	0.57	0.55
All	0.51	0.41	0.60	0.60	0.69	0.64 *	0.72	0.72	0.63	0.63	0.63	0.63
<i>Received wellness advice past 12 months (based on those having a medical visit)</i>												
3	0.37	0.47 *	0.37	0.60 *	0.40	0.60 *	0.49	0.70 *	0.43	0.62 *	0.46	0.68 *
4	0.43	0.47	0.35	0.61 *	0.39	0.60 *	0.49	0.70 *	0.42	0.62 *	0.45	0.68 *
6	0.39	0.52 *	0.34	0.61 *	0.39	0.62 *	0.56	0.68 *	0.43	0.62 *	0.49	0.68 *
9	0.39	0.49	0.43	0.59 *	0.43	0.59 *	0.57	0.69 *	0.46	0.58 *	0.54	0.67 *
10	0.34	0.46 *	0.39	0.62 *	0.47	0.62 *	0.51	0.65 *	0.45	0.61 *	0.49	0.65 *
11	0.44	0.53	0.33	0.64 *	0.35	0.58 *	0.52	0.66 *	0.42	0.62 *	0.45	0.66 *
12	0.56	0.55	0.35	0.58 *	0.40	0.67 *	0.59	0.73 *	0.44	0.60 *	0.48	0.70 *
All	0.40	0.50 *	0.37	0.61 *	0.40	0.60 *	0.52	0.69 *	0.43	0.61 *	0.48	0.67 *
<i>Satisfaction with ability to choose provider</i>												
3	0.26	0.39 *	0.44	0.58 *	0.40	0.44	0.85	0.86	0.59	0.66 *	0.71	0.77 *
4	0.31	0.35	0.47	0.58 *	0.38	0.41	0.91	0.90	0.63	0.66 *	0.73	0.76
6	0.27	0.35 *	0.40	0.56 *	0.39	0.44	0.89	0.87	0.57	0.63 *	0.70	0.75 *
9	0.26	0.42 *	0.56	0.66 *	0.56	0.54	0.89	0.89	0.61	0.65 *	0.78	0.79
10	0.24	0.44 *	0.57	0.65	0.53	0.52	0.86	0.87	0.67	0.71 *	0.78	0.78
11	0.26	0.38 *	0.52	0.60 *	0.41	0.48	0.88	0.88	0.62	0.66 *	0.75	0.77
12	0.31	0.44	0.45	0.57	0.40	0.51	0.95	0.94	0.46	0.56 *	0.75	0.80
All	0.27	0.39 *	0.48	0.59 *	0.43	0.46 *	0.88	0.88	0.60	0.65 *	0.74	0.77 *
<i>Satisfaction with ability to diagnose</i>												
3	0.64	0.64	0.71	0.78 *	0.68	0.69	0.90	0.90	0.77	0.79	0.84	0.85
4	0.61	0.70 *	0.76	0.80	0.73	0.76	0.92	0.92	0.80	0.83 *	0.85	0.87
6	0.65	0.64	0.72	0.78 *	0.70	0.78 *	0.91	0.89	0.76	0.79	0.84	0.86
9	0.57	0.67	0.83	0.77	0.74	0.73	0.93	0.94	0.76	0.78	0.90	0.89
10	0.65	0.74	0.79	0.83	0.78	0.81	0.94	0.94	0.83	0.86 *	0.89	0.90
11	0.64	0.73 *	0.81	0.83	0.72	0.81 *	0.88	0.92 *	0.79	0.84 *	0.86	0.90 *
12	0.57	0.72 *	0.71	0.74	0.69	0.68	0.95	0.96	0.67	0.75 *	0.85	0.90
All	0.63	0.67 *	0.76	0.79 *	0.71	0.75 *	0.91	0.91	0.78	0.80 *	0.86	0.87
<i>Satisfaction with access to care</i>												
3	0.69	0.71	0.70	0.76 *	0.64	0.66	0.92	0.93	0.78	0.81 *	0.83	0.86 *
4	0.59	0.68 *	0.71	0.74	0.62	0.58	0.93	0.93	0.78	0.78	0.83	0.83
6	0.66	0.70	0.66	0.74 *	0.65	0.70	0.91	0.93	0.75	0.80 *	0.81	0.86 *
9	0.69	0.74	0.80	0.80	0.73	0.68	0.94	0.95	0.81	0.81	0.88	0.89
10	0.61	0.71	0.70	0.80 *	0.65	0.61	0.92	0.93	0.79	0.82	0.85	0.86
11	0.75	0.82 *	0.84	0.87	0.75	0.76	0.91	0.95 *	0.84	0.88 *	0.87	0.90 *
12	0.79	0.85	0.76	0.79	0.73	0.80	0.97	0.94	0.80	0.84	0.87	0.91
All	0.67	0.73 *	0.72	0.78 *	0.66	0.67	0.92	0.94 *	0.78	0.81 *	0.84	0.86 *

Continued on next page

Table C-1—Continued

Region	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
<i>Satisfaction with access to care if needed</i>												
3	0.59	0.60	0.62	0.72 *	0.54	0.52	0.89	0.91	0.71	0.75 *	0.77	0.81 *
4	0.55	0.64 *	0.61	0.72 *	0.51	0.46	0.92	0.94	0.71	0.75 *	0.77	0.79
6	0.54	0.65 *	0.50	0.72 *	0.49	0.52	0.93	0.92	0.65	0.75 *	0.74	0.80 *
9	0.59	0.70 *	0.76	0.79	0.72	0.69	0.93	0.92	0.76	0.79	0.86	0.85
10	0.54	0.67 *	0.74	0.77	0.62	0.56	0.91	0.93	0.77	0.80	0.83	0.84
11	0.60	0.70 *	0.72	0.78	0.57	0.63	0.93	0.94	0.74	0.80 *	0.82	0.86 *
12	0.71	0.73	0.65	0.73	0.65	0.59	0.97	0.96	0.71	0.74	0.83	0.81
All	0.58	0.66 *	0.63	0.74 *	0.56	0.55	0.92	0.92	0.72	0.76 *	0.79	0.82 *
<i>Satisfaction with access to hospital care</i>												
3	0.69	0.71	0.74	0.79 *	0.58	0.61	0.93	0.94	0.78	0.82 *	0.83	0.86 *
4	0.66	0.74 *	0.72	0.79 *	0.63	0.55 *	0.94	0.95	0.79	0.81	0.84	0.84
6	0.69	0.74	0.67	0.79 *	0.67	0.67	0.94	0.93	0.78	0.81 *	0.84	0.85
9	0.64	0.75	0.83	0.84	0.72	0.72	0.95	0.94	0.80	0.82	0.89	0.89
10	0.63	0.68	0.77	0.83	0.66	0.68	0.94	0.95	0.82	0.84	0.87	0.89
11	0.69	0.83 *	0.83	0.88	0.68	0.74	0.96	0.96	0.83	0.89 *	0.88	0.91
12	0.75	0.85	0.84	0.80	0.75	0.75	0.98	0.97	0.79	0.84	0.88	0.89
All	0.67	0.75 *	0.75	0.81 *	0.64	0.65	0.94	0.94	0.79	0.83 *	0.85	0.86
<i>Satisfaction with access to specialists</i>												
3	0.39	0.43	0.51	0.63 *	0.39	0.42	0.87	0.90	0.62	0.69 *	0.71	0.79 *
4	0.38	0.43	0.51	0.63 *	0.41	0.42	0.88	0.92	0.62	0.68 *	0.70	0.76 *
6	0.43	0.46	0.44	0.57 *	0.45	0.50	0.90	0.88	0.61	0.66 *	0.71	0.75 *
9	0.38	0.51 *	0.65	0.63	0.52	0.57	0.90	0.90	0.64	0.67	0.80	0.80
10	0.45	0.50	0.61	0.71 *	0.58	0.56	0.91	0.89	0.73	0.74	0.80	0.81
11	0.36	0.54 *	0.61	0.68	0.52	0.58	0.91	0.87	0.68	0.72 *	0.80	0.79
12	0.51	0.60	0.58	0.56	0.54	0.54	0.92	0.95	0.58	0.63	0.78	0.81
All	0.41	0.48 *	0.54	0.63 *	0.45	0.49 *	0.89	0.90	0.64	0.68 *	0.74	0.78 *
<i>Satisfaction with advice to avoid illness</i>												
3	0.67	0.73 *	0.72	0.79 *	0.71	0.72	0.84	0.89 *	0.76	0.82 *	0.81	0.86 *
4	0.71	0.77 *	0.72	0.79 *	0.73	0.73	0.87	0.91 *	0.79	0.83 *	0.82	0.86 *
6	0.69	0.72	0.72	0.78 *	0.73	0.79 *	0.92	0.89	0.79	0.81	0.85	0.86
9	0.68	0.74	0.73	0.77	0.77	0.77	0.90	0.89	0.79	0.80	0.85	0.85
10	0.69	0.74	0.75	0.81	0.81	0.77	0.86	0.91 *	0.81	0.84	0.85	0.87
11	0.65	0.78 *	0.78	0.82	0.77	0.80	0.88	0.90	0.80	0.84 *	0.87	0.88
12	0.60	0.75 *	0.74	0.76	0.77	0.72	0.96	0.96	0.73	0.78	0.88	0.88
All	0.69	0.74 *	0.73	0.79 *	0.74	0.76	0.88	0.90 *	0.79	0.82 *	0.84	0.86 *
<i>Satisfaction with attention given by provider</i>												
3	0.67	0.73 *	0.71	0.80 *	0.69	0.71	0.88	0.89	0.77	0.81 *	0.83	0.85 *
4	0.69	0.74	0.75	0.80 *	0.76	0.79	0.87	0.93 *	0.80	0.84 *	0.83	0.88 *
6	0.66	0.69	0.70	0.78 *	0.69	0.78 *	0.92	0.89	0.77	0.80 *	0.83	0.86
9	0.67	0.72	0.80	0.79	0.79	0.77	0.90	0.92	0.79	0.81	0.88	0.87
10	0.70	0.75	0.78	0.83	0.79	0.79	0.89	0.90	0.82	0.84	0.86	0.87
11	0.65	0.74 *	0.81	0.83	0.74	0.81 *	0.91	0.92	0.80	0.85 *	0.88	0.89
12	0.62	0.73	0.76	0.70	0.74	0.69	0.95	0.95	0.72	0.75	0.89	0.88
All	0.67	0.72 *	0.75	0.80 *	0.73	0.77 *	0.89	0.91	0.79	0.82 *	0.85	0.87 *

Continued on next page

Table C-1—Continued

Region	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
<i>Satisfaction with available information by phone</i>												
3	0.39	0.52 *	0.47	0.65 *	0.39	0.49 *	0.78	0.80	0.58	0.67 *	0.65	0.73 *
4	0.34	0.52 *	0.49	0.66 *	0.36	0.48 *	0.78	0.83	0.58	0.68 *	0.64	0.72 *
6	0.35	0.56 *	0.51	0.67 *	0.38	0.52 *	0.83	0.82	0.58	0.69 *	0.66	0.73 *
9	0.32	0.53 *	0.59	0.62	0.45	0.61 *	0.82	0.84	0.60	0.67 *	0.74	0.77
10	0.35	0.58 *	0.63	0.71	0.44	0.58 *	0.83	0.86	0.67	0.75 *	0.76	0.78
11	0.34	0.54 *	0.54	0.73 *	0.44	0.67 *	0.86	0.88	0.63	0.75 *	0.75	0.82 *
12	0.47	0.62	0.56	0.66	0.46	0.56	0.89	0.88	0.52	0.67 *	0.72	0.75
All	0.36	0.54 *	0.53	0.67 *	0.40	0.54 *	0.81	0.83	0.60	0.69 *	0.69	0.75 *
<i>Satisfaction with care</i>												
3	0.61	0.54 *	0.69	0.70	0.62	0.54 *	0.84	0.87	0.72	0.72	0.77	0.78
4	0.66	0.59	0.72	0.74	0.65	0.59 *	0.90	0.90	0.77	0.75	0.81	0.79
6	0.66	0.56 *	0.63	0.70	0.65	0.62	0.90	0.88	0.74	0.72	0.80	0.80
9	0.59	0.58	0.77	0.71	0.73	0.67	0.88	0.87	0.74	0.71	0.85	0.80 *
10	0.63	0.62	0.79	0.77	0.67	0.66	0.85	0.86	0.77	0.77	0.83	0.81
11	0.60	0.68 *	0.74	0.72	0.67	0.67	0.86	0.89	0.74	0.77	0.81	0.82
12	0.57	0.70	0.76	0.65	0.69	0.58	0.93	0.88	0.68	0.69	0.86	0.81
All	0.63	0.59 *	0.71	0.71	0.66	0.61 *	0.87	0.88	0.74	0.73	0.81	0.80
<i>Satisfaction with choice and continuity of care</i>												
3	0.30	0.35	0.48	0.55 *	0.44	0.42	0.81	0.84	0.59	0.63 *	0.70	0.74 *
4	0.35	0.34	0.51	0.55	0.42	0.38	0.89	0.90	0.64	0.64	0.73	0.74
6	0.33	0.32	0.42	0.49 *	0.42	0.42	0.88	0.85	0.58	0.59	0.70	0.71
9	0.32	0.37	0.56	0.63	0.53	0.54	0.85	0.86	0.60	0.62	0.77	0.77
10	0.33	0.39	0.61	0.62	0.54	0.51	0.85	0.86	0.67	0.68	0.78	0.76
11	0.32	0.36	0.58	0.56	0.48	0.48	0.85	0.85	0.63	0.64	0.75	0.75
12	0.38	0.42	0.45	0.53	0.52	0.43	0.91	0.94	0.50	0.53	0.77	0.78
All	0.32	0.35	0.50	0.55 *	0.46	0.44	0.85	0.86	0.61	0.62 *	0.73	0.74
<i>Satisfaction with convenience of hours</i>												
3	0.62	0.66	0.78	0.80	0.72	0.80 *	0.93	0.92	0.80	0.83 *	0.87	0.89
4	0.58	0.72 *	0.80	0.85 *	0.74	0.84 *	0.92	0.94	0.80	0.86 *	0.86	0.91 *
6	0.61	0.66	0.74	0.84 *	0.70	0.85 *	0.94	0.95	0.78	0.84 *	0.86	0.92 *
9	0.68	0.66	0.81	0.83	0.79	0.86 *	0.94	0.94	0.82	0.81	0.90	0.92
10	0.53	0.69 *	0.81	0.85	0.79	0.79	0.96	0.95	0.84	0.86	0.91	0.91
11	0.64	0.74 *	0.82	0.86	0.77	0.86 *	0.93	0.94	0.82	0.86 *	0.89	0.92
12	0.75	0.73	0.70	0.71	0.80	0.73	0.96	0.95	0.77	0.75	0.89	0.90
All	0.63	0.68 *	0.78	0.83 *	0.74	0.83 *	0.94	0.94	0.80	0.84 *	0.88	0.91 *
<i>Satisfaction with convenience of treatment location</i>												
3	0.78	0.80	0.80	0.84	0.70	0.76 *	0.90	0.90	0.82	0.84 *	0.83	0.86
4	0.76	0.85 *	0.82	0.84	0.64	0.77 *	0.92	0.92	0.81	0.86 *	0.83	0.86 *
6	0.85	0.87	0.80	0.87 *	0.65	0.74 *	0.91	0.89	0.82	0.86 *	0.81	0.85 *
9	0.79	0.83	0.85	0.84	0.76	0.80	0.93	0.94	0.84	0.86	0.88	0.89
10	0.75	0.82	0.79	0.82	0.55	0.64	0.94	0.94	0.81	0.85 *	0.82	0.85 *
11	0.79	0.87 *	0.82	0.89 *	0.72	0.82 *	0.88	0.92 *	0.82	0.89 *	0.83	0.89 *
12	0.85	0.89	0.83	0.83	0.76	0.84	0.95	0.96	0.87	0.87	0.88	0.92 *
All	0.80	0.84 *	0.81	0.85 *	0.68	0.76 *	0.91	0.91	0.82	0.86 *	0.83	0.86 *

Continued on next page

Table C-1—Continued

Region	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
<i>Satisfaction with courtesy of administrative staff</i>												
3	0.65	0.66	0.75	0.77	0.69	0.75 *	0.93	0.92	0.79	0.81	0.86	0.87
4	0.60	0.76 *	0.76	0.81 *	0.76	0.77	0.90	0.93	0.79	0.84 *	0.85	0.89 *
6	0.60	0.69 *	0.73	0.74	0.71	0.79 *	0.95	0.93	0.78	0.81 *	0.88	0.88
9	0.60	0.73 *	0.77	0.78	0.80	0.81	0.94	0.95	0.78	0.82	0.91	0.91
10	0.68	0.75	0.84	0.81	0.77	0.83	0.94	0.95	0.84	0.87	0.90	0.91
11	0.59	0.72 *	0.73	0.80 *	0.73	0.82 *	0.96	0.95	0.79	0.85 *	0.89	0.91
12	0.55	0.68	0.61	0.69	0.67	0.73	0.98	0.94	0.67	0.72	0.86	0.90
All	0.62	0.71 *	0.75	0.77	0.73	0.78 *	0.94	0.93	0.79	0.82 *	0.88	0.89
<i>Satisfaction with courtesy of providers</i>												
3	0.79	0.80	0.81	0.87 *	0.80	0.84	0.94	0.95	0.86	0.88 *	0.91	0.92
4	0.77	0.86 *	0.82	0.90 *	0.86	0.88	0.93	0.97 *	0.87	0.92 *	0.91	0.94 *
6	0.72	0.79 *	0.80	0.86 *	0.83	0.89 *	0.97	0.95	0.86	0.88 *	0.92	0.93
9	0.76	0.83	0.87	0.88	0.88	0.87	0.97	0.98	0.87	0.89	0.95	0.94
10	0.77	0.84	0.88	0.91	0.89	0.88	0.97	0.96	0.91	0.92	0.94	0.94
11	0.73	0.85 *	0.88	0.91	0.85	0.87	0.97	0.97	0.87	0.91 *	0.94	0.94
12	0.69	0.84 *	0.77	0.86	0.80	0.73	0.98	0.95	0.80	0.85	0.94	0.94
All	0.76	0.82 *	0.83	0.88 *	0.84	0.87 *	0.96	0.96	0.87	0.89 *	0.92	0.93
<i>Satisfaction with dental care</i>												
3	0.87	0.86	0.82	0.90 *	0.79	0.86 *	0.81	0.95 *	0.84	0.90 *	0.80	0.92 *
4	0.86	0.87	0.78	0.90 *	0.74	0.90 *	0.86	0.97 *	0.84	0.92 *	0.81	0.93 *
6	0.83	0.85	0.79	0.90 *	0.79	0.91 *	0.85	0.95 *	0.84	0.91 *	0.81	0.93 *
9	0.83	0.81	0.79	0.91 *	0.82	0.88	0.89	0.94 *	0.85	0.88	0.84	0.91 *
10	0.88	0.88	0.75	0.87 *	0.81	0.94 *	0.89	0.96 *	0.87	0.93 *	0.84	0.94 *
11	0.87	0.90	0.85	0.93 *	0.80	0.92 *	0.88	0.96 *	0.86	0.93 *	0.85	0.94 *
12	0.84	0.92	0.78	0.91 *	0.93	0.88	0.90	0.96	0.87	0.92	0.83	0.93 *
All	0.86	0.86	0.80	0.90 *	0.80	0.89 *	0.86	0.95 *	0.85	0.91 *	0.82	0.93 *
<i>Satisfaction with ease of making appointments</i>												
3	0.49	0.55	0.52	0.67 *	0.43	0.44	0.93	0.92	0.67	0.72 *	0.75	0.80 *
4	0.51	0.58	0.47	0.70 *	0.41	0.44	0.95	0.94	0.66	0.73 *	0.73	0.78 *
6	0.36	0.55 *	0.42	0.67 *	0.35	0.43 *	0.95	0.92	0.58	0.70 *	0.69	0.77 *
9	0.49	0.62 *	0.71	0.71	0.67	0.70	0.95	0.94	0.73	0.75	0.87	0.87
10	0.54	0.67 *	0.74	0.76	0.50	0.57	0.93	0.93	0.76	0.80 *	0.83	0.84
11	0.45	0.63 *	0.57	0.76 *	0.40	0.64 *	0.95	0.95	0.67	0.79 *	0.77	0.86 *
12	0.45	0.52	0.53	0.62	0.53	0.51	0.99	0.96	0.57	0.61	0.76	0.78
All	0.47	0.58 *	0.55	0.69 *	0.45	0.51 *	0.94	0.93 *	0.67	0.73 *	0.76	0.80 *
<i>Satisfaction with ease of seeing provider of choice</i>												
3	0.23	0.39 *	0.44	0.58 *	0.39	0.43	0.86	0.86	0.59	0.66 *	0.72	0.76 *
4	0.32	0.37	0.48	0.59 *	0.35	0.40	0.91	0.90	0.62	0.66 *	0.72	0.76 *
6	0.25	0.36 *	0.37	0.52 *	0.38	0.42	0.89	0.86	0.56	0.61 *	0.69	0.73
9	0.26	0.37 *	0.58	0.64	0.51	0.57	0.90	0.88	0.61	0.64	0.79	0.79
10	0.23	0.42 *	0.57	0.67 *	0.49	0.54	0.88	0.88	0.67	0.72 *	0.79	0.79
11	0.29	0.40 *	0.52	0.59	0.42	0.49	0.90	0.86	0.62	0.66 *	0.75	0.76
12	0.26	0.42	0.42	0.53	0.46	0.43	0.94	0.95	0.45	0.53	0.74	0.79
All	0.26	0.38 *	0.47	0.58 *	0.41	0.46 *	0.89	0.87	0.60	0.65 *	0.73	0.76 *

Continued on next page

Table C-1—Continued

Region	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
<i>Satisfaction with health-care-related financial problems</i>												
3	0.67	0.61	0.61	0.65	0.59	0.46 *	0.73	0.73	0.67	0.65	0.69	0.67
4	0.63	0.61	0.61	0.61	0.64	0.46 *	0.74	0.71	0.67	0.63	0.69	0.64 *
6	0.65	0.64	0.54	0.64 *	0.63	0.57	0.75	0.76	0.66	0.68	0.68	0.70
9	0.66	0.71	0.71	0.66	0.77	0.63 *	0.80	0.82	0.74	0.72	0.79	0.75
10	0.70	0.72	0.66	0.66	0.69	0.59	0.80	0.78	0.74	0.72	0.76	0.72
11	0.64	0.68	0.62	0.68	0.58	0.56	0.77	0.78	0.69	0.71	0.71	0.71
12	0.65	0.73	0.86	0.71 *	0.76	0.64	0.86	0.89	0.77	0.74	0.81	0.80
All	0.66	0.66	0.63	0.65	0.65	0.54 *	0.76	0.76	0.69	0.68	0.71	0.69
<i>Satisfaction with interpersonal concern of providers</i>												
3	0.48	0.55 *	0.61	0.69 *	0.57	0.62	0.83	0.84	0.66	0.72 *	0.75	0.79 *
4	0.50	0.59 *	0.61	0.70 *	0.62	0.67	0.82	0.89 *	0.68	0.75 *	0.75	0.81 *
6	0.52	0.54	0.60	0.67 *	0.59	0.68 *	0.90	0.86	0.69	0.71	0.78	0.80
9	0.50	0.62 *	0.62	0.66	0.71	0.70	0.85	0.87	0.68	0.71	0.80	0.81
10	0.52	0.63	0.66	0.72	0.69	0.70	0.85	0.86	0.73	0.76	0.80	0.81
11	0.46	0.61 *	0.66	0.74 *	0.62	0.71 *	0.86	0.89	0.69	0.77 *	0.80	0.84 *
12	0.46	0.55	0.56	0.59	0.63	0.66	0.90	0.89	0.59	0.62	0.82	0.83
All	0.50	0.58 *	0.62	0.69 *	0.62	0.67 *	0.85	0.86	0.68	0.72 *	0.78	0.81 *
<i>Satisfaction with medical financial hardship protection</i>												
3	0.63	0.60	0.61	0.64	0.65	0.54 *	0.75	0.71	0.69	0.65 *	0.71	0.66 *
4	0.65	0.59	0.62	0.59	0.67	0.54 *	0.70	0.74	0.67	0.65	0.67	0.67
6	0.66	0.67	0.59	0.66	0.65	0.59	0.77	0.75	0.68	0.69	0.71	0.69
9	0.72	0.77	0.73	0.65	0.79	0.61 *	0.80	0.80	0.77	0.73	0.78	0.73 *
10	0.78	0.72	0.68	0.64	0.74	0.58 *	0.77	0.78	0.74	0.71	0.76	0.72
11	0.62	0.74 *	0.64	0.70	0.68	0.62	0.78	0.78	0.72	0.73	0.74	0.73
12	0.68	0.68	0.76	0.69	0.83	0.64 *	0.85	0.87	0.78	0.71	0.80	0.75
All	0.68	0.68	0.64	0.65	0.69	0.57 *	0.76	0.75	0.71	0.68 *	0.72	0.69 *
<i>Satisfaction with outcome of health care</i>												
3	0.69	0.68	0.78	0.81	0.74	0.73	0.89	0.90	0.81	0.81	0.85	0.86
4	0.71	0.75	0.79	0.81	0.75	0.77	0.92	0.93	0.82	0.84	0.86	0.87
6	0.68	0.70	0.74	0.80 *	0.75	0.81 *	0.94	0.93	0.80	0.83 *	0.86	0.89
9	0.65	0.74	0.85	0.82	0.80	0.78	0.93	0.93	0.81	0.82	0.90	0.89
10	0.72	0.77	0.81	0.82	0.84	0.72 *	0.90	0.92	0.85	0.85	0.89	0.87
11	0.64	0.76 *	0.83	0.84	0.77	0.80	0.92	0.93	0.81	0.85 *	0.89	0.90
12	0.56	0.66	0.72	0.79	0.73	0.70	0.96	0.97	0.70	0.75	0.89	0.90
All	0.68	0.72 *	0.79	0.81 *	0.76	0.77	0.92	0.92	0.81	0.82 *	0.87	0.88
<i>Satisfaction with overall quality of health care</i>												
3	0.66	0.67	0.78	0.82	0.71	0.73	0.91	0.93	0.80	0.82 *	0.86	0.88 *
4	0.69	0.76 *	0.76	0.82 *	0.73	0.76	0.92	0.95	0.81	0.85 *	0.85	0.88 *
6	0.68	0.71	0.68	0.81 *	0.71	0.81 *	0.95	0.93	0.78	0.83 *	0.85	0.89 *
9	0.66	0.74	0.84	0.81	0.83	0.78	0.94	0.96	0.83	0.83	0.91	0.90
10	0.61	0.77 *	0.82	0.86	0.82	0.76	0.92	0.94	0.84	0.87 *	0.89	0.90
11	0.67	0.78 *	0.82	0.86	0.77	0.85 *	0.93	0.96	0.82	0.88 *	0.89	0.93 *
12	0.57	0.76 *	0.75	0.76	0.76	0.74	0.98	0.96	0.72	0.78	0.90	0.90
All	0.67	0.72 *	0.77	0.82 *	0.75	0.78 *	0.93	0.94	0.81	0.84 *	0.87	0.89 *

Continued on next page

Table C-1—Continued

Region	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
<i>Satisfaction with prescription services available</i>												
3	0.76	0.79	0.85	0.82	0.80	0.84	0.92	0.93	0.85	0.86	0.89	0.90
4	0.79	0.83	0.86	0.87	0.83	0.85	0.93	0.93	0.87	0.88	0.89	0.90
6	0.76	0.81	0.80	0.87 *	0.80	0.88 *	0.90	0.91	0.82	0.87 *	0.86	0.90 *
9	0.73	0.81	0.84	0.84	0.84	0.88	0.95	0.93	0.85	0.86	0.91	0.91
10	0.79	0.87 *	0.81	0.85	0.81	0.82	0.92	0.94	0.86	0.89	0.88	0.90
11	0.74	0.82 *	0.83	0.85	0.73	0.82 *	0.95	0.93	0.84	0.87 *	0.90	0.90
12	0.86	0.88	0.78	0.89 *	0.93	0.85	0.95	0.96	0.88	0.89	0.91	0.92
All	0.76	0.82 *	0.83	0.85 *	0.81	0.85 *	0.92	0.93	0.85	0.87 *	0.89	0.90 *
<i>Satisfaction with provider concern for privacy</i>												
3	0.80	0.83	0.83	0.87 *	0.81	0.82	0.95	0.95	0.87	0.89	0.92	0.91
4	0.77	0.83	0.82	0.89 *	0.85	0.86	0.93	0.96	0.87	0.90 *	0.90	0.93 *
6	0.75	0.80	0.81	0.87 *	0.82	0.89 *	0.95	0.96	0.86	0.89 *	0.90	0.93
9	0.75	0.81	0.82	0.87	0.86	0.90	0.96	0.96	0.86	0.88	0.93	0.94
10	0.80	0.82	0.91	0.92	0.84	0.87	0.97	0.96	0.91	0.92	0.95	0.94
11	0.71	0.84 *	0.88	0.93 *	0.82	0.88	0.95	0.95	0.86	0.91 *	0.93	0.94
12	0.69	0.79	0.79	0.80	0.86	0.83	0.98	0.97	0.79	0.82	0.91	0.92
All	0.77	0.81 *	0.83	0.88 *	0.83	0.87 *	0.95	0.96	0.87	0.89 *	0.92	0.93 *
<i>Satisfaction with provider explanation of medical tests</i>												
3	0.69	0.71	0.75	0.81 *	0.73	0.72	0.87	0.90	0.79	0.82 *	0.84	0.86 *
4	0.62	0.73 *	0.75	0.80 *	0.74	0.78	0.90	0.94 *	0.80	0.84 *	0.84	0.88 *
6	0.64	0.71 *	0.75	0.80	0.74	0.78	0.93	0.90	0.79	0.82	0.86	0.87
9	0.65	0.71	0.79	0.79	0.79	0.78	0.90	0.92	0.79	0.80	0.88	0.88
10	0.68	0.75	0.76	0.82	0.84	0.81	0.88	0.92	0.83	0.85	0.87	0.88
11	0.63	0.81 *	0.83	0.84	0.77	0.81	0.91	0.92	0.82	0.86 *	0.88	0.89
12	0.61	0.75	0.71	0.77	0.73	0.71	0.95	0.95	0.72	0.78	0.88	0.90
All	0.66	0.72 *	0.77	0.81 *	0.76	0.77	0.90	0.91	0.80	0.82 *	0.86	0.87 *
<i>Satisfaction with provider explanation of procedures</i>												
3	0.70	0.72	0.76	0.82 *	0.74	0.73	0.87	0.90	0.79	0.82 *	0.83	0.86 *
4	0.67	0.76 *	0.77	0.83 *	0.75	0.79	0.91	0.93	0.81	0.85 *	0.85	0.88 *
6	0.70	0.73	0.75	0.80 *	0.75	0.78	0.94	0.90 *	0.81	0.82	0.87	0.86
9	0.64	0.72	0.81	0.79	0.82	0.80	0.93	0.94	0.81	0.82	0.90	0.89
10	0.74	0.77	0.77	0.84 *	0.85	0.80	0.89	0.93 *	0.84	0.86	0.88	0.89
11	0.66	0.77 *	0.83	0.85	0.76	0.82	0.93	0.93	0.83	0.86 *	0.90	0.90
12	0.66	0.72	0.75	0.80	0.75	0.75	0.95	0.94	0.75	0.78	0.89	0.89
All	0.68	0.73 *	0.78	0.82 *	0.77	0.78	0.91	0.92	0.81	0.83 *	0.87	0.88
<i>Satisfaction with provider interest in outcomes</i>												
3	0.54	0.62 *	0.64	0.71 *	0.60	0.64	0.85	0.88	0.70	0.76 *	0.78	0.82 *
4	0.51	0.64 *	0.64	0.73 *	0.65	0.70	0.89	0.91	0.73	0.78 *	0.80	0.84 *
6	0.55	0.61 *	0.58	0.72 *	0.60	0.70 *	0.92	0.88	0.70	0.75 *	0.79	0.82
9	0.52	0.61	0.68	0.71	0.68	0.65	0.87	0.91 *	0.70	0.73	0.83	0.84
10	0.48	0.64 *	0.67	0.77 *	0.70	0.72	0.89	0.88	0.75	0.80 *	0.82	0.83
11	0.49	0.67 *	0.70	0.76 *	0.65	0.73 *	0.87	0.91	0.72	0.80 *	0.83	0.86
12	0.54	0.61	0.61	0.64	0.67	0.65	0.95	0.92	0.65	0.66	0.85	0.85
All	0.53	0.62 *	0.64	0.72 *	0.63	0.68 *	0.88	0.89	0.71	0.76 *	0.80	0.83 *

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Table C-1—Continued

Region	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
<i>Satisfaction with provider personal concern (for patient)</i>												
3	0.67	0.71	0.72	0.80 *	0.69	0.73	0.89	0.91	0.78	0.82 *	0.84	0.87 *
4	0.69	0.76 *	0.74	0.80 *	0.76	0.78	0.89	0.94 *	0.80	0.85 *	0.84	0.88 *
6	0.64	0.70 *	0.71	0.80 *	0.71	0.80 *	0.93	0.92	0.77	0.82 *	0.85	0.88 *
9	0.68	0.74	0.79	0.80	0.79	0.76	0.92	0.93	0.79	0.81	0.89	0.88
10	0.72	0.78	0.78	0.84	0.80	0.80	0.93	0.92	0.84	0.86	0.89	0.89
11	0.65	0.76 *	0.79	0.85 *	0.76	0.79	0.90	0.94	0.80	0.86 *	0.87	0.90 *
12	0.62	0.73	0.77	0.73	0.81	0.70	0.98	0.93	0.74	0.75	0.90	0.90
All	0.67	0.73 *	0.74	0.80 *	0.74	0.77 *	0.91	0.92	0.79	0.83 *	0.86	0.88 *
<i>Satisfaction with provider reassurance and support</i>												
3	0.69	0.70	0.74	0.79 *	0.70	0.68	0.89	0.90	0.79	0.81 *	0.84	0.86
4	0.71	0.73	0.74	0.79 *	0.72	0.73	0.90	0.93 *	0.80	0.83 *	0.83	0.87 *
6	0.64	0.69	0.68	0.77 *	0.73	0.76	0.93	0.90	0.78	0.80 *	0.85	0.86
9	0.63	0.73	0.76	0.76	0.75	0.78	0.91	0.93	0.78	0.81	0.88	0.88
10	0.68	0.73	0.75	0.83 *	0.83	0.75 *	0.91	0.92	0.83	0.84	0.88	0.87
11	0.61	0.76 *	0.79	0.82	0.72	0.79 *	0.92	0.92	0.80	0.85 *	0.88	0.89
12	0.64	0.70	0.73	0.72	0.71	0.69	0.96	0.92	0.73	0.73	0.90	0.89
All	0.67	0.71 *	0.74	0.79 *	0.73	0.74	0.91	0.91	0.79	0.81 *	0.86	0.87 *
<i>Satisfaction with thoroughness of exam</i>												
3	0.66	0.71	0.75	0.81 *	0.67	0.71	0.90	0.92	0.78	0.82 *	0.83	0.87 *
4	0.67	0.77 *	0.77	0.82 *	0.75	0.80	0.91	0.95 *	0.81	0.86 *	0.85	0.89 *
6	0.66	0.68	0.72	0.80 *	0.71	0.80 *	0.94	0.93	0.79	0.82 *	0.85	0.89 *
9	0.61	0.71	0.77	0.77	0.74	0.78	0.91	0.93	0.76	0.80	0.87	0.88
10	0.72	0.82 *	0.79	0.83	0.82	0.81	0.90	0.93	0.83	0.87 *	0.88	0.89
11	0.65	0.79 *	0.81	0.85 *	0.73	0.78	0.92	0.93	0.81	0.86 *	0.88	0.90
12	0.62	0.70	0.70	0.77	0.75	0.77	0.95	0.96	0.71	0.77	0.86	0.90
All	0.65	0.72 *	0.76	0.81 *	0.72	0.77 *	0.91	0.93 *	0.79	0.83 *	0.86	0.89 *
<i>Satisfaction with thoroughness of treatment</i>												
3	0.67	0.66	0.77	0.80	0.71	0.72	0.90	0.92	0.79	0.81	0.85	0.87
4	0.71	0.75	0.77	0.81	0.74	0.78	0.93	0.95	0.82	0.85 *	0.86	0.88
6	0.67	0.68	0.75	0.81 *	0.74	0.80	0.94	0.93	0.80	0.82 *	0.87	0.89
9	0.61	0.69	0.84	0.78	0.80	0.76	0.93	0.94	0.80	0.80	0.90	0.88
10	0.70	0.76	0.82	0.84	0.83	0.82	0.92	0.94	0.85	0.87	0.90	0.90
11	0.69	0.77 *	0.83	0.85	0.76	0.82	0.94	0.93	0.83	0.86 *	0.90	0.91
12	0.56	0.71 *	0.79	0.79	0.71	0.77	0.96	0.96	0.71	0.77	0.89	0.91
All	0.66	0.70 *	0.79	0.81	0.75	0.77 *	0.93	0.93	0.81	0.83 *	0.87	0.89
<i>Satisfaction with time from making to having appointment</i>												
3	0.50	0.59 *	0.55	0.71 *	0.47	0.53 *	0.88	0.87	0.67	0.73 *	0.73	0.80 *
4	0.51	0.69 *	0.60	0.73 *	0.52	0.59 *	0.89	0.89	0.69	0.76 *	0.75	0.79 *
6	0.46	0.57 *	0.49	0.69 *	0.44	0.52 *	0.89	0.87	0.62	0.71 *	0.70	0.76 *
9	0.53	0.65 *	0.74	0.72	0.67	0.74	0.92	0.89	0.74	0.75	0.84	0.83
10	0.55	0.68 *	0.73	0.75	0.55	0.63	0.90	0.88	0.75	0.78 *	0.81	0.82
11	0.55	0.60	0.64	0.75 *	0.52	0.65 *	0.87	0.89	0.69	0.77 *	0.77	0.82 *
12	0.50	0.66	0.63	0.61	0.56	0.59	0.96	0.92	0.60	0.67	0.79	0.77
All	0.51	0.62 *	0.61	0.71 *	0.51	0.59 *	0.89	0.88	0.68	0.74 *	0.76	0.80 *

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Table C-1—Continued

Region	Active Duty		Prime		MTF/SA		Civilian		Total		Retired	
	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97	FY94	FY97
<i>Satisfaction with time with provider</i>												
3	0.62	0.67	0.67	0.73 *	0.67	0.69	0.84	0.86	0.73	0.77 *	0.80	0.82
4	0.61	0.68 *	0.66	0.77 *	0.68	0.74 *	0.85	0.91 *	0.74	0.80 *	0.79	0.85 *
6	0.62	0.65	0.67	0.75 *	0.65	0.74 *	0.91	0.88	0.74	0.77 *	0.82	0.84
9	0.53	0.67 *	0.73	0.70	0.73	0.71	0.86	0.89	0.72	0.75	0.84	0.83
10	0.61	0.76 *	0.71	0.75	0.75	0.76	0.87	0.85	0.77	0.80	0.83	0.82
11	0.59	0.67	0.73	0.79 *	0.70	0.77 *	0.89	0.92	0.76	0.81 *	0.84	0.88 *
12	0.64	0.66	0.63	0.66	0.70	0.67	0.93	0.92	0.69	0.70	0.87	0.86
All	0.60	0.67 *	0.69	0.74 *	0.69	0.72 *	0.87	0.88	0.74	0.78 *	0.82	0.84 *
<i>Satisfaction with wait time in office</i>												
3	0.46	0.51	0.57	0.67 *	0.48	0.59 *	0.82	0.80	0.63	0.68 *	0.71	0.76 *
4	0.46	0.62 *	0.59	0.70 *	0.56	0.63 *	0.82	0.81	0.65	0.72 *	0.72	0.76 *
6	0.43	0.51 *	0.54	0.68 *	0.53	0.62 *	0.83	0.81	0.61	0.68 *	0.71	0.75 *
9	0.44	0.60 *	0.62	0.61	0.57	0.62	0.86	0.87	0.64	0.68	0.79	0.79
10	0.48	0.66 *	0.66	0.66	0.56	0.65 *	0.86	0.86	0.70	0.74 *	0.79	0.78
11	0.41	0.57 *	0.64	0.74 *	0.56	0.66 *	0.88	0.90	0.67	0.76 *	0.79	0.84 *
12	0.43	0.53	0.50	0.59	0.54	0.68	0.92	0.84 *	0.54	0.61	0.78	0.75
All	0.44	0.56 *	0.59	0.67 *	0.53	0.62 *	0.84	0.83	0.64	0.70 *	0.74	0.77 *
<i>Times visited dentist past 12 months</i>												
3	2.13	2.16	2.14	2.40 *	2.34	2.37	2.58	2.47	2.31	2.36	2.42	2.42
4	2.17	2.10	2.20	2.22	2.40	2.38	2.33	2.39	2.25	2.28	2.33	2.34
6	2.20	2.12	2.28	2.34	2.31	2.53	2.32	2.46	2.23	2.35 *	2.28	2.46 *
9	2.18	1.99	2.29	2.25	2.33	2.41	2.53	2.58	2.35	2.27	2.49	2.44
10	2.12	2.05	2.09	2.41 *	2.31	2.38	2.69	2.71	2.41	2.45	2.48	2.58
11	2.29	2.28	2.20	2.45	2.37	2.19	2.46	2.41	2.29	2.34	2.32	2.34
12	2.08	2.42	2.22	2.38	2.49	2.46	2.51	2.37	2.13	2.40 *	2.40	2.48
All	2.18	2.13	2.22	2.34 *	2.35	2.40	2.47	2.48	2.29	2.34 *	2.38	2.43

APPENDIX D: EFFECT OF PCM TYPE ON PERCEPTIONS OF PRIME ENROLLEES BY TRICARE REGION

Tables D-1 and D-2 contrast the responses of Prime enrollees to survey items by region, with the focus on the effects of having a military vs. a civilian provider and whether the enrollee was able to choose the provider. Entries marked with an asterisk (*) indicate a statistically significant change ($p < 0.05$).

In general, the results indicate that those who were able to choose their PCM were more satisfied with most aspects of the health care they received under Prime and were more knowledgeable about TRICARE in general. Those with military providers tended to have higher levels of satisfaction than those with civilian providers. The pattern of results is consistent across regions. The data come from the 1997 DoD Beneficiary survey.

Table D-1. Effect of PCM Type and Ability to Choose PCM on Prime Enrollee Perceptions

Measure	Region	PCM			
		Type		Choose	
		Civ.	Mil.	No	Yes
<i>Access to health care if needed</i>	3	0.67	0.68	0.62	0.72 *
	4	0.72	0.68	0.65	0.73 *
	6	0.70	0.71	0.69	0.74 *
	9	0.76	0.78	0.71	0.79 *
	10	0.70	0.78	0.69	0.77 *
	11	0.77	0.76	0.72	0.80 *
	12	0.48	0.73 *	0.66	0.77
	All	0.71	0.72	0.67	0.75 *
<i>Confused about costs under Prime</i>	3	0.49	0.41	0.47	0.39 *
	4	0.40	0.41	0.44	0.39
	6	0.39	0.34	0.39	0.30
	9	0.55	0.35 *	0.39	0.43
	10	0.45	0.38	0.43	0.41 *
	11	0.23	0.34 *	0.34	0.28 *
	12	0.65	0.34 *	0.47	0.27 *
	All	0.44	0.37 *	0.42	0.36 *
<i>Ease of making appointments</i>	3	0.64	0.61	0.57	0.66 *
	4	0.74	0.64	0.65	0.69
	6	0.68	0.61	0.58	0.67 *
	9	0.72	0.67	0.70	0.68 *
	10	0.77	0.73	0.74	0.75
	11	0.73	0.70	0.66	0.75 *
	12	0.50	0.56	0.51	0.60
	All	0.69	0.64 *	0.61	0.68 *

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Table D-1—Continued

Measure	Region	PCM			
		Type		Choose	
		Civ.	Mil.	No	Yes
<i>Felt Prime enrollment would improve access to care</i>					
	3	0.63	0.71	0.62	0.75
	4	0.62	0.68	0.60	0.70
	6	0.66	0.71	0.63	0.77
	9	0.82	0.78	0.72	0.83
	10	0.71	0.82	0.72	0.79 *
	11	0.72	0.78	0.70	0.81 *
	12	0.60	0.79	0.67	0.89 *
	All	0.68	0.73 *	0.64	0.78 *
<i>Felt Prime enrollment would result in better preventive care</i>					
	3	0.64	0.68	0.58	0.73
	4	0.63	0.62	0.58	0.66
	6	0.64	0.66	0.58	0.73 *
	9	0.73	0.74	0.63	0.78
	10	0.66	0.79	0.67	0.74
	11	0.64	0.72	0.61	0.76
	12	0.58	0.72	0.61	0.83
	All	0.64	0.69	0.59	0.74 *
<i>Had clear information on Prime enrollment process</i>					
	3	0.65	0.69	0.63	0.73 *
	4	0.64	0.70	0.66	0.70 *
	6	0.72	0.67	0.65	0.72 *
	9	0.60	0.72 *	0.66	0.69 *
	10	0.72	0.70	0.59	0.76
	11	0.65	0.68	0.61	0.72 *
	12	0.39	0.73 *	0.59	0.83 *
	All	0.65	0.70 *	0.63	0.72 *
<i>Know exactly how to make appointment</i>					
	3	0.84	0.86	0.82	0.89
	4	0.81	0.83	0.82	0.83
	6	0.86	0.85	0.82	0.90
	9	0.83	0.86	0.79	0.88
	10	0.89	0.82	0.73	0.90
	11	0.88	0.95 *	0.89	0.95 *
	12	0.82	0.85	0.79	0.91
	All	0.85	0.86	0.82	0.89
<i>Know how to use the health care finder</i>					
	3	0.67	0.63	0.54	0.71
	4	0.72	0.59 *	0.54	0.69 *
	6	0.60	0.60	0.55	0.66 *
	9	0.65	0.69	0.57	0.71
	10	0.69	0.61	0.58	0.67 *
	11	0.65	0.67	0.57	0.75 *
	12	0.42	0.59	0.46	0.70
	All	0.65	0.62	0.55	0.70 *

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Table D-1—Continued

Measure	Region	PCM			
		Type		Choose	
		Civ.	Mil.	No	Yes
<i>Need more information about Prime</i>					
	3	0.64	0.60	0.64	0.57 *
	4	0.66	0.59	0.66	0.57
	6	0.57	0.57	0.63	0.49 *
	9	0.60	0.60	0.66	0.58
	10	0.54	0.57	0.65	0.51 *
	11	0.50	0.46	0.55	0.41 *
	12	0.69	0.60	0.68	0.53 *
	All	0.60	0.57	0.64	0.54 *
<i>Outcome of your health care</i>					
	3	0.81	0.75	0.70	0.82 *
	4	0.77	0.77	0.73	0.81 *
	6	0.74	0.79	0.78	0.78 *
	9	0.81	0.80	0.79	0.81 *
	10	0.83	0.82	0.77	0.85
	11	0.80	0.82	0.78	0.86 *
	12	0.62	0.73	0.59	0.87
	All	0.78	0.78	0.74	0.82 *
<i>Overall quality of care</i>					
	3	0.77	0.77	0.72	0.83 *
	4	0.83	0.77	0.77	0.80 *
	6	0.73	0.81 *	0.79	0.79 *
	9	0.80	0.81	0.81	0.81 *
	10	0.84	0.85	0.78	0.87
	11	0.82	0.85	0.81	0.87 *
	12	0.71	0.77	0.67	0.88 *
	All	0.78	0.80	0.76	0.82 *
<i>Prime will make it easier to get advice over telephone</i>					
	3	0.55	0.63	0.56	0.66
	4	0.54	0.66 *	0.60	0.66 *
	6	0.66	0.71	0.65	0.75
	9	0.79	0.60 *	0.70	0.67
	10	0.60	0.63	0.48	0.67 *
	11	0.57	0.73 *	0.57	0.77 *
	12	0.50	0.66	0.55	0.73
	All	0.63	0.67	0.60	0.70 *
<i>Quality of my health care has improved under Prime</i>					
	3	0.43	0.49	0.33	0.58
	4	0.39	0.42	0.31	0.48
	6	0.45	0.48	0.35	0.57
	9	0.65	0.60	0.43	0.68
	10	0.57	0.56	0.36	0.64
	11	0.49	0.55	0.43	0.61
	12	0.37	0.50	0.39	0.65 *
	All	0.48	0.50	0.36	0.59 *

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Table D-1—Continued

Measure	Region	PCM			
		Type		Choose	
		Civ.	Mil.	No	Yes
<i>Recommend Prime to a friend</i>					
	3	0.69	0.73	0.61	0.82
	4	0.64	0.73	0.63	0.77 *
	6	0.69	0.74	0.67	0.80 *
	9	0.84	0.83	0.67	0.89
	10	0.77	0.86	0.69	0.86
	11	0.74	0.79	0.68	0.84
	12	0.63	0.78	0.64	0.88 *
	All	0.72	0.76 *	0.65	0.83 *
<i>Satisfied with care under Prime</i>					
	3	0.72	0.81 *	0.69	0.87 *
	4	0.75	0.78	0.69	0.83 *
	6	0.76	0.79	0.77	0.79 *
	9	0.85	0.84	0.70	0.89 *
	10	0.81	0.84	0.76	0.84
	11	0.80	0.83	0.76	0.87
	12	0.61	0.83 *	0.66	0.94 *
	All	0.76	0.81 *	0.72	0.85 *
<i>Satisfied with choice of providers under Prime</i>					
	3	0.62	0.71 *	0.55	0.79
	4	0.62	0.68	0.54	0.74 *
	6	0.66	0.69	0.59	0.75 *
	9	0.73	0.82	0.67	0.81
	10	0.75	0.72	0.57	0.79
	11	0.66	0.80 *	0.63	0.82
	12	0.53	0.76	0.65	0.80
	All	0.66	0.73 *	0.58	0.78 *
<i>Satisfied with promptness of bill payment</i>					
	3	0.62	0.50 *	0.49	0.57
	4	0.44	0.46	0.38	0.50
	6	0.55	0.52	0.50	0.56 *
	9	0.69	0.57	0.52	0.67
	10	0.54	0.62	0.56	0.58
	11	0.74	0.53 *	0.63	0.62
	12	0.49	0.55	0.42	0.64 *
	All	0.59	0.52 *	0.49	0.58
<i>Under Prime can see same provider on each visit</i>					
	3	0.80	0.66 *	0.57	0.78
	4	0.84	0.70 *	0.66	0.80
	6	0.88	0.61 *	0.64	0.71
	9	0.97	0.72 *	0.79	0.86
	10	0.94	0.78 *	0.80	0.89
	11	0.80	0.69 *	0.63	0.80 *
	12	0.59	0.68	0.60	0.72
	All	0.87	0.68 *	0.65	0.79 *

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Table D-1—Continued

Measure	Region	PCM			
		Type		Choose	
		Civ.	Mil.	No	Yes
<i>Under Prime it will be harder to see a specialist</i>					
	3	0.52	0.40 *	0.51	0.37
	4	0.53	0.47	0.57	0.43
	6	0.48	0.42	0.45	0.42 *
	9	0.46	0.32	0.37	0.38
	10	0.45	0.29 *	0.40	0.37 *
	11	0.48	0.33 *	0.44	0.32 *
	12	0.51	0.36	0.43	0.32
	All	0.50	0.39 *	0.48	0.38 *
<i>Understand difference between TRICARE options</i>					
	3	0.66	0.73	0.66	0.75 *
	4	0.66	0.74	0.69	0.74 *
	6	0.75	0.71	0.69	0.76 *
	9	0.65	0.74	0.68	0.72
	10	0.76	0.74	0.60	0.82
	11	0.71	0.73	0.65	0.79 *
	12	0.41	0.77 *	0.60	0.88 *
	All	0.68	0.73 *	0.66	0.76 *
<i>Will have to use more of own money under Prime</i>					
	3	0.54	0.42 *	0.48	0.42
	4	0.59	0.49	0.56	0.48
	6	0.60	0.45 *	0.48	0.50
	9	0.63	0.36 *	0.64	0.42
	10	0.53	0.51	0.55	0.51
	11	0.56	0.34 *	0.46	0.37 *
	12	0.62	0.36	0.50	0.22
	All	0.59	0.42 *	0.52	0.44 *

Table D-2. Additional Measures: Effect of PCM Type on Prime Enrollee Perceptions

Measure	Type PCM		Choose PCM	
	Military	Civilian	No	Yes
Appointment gap (days)	6.66	7.15	7.62	6.13 *
BP check past 12 months	0.92	0.92	0.91	0.93 *
Did not use MTF due to difficulty in getting appointment	0.16	0.25 *	0.28	0.20 *
ER use past 12 months	0.29	0.21 *	0.27	0.26
Immunized past 12 months	0.53	0.50	0.54	0.51 *
Mammogram past 12 months (50+)	0.77	0.68 *	0.69	0.74
Mammogram past 12 months (age 40+)	0.67	0.59 *	0.59	0.66 *
Minutes waited in office	25.72	24.61	26.42	24.61 *
Number of calls to get appointment	4.03	3.38 *	3.94	3.80
Physical exam past 12 months	0.53	0.58 *	0.52	0.57 *
Prenatal care first trimester	0.90	0.91	0.88	0.91
Received wellness advice past 12 months	0.55	0.54	0.53	0.56
Satisfaction with ability to choose provider	0.54	0.52	0.41	0.63 *
Satisfaction with ability to diagnose	0.74	0.78 *	0.72	0.78 *
Satisfaction with access to care	0.76	0.75	0.73	0.78 *
Satisfaction with access to care if needed	0.72	0.71	0.67	0.76 *
Satisfaction with access to hospital care	0.80	0.78	0.77	0.81 *
Satisfaction with access to specialists	0.57	0.58	0.52	0.62 *
Satisfaction with advice to avoid illness	0.77	0.78	0.75	0.79 *
Satisfaction with appointment (scale)	0.53	0.55	0.49	0.57 *
Satisfaction with attention given by provider	0.77	0.78	0.74	0.80 *
Satisfaction with available information by phone	0.65	0.63	0.60	0.68 *
Satisfaction with care	0.81	0.76 *	0.75	0.84 *
Satisfaction with choice and continuity of care	0.48	0.49	0.37	0.57 *
Satisfaction with convenience of hours	0.78	0.81	0.77	0.80 *
Satisfaction with convenience of treatment location	0.86	0.85	0.87	0.84
Satisfaction with courtesy of admin staff	0.75	0.74	0.73	0.76 *
Satisfaction with courtesy of providers	0.87	0.84	0.84	0.88 *
Satisfaction with dental care	0.90	0.89	0.87	0.91 *
Satisfaction with ease of making appointments	0.64	0.70 *	0.62	0.68 *
Satisfaction with ease of seeing provider of choice	0.51	0.52	0.40	0.60 *

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Table D-2—Continued

Measure	Type PCM		Choose PCM	
	Military	Civilian	No	Yes
Satisfaction with finances (scale)	0.41	0.37	0.37	0.42 *
Satisfaction with health-care-related financial problems	0.66	0.61 *	0.61	0.68 *
Satisfaction with interpersonal concern of providers	0.65	0.64	0.60	0.69 *
Satisfaction with medical financial hardship protection	0.66	0.63	0.61	0.68 *
Satisfaction with outcome of health care	0.78	0.78	0.74	0.81 *
Satisfaction with overall quality of health care	0.80	0.78	0.76	0.82 *
Satisfaction with prescription services available	0.85	0.83	0.84	0.85
Satisfaction with provider concern for privacy	0.87	0.85	0.85	0.87
Satisfaction with provider explanation of medical tests	0.79	0.77	0.75	0.81 *
Satisfaction with provider explanation of procedures	0.81	0.77	0.77	0.82 *
Satisfaction with provider interest in outcomes	0.69	0.70	0.65	0.73 *
Satisfaction with provider personal concern (for patient)	0.78	0.77	0.75	0.81 *
Satisfaction with provider reassurance and support	0.77	0.75	0.73	0.79 *
Satisfaction with resources (scale)	0.62	0.61	0.58	0.65 *
Satisfaction with skill of provider (scale)	0.81	0.81	0.79	0.83 *
Satisfaction with technical aspects of care (scale)	0.68	0.67	0.63	0.72 *
Satisfaction with thoroughness of exam	0.78	0.77	0.75	0.80 *
Satisfaction with thoroughness of treatment	0.77	0.78	0.74	0.81 *
Satisfaction with time from making to having appointment	0.69	0.67	0.65	0.72 *
Satisfaction with time with provider	0.71	0.72	0.69	0.74 *
Satisfaction with wait time in office	0.65	0.61 *	0.61	0.67 *
Times visited dentist past 12 months	2.30	2.27	2.31	2.28

APPENDIX E: REGIONAL QUALITY-OF-CARE INDICATORS

Table E-1 shows quality-of-care measures for the 1997 population, broken down by TRICARE region, source of care, and retirement status. Note that retirees are also included in the Prime, MTF/SA, and Civilian source of care groups.

Table E-1. Quality-of-Care Measures¹

Measure	Region	AD	Prime	MTF/SA	Civilian	Total	Retired
<i>Blood pressure check past 24 months</i>							
	3	0.97	0.96	0.97	0.98	0.96	0.96
	4	0.98	0.97	0.98	0.99	0.96	0.96
	6	0.98	0.96	0.98	0.99	0.97	0.96
	9	0.98	0.97	0.98	0.99	0.97	0.97
	10	0.96	0.97	0.98	0.98	0.96	0.96
	11	0.98	0.96	0.99	0.98	0.96	0.96
	12	0.95	0.97	0.95	0.99	0.95	0.95
	All	0.98	0.97	0.98	0.99	0.97	0.96
<i>Chew tobacco (age 18-24)</i>							
	3	0.24	0.00	0.06	0.05	0.13	0.04
	4	0.17	0.08	0.03	n/a	0.10	0.07
	6	0.24	0.06	0.01	0.01	0.13	0.06
	9	0.23	0.00	0.01	n/a	0.14	0.00
	10	0.15	0.00	n/a	n/a	0.07	n/a
	11	0.23	0.06	n/a	n/a	0.14	0.13
	12	n/a	n/a	n/a	n/a	0.12	n/a
	All	0.23	0.03	0.03	0.03	0.13	0.05
<i>Cholesterol screening past 60 months</i>							
	3	0.80	0.80	0.82	0.91	0.84	0.89
	4	0.81	0.78	0.84	0.91	0.83	0.87
	6	0.77	0.78	0.83	0.92	0.82	0.88
	9	0.69	0.74	0.78	0.92	0.78	0.88
	10	0.82	0.79	0.81	0.90	0.83	0.87
	11	0.81	0.75	0.81	0.90	0.81	0.86
	12	0.87	0.69	0.69	0.91	0.79	0.84
	All	0.78	0.77	0.82	0.91	0.82	0.88
<i>Days wait to see provider (chronic condition)</i>							
	3	9.12	8.08	12.73	7.81	8.71	8.95
	4	7.99	8.89	13.32	6.65	8.40	8.58
	6	12.47	8.64	20.23	6.59	10.14	9.89
	9	10.54	7.60	10.68	6.71	8.57	8.48
	10	8.06	8.38	9.82	7.22	7.96	7.99
	11	9.65	9.08	14.72	6.73	8.80	8.89
	12	8.38	9.35	10.42	6.75	8.73	9.26
	All	10.00	8.44	14.29	7.02	8.93	8.97

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¹ Measures are proportions unless otherwise indicated. Entries marked "n/a" indicate insufficient sample size for estimation.

Table E-1—Continued

Measure	Region	AD	Prime	MTF/SA	Civilian	Total	Retired
<i>Days wait to see provider (minor ailment)</i>	3	2.43	2.43	4.10	1.91	2.40	2.43
	4	1.82	2.67	4.01	1.65	2.24	2.34
	6	2.18	2.79	6.69	1.94	2.73	3.04
	9	2.08	2.46	2.88	1.80	2.20	2.22
	10	1.84	2.26	3.63	1.74	2.09	2.08
	11	2.00	2.78	4.17	1.85	2.37	2.47
	12	1.70	2.15	3.38	1.30	1.96	2.40
	All	2.10	2.56	4.36	1.83	2.38	2.51
<i>Days wait to see provider for routine visit</i>	3	8.88	10.69	14.29	11.45	11.13	11.76
	4	9.01	10.82	13.36	10.53	10.72	11.13
	6	9.78	12.30	20.85	9.95	11.96	12.55
	9	6.91	9.06	9.20	10.99	9.08	10.66
	10	9.54	10.88	13.74	12.07	11.58	12.17
	11	9.35	12.04	13.86	12.30	11.83	12.89
	12	7.98	11.49	12.07	9.56	9.81	11.84
	All	8.69	11.03	14.69	11.01	10.99	11.85
<i>Days wait to see provider for urgent visit</i>	3	1.13	0.82	1.48	0.69	0.88	0.86
	4	0.80	0.93	1.54	0.62	0.84	0.85
	6	0.93	0.70	2.39	0.62	0.90	0.85
	9	0.84	0.78	0.80	0.60	0.73	0.67
	10	0.58	1.43	1.78	0.83	1.08	1.20
	11	0.73	1.08	1.47	0.58	0.84	0.92
	12	0.65	0.55	1.12	0.54	0.65	0.80
	All	0.88	0.87	1.57	0.65	0.86	0.87
<i>Dental exam past 12 months</i>	3	0.83	0.61	0.64	0.65	0.67	0.62
	4	0.84	0.62	0.57	0.65	0.65	0.59
	6	0.86	0.61	0.58	0.65	0.66	0.59
	9	0.87	0.66	0.63	0.70	0.72	0.63
	10	0.84	0.59	0.59	0.76	0.69	0.67
	11	0.88	0.60	0.57	0.70	0.68	0.62
	12	0.88	0.68	0.61	0.68	0.76	0.62
	All	0.85	0.62	0.60	0.67	0.68	0.61
<i>Ever had a Pap test (females)</i>	3	0.99	1.00	0.98	0.98	0.99	0.98
	4	0.99	0.99	0.97	0.99	0.98	0.98
	6	1.00	0.99	0.98	0.98	0.98	0.98
	9	0.99	0.99	0.98	0.99	0.98	0.98
	10	0.99	0.99	0.97	0.98	0.98	0.98
	11	1.00	0.99	0.97	0.98	0.99	0.99
	12	n/a	0.99	1.00	0.98	0.99	0.96
	All	0.99	0.99	0.98	0.98	0.98	0.98

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Table E-1—Continued

Measure	Region	AD	Prime	MTF/SA	Civilian	Total	Retired
<i>Ever had mammogram (age 40-49 females)</i>	3	n/a	0.93	0.90	0.91	0.91	0.92
	4	n/a	0.95	0.94	0.91	0.93	0.93
	6	n/a	0.92	0.91	0.90	0.91	0.90
	9	n/a	0.91	0.94	0.90	0.90	0.89
	10	n/a	0.84	n/a	n/a	0.90	0.90
	11	n/a	0.93	n/a	0.96	0.92	0.94
	12	n/a	n/a	n/a	n/a	0.96	n/a
	All	0.93	0.92	0.92	0.92	0.91	0.91
<i>Ever had smoking counseling</i>	3	0.34	0.42	0.40	0.46	0.38	0.40
	4	0.36	0.36	0.41	0.43	0.37	0.38
	6	0.35	0.39	0.30	0.35	0.33	0.32
	9	0.43	0.34	0.47	0.46	0.40	0.42
	10	0.35	0.33	0.35	0.49	0.38	0.40
	11	0.45	0.47	0.44	0.44	0.42	0.40
	12	0.26	0.37	n/a	0.45	0.32	0.36
	All	0.37	0.39	0.39	0.43	0.37	0.38
<i>Flu shot past 12 months</i>	3	0.82	0.37	0.46	0.57	0.54	0.52
	4	0.84	0.37	0.53	0.54	0.53	0.51
	6	0.88	0.42	0.56	0.60	0.59	0.56
	9	0.88	0.40	0.46	0.61	0.61	0.55
	10	0.80	0.42	0.54	0.65	0.58	0.58
	11	0.87	0.43	0.55	0.62	0.59	0.57
	12	0.81	0.34	0.49	0.56	0.58	0.50
	All	0.85	0.40	0.51	0.59	0.57	0.54
<i>General physical past 12 months</i>	3	0.48	0.61	0.64	0.74	0.62	0.66
	4	0.55	0.59	0.65	0.71	0.61	0.64
	6	0.51	0.58	0.60	0.70	0.58	0.62
	9	0.52	0.57	0.59	0.70	0.58	0.64
	10	0.45	0.60	0.60	0.69	0.59	0.63
	11	0.51	0.59	0.67	0.68	0.59	0.63
	12	0.41	0.51	0.58	0.73	0.50	0.62
	All	0.50	0.59	0.62	0.71	0.59	0.64
<i>Healthy living advice past 12 months</i>	3	0.43	0.56	0.61	0.71	0.58	0.64
	4	0.44	0.58	0.60	0.72	0.58	0.63
	6	0.48	0.57	0.62	0.69	0.58	0.63
	9	0.47	0.56	0.59	0.69	0.55	0.63
	10	0.46	0.60	0.60	0.65	0.57	0.61
	11	0.50	0.61	0.60	0.65	0.58	0.61
	12	0.48	0.57	0.63	0.71	0.54	0.64
	All	0.46	0.57	0.61	0.69	0.57	0.63

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Table E-1—Continued

Measure	Region	AD	Prime	MTF/SA	Civilian	Total	Retired
<i>Mammogram past 12 months (female age 50+)</i>	3	n/a	0.72	0.73	0.68	0.68	0.68
	4	n/a	0.65	0.64	0.66	0.63	0.62
	6	n/a	0.69	0.70	0.68	0.67	0.66
	9	n/a	0.73	0.61	0.71	0.66	0.68
	10	n/a	0.64	0.79	0.70	0.67	0.67
	11	n/a	0.71	0.66	0.69	0.65	0.65
	12	n/a	0.73	0.55	0.73	0.67	0.67
	All	n/a	0.69	0.69	0.69	0.66	0.66
<i>Pap test past 3 years (females)</i>	3	0.99	0.92	0.88	0.87	0.89	0.85
	4	0.97	0.92	0.86	0.87	0.88	0.85
	6	0.98	0.92	0.87	0.84	0.87	0.84
	9	0.99	0.91	0.91	0.86	0.88	0.85
	10	0.96	0.91	0.85	0.84	0.86	0.83
	11	0.98	0.91	0.88	0.86	0.87	0.84
	12	n/a	0.94	0.92	0.86	0.90	0.83
	All	0.98	0.92	0.88	0.86	0.88	0.84
<i>Pregnant and did not smoke</i>	3	n/a	0.84	n/a	n/a	0.82	n/a
	4	n/a	0.92	n/a	n/a	0.90	n/a
	6	n/a	0.89	n/a	n/a	0.89	n/a
	9	n/a	0.86	n/a	n/a	0.87	n/a
	10	n/a	0.88	n/a	n/a	0.86	n/a
	11	n/a	0.86	n/a	n/a	0.86	n/a
	12	n/a	n/a	n/a	n/a	n/a	n/a
	All	0.86	0.87	0.89	0.83	0.87	0.79
<i>Prenatal care began first trimester</i>	3	n/a	0.88	n/a	n/a	0.90	n/a
	4	n/a	0.89	n/a	n/a	0.90	n/a
	6	n/a	0.86	n/a	n/a	0.89	n/a
	9	n/a	0.88	n/a	n/a	0.88	n/a
	10	n/a	0.95	n/a	n/a	0.92	n/a
	11	n/a	0.96	n/a	n/a	0.94	n/a
	12	n/a	n/a	n/a	n/a	n/a	n/a
	All	0.94	0.90	0.85	0.93	0.90	0.79
<i>Prostate exam past 12 months</i>	3	0.58	0.77	0.79	0.86	0.77	0.79
	4	0.64	0.73	0.75	0.84	0.74	0.75
	6	0.59	0.72	0.78	0.83	0.72	0.74
	9	0.54	0.66	0.74	0.83	0.70	0.74
	10	0.49	0.81	0.74	0.83	0.76	0.77
	11	0.69	0.64	0.74	0.80	0.71	0.71
	12	n/a	0.67	0.66	0.74	0.64	0.67
	All	0.58	0.72	0.76	0.84	0.73	0.75

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Table E-1—Continued

Measure	Region	AD	Prime	MTF/SA	Civilian	Total	Retired
<i>Saw provider within 3 days for minor ailment</i>	3	0.95	0.95	0.89	0.98	0.95	0.95
	4	0.97	0.93	0.89	0.99	0.96	0.95
	6	0.96	0.93	0.81	0.97	0.94	0.93
	9	0.96	0.95	0.93	0.98	0.96	0.96
	10	0.97	0.97	0.90	0.97	0.96	0.96
	11	0.96	0.95	0.86	0.98	0.95	0.95
	12	0.98	0.95	0.92	1.00	0.96	0.95
	All	0.96	0.94	0.88	0.98	0.95	0.95
<i>Saw provider within 30 days for chronic condition</i>	3	0.94	0.94	0.89	0.93	0.93	0.92
	4	0.94	0.94	0.87	0.95	0.93	0.93
	6	0.88	0.95	0.74	0.94	0.90	0.90
	9	0.89	0.95	0.89	0.95	0.92	0.93
	10	0.96	0.94	0.92	0.95	0.94	0.94
	11	0.93	0.94	0.86	0.95	0.94	0.93
	12	0.97	0.94	0.94	0.95	0.96	0.95
	All	0.92	0.94	0.85	0.94	0.92	0.92
<i>Saw provider within 30 days for routine visit</i>	3	0.95	0.94	0.88	0.90	0.92	0.91
	4	0.96	0.94	0.91	0.91	0.93	0.92
	6	0.95	0.92	0.76	0.93	0.91	0.90
	9	0.98	0.96	0.94	0.93	0.95	0.93
	10	0.94	0.95	0.88	0.90	0.92	0.90
	11	0.96	0.92	0.90	0.92	0.93	0.91
	12	0.94	0.94	0.92	0.93	0.94	0.91
	All	0.96	0.94	0.87	0.91	0.92	0.91
<i>Saw provider within 30 days for urgent visit</i>	3	0.88	0.92	0.91	0.92	0.91	0.91
	4	0.91	0.91	0.89	0.95	0.93	0.93
	6	0.89	0.94	0.86	0.96	0.93	0.94
	9	0.90	0.92	0.89	0.95	0.92	0.93
	10	0.95	0.92	0.85	0.94	0.93	0.93
	11	0.93	0.91	0.92	0.96	0.94	0.94
	12	0.95	0.97	0.93	0.98	0.96	0.94
	All	0.90	0.92	0.89	0.95	0.93	0.93
<i>Smoke cigarettes</i>	3	0.23	0.22	0.21	0.17	0.21	0.20
	4	0.21	0.20	0.22	0.19	0.21	0.21
	6	0.26	0.21	0.16	0.19	0.21	0.21
	9	0.22	0.19	0.16	0.15	0.19	0.17
	10	0.20	0.16	0.18	0.15	0.16	0.16
	11	0.23	0.18	0.17	0.16	0.19	0.18
	12	0.19	0.17	0.17	0.14	0.17	0.13
	All	0.23	0.20	0.18	0.17	0.20	0.19

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Table E-1—Continued

Measure	Region	AD	Prime	MTF/SA	Civilian	Total	Retired
<i>Smoke cigarettes (age 18-24)</i>	3	0.31	0.17	0.25	0.30	0.27	0.28
	4	0.26	0.14	0.16	n/a	0.22	0.17
	6	0.32	0.23	0.18	0.10	0.24	0.18
	9	0.31	0.19	0.16	n/a	0.26	0.14
	10	0.34	0.13	n/a	n/a	0.23	n/a
	11	0.25	0.18	n/a	n/a	0.20	0.15
	12	n/a	n/a	n/a	n/a	0.27	n/a
	All	0.30	0.19	0.20	0.21	0.25	0.19
<i>Used chewing tobacco</i>	3	0.15	0.02	0.03	0.03	0.05	0.03
	4	0.11	0.02	0.02	0.04	0.04	0.03
	6	0.16	0.03	0.04	0.04	0.07	0.05
	9	0.12	0.01	0.01	0.01	0.05	0.01
	10	0.10	0.00	0.00	0.01	0.02	0.01
	11	0.16	0.03	0.01	0.01	0.05	0.02
	12	0.16	0.01	0.03	0.00	0.08	0.01
	All	0.14	0.02	0.02	0.03	0.05	0.03

APPENDIX F: REGIONAL DIFFERENCES IN SATISFACTION WITH ADMINISTRATIVE ASPECTS OF TRICARE STANDARD

Table F-1 shows satisfaction levels for several administrative aspects of TRICARE Standard (CHAMPUS) by region. Entries marked with an asterisk (*) indicate a statistically significant difference ($p < 0.05$). Satisfaction with the timeliness of processing claims and receiving payment is considerably lower than perceived access to and quality of health care; however, satisfaction with the administrative aspects seems to be improving over time. Regional differences are perhaps explained by variations in procedures used by the managed care contractors responsible for handling the claims.

Data are shown for the following groups:

- (1) Civilian only—those who
 - filed a claim under CHAMPUS for services received during 1994, or
 - filed a claim under TRICARE Standard for services received during 1997.
- (2) MTF/SA—those whose usual source of care is space-available at an MTF but who
 - received some of their care under CHAMPUS in 1994, or
 - received some of their care under TRICARE Standard in 1997.
- (3) Prime
 - those in the 1994 sample who used CHAMPUS during 1994 and who later enrolled in Prime, or
 - those in the 1997 sample who enrolled in Prime during 1997 and who either
 - used CHAMPUS Standard prior to enrolling, or
 - enrolled in Prime for the full year and were referred by their PCM to an out-of-network provider.

Table F-1. Changes in Satisfaction With Various Aspects of TRICARE Standard (CHAMPUS) (Proportion of Subpopulation Satisfied)

Measure ¹	Region	Source of Care					
		Civilian Only		MTF/SA		Prime	
		FY94	FY97	FY94	FY97	FY94	FY97
<i>Provider willingness to submit claims</i>	3	0.63	0.78 *	0.76	0.84	0.74	0.84 *
	4	0.69	0.81 *	0.77	0.83	0.79	0.83
	6	0.63	0.72	0.75	0.88 *	0.70	0.80 *
	9	0.79	0.94 *	0.71	0.96 *	0.88	0.84
	10	0.57	0.79 *	0.70	0.81	0.83	0.88
	11	0.52	0.83 *	0.74	0.80	0.80	0.86
	12	0.83	0.80	n/a	n/a	0.95	0.73 *
	All	0.64	0.79 *	0.75	0.86 *	0.78	0.83 *

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Table F-1—Continued

Measure	Region	Source of Care					
		Civilian Only		MTF/SA		Prime	
		FY94	FY97	FY94	FY97	FY94	FY97
<i>Claims processing procedures</i>							
	3	0.72	0.62 *	0.66	0.60	0.74	0.67
	4	0.69	0.65	0.78	0.64 *	0.79	0.65 *
	6	0.68	0.55 *	0.73	0.63	0.62	0.65
	9	0.70	0.77	0.66	0.71	0.79	0.70
	10	0.60	0.64	n/a	n/a	0.65	0.68
	11	0.49	0.57	0.68	0.66	0.61	0.66
	12	0.66	0.71	n/a	n/a	0.80	0.72
	All	0.67	0.62 *	0.68	0.64	0.71	0.67
<i>Time to solve claims problems</i>							
	3	0.48	0.47	0.46	0.47	0.51	0.55
	4	0.44	0.50	0.52	0.50	0.60	0.55
	6	0.43	0.44	0.48	0.46	0.45	0.54
	9	0.35	0.59 *	0.27	0.42	0.54	0.61
	10	0.20	0.42 *	n/a	n/a	0.40	0.56 *
	11	0.29	0.46 *	0.36	0.58 *	0.38	0.58 *
	12	0.52	0.68	n/a	n/a	0.69	0.74
	All	0.42	0.48 *	0.44	0.48	0.49	0.56 *
<i>Time waiting for payment</i>							
	3	0.54	0.52	0.51	0.52	0.63	0.59
	4	0.49	0.54	0.58	0.56	0.66	0.59
	6	0.51	0.44	0.53	0.45	0.43	0.59 *
	9	0.45	0.62 *	0.46	0.53	0.57	0.67
	10	0.25	0.53 *	n/a	n/a	0.53	0.62
	11	0.39	0.49	0.37	0.63 *	0.52	0.59
	12	0.53	0.73 *	n/a	n/a		
	All	0.49	0.51	0.50	0.53	0.55	0.60
<i>Amount of deductible</i>							
	3	0.46	0.41	0.38	0.42	0.39	0.53 *
	4	0.40	0.41	0.37	0.43	0.35	0.60 *
	6	0.50	0.37 *	0.37	0.45	0.36	0.65 *
	9	0.47	0.50	0.48	0.36	0.63	0.58
	10	0.41	0.44	n/a	n/a	0.62	0.68
	11	0.27	0.38	0.35	0.41	0.30	0.57 *
	12	0.48	0.61	n/a	n/a		
	All	0.44	0.41	0.39	0.43	0.43	0.60 *
<i>Amount of copayment</i>							
	3	0.44	0.38	0.37	0.42	0.43	0.58 *
	4	0.40	0.45	0.39	0.52 *	0.41	0.61 *
	6	0.40	0.40	0.40	0.46	0.39	0.59 *
	9	0.48	0.55	0.61	0.52	0.80	0.60 *
	10	0.35	0.43	n/a	n/a	0.77	0.65
	11	0.28	0.40	0.37	0.51	0.30	0.60 *
	12	0.51	0.70 *	n/a	n/a		
	All	0.41	0.42	0.41	0.47	0.51	0.60 *

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Table F-1—Continued

Measure	Region	Source of Care					
		Civilian Only		MTF/SA		Prime	
		FY94	FY97	FY94	FY97	FY94	FY97
<i>Coverage</i>							
	3	0.54	0.44 *	0.52	0.49	0.53	0.60
	4	0.50	0.41	0.54	0.49	0.59	0.58
	6	0.55	0.38 *	0.54	0.45	0.50	0.57
	9	0.61	0.57	0.68	0.49 *	0.73	0.65
	10	0.42	0.49	n/a	n/a	0.62	0.67
	11	0.33	0.44	0.53	0.50	0.36	0.59 *
	12	0.60	0.74	n/a	n/a	0.82	0.77
	All	0.52	0.43 *	0.54	0.49	0.57	0.60
<i>Used Purchased care²</i>							
	3	0.46	0.36 *	0.46	0.42	0.61	0.40 *
	4	0.52	0.41 *	0.45	0.47	0.66	0.44 *
	6	0.45	0.31 *	0.35	0.34	0.56	0.44 *
	9	0.27	0.16 *	0.31	0.28	0.65	0.39 *
	10	0.26	0.13 *	0.22	0.29	0.66	0.43 *
	11	0.34	0.22 *	0.30	0.29	0.47	0.36 *
	12	0.37	0.31	0.27	0.22	0.50	0.31 *
	All	0.40	0.30 *	0.37	0.37	0.61	0.41 *

¹ Measures are proportions unless otherwise indicated. Entries marked “n/a” indicate insufficient sample size for estimation.

² In 1994, refers to those using CHAMPUS. In 1997, refers to those using TRICARE Standard; or those whose usual source of care was the MTF (space-available) but who were referred to a source of care outside the MTF; or Prime enrollees seeing out-of-network providers.

APPENDIX G: CHANGES IN ACCESS AND QUALITY-OF-CARE OUTCOMES IN REGION 11: 1994, 1996, 1997

Table G-1 shows three-year trends for access and quality-of-care indicators, which were estimated based on 1997 population characteristics. Entries marked with an *a* indicate a statistically significant difference ($p<0.05$) between 1994 and 1996, those marked with a *b* indicate a statistically significant difference between 1996 and 1997, and those marked with a *c* indicate a statistically significant difference between 1994 and 1997. The general pattern of results is for a rising trend in perceived satisfaction with access and quality of care from the baseline year (1994). As Table G-1 shows, the greatest increases occurred between 1994 and 1996.

Table G-1. Three-Year Trends for Access and Quality of Care

Measure	FY	AD	Prime	MTF/SA	CIV	Total	Retired
Appointment gap (days)	94	9.0 ^a	14.7 ^a	15.1 ^a	7.4	10.8 ^a	10.9 ^a
	96	6.1	8.5	10.4	6.7	7.6	8.1
	97	6.2 ^c	7.7 ^c	9.4 ^c	7.1	7.4 ^c	8.0 ^c
BP check past 12 months	94	0.84 ^a	0.76 ^a	0.88	0.89 ^a	0.80 ^a	0.82 ^a
	96	0.93	0.90	0.90 ^b	0.93	0.88 ^b	0.87 ^b
	97	0.93 ^c	0.90 ^c	0.96 ^c	0.94 ^c	0.91 ^c	0.90 ^c
Cholesterol check past 12 months	94	0.48	0.39	0.51	0.63	0.48	0.55
	96	0.42	0.46	0.49	0.65	0.49	0.57
	97	0.42	0.45	0.56	0.64	0.51	0.59 ^c
Did not use MTF due to difficulty in getting appointment	94	0.38 ^a	0.36 ^a	0.47 ^a	0.24	0.28 ^a	0.27
	96	0.10	0.20	0.34	0.21 ^b	0.22	0.23
	97	0.10 ^c	0.20 ^c	0.32 ^c	0.27	0.25	0.26
ER use past 12 months	94	0.44 ^a	0.49 ^a	0.52 ^a	0.36 ^a	0.44 ^a	0.41 ^a
	96	0.26	0.33	0.35	0.18	0.25	0.22
	97	0.22 ^c	0.27 ^c	0.32 ^c	0.19 ^c	0.22 ^c	0.21 ^c
Immunized past 12 months	94	0.81	0.36	0.43	0.46 ^a	0.45 ^a	0.41 ^a
	96	0.82	0.35 ^b	0.45 ^b	0.55 ^b	0.51 ^b	0.49 ^b
	97	0.87 ^c	0.43 ^c	0.53 ^c	0.62 ^c	0.59 ^c	0.57 ^c
Mammogram past 12 months (50+)	94	n/a	0.67	0.77 ^a	0.66	0.66	0.66
	96	n/a	0.68	0.65	0.67	0.65	0.65
	97	n/a	0.72	0.68	0.71	0.67	0.67

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Table G-1—Continued

Measure	FY	AD	Prime	MIF/SA	CIV	Total	Retired
Minutes waited in office	94	26.46	24.76	18.03	27.74	22.86	21.18
	96	27.48	23.14	17.97 ^b	25.40	22.46	20.39 ^b
	97	25.83	22.81	19.81 ^c	26.44	22.63	21.54
Number of calls to get appointment	94	3.10	3.49	3.58	2.25 ^a	2.91 ^a	2.67 ^a
	96	3.54	3.62	3.79	2.58 ^b	3.19	3.02
	97	3.51	3.59	3.60	2.90 ^c	3.30 ^c	3.18 ^c
Pap test past 12 months	94	0.87	0.74	0.69	0.72 ^a	0.70 ^a	0.67 ^a
	96	0.81	0.70	0.69	0.55	0.62	0.56
	97	0.83	0.67	0.70	0.60 ^c	0.63 ^c	0.58 ^c
Physical exam past 12 months	94	0.58	0.48	0.53 ^a	0.71	0.56	0.57 ^a
	96	0.53	0.56	0.61	0.70	0.58	0.62
	97	0.51	0.58 ^c	0.66 ^c	0.68	0.59	0.62 ^c
Prenatal care first trimester	94	n/a	0.96	n/a	n/a	n/a	n/a
	96	n/a	0.80 ^b	n/a	n/a	n/a	n/a
	97	n/a	0.96	n/a	n/a	0.91	n/a
Received wellness advice past 12 months	94	0.44	0.32 ^a	0.35 ^a	0.50 ^a	0.38 ^a	0.40 ^a
	96	0.49	0.57	0.58	0.66	0.55	0.59
	97	0.51	0.61 ^c	0.59 ^c	0.66 ^c	0.58 ^c	0.61 ^c
Satisfaction with ability to choose provider	94	0.26 ^a	0.53	0.40	0.88	0.61	0.75
	96	0.41	0.56	0.44	0.86	0.64	0.75
	97	0.38 ^c	0.60	0.49 ^c	0.88	0.66 ^c	0.77
Satisfaction with ability to diagnose	94	0.66	0.80	0.71	0.88	0.79	0.86 ^a
	96	0.65 ^b	0.79	0.77	0.91	0.81 ^b	0.89
	97	0.73	0.83	0.81 ^c	0.92 ^c	0.84 ^c	0.90 ^c
Satisfaction with access to care	94	0.74 ^a	0.84	0.76	0.91 ^a	0.84 ^a	0.87 ^a
	96	0.84	0.88	0.82	0.96	0.90	0.93
	97	0.83 ^c	0.87	0.76	0.96 ^c	0.88 ^c	0.91 ^c
Satisfaction with access to care if needed	94	0.60	0.72	0.57	0.92	0.74 ^a	0.81 ^a
	96	0.67	0.77	0.62	0.94	0.79	0.85
	97	0.70 ^c	0.78	0.63	0.94	0.80 ^c	0.86 ^c

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Table G-1—Continued

Measure	FY	AD	Prime	MIF/SA	CIV	Total	Retired
Satisfaction with access to hospital care	94	0.66 ^a	0.84	0.69	0.96	0.83 ^a	0.88
	96	0.83	0.85	0.73	0.96	0.87	0.90
	97	0.83 ^c	0.88	0.74	0.96	0.89 ^c	0.91
Satisfaction with access to specialists	94	0.37	0.62	0.52	0.91	0.68	0.79
	96	0.46	0.65	0.57	0.90	0.71	0.80
	97	0.54 ^c	0.68	0.58	0.87	0.72 ^c	0.79
Satisfaction with advice to avoid illness	94	0.67	0.78	0.88	0.76	0.79	0.87
	96	0.73	0.77	0.88	0.78	0.81 ^b	0.87
	97	0.78 ^c	0.82	0.90	0.80	0.84 ^c	0.88
Satisfaction with attention given by provider	94	0.65	0.80	0.75	0.90	0.80	0.88
	96	0.70	0.78	0.80	0.88 ^b	0.81 ^b	0.87
	97	0.74 ^c	0.83	0.81	0.92	0.85 ^c	0.89
Satisfaction with available information by phone	94	0.36	0.54 ^a	0.43 ^a	0.86	0.63 ^a	0.74
	96	0.45	0.67	0.52 ^b	0.83 ^b	0.67 ^b	0.76 ^b
	97	0.54 ^c	0.73 ^c	0.67 ^c	0.89	0.76 ^c	0.82 ^c
Satisfaction with care	94	0.62	0.74	0.67	0.85	0.74	0.81
	96	0.64	0.76	0.65	0.88	0.75	0.81
	97	0.68	0.72	0.67	0.89 ^c	0.77 ^c	0.82
Satisfaction with choice and continuity of care	94	0.31	0.59	0.47	0.85	0.63	0.75
	96	0.40	0.52	0.44	0.85	0.63	0.74
	97	0.36	0.56	0.48	0.85	0.64	0.75
Satisfaction with convenience of hours	94	0.64	0.83	0.78 ^a	0.93 ^a	0.82 ^a	0.89 ^a
	96	0.71	0.85	0.86	0.96 ^b	0.87	0.94 ^b
	97	0.74 ^c	0.86	0.86 ^c	0.94	0.86 ^c	0.92
Satisfaction with convenience of treatment location	94	0.80	0.82	0.72 ^a	0.88	0.82 ^a	0.83 ^a
	96	0.86	0.84 ^b	0.79	0.91	0.87	0.89
	97	0.87 ^c	0.89 ^c	0.82 ^c	0.92 ^c	0.89 ^c	0.89 ^c

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Table G-1—Continued

Measure	FY	AD	Prime	MIF/SA	CIV	Total	Retired
Satisfaction with courtesy of admin staff	94	0.59 ^a	0.73 ^a	0.74 ^a	0.96	0.79 ^a	0.89 ^a
	96	0.72	0.83	0.82	0.96	0.85	0.93
	97	0.72 ^c	0.80 ^c	0.82 ^c	0.96	0.85 ^c	0.91
Satisfaction with courtesy of providers	94	0.73	0.88	0.85	0.98	0.88	0.94
	96	0.79	0.91	0.88	0.97	0.90	0.96
	97	0.85 ^c	0.91	0.87	0.97	0.91 ^c	0.94
Satisfaction with dental care	94	0.87	0.84 ^a	0.83	0.87 ^a	0.86 ^a	0.85 ^a
	96	0.89	0.92	0.88	0.94	0.90 ^b	0.91 ^b
	97	0.90	0.93 ^c	0.92 ^c	0.96 ^c	0.93 ^c	0.96 ^c
Satisfaction with ease of making appointments	94	0.45 ^a	0.56 ^a	0.41 ^a	0.96	0.67 ^a	0.77 ^a
	96	0.57	0.73	0.59	0.94	0.75 ^b	0.82 ^b
	97	0.63 ^c	0.76 ^c	0.64 ^c	0.96	0.79 ^c	0.86 ^c
Satisfaction with ease of seeing provider of choice	94	0.29 ^a	0.53	0.41	0.90	0.62	0.75
	96	0.40	0.55	0.46	0.88	0.65	0.77
	97	0.40 ^c	0.59	0.50 ^c	0.87	0.66 ^c	0.76
Satisfaction with health-care-related financial problems	94	0.64 ^a	0.61	0.77	0.60	0.69	0.71
	96	0.75	0.63	0.74	0.51	0.68	0.68
	97	0.68	0.68	0.78	0.56	0.71	0.72
Satisfaction with interpersonal concern of providers	94	0.48 ^a	0.66	0.63	0.85	0.69	0.80
	96	0.59	0.67 ^b	0.66	0.85 ^b	0.72 ^b	0.80 ^b
	97	0.61 ^c	0.74 ^c	0.71 ^c	0.89	0.77 ^c	0.84 ^c
Satisfaction with medical financial hardship protection	94	0.61 ^a	0.64	0.70 ^a	0.78	0.71	0.74 ^a
	96	0.81	0.66	0.58	0.73	0.70	0.68 ^b
	97	0.74 ^c	0.70	0.62	0.78	0.73	0.73
Satisfaction with outcome of health care	94	0.65	0.83	0.76	0.92	0.81	0.88
	96	0.72	0.80	0.79	0.91	0.82 ^b	0.88
	97	0.76 ^c	0.84	0.80	0.93	0.85 ^c	0.90

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Table G-1—Continued

Measure	FY	AD	Prime	MIF/SA	CIV	Total	Retired
Satisfaction with overall quality of health care	94	0.68	0.82	0.77	0.93	0.82	0.89
	96	0.71 ^b	0.83	0.80	0.94	0.84 ^b	0.91
	97	0.78 ^c	0.86	0.85 ^c	0.96	0.88 ^c	0.93 ^c
Satisfaction with prescription services available	94	0.75	0.84	0.75	0.94	0.85	0.90
	96	0.75 ^b	0.81	0.80	0.93	0.84 ^b	0.89
	97	0.82 ^c	0.85	0.82	0.94	0.87 ^c	0.90
Satisfaction with provider concern for privacy	94	0.71 ^a	0.88	0.84	0.96	0.86 ^a	0.93
	96	0.84	0.91	0.86	0.96	0.91	0.94
	97	0.84 ^c	0.93 ^c	0.88	0.96	0.92 ^c	0.94
Satisfaction with provider explanation of medical tests	94	0.64	0.83	0.77	0.91	0.82	0.88
	96	0.72 ^b	0.77 ^b	0.83	0.90	0.83 ^b	0.88
	97	0.81 ^c	0.84	0.81	0.92	0.86 ^c	0.89
Satisfaction with provider explanation of procedures	94	0.66 ^a	0.83	0.76	0.94	0.83	0.90
	96	0.76	0.80	0.80	0.91	0.84	0.88
	97	0.77 ^c	0.85	0.82	0.93	0.86 ^c	0.90
Satisfaction with provider interest in outcomes	94	0.52	0.69	0.65	0.87	0.72	0.83
	96	0.60	0.72	0.68	0.87 ^b	0.75 ^b	0.82 ^b
	97	0.67 ^c	0.76 ^c	0.73 ^c	0.91	0.80 ^c	0.86
Satisfaction with provider personal concern (for patient)	94	0.65	0.78	0.78	0.90	0.80 ^a	0.87
	96	0.71	0.79 ^b	0.83	0.92	0.83 ^b	0.90
	97	0.76 ^c	0.85 ^c	0.79	0.94 ^c	0.86 ^c	0.90 ^c
Satisfaction with provider reassurance and support	94	0.63 ^a	0.78	0.73	0.91	0.80	0.88
	96	0.74	0.78	0.79	0.91	0.83	0.88
	97	0.76 ^c	0.82	0.79	0.92	0.85 ^c	0.89
Satisfaction with thoroughness of exam	94	0.67	0.80	0.92	0.74	0.81	0.88
	96	0.71 ^b	0.81	0.91	0.77	0.82 ^b	0.88
	97	0.79 ^c	0.86 ^c	0.93	0.78	0.86 ^c	0.90

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Table G-1—Continued

Measure	FY	AD	Prime	MIF/SA	CIV	Total	Retired
Satisfaction with thoroughness of treatment	94	0.71	0.82	0.77	0.94 ^a	0.83	0.90
	96	0.67 ^b	0.79 ^b	0.80	0.90	0.81 ^b	0.88
	97	0.77	0.85	0.82	0.93	0.86 ^c	0.91
Satisfaction with time from making to having appointment	94	0.55	0.66	0.53 ^a	0.87	0.69 ^a	0.77 ^a
	96	0.63	0.68 ^b	0.63	0.89	0.75	0.81
	97	0.60	0.75 ^c	0.65 ^c	0.90	0.77 ^c	0.83 ^c
Satisfaction with time with provider	94	0.60 ^a	0.73	0.70	0.89	0.76	0.84
	96	0.70	0.72 ^b	0.76	0.86 ^b	0.78 ^b	0.85 ^b
	97	0.67	0.79 ^c	0.77 ^c	0.92	0.82 ^c	0.88 ^c
Satisfaction with wait time in office	94	0.42	0.64	0.56 ^a	0.88	0.67 ^a	0.78
	96	0.51	0.70	0.65	0.86 ^b	0.71 ^b	0.81
	97	0.57 ^c	0.74 ^c	0.67 ^c	0.90	0.76 ^c	0.84 ^c
Times visited dentist past 12 months	94	2.31	2.23 ^a	2.44 ^a	2.45 ^a	2.29 ^a	2.34 ^a
	96	2.10	1.72 ^b	1.51 ^b	1.80 ^b	1.72 ^b	1.64 ^b
	97	2.28	2.45	2.19	2.41	2.34	2.34

APPENDIX H: SAMPLE SELECTION PROCEDURES

The evaluation of TRICARE costs was conducted using independent random samples of MHS-eligible beneficiaries selected from FY 1994 and FY 1997 DEERS records. This appendix describes how the sample sizes were determined and how the samples were drawn.

The Individual Beneficiary Sample

The sample sizes in both years were based on estimating both CHAMPUS and MTF inpatient costs with a given level of precision. Those costs were chosen because they represent a sizable portion of total MHS costs and because inpatient stays are relatively rare events with large variations in cost that require large sample sizes to estimate accurately. Further, estimates of both MTF and CHAMPUS costs are necessary so that adequate samples are drawn from both catchment and noncatchment areas (i.e., most costs in catchment areas are generated from MTF stays and most costs in noncatchment areas are generated from CHAMPUS stays).

To estimate the appropriate sample size, the following quantities must be specified:

d = the desired precision of the estimate, i.e., average cost (RWPs),

α = the probability that the actual error is larger than d ,

$t_{\alpha/2}$ = the abscissa of the unit normal curve that cuts off an area $\alpha/2$ in each tail,

S = the standard deviation of the cost (or RWP) of an inpatient stay,

N_D = the total number of discharges, and

p = the average number of discharges per beneficiary (total discharges/total population).

The estimated sample size is then determined as¹

$$n = \frac{\left(\frac{t_{\alpha/2}S}{d}\right)^2 / \left(1 + \left(\frac{t_{\alpha/2}S}{d}\right)^2 / N_D\right)}{p}.$$

For each region, $\alpha = 0.05$ for MTF RWPs, and $\alpha = 0.10$ for CHAMPUS costs ($t_{\alpha/2} = 1.96$ and 1.64, respectively). The percentage error was set to 10 percent for MTF RWPs and to 15 percent for CHAMPUS costs, and d was set to the percentage error multiplied by the average RWP (cost). Acceptable error levels were set higher for CHAMPUS costs because of greater variability in the CHAMPUS data and the desire to keep the required sample sizes at a manageable level. The quantities p , S , and N_D were determined from the entire population of SIDRs, CHAMPUS claims, and DEERS data; their values and the corresponding sample sizes for each region are shown in Tables A-1 to A-4.

¹ The numerator of this expression is obtained from Cochran, W. G., *Sampling Techniques*, New York: John Wiley and Sons, Third Ed., 1977, p.78, eq.4.3. The discharge rate p appears in the denominator because beneficiaries rather than discharges were sampled.

Table H-1. Determinants of FY 1994 Sample Size for Estimating MTF Inpatient RWPs

Region	Discharges (N_D)	Standard Deviation (S)	Discharge Rate (p)	Precision Level (d)	Sample Size (n)
Southeast	66,158	1.594	0.071	0.085	18,886
Gulf South	37,399	1.426	0.070	0.091	13,171
Southwest	88,017	1.726	0.102	0.095	12,227
S. California	43,681	1.325	0.071	0.086	12,565
N. California	25,371	1.480	0.081	0.095	11,214
Northwest	30,024	1.417	0.091	0.090	10,067
Hawaii	18,701	1.743	0.130	0.085	11,332

Table H-2. Determinants of FY 1994 Sample Size for Estimating CHAMPUS Inpatient Costs

Region	Discharges (N_D)	Standard Deviation (S)	Discharge Rate (p)	Precision Level (d)	Sample Size (n)
Southeast	34,080	\$14,985	0.055	\$864	14,450
Gulf South	20,142	16,623	0.054	809	19,877
Southwest	25,260	14,370	0.043	913	15,220
S. California	17,052	17,314	0.046	980	17,620
N. California	8,632	18,220	0.044	1,077	16,288
Northwest	6,982	13,681	0.031	760	24,871
Hawaii	2,094	13,988	0.025	3,056	2,211

Table H-3. Determinants of FY 1997 Sample Size for Estimating MTF Inpatient RWPs

Region	Discharges (N_D)	Standard Deviation (S)	Discharge Rate (p)	Precision Level (d)	Sample Size (n)
Southeast	32,810	1.120	0.033	0.087	18,600
Gulf South	21,160	1.114	0.038	0.090	15,059
Southwest	55,317	1.375	0.063	0.097	12,152
S. California	32,044	1.276	0.055	0.090	13,891
N. California	10,381	1.475	0.038	0.099	20,753
Northwest	20,159	1.189	0.059	0.093	10,471
Hawaii	13,045	1.375	0.089	0.084	10,844

Table H-4. Determinants of FY 1997 Sample Size for Estimating CHAMPUS Inpatient Costs

Region	Discharges (N_D)	Standard Deviation (S)	Discharge Rate (p)	Precision Level (d)	Sample Size (n)
Southeast	34,325	\$12,055	0.053	\$610	19,431
Gulf South	22,395	10,784	0.059	551	16,872
Southwest	25,059	11,393	0.043	737	14,759
S. California	12,981	17,763	0.037	824	31,391
N. California	7,887	14,611	0.046	936	13,131
Northwest	5,726	8,056	0.025	713	12,992
Hawaii	813	27,534	0.009	4,081	11,649

Although the estimates of average MTF RWPs and CHAMPUS inpatient costs are needed only at the region level, gains in precision may be possible by stratifying the population into roughly homogeneous subpopulations. To improve the precision of the regional estimates, the population within each region was further stratified by catchment/noncatchment area (determined by the duty location for active-duty members and the residence address for all other beneficiaries) and beneficiary group.

The catchment/noncatchment areas were defined using the FY 1994 definitions for both sample years. Thus, for example, a ZIP code that was in a state noncatchment area in FY 1997 but in a former catchment area in FY 1994 was assigned to the former catchment area. This was done to control for the effect of BRAC and other Service-initiated “rightsizing” measures on utilization and costs. Eight beneficiary groups were used for stratification within each catchment/noncatchment area:

- (1) active-duty members,
- (2) active-duty family members under age 18,
- (3) active-duty family members age 18 and above,
- (4) retirees under age 65,
- (5) retirees age 65 and above,
- (6) retiree family members under age 18,
- (7) retiree family members ages 18 to 64, and
- (8) retiree family members age 65 and above.

A total of 1,280 strata were created as all possible combinations of catchment area/noncatchment area and beneficiary group.

The optimal allocation (in the sense of minimizing the variance of the regional estimates) of the sample to strata is obtained from the following formula:²

$$n_h = n \frac{N_{Dh} S_h}{\sum_{h=1}^H N_{Dh} S_h},$$

where N_{Dh} is the number of discharges in stratum h , S_h is the standard deviation of RWPs (cost) in stratum h , and H is the number of strata. Once the sample allocations were made for both MTF RWPs and CHAMPUS inpatient costs, the number to be sampled in each stratum was determined as the maximum of the two allocations. Finally, the samples were drawn from FY 1994 and FY 1997 DEERS records using a systematic sampling scheme where beneficiary records were selected at fixed intervals (the interval lengths varied by strata).

Sample Weights

Sample weights are used to make statistics obtained from a sample (e.g., means, totals, and ratios) approximately unbiased estimates of the corresponding population quantities. The base weights are the inverse of the probabilities of selection. For the

² Cochran, W. G., *op. cit.*, p. 98, eq. 5.26.

stratified sampling plan described above, the weights are equal to $w_{ih} = N_h/n_h$ for each member i of stratum h , where N_h and n_h are the population size and sample size, respectively, in stratum h . The sample was then poststratified so that the sample weights for beneficiaries who enrolled in Prime with a military PCM, with a civilian PCM, and who did not enroll sum to the number of beneficiaries in those categories in the population for each health service region. To obtain the poststratified weights, the base weights are multiplied by

$$\frac{N_R}{\hat{N}_R} = \frac{N_R}{\sum_i \sum_h w_{ih}},$$

where the base weights are summed over all beneficiaries in stratum h within region R .

The Family Sample and Weights

Whereas the individual beneficiary is the unit of analysis for the evaluation of government costs, the evaluation of out-of-pocket costs considers the cost to beneficiary families. A family is selected if at least one member of the family is selected in the stratified sampling scheme described above. The family weights are determined as the inverse of the probabilities of selection. Because the probability of one or more family members being selected is equal to one minus the probability that no family members are selected, the probabilities of selection are obtained as

$$1 - \prod_{h \in S_i} \frac{\binom{N_h - m_{ih}}{n_h}}{\binom{N_h}{n_h}},$$

where m_{ih} is the number of family members for beneficiary i (from the individual sample) in stratum h , and S_i is the set of strata that include all members of the family.

APPENDIX I: BENEFICIARY ACCESS MEASURES FOR PREDICTING UTILIZATION

To help improve the predictive abilities of the utilization models, several measures of beneficiary access were created for both FY 1994 and FY 1997. These measures were used in a prior analysis of the Uniformed Services Family Health Plan¹ and proved to be significant predictors of utilization. The measures are described below.

Catchment area indicator. Using unit ZIP codes for active-duty members and residence ZIP codes for all other beneficiaries, it was determined whether beneficiaries resided in a catchment or noncatchment area.

Distance to nearest MTF or civilian medical facility. The distance to the nearest MTF or civilian medical facility was calculated using a formula for the distance (in miles) between two points on a sphere. The formula requires the latitude and longitude of the ZIP codes for both the beneficiary and the medical facility.

Beneficiary composition by access region. For the inpatient analyses, a 40-mile radius region around the beneficiary's ZIP code was determined. For every military hospital in this region,² another 40-mile radius region was determined, as shown in Figure I-1.

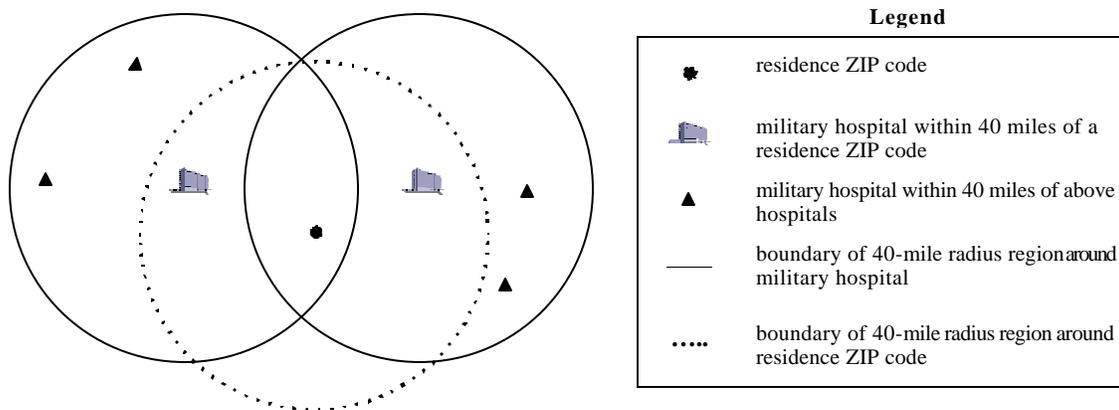


Figure I-1. Construction of MTF Access Regions

The union of the latter 40-mile radius regions (i.e., the union of the catchment areas around the hospitals within 40 miles of the residence ZIP code) will be referred to as an access region (not to be confused with a Health Service Region). If no hospitals were located within 40 miles of a beneficiary's ZIP code, a 40-mile radius region was

¹ Philip M. Lurie et al., "Summary of IDA's Evaluation of the Uniformed Services Family Health Plan," Institute for Defense Analyses, Document D-1814, January 1996.

² Only hospitals for which at least 10 percent of the total population served were non-active-duty beneficiaries were considered.

determined around the closest military hospital. For the outpatient and prescription analyses, access regions were determined using a 20-mile radius around military hospitals and clinics.

The beneficiary populations (active-duty members, active-duty family members, retirees and family members) in an access region were determined by aggregating the populations across all ZIP codes within the region. Finally, the beneficiary counts over the ZIP codes comprising each region were summed and divided by the total beneficiary count to determine the proportion of each beneficiary type in the region.

Physician full-time equivalents per capita. Physician full-time equivalents (FTEs) are recorded in physician-months by clinical area in MEPRS. The four-digit clinical codes identify both the clinical area and the facility for which physician FTEs were recorded. FTEs were classified into both emergency- and non-emergency-related outpatient care and summed across all military hospitals and clinics within an access region. They were then divided by the total beneficiary population in the region (in thousands) to determine FTEs per capita.

Military hospital beds per capita. The numbers of operating beds at military hospitals are recorded in the Facilities Analysis and Planning Module of the Defense Medical Information System. The DoD defines operating beds as beds currently set up and ready for the care of a patient, including supporting space, equipment, and staff to operate under normal circumstances. The numbers of operating beds were summed across all military hospitals within an access region and divided by the total beneficiary population in the region (in thousands) to determine operating beds per capita.

Civilian hospital beds per capita. The numbers of operating beds at civilian hospitals were obtained from the American Hospital Association (AHA), and data on civilian population counts by ZIP code were obtained from the Bureau of the Census. The number of beds per capita was computed in a manner similar to that for military hospitals except that the access regions and beneficiary populations were defined differently. Each ZIP code was first mapped into a Metropolitan Statistical Area (MSA) as defined by the Office of Management and Budget. ZIP codes that did not fall within an MSA were categorized into non-MSA regions by state. Then the numbers of operating beds were summed across all civilian hospitals within the MSA containing the beneficiary's ZIP code and divided by the total civilian population in the MSA (in thousands) to determine operating beds per capita.

Civilian providers per capita. Data on individual civilian providers and location ZIP codes were obtained from the Provider Record Data file maintained by TMA–Aurora. The ZIP codes were mapped into MSAs, and the total number of providers in an MSA were counted and divided by the civilian population in the MSA (in thousands) to determine civilian providers per capita.

Hospital emergency rooms per capita. Data on the presence of emergency rooms at civilian hospitals were obtained from the AHA. The number of hospitals within an MSA having an emergency room was divided by the civilian population in the MSA (in thousands) to determine hospital emergency rooms per capita.

APPENDIX J: REGIONAL ANALYSIS OF UTILIZATION AND GOVERNMENT COSTS

This appendix presents the results obtained from the utilization and cost models at the regional level. The following subsections present the analyses of purchased care outpatient, inpatient, and prescription costs, followed by the analyses of MTF outpatient and inpatient costs. No analysis of MTF prescription costs was performed because most prescription costs in MEPRS are stepped down to the final operating accounts and are already accounted for in the outpatient and inpatient analyses.

Purchased Care Outpatient Utilization and Costs

The effects of TRICARE on purchased care outpatient utilization and costs were estimated separately for Prime enrollees (differentiated by choice of PCM) and nonenrollees. Outpatient utilization was measured as the number of visits per eligible beneficiary. Because utilization is more easily contemplated in terms of annual rates, the visits for beneficiaries with less than a full year of eligibility were scaled up to their annual equivalents.

Table J-1 shows the effect of TRICARE on purchased care outpatient utilization and costs. Note that the columns labeled “FY 1994” do not reflect actual utilization or costs in that year. Rather, outpatient utilization rates were first estimated from a statistical model that includes adjustments for the impact of BRAC and other Service rightsizing initiatives. These estimated utilization rates were then applied to the FY 1997 sample of CHAMPUS-eligible beneficiaries. Thus, the FY 1994 baseline reflects changes in the beneficiary size and composition that occurred between FY 1994 and FY 1997, as well as increased purchased care utilization resulting from MTF closings.

Outpatient utilization under TRICARE is 11 percent lower than under the traditional CHAMPUS benefit (2.25 visits per beneficiary in FY 1997 versus 2.54 visits in FY 1994). The regional declines in utilization all have similar magnitudes, except for a small increase in the Northwest region.

Overall, enrollees with a military PCM showed a 28-percent decline in utilization. With the exception of point-of-service visits and emergencies, these beneficiaries can visit civilian physicians only if referred by their PCM. Enrollees with a civilian PCM showed a 16-percent increase in utilization, reflecting the fact that these beneficiaries are now receiving virtually all of their outpatient care from civilian physicians.

There were a few regional exceptions to these general patterns. In Hawaii, utilization by enrollees with a military PCM stayed constant while utilization by enrollees with a civilian PCM decreased by 26 percent. In the Southern California, Golden Gate, and Northwest regions, utilization increased for enrollees with both military and civilian PCMs. In particular, visits by enrollees with a civilian PCM increased by 50 percent in the Golden Gate region.

Table J-1. Effect of TRICARE on Purchased Care Outpatient Utilization and Costs by Region

Region	Enrollment Status	Annual Visits per Beneficiary		Cost (\$millions)	
		FY 1994	FY 1997	FY 1994	FY 1997
Southeast	Military PCM	2.23	1.34	\$39.49	\$35.59
	Civilian PCM	4.00	4.23	28.17	35.25
	Nonenrolled	2.60	2.40	148.92	101.57
	Overall	2.65	2.32	216.58	172.42
Gulf South	Military PCM	2.18	1.23	20.86	17.34
	Civilian PCM	3.74	4.03	23.94	34.60
	Nonenrolled	2.55	2.44	91.53	54.82
	Overall	2.64	2.40	136.33	106.76
Southwest	Military PCM	2.17	1.26	42.72	27.48
	Civilian PCM	4.07	5.05	31.26	41.84
	Nonenrolled	2.51	2.18	84.04	55.88
	Overall	2.56	2.14	158.02	125.20
Southern California	Military PCM	2.53	2.79	16.18	18.98
	Civilian PCM	4.33	4.87	37.21	42.38
	Nonenrolled	2.83	1.71	75.89	34.93
	Overall	3.05	2.51	129.27	96.29
Golden Gate	Military PCM	1.89	2.38	5.38	7.46
	Civilian PCM	3.41	5.10	20.55	32.74
	Nonenrolled	2.15	1.22	32.02	12.10
	Overall	2.40	2.31	57.95	52.29
Northwest	Military PCM	1.23	1.42	6.22	8.60
	Civilian PCM	2.24	2.72	11.43	14.15
	Nonenrolled	1.50	1.72	15.75	13.25
	Overall	1.60	1.87	33.40	36.00
Hawaii	Military PCM	1.96	2.00	3.84	4.64
	Civilian PCM	3.40	2.52	2.13	2.18
	Nonenrolled	2.20	1.68	5.71	3.45
	Overall	2.24	1.90	11.69	10.28
Overall	Military PCM	2.11	1.52	134.84	121.94
	Civilian PCM	3.70	4.30	159.96	204.57
	Nonenrolled	2.47	2.10	451.80	273.24
	Overall	2.54	2.25	746.60	599.76

Table J-1 also shows the effect of TRICARE on purchased care outpatient costs. For this comparison, FY 1994 costs were estimated by applying a unit cost model to the utilization estimates and inflating by the Medicare Economic Index (6.6 percent cumulative inflation over the 3-year period). Outpatient costs declined in all regions except the Northwest, which experienced a small increase.

The cost per visit increased by 24 percent for Prime enrollees with a military PCM and by 5 percent for enrollees with a civilian PCM; however, the cost per visit declined by 28 percent for nonenrollees. The decline for nonenrolled beneficiaries occurred presumably because they are enjoying provider discounts by using the Extra network, and because they are no longer using the emergency room for non-emergency acute care.

There were a few notable differences among regions. For Prime enrollees with a military PCM, the cost per visit increased by 52 percent in the Southeast and by 51 percent in the Gulf South region. By contrast, the cost per visit increased by only 3 percent in Southern California and 4 percent in the Golden Gate region. For Prime enrollees with a civilian PCM, the cost per visit increased by 30 percent in the Gulf South and by 39 percent in Hawaii.

Purchased Care Inpatient Utilization and Costs

In theory, managed care programs apply UM initiatives (such as prospective review by physicians) to reduce the incidence of unneeded hospitalizations, and they apply quality management to reduce the length of stay without compromising the health of the patient. Therefore, much of saving expected from TRICARE should come from containing the costs of expensive inpatient care. Additional saving may be generated not only by reductions in bed days, but also by discounts negotiated between the MCS contractor and the civilian network hospitals and physicians.

Purchased care inpatient utilization was measured as the number of hospital discharges per 1,000 eligible beneficiaries. Again, the discharges for beneficiaries with less than a full year of eligibility were scaled up to their annual equivalents. All of the utilization and cost estimates shown in Table J-2 were computed relative to the FY 1997 sample of CHAMPUS-eligible beneficiaries.

Inpatient utilization under TRICARE is 11 percent lower than under the traditional CHAMPUS benefit (41.7 discharges per 1,000 beneficiaries in FY 1997 versus 46.9 discharges in FY 1994). The regional declines in utilization have similar magnitudes, except for a small increase in the Golden Gate region and a dramatic 76-percent decrease in Hawaii.¹

Overall, enrollees with a military PCM showed a 20-percent decline in utilization but enrollees with a civilian PCM showed a 10-percent increase. The increase for enrollees with a civilian PCM may reflect the fact that they are now receiving virtually all of their inpatient care at civilian network hospitals.

There were a few regional exceptions to these general patterns. The dramatic decline in utilization in Hawaii has already been noted. In the Gulf South and Northwest regions, utilization decreased for enrollees with both military and civilian PCMs. In the Golden Gate region, inpatient utilization increased by 48 percent for enrollees with a military PCM and by 71 percent for enrollees with a civilian PCM. Recall that outpatient utilization also increased for both types of enrollees in the Golden Gate region.

In addition to the hospitalization rate, the average length of stay was considered as a measure of inpatient utilization. Table J-3 reveals that the lengths of stay of purchased-care hospitalizations decreased in every TRICARE region and by 21 percent overall.

¹ The drop in inpatient costs in Hawaii does not seem credible. Neither officials at TMA nor the Region 12 Lead Agent has been able to offer a completely satisfying explanation for the drop. Because Hawaii is by far the smallest Health Service Region in terms of MCS contract value, the impact of this likely anomaly on the overall results (including all purchased-care and direct-care costs) is minimal.

Table J-2. Effect of TRICARE on Purchased Care Inpatient Utilization and Costs by Region

Region	Enrollment Status	Annual Discharges per 1,000 Beneficiaries		Cost (\$millions)	
		FY 1994	FY 1997	FY 1994	FY 1997
Southeast	Military PCM	47.19	38.80	\$51.73	\$40.17
	Civilian PCM	71.30	71.96	30.88	30.41
	Nonenrolled	46.70	45.07	161.59	75.43
	Overall	49.28	46.18	244.19	146.01
Gulf South	Military PCM	53.60	33.51	31.95	16.52
	Civilian PCM	73.28	69.34	30.46	23.08
	Nonenrolled	53.96	51.69	120.19	46.50
	Overall	56.52	50.23	182.60	86.11
Southwest	Military PCM	43.73	35.37	50.98	32.00
	Civilian PCM	61.38	81.36	28.55	30.26
	Nonenrolled	44.48	39.09	84.19	53.45
	Overall	46.13	42.48	163.71	115.72
Southern California	Military PCM	50.86	49.69	18.79	24.03
	Civilian PCM	70.53	79.72	36.02	36.59
	Nonenrolled	48.72	27.20	73.87	30.95
	Overall	53.16	41.38	128.69	91.58
Golden Gate	Military PCM	34.96	51.65	6.04	7.95
	Civilian PCM	56.70	97.22	19.57	32.03
	Nonenrolled	38.49	24.86	32.68	17.75
	Overall	42.19	46.08	58.29	57.74
Northwest	Military PCM	30.49	27.25	6.44	11.72
	Civilian PCM	39.83	22.13	9.14	4.70
	Nonenrolled	30.48	30.88	13.27	11.76
	Overall	32.63	27.91	28.86	28.17
Hawaii	Military PCM	24.42	1.59	7.32	1.73
	Civilian PCM	32.79	9.25	3.24	1.04
	Nonenrolled	23.37	8.77	8.46	2.83
	Overall	24.85	5.89	19.02	5.60
Overall	Military PCM	43.11	34.70	169.29	136.92
	Civilian PCM	61.47	67.67	157.26	156.10
	Nonenrolled	45.12	38.68	473.48	236.93
	Overall	46.88	41.68	800.03	529.94

Table J-3. Effect of TRICARE on Purchased Care Lengths of Stay

Region	FY 1994	FY 1997
Southeast	6.7	5.2
Gulf South	6.2	4.8
Southwest	7.3	5.5
Southern California	5.7	4.9
Golden Gate	4.8	4.4
Northwest	6.6	5.0
Hawaii	6.0	4.9
Overall	6.4	5.1

Table J-2 also shows the effect of TRICARE on purchased care inpatient costs. For this comparison, FY 1994 costs were inflated by the HCFA Hospital Input Price Index (8.1 percent cumulative inflation over the 3-year period). Inpatient costs declined in all regions except Golden Gate and the Northwest, where they remained essentially constant. The most dramatic decreases occurred in Hawaii and the Gulf South, where costs were cut in half.

Although enrollees with a civilian PCM had a 10-percent higher hospitalization rate under TRICARE, their total costs are essentially the same as under the traditional CHAMPUS benefit. The 11-percent reduction in the cost per discharge reflects the provider discounts negotiated by the MCS contractor. Enrollees with a military PCM, however, showed a 20-percent decline in both utilization and cost under TRICARE, so that the cost per discharge was unchanged. Offsetting the provider discounts is the fact that the latter enrollees are hospitalized in civilian facilities only if the required procedures cannot be performed in the MTF. These procedures tend to be more complex and costly than the typical procedures performed in civilian hospitals.

There were a few notable differences among regions. For Prime enrollees with a military PCM, the cost per discharge doubled in the Northwest and nearly quadrupled (a 264-percent increase) in Hawaii. By contrast, the cost per discharge declined by 16 percent in the Gulf South, by 22 percent in the Southwest, and by 13 percent in the Golden Gate region. For Prime enrollees with a civilian PCM, the cost per discharge decreased by 20 percent in the Gulf South and the Southwest, but increased by 13 percent in Hawaii.

Purchased Care Prescription Utilization and Costs

Table J-4 shows the effect of TRICARE on prescription utilization and costs. The FY 1994 baseline estimates reveal that even before TRICARE began, prospective Prime enrollees with a civilian PCM were heavier users of purchased care prescription services than were prospective enrollees with a military PCM. Moreover, the former group's prescription utilization nearly tripled under Prime, and the latter group's nearly doubled. One possible explanation for these increases is that MTFs have restricted their formularies under TRICARE, forcing some beneficiaries to fill their prescriptions at civilian pharmacies. Note also that, under Prime, the participating pharmacy files all prescription claims regardless of cost. Under the traditional benefit, if a prescription cost did not meet the deductible, some beneficiaries may not have bothered to file a claim. Consequently, the additional utilization may be associated with low-cost prescriptions.

Overall, prescription utilization doubled under TRICARE. A few regions deviated from the general pattern. In Southern California, prescription utilization remained constant for enrollees with a military PCM, but increased to 5.7 per year for enrollees with a civilian PCM. Prescription utilization for the latter group was higher in the Southwest region (6.8 prescriptions per year) and highest in the Golden Gate region (7.1 prescriptions per year).

Table J-4. Effect of TRICARE on Purchased Care Prescription Utilization and Costs by Region

Region	Enrollment Status	Annual Prescriptions per Beneficiary		Cost (\$millions)	
		FY 1994	FY 1997	FY 1994	FY 1997
Southeast	Military PCM	0.27	0.63	\$2.33	\$2.50
	Civilian PCM	1.07	3.42	3.54	4.47
	Nonenrolled	0.68	2.41	23.71	33.07
	Overall	0.62	2.06	29.57	40.04
Gulf South	Military PCM	0.38	0.85	1.56	2.10
	Civilian PCM	1.30	4.35	3.40	4.59
	Nonenrolled	0.93	2.85	17.36	18.77
	Overall	0.87	2.63	22.32	25.46
Southwest	Military PCM	0.40	0.82	2.62	4.71
	Civilian PCM	1.92	6.77	5.06	9.59
	Nonenrolled	1.04	2.46	15.14	22.07
	Overall	0.88	2.30	22.82	36.37
Southern California	Military PCM	0.91	0.92	1.62	1.86
	Civilian PCM	3.19	5.69	7.14	11.00
	Nonenrolled	1.74	1.54	13.67	10.91
	Overall	1.84	2.18	22.43	23.76
Golden Gate	Military PCM	0.79	1.24	0.53	0.92
	Civilian PCM	2.85	7.07	4.01	9.10
	Nonenrolled	1.63	1.84	6.23	7.07
	Overall	1.78	2.97	10.78	17.10
Northwest	Military PCM	0.14	0.43	0.49	0.67
	Civilian PCM	0.55	2.62	2.00	2.59
	Nonenrolled	0.38	1.46	3.62	5.56
	Overall	0.36	1.46	6.11	8.82
Hawaii	Military PCM	0.17	0.13	0.17	0.16
	Civilian PCM	0.81	1.12	0.24	0.33
	Nonenrolled	0.37	0.66	0.62	0.89
	Overall	0.34	0.50	1.03	1.37
Overall	Military PCM	0.39	0.72	9.40	13.37
	Civilian PCM	1.76	4.82	25.64	41.09
	Nonenrolled	0.99	2.21	79.97	98.92
	Overall	0.93	2.16	115.02	153.38

Table J-4 also shows the effects of TRICARE on purchased care prescription costs. FY 1994 costs were inflated by the Consumer Price Index (CPI) for prescription drugs (7.8 percent). Overall, prescription costs increased by 33 percent under TRICARE. This increase, though significant, is much smaller than the overall doubling in prescription utilization, consistent with the earlier conjecture that the additional utilization may be associated with low-cost prescriptions.

MTF Outpatient Utilization and Costs

During FY 1997 there was no widely available, centralized, patient-level accounting system with information on MTF outpatient workload and costs. The Ambulatory Data System had been only partially implemented by the end of FY 1997. Information on

outpatient workload and costs are captured in MEPRS on an aggregate basis by clinical area only. Therefore, there is no way to separate the costs generated by nonenrollees during space-available visits from the costs generated by Prime enrollees. As a result, it was not possible to determine the effect of Prime enrollment on MTF outpatient costs.

Given the lack of detail in the MEPRS data, FY 1994 baseline costs were estimated by applying the FY 1994 visit rate and the cost per visit to the FY 1997 beneficiary population and adjusting for inflation.² The results are shown in Table J-5.

Table J-5. Effect of TRICARE on MTF Outpatient Utilization and Costs by Region

Region	Annual Visits per Beneficiary		Cost (\$millions)	
	FY 1994	FY 1997	FY 1994	FY 1997
Southeast	4.32	3.92	\$431.05	\$462.46
Gulf South	4.15	3.80	266.14	270.11
Southwest	5.28	4.98	438.30	502.10
Southern California	4.08	4.40	250.61	281.94
Golden Gate	2.48	2.95	81.66	110.08
Northwest	4.96	4.43	171.88	178.93
Hawaii	9.17	7.41	123.34	122.54
Overall	4.60	4.34	\$1,762.98	\$1,928.16

It should be noted that MTF visits cannot be directly compared with purchased care visits because the two are measured differently. An MTF visit does not necessarily involve a face-to-face contact with a physician—it could be just a phone call for medical advice. As another example, if a physical examination is accompanied by a series of laboratory tests, each test station (e.g., pathology, radiology) may claim a “visit” in addition to the outpatient clinic itself.

With this understanding, the number of MTF visits declined in most regions, except for increases of 8 percent in Southern California and 19 percent in the Golden Gate region. Hawaii experienced a 19-percent decline in utilization, the largest among all the TRICARE regions. Although outpatient utilization decreased 6 percent overall (from 4.60 visits per beneficiary in FY 1994 to 4.34 visits in FY 1997), outpatient costs increased by 9 percent.

The average cost per visit increased in every TRICARE region and by 16 percent overall. Southern California had the smallest increase—only 4 percent. The largest increases were found in the Southeast (18 percent), Southwest (21 percent), and Hawaii (23 percent).

² FY 1994 costs were inflated by the HCFA Hospital Input Price Index plus a factor for medical intensity and technology. The 3-year cumulative growth in the HCFA index was 8.1 percent. A 3-year allowance for intensity and technology was added to that factor at a rate of 0.7 percent per year, yielding a total adjustment of 10.4 percent. The source for the intensity and technology factor is Matthew S. Goldberg and Ravi Sharma, “Inflation in DoD Medical Care,” Institute for Defense Analyses, Paper P-3325, July 1997.

MTF Inpatient Utilization and Costs

Under the traditional military health care benefit of direct care and CHAMPUS, there was a priority system for access to the MTF. The group with the highest priority was (and remains) active-duty service members. Next came active-duty family members and, finally, retirees and their family members. Because of this priority system, baseline utilization and cost estimates should vary significantly by beneficiary category. For this reason, MTF inpatient utilization and cost were computed at a greater level of detail than their purchased care counterparts. These estimates are shown in Table J-6.

MTF inpatient utilization declined by 23 percent overall. All of the regions showed some decline, ranging from 8 percent in Southern California to 32 percent in the Gulf South and 34 percent in the Southeast and Golden Gate regions.

Utilization declined for every beneficiary group except retirees and their family members with a military PCM, who experienced a 26-percent increase. This group had the lowest access to MTF care prior to TRICARE, and their access improved once they enrolled in Prime. Among the individual regions, only Golden Gate showed a small decrease in MTF inpatient utilization for this group.

By contrast, active-duty family members with a military PCM, who enjoyed an intermediate level of access prior to TRICARE, experienced an 18-percent decrease in utilization. Apparently, the trend toward fewer hospitalizations more than offset the increased access for this group of beneficiaries.

Table J-6 also shows the effect of TRICARE on MTF inpatient costs. For this comparison, MTF inpatient costs in FY 1994 were inflated using the same index that was previously applied to MTF outpatient costs. Inpatient costs declined by 23 percent overall, the same percentage decline as the hospitalization rate, so that the cost per discharge remained constant. The only major exceptions are the Gulf South and Golden Gate regions, where the cost per discharge decreased by 11 percent and 14 percent, respectively; and Hawaii, where it increased by 11 percent.

Table J-6. Effect of TRICARE on MTF Inpatient Utilization and Costs by Region

Region	Beneficiary Group	Enrollment Status	Annual Discharges per 1,000 Beneficiaries		Cost (\$millions)	
			FY 1994	FY 1997	FY 1994	FY 1997
Southeast	Active Duty Members	Military PCM	74.45	69.84	\$54.52	\$54.38
		Active-Duty Family Members	Military PCM	180.79	120.20	47.98
	Retirees and Family Members	Civilian PCM	128.78	67.39	8.97	4.28
		Nonenrolled	126.91	70.08	34.78	18.99
		Military PCM	96.63	106.63	22.18	27.04
		Civilian PCM	55.94	35.81	6.78	5.09
		Nonenrolled	48.63	26.86	121.44	66.29
Overall	Overall	88.57	58.46	296.64	210.88	
Gulf South	Active Duty Members	Military PCM	79.42	66.69	32.06	23.56
		Active-Duty Family Members	Military PCM	190.51	131.40	28.44
	Retirees and Family Members	Civilian PCM	143.15	73.51	10.01	5.70
		Nonenrolled	123.26	73.92	19.70	9.59
		Military PCM	101.07	127.63	14.95	19.44
		Civilian PCM	62.95	37.11	8.23	3.60
		Nonenrolled	51.56	30.92	86.10	41.89
Overall	Overall	89.79	60.77	199.49	122.14	
Southwest	Active Duty Members	Military PCM	97.45	71.59	79.76	58.63
		Active-Duty Family Members	Military PCM	219.79	168.45	98.98
	Retirees and Family Members	Civilian PCM	146.45	76.92	11.62	7.05
		Nonenrolled	184.51	153.22	47.17	39.24
		Military PCM	128.26	180.45	42.58	58.84
		Civilian PCM	62.44	42.29	12.80	7.07
		Nonenrolled	61.03	50.68	107.18	89.17
Overall	Overall	132.68	109.28	400.08	333.86	
Southern California	Active Duty Members	Military PCM	70.32	63.62	59.99	50.92
		Active-Duty Family Members	Military PCM	170.18	208.76	21.69
	Retirees and Family Members	Civilian PCM	124.95	86.84	13.04	7.68
		Nonenrolled	122.85	100.96	36.75	27.75
		Military PCM	79.56	87.18	7.76	9.00
		Civilian PCM	48.86	44.33	10.77	8.58
		Nonenrolled	51.06	41.96	72.27	54.59
Overall	Overall	88.15	80.83	222.28	185.82	

Continued on next page

Table J-6—Continued

Region	Beneficiary Group	Enrollment Status	Annual Discharges per 1,000 Beneficiaries		Cost (\$millions)	
			FY 1994	FY 1997	FY 1994	FY 1997
Golden Gate	Active Duty Members	Military PCM	80.88	79.51	\$16.42	\$14.05
		Active-Duty Family Members	Military PCM	226.85	185.25	11.83
	Retirees and Family Members	Civilian PCM	121.10	27.86	6.17	1.85
		Nonenrolled	136.06	82.76	12.91	6.64
		Military PCM	104.78	98.07	6.23	4.42
		Civilian PCM	60.41	35.35	11.71	5.58
		Nonenrolled	59.73	36.33	65.14	33.50
		Overall	Overall	90.58	59.63	130.40
Northwest	Active Duty Members	Military PCM	87.05	66.07	23.64	20.30
		Active-Duty Family Members	Military PCM	216.77	199.89	22.06
	Retirees and Family Members	Civilian PCM	161.66	87.39	12.06	6.08
		Nonenrolled	166.64	106.97	13.94	8.75
		Military PCM	112.47	130.24	10.77	15.79
		Civilian PCM	71.45	41.53	8.17	4.51
		Nonenrolled	59.33	38.08	38.20	23.99
		Overall	Overall	118.31	87.62	128.84
Hawaii	Active Duty Members	Military PCM	106.13	87.09	30.30	31.38
		Active-Duty Family Members	Military PCM	260.34	263.84	27.12
	Retirees and Family Members	Civilian PCM	215.22	113.65	5.33	3.35
		Nonenrolled	231.64	150.32	18.65	13.36
		Military PCM	139.44	169.42	3.35	4.27
		Civilian PCM	88.20	109.90	1.62	1.55
		Nonenrolled	95.76	62.14	17.88	12.81
		Overall	Overall	181.94	149.32	104.25
Overall	Active Duty Members	Military PCM	82.90	69.32	296.78	252.75
		Active-Duty Family Members	Military PCM	209.98	171.51	258.56
	Retirees and Family Members	Civilian PCM	141.57	75.46	67.34	36.31
		Nonenrolled	149.76	105.26	183.31	124.74
		Military PCM	111.84	141.16	108.13	140.18
		Civilian PCM	59.50	40.21	59.07	35.65
		Nonenrolled	53.56	36.22	499.40	319.59
		Overall	Overall	106.83	81.97	1,472.60

In addition to the hospitalization rate, the average length of stay was considered as a measure of inpatient utilization. Table J-7 reveals that MTF lengths of stay decreased in every TRICARE region and by 19 percent overall.

Table J-7. Effect of TRICARE on MTF Lengths of Stay by Region

Region	FY 1994	FY 1997
Southeast	4.1	3.4
Gulf South	4.2	3.4
Southwest	4.6	3.6
Southern California	3.7	3.3
Golden Gate	4.6	3.9
Northwest	3.9	3.3
Hawaii	5.8	4.5
Overall	4.3	3.5

APPENDIX K: EFFECT OF TRICARE ON OTHER INSURANCE COVERAGE

Beginning with the 1997 Health Care Survey of DoD Beneficiaries, two questions were asked of respondents to ascertain the affect of TRICARE on their private health insurance coverage. Respondents were asked whether they added or dropped private insurance coverage because of TRICARE, or whether TRICARE had no effect on their insurance coverage decision. The first question pertained to TRICARE or Medicare supplemental insurance coverage and the second to other private health insurance or an HMO. Tables K-1 and K-2 show the impact of TRICARE on beneficiaries' insurance coverage decisions.

Table K-1. TRICARE Effect on Supplemental Insurance Coverage by Region

Region	Beneficiary Group	Enrollment Status	No Effect	Added	Dropped
Southeast	Active Duty Family Members	Military PCM	95.1	2.0	2.8
		Civilian PCM	90.0	5.4	4.6
		Not Enrolled	89.9	7.8	2.3
	Retirees and Family Members <65	Military PCM	80.6	6.3	13.1
		Civilian PCM	84.3	5.4	10.4
		Not Enrolled	85.0	14.1	0.9
Retirees and Family Members ≥65	Ineligible	91.4	7.5	1.1	
Gulf South	Active Duty Family Members	Military PCM	94.4	2.4	3.2
		Civilian PCM	94.5	2.4	3.1
		Not Enrolled	87.9	11.7	0.4
	Retirees and Family Members <65	Military PCM	77.1	7.8	15.2
		Civilian PCM	74.5	17.3	8.2
		Not Enrolled	83.1	16.0	0.9
Retirees and Family Members ≥65	Ineligible	88.2	11.1	0.7	
Southwest	Active Duty Family Members	Military PCM	95.6	1.1	3.3
		Civilian PCM	97.0	3.0	0.1
		Not Enrolled	93.1	6.8	0.1
	Retirees and Family Members <65	Military PCM	85.4	3.7	10.9
		Civilian PCM	78.0	2.7	19.3
		Not Enrolled	86.6	12.6	0.9
Retirees and Family Members ≥65	Ineligible	91.4	7.2	1.4	
S. California	Active Duty Family Members	Military PCM	94.0	3.0	3.0
		Civilian PCM	91.8	3.9	4.3
		Not Enrolled	90.7	7.3	2.0
	Retirees and Family Members <65	Military PCM	90.1	4.9	4.9
		Civilian PCM	80.3	10.7	9.0
		Not Enrolled	92.6	6.9	0.5
Retirees and Family Members ≥65	Ineligible	94.7	4.3	1.0	

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Table K-1—Continued

Region	Beneficiary Group	Enrollment Status	No Effect	Added	Dropped
Golden Gate	Active Duty Family Members	Military PCM	95.6	1.3	3.1
		Civilian PCM	98.1	0.0	1.9
		Not Enrolled	89.5	8.4	2.1
	Retirees and Family Members <65	Military PCM	87.0	5.1	7.8
		Civilian PCM	83.3	12.0	4.8
		Not Enrolled	89.0	10.7	0.2
Retirees and Family Members ≥65	Ineligible	90.8	8.2	1.1	
Northwest	Active Duty Family Members	Military PCM	94.6	2.7	2.8
		Civilian PCM	96.8	1.6	1.6
		Not Enrolled	94.0	4.3	1.7
	Retirees and Family Members <65	Military PCM	83.7	4.1	12.2
		Civilian PCM	84.3	5.9	9.8
		Not Enrolled	93.6	5.6	0.9
Retirees and Family Members ≥65	Ineligible	94.4	4.4	1.2	
Hawaii	Active Duty Family Members	Military PCM	96.6	1.6	1.8
		Civilian PCM	99.4	0.6	0.0
		Not Enrolled	99.8	0.2	0.0
	Retirees and Family Members <65	Military PCM	92.2	5.2	2.6
		Civilian PCM	80.4	3.6	15.9
		Not Enrolled	88.8	11.2	0.0
Retirees and Family Members ≥65	Ineligible	92.8	6.9	0.3	
Overall	Active Duty Family Members	Military PCM	94.9	2.5	2.6
		Civilian PCM	93.1	4.0	2.9
		Not Enrolled	93.5	5.7	0.8
	Retirees and Family Members <65	Military PCM	82.0	6.7	11.2
		Civilian PCM	78.9	10.1	11.0
		Not Enrolled	88.6	10.7	0.7
Retirees and Family Members ≥65	Ineligible	92.6	6.6	0.8	

Table K-2. TRICARE Effect on Private Insurance Coverage by Region

Region	Beneficiary Group	Enrollment Status	No Effect	Added	Dropped
Southeast	Active Duty Family Members	Military PCM	95.2	1.3	3.5
		Civilian PCM	89.4	5.8	4.8
		Not Enrolled	83.3	11.5	5.2
	Retirees and Family Members <65	Military PCM	85.8	4.0	10.2
		Civilian PCM	82.2	7.2	10.5
		Not Enrolled	80.7	17.4	1.9
Retirees and Family Members ≥65	Ineligible	92.1	6.8	1.1	
Gulf South	Active Duty Family Members	Military PCM	92.3	4.0	3.7
		Civilian PCM	92.2	0.9	6.9
		Not Enrolled	91.2	7.0	1.8
	Retirees and Family Members <65	Military PCM	73.7	9.1	17.2
		Civilian PCM	85.8	5.0	9.2
		Not Enrolled	78.8	19.8	1.4
Retirees and Family Members ≥65	Ineligible	90.6	9.1	0.4	

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Table K-2—Continued

Southwest	Active Duty Family Members	Military PCM	95.5	1.2	3.3
		Civilian PCM	94.1	2.6	3.3
		Not Enrolled	94.2	5.0	0.7
	Retirees and Family Members <65	Military PCM	87.6	2.7	9.7
		Civilian PCM	81.0	3.5	15.5
		Not Enrolled	81.3	17.9	0.8
Retirees and Family Members ≥65	Ineligible	92.0	6.8	1.2	
S. California	Active Duty Family Members	Military PCM	91.4	3.6	5.0
		Civilian PCM	82.4	3.9	13.7
		Not Enrolled	91.6	6.4	2.0
	Retirees and Family Members <65	Military PCM	85.2	1.7	13.1
		Civilian PCM	76.6	7.4	16.0
		Not Enrolled	86.4	11.1	2.4
Retirees and Family Members ≥65	Ineligible	93.6	6.1	0.3	
Golden Gate	Active Duty Family Members	Military PCM	93.3	1.2	5.5
		Civilian PCM	89.4	5.9	4.7
		Not Enrolled	91.6	6.3	2.2
	Retirees and Family Members <65	Military PCM	84.5	3.8	11.7
		Civilian PCM	79.8	7.5	12.7
		Not Enrolled	82.2	17.8	0.0
Retirees and Family Members ≥65	Ineligible	87.0	12.9	0.1	
Northwest	Active Duty Family Members	Military PCM	95.0	2.3	2.7
		Civilian PCM	92.8	1.8	5.4
		Not Enrolled	92.6	4.4	3.0
	Retirees and Family Members <65	Military PCM	83.9	3.9	12.2
		Civilian PCM	78.0	8.9	13.1
		Not Enrolled	84.0	14.4	1.6
Retirees and Family Members ≥65	Ineligible	91.2	7.2	1.6	
Hawaii	Active Duty Family Members	Military PCM	95.2	3.0	1.8
		Civilian PCM	81.3	0.5	18.2
		Not Enrolled	89.0	11.0	0.0
	Retirees and Family Members <65	Military PCM	95.9	2.5	1.6
		Civilian PCM	71.3	18.9	9.8
		Not Enrolled	80.0	20.0	0.0
Retirees and Family Members ≥65	Ineligible	93.0	7.0	0.0	
Overall	Active Duty Family Members	Military PCM	94.9	2.2	3.0
		Civilian PCM	88.5	4.2	7.3
		Not Enrolled	92.8	6.0	1.2
	Retirees and Family Members <65	Military PCM	86.4	3.9	9.7
		Civilian PCM	78.1	8.4	13.5
		Not Enrolled	83.3	15.8	1.0
Retirees and Family Members ≥65	Ineligible	92.5	7.0	0.5	

ABBREVIATIONS

AD	Active Duty
ADFM	Active-Duty Family Members
ADS	Ambulatory Data System
AHA	American Hospital Association
APO	Army Post Office
BPA	Bid Price Adjustment
BRAC	Base Realignment and Closure
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
CMAC	CHAMPUS Maximum Allowable Charge
CMIS	CHAMPUS Medical Information System
CPI	Consumer Price Index
CRI	CHAMPUS Reform Initiative
DEERS	Defense Enrollment Eligibility Reporting System
DHHS	Department of Health and Human Services
DME	Direct Medical Education
DoD	Department of Defense
DRG	Diagnosis Related Group
ER	Emergency Room
FEHBP	Federal Employees Health Benefits Program
FI	Fiscal Intermediary
FPO	Fleet Post Office
FTE	Full-Time Equivalent
FY	Fiscal Year
FYDP	Future Years Defense Program
HCF	Health Care Finder
HCFA	Health Care Financing Administration
HMO	Health Maintenance Organization
HS	High School
IDA	Institute for Defense Analyses
MCS	Managed Care Support

MEPRS	Medical Expense and Performance Reporting System
MHS	Military Health System
MilCon	Military Construction
MSA	Metropolitan Statistical Area
MTF	Military Treatment Facility
NMOP	National Mail Order Pharmacy
O&M	Operations and Maintenance
OASD(HA)	Office of the Assistant Secretary of Defense (Health Affairs)
OCHAMPUS	Office of the Civilian Health and Medical Program of the Uniformed Services
OHI	Other Health Insurance
OPE	Out-of-Pocket Expenses
PCM	Primary Care Manager
RWP	Relative Weighted Product
SA	Space-Available
SADR	Standard Ambulatory Data Record
SIDR	Standard Inpatient Data Record
TMA	TRICARE Management Activity
UM	Utilization Management
USUHS	Uniformed Services University of the Health Sciences