# Report to Congress on Accounting for VA and DoD Expenditures for Medicare Beneficiaries

Tommy G. Thompson
Secretary of Health and Human Services
2003

## Table of Contents

Executive Summary....iv

Chapter I. Legislative Mandate and Issues....1

Chapter II. Programs Benefits and Eligibility....5

Chapter III. Medicare Beneficiaries' Use of VA Services....13

Chapter IV. Medicare Beneficiaries' Use of DoD Services....24

Chapter V. Comparing VA and DoD Findings on Use of Services by Medicare Enrollees....32

Chapter VI. Changes to the M+C Payment Methodology Since 1997....36

Chapter VII. Summary of Findings....38

Appendix A: Methods for Creating Medicare/DoD Merged Data Set

Appendix B: Trends in Actual and Projected VHA Enrollment, Utilization, and Expenditures, Department of Veterans Affairs

## List of Tables


Table 1. Department of Veterans' Affairs' priority groups

Table 2. Differences between Medicare non-veterans and veterans, 1997 (in percent)

Table 3. Medicare and total annual spending for Medicare beneficiaries in fee-for-Service, by veteran status, 197

Table 4. Differences between Medicare service users not using VA services and those using VA services (in percent)

Table 5. Annual per capita Medicare and total spending for Medicare service users in fee-for-service, by use of VA services, 1996-1998

Table 6. Annual per capita VA spending for Medicare fee-for-service beneficiaries using the VA, 1996-1998

Table 7. Per capita annual VA spending for Medicare HMO enrollees using VA Services, 1996-1998

Table 8. Results of multivariate analysis, 1996-1998

Table 9. Demographic characteristics of Medicare/DoD duals, 1998 (in percent)

Table 10. Geographic distribution of Medicare beneficiaries, selected states, 1997 (in percent)

Table 11. M+C enrollment as a percent of total eligibles, selected states, 1998 (in percent)

Table 12. Annual per capita costs for dual eligible fee-for-service enrollees, 1997-1998

Table 13. Annual service use per 100 Medicare/DoD dual beneficiaries in fee-for-service, 1997-1998

Table 14. Counties with highest percent of DoD users among Medicare beneficiaries And at least 500 dual eligibles, 1998

Table 15. Spending for Medicare beneficiaries using VA or DoD services, 1998

## Executive Summary

Section 551 of the Medicare, Medicaid, and SCHIP Balanced Budget Refinement Act of 1999 requires the Secretaries of Health and Human Services, Department of Defense (DoD), and Department of Veterans Affairs (VA) to submit to Congress a report on the use of health care services furnished by DoD and VA to Medicare beneficiaries, including Medicare+Choice (M+C) enrollees and Medicare fee-for-service beneficiaries. This report covers measures of utilization and a preliminary analysis of the effect that using VA and DoD facilities has on Medicare utilization. A second report, mandated by section 609 of the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000, will make more specific recommendations for individual counties.

The impetus for this report comes from a long-standing issue regarding payment rates for capitated Medicare managed care plans (then known as risk plans). These rates historically were based on the average fee-for-service spending per Medicare beneficiary in each county. County fee-for-service spending was considered a reasonable estimate of the expected costs of caring for a Medicare beneficiary in managed care. In areas of the country where Medicare beneficiaries use facilities operated by VA and DoD as a substitute (all or in part) for Medicare-covered services, county level Medicare fee-for-service spending may be lower than it would be if the facilities were not present. Medicare managed care plans urged that an upward adjustment be made to the county rates to account for this use, but until recently little data have been available on which to base such an adjustment. Note that such a change would require an amendment to the M+C statute. This report is the first stage of an analysis that will make recommendations for appropriate changes to M+C rates.

This report examines the utilization of VA and DoD users who are Medicare beneficiaries. For VA, national statistics for utilization are presented, as well as an analysis controlling for the characteristics of the populations. For DoD, measures of utilization are presented in Appendix A. This report does not present county level detailed analyses. It would be inappropriate to make recommendations for the specific counties that have the large military or VA facilities based on this stage of the study. Most of the data and analysis covers the period related to the creation of the last set of M+C rates based on local fee-for-service utilization. A report on changes in VA utilization since that time is presented in Appendix B.

Beginning in 1998, Medicare capitation rates were no longer a direct reflection of fee-for-service spending at the county level. The base for the new rate methodology is 1997 fee-for-spending, but in the majority of counties the M+C payment rate is likely quite different from the amount spent under the fee-for-service program. For example, currently about 80 percent of Medicare county rates are floor rates. In many counties these rates are substantially higher than fee-for-service spending. Any adjustment to 1997 rates to reflect VA or DoD use thus would be imperceptible as the floor amount would still be higher than the adjusted 1997 rate.

We used different data sets for the VA and DoD based on their availability for this Report to Congress.

- For the analysis of VA use by Medicare beneficiaries, we used the Medicare Current Beneficiary Survey (MCBS) for 1996-1998. Because of the many data elements in it, including VA use, this gives an opportunity to estimate effects at the national level, but the sample size does not allow us to study effects at the individual county level.

- For the analysis of DoD use by Medicare beneficiaries, we matched enrollment and service use information with the DoD. This data set provides more detailed utilization at the local level than the MCBS is able to do. One drawback of this database is that DoD services are priced using a cost-finding algorithm that probably derives higher prices for DoD services than Medicare would pay. Another drawback is that the data are incomplete for 1997 (outpatient data are not included) and 1998 (data are not available for the last 4 months for beneficiaries who joined the subvention demonstration).

Several factors are relevant when assessing the findings:

- The need for an adjustment is based on an assumption that M+C enrollees do not continue to use VA and DoD facilities once they enroll in an M+C plan. Thus, this report provides information on the extent to which users of VA/DoD services are enrolled in M+C plans and whether these M+C enrollees continue to use VA/DoD facilities after they join plans.

- All M+C rates are adjusted for demographic factors, e.g., beneficiaries' sex, age. Once these adjustments are made, differences in the initial "raw" dollar amounts can be changed, sometimes significantly. VA and DoD eligibles vary significantly from the Medicare average population on some demographic measures. Adjusting for these differences could change the apparent impact of services in VA/DoD facilities.

Key findings on the effects of VA use during the period affecting the M+C rates are:

- The preliminary study from the MCBS sample finds that there is insufficient evidence to show that Medicare fee-for-service spending is significantly lowered by use of VA facilities. Unadjusted figures for some years might appear to support a conclusion that rates may be lower. However, when data are adjusted for the demographic and other relevant factors of VA users, e.g., the fact that they are primarily male and that they have less health insurance and are in poorer health, there is no meaningful difference at the national level in Medicare spending between VA users and other Medicare beneficiaries. A larger sample focused on individual counties might detect statistically significant effects of small magnitude.

- In addition, as noted above, the issue of whether rates appropriately reflect any use of VA services depends in part on whether VA users enroll in M+C plans and continue to use VA services. Our analysis indicates that, in the period under analysis, about 15

percent of VA users enroll in M+C plans, compared with about 17 percent of non-VA users. In addition, it indicates that veterans in M+C plans continue to use VA facilities.

Key findings on DoD use are:

- Counties with the highest shares of DoD users tend to be those where M+C payments are made at the minimum amount or floor. For this reason, as noted above, incorporating a factor to reflect DoD use would likely make no difference in the M+C rates in these counties.

- A factor to reflect DoD use might make a difference in the few minimum percentage increase counties with high shares of DoD users, but determining a precise factor would require more detailed analysis than was possible within the time allowed to produce this report.

- In addition, as noted above, the issue of whether rates appropriately reflect any use of DoD services depends in part on whether DoD users enroll in M+C plans and continue to use DoD services. Our analysis indicates that DoD users enroll in M+C plans at about the same rate as non-DoD users and that they continue to have significant levels of spending in DoD facilities.

The descriptive statistics found in this study indicate that the Medicare utilization of VA and DoD eligibles differs from the general population. A preliminary study of VA users in the national sample in MCBS indicates that health status and demographics explain much of the difference. A second required report to Congress, concentrating on areas near military medical facilities, will make specific recommendations for individual counties.

## I. LEGISLATIVE MANDATE AND ISSUES

Section 551 of the Medicare, Medicaid, and SCHIP Balanced Budget Refinement Act of 1999 (BBRA) requires the Secretaries of Health and Human Services, Department of Defense (DoD), and Department of Veterans Affairs (VA) to submit to Congress a report on the use of health care services furnished by DoD and VA to Medicare beneficiaries, including Medicare+Choice (M+C) enrollees and Medicare fee-for-service beneficiaries. This report covers both measures of utilization and a preliminary analysis of the effect that using VA and DoD facilities has on Medicare utilization. For VA, national statistics for utilization are presented, as well as an analysis controlling for the characteristics of the populations. For DoD, measures of utilization are presented. This report does not present county level detailed analyses or recommendations for the specific counties that have the large military or VA facilities. Most of the data and analysis covers the period related to the last M+C rates created using local fee-for-service data. More recent data on VA services are presented in Appendix B, an analysis by the Veterans Health Administration.

The language of the mandate stipulated that the report should include an analysis of how best to properly account for these expenditures in the computation of M+C capitation rates. A second report, mandated by section 609 of the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000, will analyze counties near military facilities and will make more specific recommendations for individual counties.

Congress has at least two specific interests in mandating the Secretaries to conduct the study, according to conference report language. One relates directly to payment rates for M+C organizations; the other to concerns about access to VA and DoD care.

Historically, payment rates for capitated Medicare managed care plans (then known as risk plans) were based on the average fee-for-service spending per Medicare beneficiary in each county. County fee-for-service spending was considered a reasonable estimate of the expected costs of caring for a Medicare beneficiary in managed care.[1] In areas of the country where Medicare beneficiaries use facilities operated by VA and DoD as a substitute (all or in part) for Medicare-covered services, county level Medicare fee-for-service spending may be lower than it would be were the facilities not present. If, however, dual users go to VA/DoD facilities for services not covered by Medicare or duplicative, the M+C rates would not be affected.

Even if there is lower spending for county beneficiaries that relates to use of VA/DoD facilities, the lower spending may be appropriately reflected in the capitation rates. This depends on whether dual users behave differently on the M+C side than they do on the fee-for-service side. If dual users join M+C plans and continue to use VA and DoD facilities, rates reduced by VA and DoD use would accurately represent the average spending expected. However, if dual users do not join M+C plans or do join them but then stop using VA and DoD facilities, the rate may understate the amount of care one would expect beneficiaries to need. An example illustrates this point. Assume fee-for-

[1] The base rate for each county was 95 percent of the projected fee-for-service county per capita costs, adjusted for demographic characteristics of the county.

service spending in a county is $500 per month, and 10 percent of Medicare beneficiaries use VA and DoD services for $50 per month of Medicare-covered services. On average, $505 in resources goes for Medicare-covered services in that county, and a $5 adjustment to the $500 rate could be made to reflect VA and DoD use. But if 10 percent of M+C plans' enrollees also use VA and DoD services at $50 per month each, $500 is the appropriate monthly payment.

In its March 1, 1997, report to the Congress, the Prospective Payment Assessment Commission recommended an adjustment to increase capitation rates to include estimated spending for covered services that Medicare beneficiaries receive in facilities operated by the Departments of Veterans Affairs and Defense.[2] The report cited an analysis of 1991 data that estimated that services provided to beneficiaries in these facilities made up about 3 percent of the total cost of Medicare-covered services, varying from 1 percent to 7 percent of total Medicare costs across states. This recommendation was based on an assumption that beneficiaries who choose risk plans are not likely to use these facilities, and was made before the link between capitation rates and fee-for-service spending was broken.

In the 106th Congress, Representatives Dunn, Klecza, and McDermott introduced legislation that would require the Secretary to increase county rates to account for DoD costs in furnishing care to Medicare benefits.[3] H.R. 4968 would have the Secretary recalculate the 1997 M+C payment rates in any counties where DoD military treatment

---

[2] Prospective Payment Assessment Commission, *Report and Recommendations to the Congress*, March 1, 1997.

facilities are located and in counties contiguous to these. The recalculation would increase the 1997 rates to reflect the aggregate costs incurred by the DoD in furnishing Medicare benefits that presumably were being furnished by M+C plans to enrollees.

Another interest by Congress in dual use was cited in conference report language accompanying the requirement for the Secretary to write the report required by the BBRA.[4] Conference committee parties noted concern about the ability of Medicare beneficiaries entitled to VA health services to obtain the full benefit of these separate entitlements.

They went on to note:

> "This issue is of particular concern in areas where VA health facilities are inadequate to fully meet the needs of these veteran beneficiaries. While beneficiaries in these areas are often able to readily obtain Medicare-covered services from Medicare providers, the lack of Veterans Health Administration facilities often prevents them from obtaining more generous VA benefits for their health care needs. As a result, these beneficiaries often have to pay more in out-of-pocket health spending than similarly entitled veterans who reside near VA facilities."

---

[3] 106th Congress, H.R. 4968, introduced July 26, 2000.

[4] Conference Agreement on Medicare Provisions Incorporated by Reference into H.R. 3194, the "District of Columbia Appropriations Act," which were introduced as H.R. 3426, the "Medicare, Medicaid, and SCHIP Balanced Budget Refinement Act of 1999," November 17, 1999.

This report focuses primarily on the first issue of interest to the Congress—the dual use of Medicare and VA services. The issue of access is monitored regularly by the VA and by other entities, including the General Accounting Office and is largely outside the scope of Medicare policy. Changes at both DoD, described below, and the VA, described below and in Appendix B, have addressed many access concerns.

## II. PROGRAMS BENEFITS AND ELIGIBILITY

### Medicare

Medicare is a national health insurance program for most people 65 and over, some disabled people under age 65, and people with end-stage renal disease. The Medicare benefit package includes many services provided by hospitals (inpatient and outpatient) and physicians; its also covers post-acute care provided by skilled nursing facilities and by home health agencies. Durable medical equipment also is covered. Cost sharing is required for most services in the form of deductibles and coinsurance. Medicare does not cover most outpatient prescription drugs or long-term care services.

**Fee-for-service program**—Approximately 85 percent of Medicare beneficiaries obtain their Medicare-covered benefits through private hospitals, physicians, and other providers. Payments to these providers are made for each service provided.

**Supplemental coverage**—The majority of Medicare beneficiaries enrolled in the fee-for-service program have coverage supplemental to their Medicare coverage. About a third

of Medicare beneficiaries have individual-issue, "Medigap" packages that generally cover Medicare cost-sharing requirements. Some of these packages also include coverage for non-Medicare services, such as prescription drugs, but these are not the most popular packages among Medicare beneficiaries. About another quarter to a third of Medicare beneficiaries have supplemental coverage through former employers. About one-fifth of Medicare beneficiaries are covered for non-Medicare benefits and/or Medicare cost sharing through state Medicaid programs; the extent of their coverage depends on their income and other factors.

**Managed care**—About 15 percent of Medicare beneficiaries currently (in 2001) choose to obtain Medicare benefits through private health plans under the M+C program. Most of the plans are health maintenance organizations (HMOs), where enrollees generally must use providers that are part of the plan's network and follow the plan's access rules in order for care to be covered.[5] In addition to Medicare benefits, M+C plans generally offer reduced cost sharing and often cover non-Medicare benefits. Beyond the M+C program, some beneficiaries are enrolled in other Medicare managed care plans through a variety of small programs that include cost contracting HMOs, Health Care Prepayment Plans, and plans offered through demonstrations.

[5] One M+C plan offered in many states is a private fee-for-service plan that allows beneficiaries to self-refer to any provider who is willing to accept payment. In addition, some M+C plans allow enrollees to go to out-of-network providers through a point-of-service option.

**Department of Veterans Affairs**

The Veterans Health Administration (VHA) provides health care to veterans through a large network of providers and associated staff. In 2001, the VHA included 173 medical centers, 771 ambulatory care and community-based clinics, 134 nursing homes, and numerous other types of supportive facilities. Both the focus of VA services and the rules on the types of veterans who are eligible to use VA facilities have changed over the last 10 years. The focus of services has shifted from primarily facility-based care to a mixed system of inpatient and primary care. The VA has opened 400 community-based clinics between 1995 and 2001, and another 145 new clinics are planned. This initiative is aimed at improving access for existing users, particularly for higher priority groups, but is also bringing in new users.

Eligibility rules also have changed. Priority continues to be assigned to veterans with service-related disability and those with low income (see Table 1). However, the Veterans' Health Care Eligibility Reform Act of 1996 established a system for enrolling veterans according to priority groups and using this information for resource planning—the VA decides each year whether lower priority groups may not be enrolled due to insufficient resources.[6] In each of the years since this legislation, VA has afforded access to all priority groups.

[6] GAO, *VA Health Care: Progress and Challenges in Providing Care to Veterans*, Testimony of Stephen P. Backhus before the Subcommittee on Health, Committee on Veterans Affairs, House of Representatives, July 15, 1999, GAO/T-HEHS-99-158.

**VA User Population**—In 1999, there were an estimated 26 million veterans; about 4 million of these are enrolled in the VA healthcare enrollment program; about 3 million veterans use the VA in a year.[7] A 1995 GAO study found several factors associated with veterans' use of VA inpatient and outpatient facilities: (1) presence of service-connected disabilities, (2) lower income, and (3) living within 5 miles of a VA hospital or clinic.[8] Even though availability of outpatient services has been expanded through the community-based outpatient clinic initiative, started in the mid-1990s, the relationships among disability, income, distance, and use are likely to continue to hold in general. For example, the community-based outpatient clinic initiative has brought in new users with higher incomes, but these still represent a small share of VA users.[9]

**Dually-entitled population**—In 2000, the VA found that there were about 9.5 million veterans over age 64 (37 percent of all veterans). Of these, 2.2 million are enrolled in the VHA tracking system; 1.6 million were treated in the VA health system in 2000.[10]

**Dual use of services by VA users eligible for Medicare**

There has been considerable research from the VA perspective on the patterns of VA and Medicare services used by the dual user population. Studies have focused on determining

---

[7] Various statistics available on VA website: www.va.gov, including Table10 in VHA/CFO report, *Enrollment Cost Summary, September 1999 Data (Full-Year Experience)* and Table 1. Estimated Number of Veterans in Civil Life.

[8] GAO, *How Distance from VA Facilities Affects Veterans' Use of VA Services*, December 1995, GAO/HEHS-96-31.

[9] GAO, *VA Health Care: Community-Based Clinics Improve Primary Care Access*, Testimony of Cynthia Bascetta before the Subcommittee on VA, HUD, and Independent Agencies, Committee on Appropriations, U.S. Senate, May 2, 2001, GAO-01-678T

[10] Personal communication from Donald Stockford, VA Office of the Actuary, August 2001.

the characteristics of VA users who opt to use Medicare services and estimating the VA spending for dual users compared with other VA users.

**Inpatient care**—A study using 1989 data found that the VA dual-use population over age 65 had more than twice the rate of inpatient hospital use compared with the general population age 65 and older, with about half of the discharges furnished outside of the VA.[11] A study of elderly veterans' care for acute myocardial infarction (AMI) between 1992 and 1995 found use of both Medicare and VA hospitals for this condition, with an increasing share of VA users seeking care in non-VA hospitals paid by Medicare. In 1995, 72 percent of VA users with AMI were first admitted to a hospital paid by Medicare.[12] Researchers believe this increasing share of dually entitled beneficiaries choosing to receive acute care through Medicare is due to better access to non-VA hospitals and beneficiaries taking advantage of the VA system for outpatient services only because of lower out-of-pocket costs and pharmacy coverage.

**Primary care**—Other studies have found dual use of VA and other sources for primary care. Veterans of any age most likely to use VA facilities for primary care (and those most likely to use them exclusively) are poorer, have less education, and are less likely to have insurance, whether employer based, individually purchased, or Medicaid

---

[11] Elliot Fisher, "Unmanaged Care: Dual Utilization of the Veterans Affairs and Medicare Health Systems," unpublished report, 1994.

[12] Wright, Steven M., et al., "Increasing Use of Medicare Services by Veterans with Acute Myocardial Infarction," *Medical Care*, Issue 37, No. 6, pp. 529-537, 1999.

coverage.[13] There is little recent data on outpatient dual use specifically focused on patterns for Medicare beneficiaries.

**Use of VA facilities by Medicare managed care enrollees**

With the increase in popularity of HMOs among Medicare beneficiaries through the 1990s, VA facilities in areas with Medicare HMOs began to notice a growing proportion of dual users enrolled in HMOs. In the Miami, Florida, VA Medical Center in 1992 and 1993, 28 percent of both inpatient and outpatient admissions for patients 65 and older were for Medicare HMO enrollees.[14] There were no differences found between the type of inpatient admission for HMO enrollees and that for non-enrollees. The West Los Angeles VA Medical Center reported that in 1993 and 1994 it also had a large share of hospitalizations reported that were for veterans enrolled in a Medicare HMO.[15]

The VA commissioned a report to investigate this issue further on a national basis. This study, which used data from 1992 to 1996, found rapid growth in Medicare HMO enrollment by VA patients and also found that the VA users covered by HMOs receive substantial amounts of VA care.[16] Estimates of VA costs for full-year Medicare HMO enrollees were $3,118, compared with $5,547 for VA patients of the same age without

---

[13] Borowsky, Steven J., Cowper, Diane C., "Dual Use of VA and Non-VA Primary Care," *Journal of General Internal Medicine*, Vol. 14, May 1999, pp. 274-280.
[14] Devito, Carolee A, Morgan, Robert O.,Virnig, Beth A., "Use of Veterans Affairs Medical Care by Enrollees in Medicare HMOs," *New England Journal of Medicine*, 1997; 337; 1013-1014.
[15] Passman, Leigh J, et al., "Elderly Veterans Receiving Care at a Veterans Affairs Medical Center While Enrolled in Medicare-Financed HMOs: Is the Taxpayer Paying Twice?" *Journal of General Internal Medicine*, Vol. 12, April 1997.
[16] Fisher, Elliott S., "Use of VA Services by Medicare HMO Enrollees," VA Policy Report. August 31, 1998.

Medicare HMO coverage. Note that these figures include outpatient prescriptions and long-term care services, which are generally not covered under Medicare. Excluding these services, VA costs for full-year HMO enrollees were $2,575, compared with $4,217 for beneficiaries in fee-for-service. Medicare HMO-covered VA patients used less VA inpatient hospital care than VA patients of the same age in fee-for-service, and about the same amount of VA outpatient care. Many studies of Medicare beneficiaries have shown that HMO members are, on the average, healthier than nonmembers. This could account for much of the difference observed here.

**Department of Defense**

Approximately 1.3 million Medicare beneficiaries are eligible for health services from military treatment facilities operated by the Department of Defense. As with the VA system, there have been changes in the focus of coverage and in eligibility rules over the last decade, all of which are likely to affect Medicare beneficiaries' use of DoD facilities.

Before 1995, military treatment facilities were available to provide services to career military retirees after retirement. TRICARE, a managed care program, was established in 1995 to be the focal point for military health services. Active-duty military personnel and dependents enrolled in TRICARE Prime, the HMO option, have first priority for care in military treatment facilities. Retired personnel over age 64 eligible for Medicare are excluded from this TRICARE program; they are in the lowest priority group and receive

care from military treatment facilities only on a space-available basis. Space-available care is reported to be on the decline due to budget cuts.[17]

In September 1998, the DoD and Medicare began a demonstration program in six sites involving 10 military treatment facilities. This program is called TRICARE Senior Prime. Medicare beneficiaries who enrolled in the demonstration sites receive their care through military treatment facilities organized as Medicare HMOs. Under this demonstration, Medicare makes capitated payments to the DoD for Medicare covered benefits. These payments are based on the rates established for M+C plans, but are adjusted to reflect beneficiary health status and historic levels of DoD funding for these services. DoD retirees covered by Medicare who live outside of the demonstration sites or excluded from the demonstration by choice (enrollment is voluntary) or because of ineligibility (beneficiaries under age 65 and those with ESRD were excluded) continue to be able to receive care from military treatment facilities only on a space-available basis. This demonstration terminated December 31, 2001.

A new relationship between DoD and Medicare started for all dual eligibles on October 1, 2001. DoD is now a secondary payer to Medicare, paying all Medicare copays and deductibles for services and healthcare that are a benefit under both plans in a program called TRICARE for Life. This benefit also includes a TRICARE outpatient pharmacy benefit with minimum cost shares. Dual eligibles have a $3,000 catastrophic

[17] Farley, Donna O. et al., "The First Year of the Medicare-DoD Subvention Demonstration: Evaluation Report for FY1999," December 2000. Contract HCFA500-96-0056.

cap per fiscal year on out-of-pocket spending per family for all health care. TRICARE now offers an option called TRICARE Plus to enroll with a primary care manager at the military treatment facilities for primary care only, with specialty care on a space available basis. Those who do not enroll in TRICARE Plus, where available, are limited to space available care only in the military treatment facilities.

## III. MEDICARE BENEFICIARIES' USE OF VA SERVICES

Some dually entitled Medicare beneficiaries use VA facilities for services not covered by Medicare, such as long-term care provided in nursing facilities and outpatient drugs, and some use the VA for services Medicare does cover, including inpatient and outpatient care. The health services research literature provides a wealth of evidence documenting patterns of dual use, including by Medicare beneficiaries enrolled in Medicare HMOs (though this literature does not provide the level of data that would suggest whether capitation rates should be changed and by how much).

To provide more recent information on Medicare beneficiaries' use of VA facilities, The Centers for Medicare & Medicaid Services (CMS), formerly the Health Care Financing Administration (HCFA), analyzed service use and spending reported by beneficiaries participating in the Medicare Current Beneficiary Survey (MCBS). This ongoing survey provides detailed information on the spending and use of health care services by a sample of 13,000 - 15,000 Medicare beneficiaries. A relatively small group of VA users are in the survey—between 300 and 400 people each year in 1996 through 1998. This small

group of VA users limits the degree to which one might draw firm conclusions about overall patterns of care, but is the best information available. The data for the 3 years can be pooled to increase the power of the analysis based on a sample of 1000.

The design of the MCBS survey is helpful in identifying the population of Medicare beneficiaries who use the VA. A series of questions is asked of survey participants to determine whether they are veterans, for which war, any disability related to service in the armed forces, and whether the VA is the payer for services. One limitation of VA payment information, however, is that records of VA health care encounters do not generally have information on facility costs or payments. To fill in the gaps in health spending information, the MCBS derives estimates of spending based on information available for other payers in the survey for similar services. As Medicare is the predominant payer in the survey, this means that most of the payment information for the VA is based on what Medicare would pay for the services, not what it costs the VA to provide the services.

The CMS provides estimates of VA services used by both fee-for-service and M+C enrollees. We also provide information relevant to understanding the extent to which the service use is influenced by the mix of people using the VA. To look at this, we focused on several issues—whether veterans in general (that is the potential universe of VA users) differ from the non-veteran Medicare population, differences between VA users and other Medicare beneficiaries who use health care services, and differences in

Medicare spending for VA users and non-VA users.[18] The MCBS sample of VA users is not large enough to permit an analysis of geographic variation or to look at subpopulations of users—for example those VA users who use primarily medical providers and drugs. Data are generally presented for 1996 through 1998.

The comparisons shown in Tables 2 through 7 are descriptive statistics. They do not account for overlaps in the people in many of the subgroupings. The multivariate regression accounts for many effects simultaneously (see Table 8). The statistics directly from VA data in Appendix B differ in the characteristics addressed and the period covered. Where comparisons can be made there is qualitative agreement in the data.

**Medicare-eligible veterans and non-veterans: demographics and service use**

Non-veterans have different demographic and socioeconomic characteristics than veterans (see Table 2). Veterans report better health status than non-veterans and are less likely to be under age 65, that is eligible for Medicare due to disability. They are more likely to be white and have higher incomes. They are more likely to have employer-sponsored private health insurance than non-veterans and are more likely to be in an HMO. These differences may in large part reflect differences found between male and female Medicare beneficiaries, as many male beneficiaries are veterans, and very few women are.

[18] All data are weighted and variances calculated using SUDAAN software.

Service use patterns for non-veterans and veterans reflect the demographic differences. Medicare spending for veterans is similar to that for non-veterans (see Table 3). Total spending for non-veterans, however, is significantly higher, with nursing facility (both SNF and long-term care facility) spending the most striking difference. This finding is consistent with a greater proportion of women in the non-veteran group; women tend to be the majority of users of nursing facility care.

**VA users and non-VA users: demographic and health coverage differences**

Because a small group of veterans use the VA, and the literature indicates that these users differ from the larger veteran population, we focus on the subset of veterans who use the VA in a year and compare them to Medicare beneficiaries who do not use the VA. Because users of health care services have higher average spending than the entire population (which includes non users), we compare VA users to Medicare beneficiaries who use at least some medical services in a year.

The VA user population appears different from non-VA users (see Table 4). Some of these differences are entirely a function of the veteran population. For example, nearly all VA users are men and virtually all served in the armed forces (a few non-veterans are permitted to use the VA in certain circumstances). There are also differences between the two populations that might be expected to influence the patterns of service used and what entity pays for the service.

Consistent with the literature on the patients served by VA facilities, VA users report poorer health status than those not using these facilities.[19] They are more likely to be entitled to Medicare due to disability, as indicated by the relatively large share (16 to 19 percent) of VA users who are between 45 and 64 years old.

VA users differ on other demographic characteristics as well: they are less likely than non-VA users to be among the oldest old, less likely to be white, and less likely to be in the lowest income groups ($10,000 or less) or in the highest income groups ($50,001 or more).

VA users have less (non-VA) supplemental coverage than non-VA users. They are more likely to have Medicare Part A only and have less than half the rate of Medicaid coverage as in the non-VA user population (8 percent in 1998, compared with 18 percent in the non-VA user population). Although rates of self-purchased Medigap coverage between the VA user and non-VA user population are similar, VA users are much less likely to have employer-sponsored coverage.

Both non-VA users and VA users are enrolled in Medicare HMOs. In 1997, 15.2 percent of non users were in a Medicare HMO and another 6 percent were in a private HMO

[19] Agha, Zia, et al., "Are Patients at Veterans Affairs Medical Centers Sicker?: A Comparative Analysis of Health Status and Medical Resource Use," *Archives of Internal Medicine*, Vol. 160, November 27, 2000, pp 3252-3257.

only, that is one offered outside of the Medicare program.[20] VA users were almost as likely to be in a Medicare HMO as non-VA users, though VA users were less likely to be in a private HMO. In 1998, the shares of Medicare beneficiaries in Medicare HMOs rose to 17 percent for non-VA users and to 15 percent for VA users.

Although VA users were much more likely than non-VA users to have served in the armed forces and to have a disability from service, 24 percent of non-VA users served in the armed forces and 9 percent of these had a disability from service. World War II era (defined as September 1940 to July 1947) veterans make up the largest share of veterans in both the VA user and non-VA user veterans groups, with a higher share among non-VA user veterans. VA users are more likely to have served in the Vietnam War (August 1964 to May 1975) than non-VA user veterans.

**FFS beneficiaries' use of Medicare and VA services**

Medicare spending was lower for VA users than for non-VA users in 1997 (the difference was not statistically significant in 1996 or 1998) (see Table 5). This may reflect differences in the demographic characteristics of VA users compared with non-VA users—as seen in population characteristics, VA users are more likely to be disabled (under 65) and less likely to have Medicaid or employer-sponsored coverage, both characteristics associated with lower health care spending. On the other hand, the lower average spending may reflect that VA users have a significant amount of care for Medicare benefits furnished in VA facilities, substituting for Medicare services. Later in

[20] This would include HMOs offering full coverage of benefits or HMOs offering benefits supplemental to Medicare.

this report, results are described from a regression model that was applied to the data to help explain the causes of the differences.

Medicare spending accounted for the largest share of total spending for both non-VA users and VA users.[21] Medicare paid 51 percent of the total for non-VA users and 45 percent of the total for VA users in 1998. The Medicare share is even higher—75 percent and 54 percent, respectively—when nursing facility (both SNF and long-term care facilities) and prescription drugs are removed from total spending.

The VA appears to contribute a significant share to total spending for Medicare fee-for-service beneficiaries who use the VA, but this funding does not necessarily substitute for Medicare spending. For VA users, the VA paid for about one-fifth to a quarter of total spending, depending on the year.[22] Fee-for-service Medicare beneficiaries using VA services between 1996 and 1998 used VA facilities for all types of services, except for home health (see Table 6). The VA spent between $1,800 and $2,900 per VA user, depending on the year. Even when nursing facility and prescription drug spending is removed from the total (these are largely not Medicare-covered services), the VA contributes a significant amount towards services for these beneficiaries-from $1,000 to $1,400 a year. The distribution of spending among service categories for VA users is variable from year to year; this is probably because the relatively small number of VA users in the MCBS results in imprecise estimates of the averages.

---

[21] Excludes spending for dental care and hospice.
[22] The MCBS relies on imputation for services without bills, which is generally the case for the VA, so that all VA spending should be considered approximate.

**HMO enrollees' use of VA services**

As indicated in the section on differences in the populations, VA users are enrolled in HMOs, and some VA use continues even during enrollment (see Table 7). The number of VA users in HMOs in the Current Beneficiary Survey is too small to support reliable spending estimates, but there is some evidence of use, consistent with the experience reported from VA facilities. VA spending on medical providers and prescription drugs is statistically significant all three years. This may indicate shortcomings in HMO drug coverage—potentially due to coverage not offered, relatively higher cost sharing, benefit or formulary limits, or simple convenience. The evidence of continuing medical provider use also may indicate continuing relationships with VA personnel. Another issue is that receipt of drugs from the VA requires that a VA provider be seen for a prescription even if such a visit duplicates a Medicare service.

**Multivariate analysis of effect of VA use on Medicare spending**

Some of the apparent differences in Medicare spending among the two sets of populations compared in this analysis may be due to demographic differences, not to whether the groups use VA facilities or are veterans. For example, the lower Medicare spending by VA users in 1997 may be due in part to the relatively low rate of Medicaid coverage among VA users (dual Medicare/Medicaid eligibles tend to have higher Medicare spending, reflecting both more comprehensive coverage and health status). To isolate the effect of VA use on Medicare costs, we controlled for demographic and

coverage characteristics using multivariate analysis. This regression analysis was made with Medicare expenditures as the dependent variable. The independent variables include whether the person was in a particular age/sex group, was a veteran, was a VA user, the type of supplemental insurance held, the level of Medicare spending in the person's county, and self-reported health status.

Several different models were developed. The simplest models were for an individual year, and only included demographic and health insurance information in addition to whether the beneficiary was a veteran and a VA user. A more sophisticated model includes a variable that indicates the level of Medicare spending in the county where the beneficiary resides to control for the possibility that VA users are concentrated in relatively expensive or inexpensive counties. The data used for this variable are the 1997 monthly capitation rates, which were the basis for capitated Medicare managed care plans' payments. They reflect each county's projected spending for the national average Medicare beneficiary if he or she resided in the county. The final model also controls for health status using self-reported assessments.

To increase the number of observations, we pooled 1996, 1997, and 1998 data and included a variable to indicate the year. Because the MCBS is a continuous longitudinal survey, this means that some of the observations will be for the same person over multiple years. If they were accounted for, the standard errors of the estimates would be

larger than reported.[23] All the variables found significant would remain so, and those found not significant would be further from significance.

When demographic, supplemental coverage, county spending level, and health status are taken into account, we find no statistically significant difference in Medicare spending associated with VA use or veteran status (see Table 8). In the final model, VA use has a negative coefficient, but other models we ran had positive coefficients on this variable; in none of the models was VA use significant in predicting Medicare spending. Variables that are significant are self-reported health status, whether the beneficiary lived in a county with relatively high or low Medicare spending, and whether the beneficiary used any Medicare services in a year. All types of supplemental coverage are associated with higher Medicare spending once health status is taken into account, although only Medicaid coverage and Medigap (individually purchased) coverage are significant. Data year is insignificant.

**Conclusion and limitations of VA analysis**

Making comparisons between populations is difficult without taking into account all the characteristics of the groups together. The simple tables on differences between veterans

[23] Health Economics Research reports that the correlation coefficient between two years of expenditures in the MCBS is 0.27. Following the formula derived by Kish, the variance of mean expenditures is larger by a factor of 1.32 than would be the case if observations were independent. Thus the true standard error for VA use would be larger by the square root of this factor, which reduces the significance of the VA use coefficient further to about 0.24.

and non-veterans and VA users and nonusers do not tell a clear story because of differences in the age, sex, underlying health and other characteristics of the groups being compared. The regression accounts for these differences as best we can and shows that the estimated Medicare spending for VA users is about the same as that for similar nonusers. (The user coefficient, though negative, had a large standard error and was not different from zero at a reasonable level of probability.) The tables show shifts over time toward non-VA utilization that our 1996 – 1998 data likely reflect.

The data also show, consistent with earlier studies, that the VA provides health care services to Medicare beneficiaries. The lack of difference in Medicare spending shows that this VA utilization does not result in significant savings to Medicare in an amount that can be detected in this sample, however. Some possible explanations for this phenomenon (other than VA providing services that Medicare does not cover, such as prescription drugs) include:

- The average per person effect was smaller than the sample of approximately 1000 VA users would allow us to reliably detect. In this preliminary analysis we were seeking a large effect because small effects have a proportionately, even smaller, effect on county averages when the affected population is a small proportion of beneficiaries.

- Some spending could substitute for Medicare spending related to treatment for specific service-related injuries that the VA specializes in. On the average over all users this would be a small amount. No study has explored this issue in detail,

although there is some evidence that VA users tend to use VA inpatient facilities for different types of cardiac care than is the case for Medicare hospitals.[24]

- Another cause for the spending could be moral hazard, demand induced by low to zero out-of-pocket costs. A number of studies have shown that utilization rises as the marginal out-of-pocket costs for services decreases.[25] In this case, the induced demand is in the VA system rather than the Medicare system.

The other important point in the analysis is that VA use continues for Medicare managed care members. To the extent there might be a small reduction (though we could not find a statistically significant one) in Medicare fee-for-service spending by VA use, there likely is also a reduction in spending by managed care plans. Thus, it would be inappropriate to adjust capitation payments to compensate.

## IV. MEDICARE BENEFICIARIES' USE OF DoD SERVICES

Medicare beneficiaries who are retired military personnel, their dependents, and survivors can use military treatment facilities on a space-available basis. To determine more information about patterns of use of DoD services, CMS drew upon a merged

---

[24] Wright, 1999.

[25] Christiansen, S. and J. Shinogle, "Effects of Supplemental Coverage on Use of Services by Medicare Enrollees," *Health Care Financing Review*, 19:5-17, 1997, Ettner, S.L. "Adverse Selection and the Purchase of Medigap Insurance by the Elderly," *Journal of Health Economics*, 1997, 16:543-62, and Khandker, R.,K, and L.A. McCormack, "Medicare Spending by Beneficiaries with Various Types of Supplemental Insurance," *Medical Care Research Review*, 1999, 56:137-55.

national database of Medicare and DoD information that was created by RAND under contract to CMS and DoD for the evaluation of the TRICARE Senior Prime Demonstration program (see Appendix). This merged database contains information for the universe of Medicare/DoD eligibles whose information could be matched in 1997 and the first 8 months of 1998. Limited demographic information is available from this database (drawn from Medicare administrative data)—age, sex, race, Medicare enrollment status and whether the beneficiary is enrolled in an HMO. Health service use and some spending information is available for Medicare and for inpatient and outpatient services provided at Military Treatment Facilities.[26]

The merged database allows us to determine (or estimate in the case of DoD) spending information for the universe of Medicare/DoD dual eligibles. From this information, we produced a set of descriptive tables for both fee-for-service beneficiaries and HMO enrollees that are similar to those available in the 1998 VA Policy Report, "Use of VA Services by Medicare HMO Enrollees."[27]

We also investigate the association between use of DoD services and the level of Medicare spending at the county level. This analysis provides some evidence that Medicare per capita spending is lower in counties where a large share of Medicare beneficiaries use DoD facilities: we identify these counties and provide information on

---

[26] See Appendix for details on the complex methodology for estimating costs for DoD facility use. Basically, costs are derived from DoD cost report information.

[27] The detailed state-level analysis is available upon request from CMS, Office of Strategic Planning. The report is titled, "Estimated Per Capita Costs and Service Utilization Rates for Medicare-Eligible DoD Beneficiaries in the Medicare and DoD Sectors of Care."

the size of the effect. Unfortunately, we are unable to control for other important factors affecting Medicare spending differences, such as health status, or to understand what might cause higher use of DoD facilities in some areas.

An analysis similar to that performed for veterans in chapter 3 could not be done for DoD dual eligibles using the MCBS and its wealth of control variables. Unlike with veterans, beneficiaries using the DoD system are not readily identifiable in the survey, and DoD is not clearly identified as a source of payment. Even if DoD users could be readily identified, there are only about one eighth as many Medicare beneficiaries using the DoD system as using the VA system, so the number of DoD users in the survey is almost certainly too small for analysis.

**Demographic differences**

Medicare/DoD duals in the merged database differ from the total Medicare population in several respects (see Table 9). By design, the database was constructed primarily for beneficiaries age 65 or older (although a few beneficiaries under age 65 are present). Within the aged population, Medicare/DoD duals are younger—more than 60 percent are between 65 and 74, compared to the general Medicare population, where 52 percent of aged are between these ages. Duals are more likely to be white—90 percent—compared with 84 percent of the general Medicare population.

### Geographic distribution

The geographic distribution of Medicare/DoD duals is similar to that of the general Medicare population across states, but is somewhat more concentrated in five states—California, Florida, Texas, Virginia, and Georgia—than is the distribution of Medicare beneficiaries generally (see Table 10). About 43 percent of duals live in these five states compared with 27 percent of Medicare beneficiaries. Duals are less likely to be in New York, Pennsylvania, Illinois, Michigan, and Ohio than other Medicare beneficiaries.

### Managed care enrollment

Medicare/DoD duals tend to be enrolled in M+C plans in areas where these are popular with other Medicare beneficiaries (see Table 11). In some states, enrollment as a proportion of total eligibles is somewhat higher for duals than for the general Medicare population; in others it is somewhat lower. The enrollment rate for duals is more than 10 percentage points lower than for the general population in Rhode Island, Florida, and Connecticut.

### Dual eligibles' spending and service use for fee-for-service Medicare beneficiaries

The database of DoD/Medicare dual eligibles includes spending taken directly from Medicare claims history and estimates of spending for DoD services that are derived from utilization data and DoD facility cost information. The methodology for making the

spending estimates for DoD services is based on a complex process described in the Appendix. Per capita spending is calculated for both users and non-users of DoD and Medicare services.

On the fee-for-service side, Medicare/DoD duals' combined Medicare and DoD spending was $4,889 per capita in 1997 and $4,481 per capita in 1998 (see Table 12). DoD spending made up 13 percent of this total both years ($632 in 1997 and $586 in 1998). DoD spending was split fairly evenly between inpatient and outpatient services both years.

Note that DoD spending tends to be higher than Medicare spending for the same type of services. In 1998, Medicare spending for inpatient care tended to be about one-third lower than DoD spending, and Medicare spending for outpatient care tended to be two-thirds lower than DoD spending. These differences probably arise from imputing DoD costs based on total facility costs.

Many changes to Medicare payment policy were made between 1997 and 1998 through the BBA; these are reflected in the lower Medicare spending for 1998 and in the utilization data for dual beneficiaries. Service use by dual beneficiaries tended to drop between 1997 and 1998, largely consistent with general trends in the Medicare program (see Table 13).

Combined Medicare and DoD inpatient hospital use for fee-for-service beneficiaries was 30 stays per hundred duals each year. Ninety percent of these hospital stays appeared in the Medicare claims data. Average length of Medicare hospital stay was 5.8 days in 1997, nearly a full day longer than stays in military treatment facilities. Length of stay in hospital stays paid for by Medicare dropped by 0.2 between the 2 years, and the average number of stays dropped from 27 per hundred to 26 per hundred.

Consistent with national Medicare trends, home health visits (covered only by Medicare) dropped dramatically between 1997 and 1998 with implementation of the interim payment system, while outpatient rehabilitation visits (also covered only by Medicare) grew from 34 per hundred to 65 per hundred duals.

**Variation in DoD facility use at the county level**

The universe of dual eligibles in the merged data set permits an analysis of differences in the pattern of DoD use and its association with Medicare spending in counties. The county is a relevant unit of analysis, as this is the unit at which M+C payment is made and at which an adjustment to account for DoD or VA use might be made.

DoD/Medicare dual eligibles live in many U.S. counties, and they make up a sizeable proportion of Medicare beneficiaries in some counties. The highest proportions (between 30 and 40 percent of all Medicare beneficiaries) are in three counties: Okaloosa, Florida, Geary, Kansas, and Comanche, Oklahoma. Not surprisingly, these are all counties with military installations: Fort Riley, Eglin Air Force Base, and Fort Sill, respectively.

Dual eligibles' use of DoD facilities is not closely correlated with the extent of dual eligibles' presence in a county, however. For example, more than half of Geary's dual eligibles used a DoD service in 1998, while only 15 percent of Okaloosa's did. Use probably is associated with the availability of services in both DoD and alternative facilities. DoD services have been provided to Medicare beneficiaries on a space available basis, with availability varying across the country.

To measure the influence of DoD service use on per capita Medicare spending at the county level, we looked at the relationship of DoD spending and the percent of Medicare beneficiaries using DoD services on the level of Medicare fee-for-service spending for each county in 1998.[28] In the first model, we included both DoD spending per dual eligible and the percent of Medicare beneficiaries using DoD services. DoD spending was positively associated with Medicare spending, suggesting that we were picking up market characteristics, such as service use patterns and health service delivery costs, rather than finding DoD spending to substitute for Medicare spending.

We found that the percent of Medicare beneficiaries using DoD services has a significant negative impact on Medicare per capita spending in a county. With each 1 percent increase in the percent of Medicare beneficiaries using DoD services, Medicare monthly per capita spending falls by $4.50. Forty-six counties have 5 percent or more of

[28] This amount was not adjusted or standardized to account for beneficiary demographics, but is a simple per person amount. Medicare fee-for-service spending at the county level is available at www.hcfa.gov\stats\hmorates\aapccpg.htm.

Medicare beneficiaries using DoD services; the highest share is 18 percent (see Table 14).

Of the counties with the highest share of Medicare beneficiaries using DoD services (5 percent or more), three-quarters have M+C capitation amounts for 2002 based on either the national floor payment amount of $500.37 or the floor for urban areas of $553.04. In general, floor payments are higher than the level of fee-for-service spending in an area. This means that for most high DoD use counties, an adjustment to the 1997 payment amount to reflect DoD use would probably not result in a higher payment for 2002, as the floor amount likely exceeds a rate calculated with an adjusted 1997 amount. See Chapter VI for a more detailed explanation of the M+C payment method.

**DoD service use by M+C enrollees**

Despite being enrolled in M+C plans, Medicare/DoD duals continued to use DoD facilities in 1997 and 1998, although they used these facilities somewhat less than duals in the fee-for-service program for a full year. In 1997, average spending for all DoD dual eligibles (whether or not they used DoD facilities) was $444 per person per year for M+C full-year enrollees; in 1998, this DoD spending dropped to $312 per person per year.[29]

The finding that M+C enrollees continue to use DoD facilities suggests that a full adjustment to county payment rates to account for lower fee-for-service spending is

[29] RAND merged data set.

unwarranted. The premise behind such an adjustment would be to better reflect what it would be expected to cost an M+C organization to cover Medicare benefits in an area through its own network of providers. M+C enrollees' use of DoD services represents a savings to M+C organizations, so any adjustment should take continuing use into account.

## V. COMPARING VA AND DoD FINDINGS ON USE OF SERVICES BY MEDICARE ENROLLEES

This chapter brings together the information in Chapters III and IV on use of services. These chapters provide estimates for service use from two different data sources (the MCBS and the merged Medicare/DoD data set), using two different ways of estimating use of services in the VA and DoD systems. This chapter compares the findings and attempt to reconcile the apparent differences. It does not go beyond comparing use of services to the question of adjusting the M+C payment rates—that is best addressed in the individual findings of each analysis and will be addressed in the next report.

The number of Medicare beneficiaries using the VA system is much higher than the number of beneficiaries using the DoD system, and users make up a similar share of eligibles in each system. In 2000, 1.6 million (17 percent) people over 64 used the VA system out of a potential user population of 9.5 million. Based on 1998 data from our merged database, 178,000 (15 percent) Medicare beneficiaries used DoD services in the

first 8 months of 1998 out of 1.3 million Medicare beneficiaries entitled to use the DoD system.[30]

Neither analysis provides a complete picture of service use for the universe of dual-entitled beneficiaries. The MCBS is a sample of beneficiaries, and even with several years of pooled data, the number of VA users is not large enough to permit detailed analysis of service use, for example at the county level. The merged Medicare/DoD data set provides many more observations of dual eligibles, but does not provide information on DoD outpatient use in 1997 and, because of the timing of the DoD subvention demonstration, the database only contains 8 months of DoD actual utilization information.

Although the Medicare spending figures for the VA and DoD dual populations are comparable (summed up from Medicare claims), no claims information is collected from the VA and DoD, so spending for these services is imputed. The MCBS imputes spending for payers without spending information based on available data on spending for similar services by other payers, so the VA spending figures are based largely on Medicare payment amounts. For the DoD analysis, RAND estimated spending based on Military Treatment Facility cost information. Before we compare these per capita spending estimates, we adjust the DoD amounts to reflect the average payments Medicare would pay for similar services.

[30] Because of the timing of the subvention demonstration, the population of fee-for-service DoD users changed significantly in the last four months of 1998. Using only eight months probably undercounts users. Costs for users are annualized.

A final issue to keep in mind when comparing service use of VA users to DoD users is that we are unable to control for characteristics of the different groups of beneficiaries that may affect their spending patterns. Further, we are unable to identify beneficiaries who might use both DoD and VA facilities.

Given these caveats, we have pulled together estimates of Medicare, VA, and DoD spending for Medicare beneficiaries who used VA or DoD services in 1998. This does not go beyond comparing use of services to the question of adjusting the M+C payment rates—that is best addressed in the individual findings of each analysis.

**Beneficiaries in fee-for-service Medicare**—The pattern of spending in both Medicare and by VA and DoD is different for the two groups (see Table 15). VA users have significantly higher Medicare spending than DoD users, $3,892 compared with $2,170. But DoD spending for Medicare beneficiaries who use DoD services is higher than VA spending for its dual eligibles. The higher spending is primarily due to inpatient hospital spending: DoD users' spending in DoD inpatient facilities was nearly $1,400 on average, compared with $480 for VA users in VA inpatient facilities.

**Managed care enrollees**—As noted in earlier sections, Medicare beneficiaries continue to use VA and DoD services even after enrolling in M+C plans. Users of VA and DoD services were somewhat less likely to be in M+C plans than potential users, but enrollment for both groups was similar to the national enrollment rate of 17.6 percent in 1998. That year, 17 percent of Medicare veterans were enrolled in M+C plans;

15 percent of VA users were in these plans. An even greater share of DoD dual eligibles were in M+C plans—20 percent. And 17 percent of DoD users were in these plans.

As noted in earlier chapters, VA and DoD use continues even when beneficiaries enroll in M+C plans. In Chapter III, we noted that VA spending estimates for VA users in M+C plans in the MCBS are based on very small numbers of beneficiaries, so the estimates are imprecise. The average VA expenditure in 1998 was $317 for M+C enrollees, compared with $1,133 for VA users in fee-for-service Medicare. The comparable numbers in Appendix B are much larger for both groups but the relationship is similar. For DoD users, however, this estimate is based on the population of dual eligibles, so can be looked at with greater confidence (though there are still the limitations due to using imputations). The average DoD expenditure in 1998 was $1,621 for M+C enrollees, compared with $2,005 for DoD users in fee-for-service Medicare.[31] As with fee-for-service beneficiaries, M+C enrollees use a relatively high proportion of inpatient DoD care relative to patterns found in the VA.

We do not have detailed information available to determine reasons for the lower use by M+C enrollees of both VA and DoD services compared with Medicare fee-for-service enrollees. The lower use may reflect health status differences as M+C enrollees tend to be healthier than beneficiaries who remain in the fee-for-service program. Alternatively, because M+C plans tend to have lower cost sharing than is the case in the fee-for-service program, duals may use non-VA or DoD providers more than they would under FFS. As M+C plans have reduced the generosity of benefit coverage and increased cost sharing

over the last several years, M+C enrollees may be using greater amounts of VA and DoD care than they did in 1997 and 1998. There is anecdotal evidence of VA facilities experiencing increased caseloads due to M+C enrollees seeking drug coverage.

## VI. CHANGES TO THE M+C PAYMENT METHODOLOGY SINCE 1997

Underlying the mandate for this report is the question of whether to adjust M+C payment rates to reflect use of VA and DoD services. Earlier chapters address the question of spending and service use and the effect of service use on Medicare spending. Implicit in the notion that M+C rates might need to be adjusted to reflect use of VA and DoD services is the assumption that M+C rates reflect county-level fee-for service spending levels, as they did up to 1997. But in 2002, M+C rates do not, for the most part, track county-level spending patterns in the fee-for-service Medicare program.

Under the BBA, the payment formula for M+C was changed with the goal of bringing county-level rates closer together and reducing the year-to-year volatility in annual changes. Low rates, largely in rural counties, were raised through creation of an absolute payment floor. In counties where the floor amount, or an amount representing a 2 percent increase from the prior year's rate, is not higher, payment is based on "blended" rates that blend local and national data.[32]

---

[31] The DoD spending estimates are adjusted to reflect Medicare spending levels for similar services.
[32] The formula also reduces M+C payment rates to account for graduate medical education spending and includes a budget neutrality provision that has lowered blended rates in most year since 1997.

Other changes to the formula were made in the BBA, through implementation, and in subsequent legislation. The annual increase each year of the national rate (which is based on the rate of spending for the fee-for-service program) was reduced by a statutory factor. The 1997 rates, which are the starting place for the M+C payment formula, reflect forecasts of spending growth that proved to be too high; 1997 rates were overstated by about 5 percent. The Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 raised the floor payment and added a second floor for counties in urban areas. All of these changes result in M+C payment rates that in most cases bear little resemblance to fee-for-service spending levels in the counties. In areas where M+C payment rates are based on the floor, fee-for-service spending amounts are by and large much lower than the M+C payments. And in areas where M+C payments have been based on 2 percent increases over the past 5 years, fee-for-service spending amounts may be higher than the M+C amounts.

Although an adjustment to reflect VA and DoD services alone would increase payment rates in counties where payments have been based on the minimum increase, it would have no effect in most cases where counties are paid at the payment floor. Further, the adjustment might be implemented as part of a more general recalculation or rebasing of payment rates, for example to reflect not only use of VA and DoD services in 1997 but the actual level of fee-for-service spending in a county in 1997.

## VII. SUMMARY OF FINDINGS

We used different data sets for the VA and DoD based on their availability for this report to Congress. For the analysis of VA use by Medicare beneficiaries, we used the MCBS for 1996-1998. Because of the many data elements in it, including VA use, this gives a detailed look at the national level but has drawback of not allowing look at the county level as it is based on a relatively small sample.

For the analysis of DoD use by Medicare beneficiaries, we matched enrollment and service use information with the DoD. This data set provides more detailed utilization at the local level than the MCBS is able to do. One drawback of this database is that DoD services are priced using a cost-finding algorithm that probably derives higher prices for DoD services than Medicare would pay. Another drawback is that the data are incomplete for 1997 (outpatient data are not included) and 1998 (data are not available for the last 4 months for beneficiaries who joined the subvention demonstration).

Several factors are relevant when assessing the findings. The need for an adjustment is based on an assumption that M+C enrollees do not continue to use VA and DoD facilities once they enroll in an M+C plan. Thus, this report provides information on the extent to which users of VA/DoD services are enrolled in M+C plans and whether these M+C enrollees continue to use VA/DoD facilities after they join plans.

All M+C rates are adjusted for demographic factors, e.g., beneficiaries' sex, age. Once these adjustments are made, differences in the initial "raw" dollar amounts can be changed, sometimes significantly. VA and DoD eligibles vary significantly from the Medicare average population on some demographic measures. Adjusting for these differences could change the apparent impact of services in VA/DoD facilities.

**Key findings on VA use**

Simple descriptive statistics seem to indicate that Medicare spending is lower for users of VA facilities. However, when data are adjusted for the demographic and other relevant factors of VA users, e.g., the fact that they are primarily male and that they have less health insurance and are in poorer health, there is no meaningful difference large enough to be detected at the national level in Medicare spending. Though limited by the size of the study sample, this preliminary study does not support that M+C rates should be increased by adding in the costs of VA services, at least at the national level. We did not have the data for this first report to look at whether there might be a substitution effect in some counties. This will be done in the next stage of analysis.

The data also show, consistent with earlier studies, that the VA provides health care services to Medicare beneficiaries. The negative finding on the effect of this VA utilization on Medicare use has a number of potential explanations aside from the sample size of the study. As mentioned in chapter 3, possible explanations for this phenomenon include: a small (but not statistically significant) substitution for Medicare spending

related to treatment for specific service-related injuries that the VA specializes in; moral hazard, that is, demand induced by low to zero out-of-pocket costs, in the VA system rather than the Medicare system; or participation in the VA system for non-Medicare-covered services. Further, some VA use probably duplicates Medicare use as VA users must obtain prescriptions from VA physicians in order to access VA prescription drugs.

In addition, as noted above, the issue of whether rates appropriately reflect any use of VA services depends in part on whether VA users enroll in M+C plans and continue to use VA services. Our analysis indicates that about 15 percent of VA users enroll in M+C plans, compared with about 17 percent of non-VA users. In addition, it indicates that veterans in M+C plans continue to use VA facilities.

**Key findings on DoD use**

Counties with the highest shares of DoD users tend to be those where M+C payments are made at the minimum amount or floor. For this reason, as noted above, incorporating a factor to reflect DoD use would likely make no difference in the M+C rates in these counties.

A factor to reflect DoD use might make a difference in the few minimum percentage increase counties with high shares of DoD users, but determining a precise factor would require more detailed analysis than was possible within the time allowed to produce this report.

In addition, as noted above, the issue of whether rates appropriately reflect any use of DoD services depends in part on whether DoD users enroll in M+C plans and continue to use DoD services. Our analysis indicates that DoD users enroll in M+C plans at about the same rate as non-DoD users and that they continue to have significant levels of spending in DoD facilities.

**Continued use of VA and DoD by M+C enrollees**

Medicare managed care members continue to use both VA and DoD facilities. To the extent there might be a reduction in Medicare fee-for-service spending in some counties, there likely is also a reduction in spending by managed care plans. If there were to be an adjustment to M+C payment rates based on a more detailed data analysis, the continued use of VA and DoD facilities by M+C enrollees would need to be taken into account. Such an adjustment would have the effect of reducing the payment to the M+C plan (in order to account for the plan's reduced cost for DoD and VA eligibles.) The combination of the increased rate and the reduction taken for these enrollees would likely mean that the "bottom line" change would be very small.

Continued use of VA and DoD facilities even after beneficiaries enroll in Medicare managed care plans may be a reflection of continuing relationships with providers at these facilities or could indicate that beneficiaries find VA and DoD benefits complement those available through their plans. Detailed analysis of the patterns of services used (for

example whether M+C enrollees use VA and DoD facilities primarily for non-Medicare covered services) would shed some light on the reasons for this continuing use of multiple care systems.

**Other issues**

Both VA and DoD have made changes to their programs that are likely to influence the pattern of facility use today. The VA is attempting to shift more of its focus to outpatient care by making this care more widely available. This would be expected to increase VA outpatient service use among Medicare beneficiaries, although not necessarily VA spending if inpatient use continues to decline. DoD has restructured its benefits for retired military personnel as a relatively rich Medicare wrap-around package that includes coverage of non-Medicare benefits. On the fee-for-service side, use of DoD facilities may decline because new DoD sponsored health insurance coverage is neutral to where services are obtained. Beneficiaries who earlier used DoD services because of low cost-sharing there will no longer have a financial incentive to use these services. Further, Medicare beneficiaries who might have joined M+C plans for their benefit packages may find that the coverage offered through DoD best meets their needs, and enrollment in M+C plans might fall as a result.

**Table 1. Department of Veterans' Affairs' priority groups**

| Priority group | Eligibility criteria |
|---|---|
| 1 (highest) | Veterans with service-connected conditions resulting in disability of 50 percent or more |
| 2 | Veterans with service-connected conditions resulting in disability of 30 to 40 percent |
| 3 | - Veterans with service-connected conditions resulting in disability of 10 to 20 percent<br>- Former prisoners of war<br>- Veterans discharged from active duty for a disability incurred or aggravated while on active duty<br>- Veterans with special eligibility classification |
| 4 | - Veterans receiving aid and attendance or who are housebound<br>- Veterans with catastrophic disability |
| 5 | Veterans with incomes below the means-test threshold |
| 6 | - World War I and Mexican-border veterans<br>- Veterans receiving care for radiation or toxic substance or environmental hazard exposures |
| 7 (lowest) | All other veterans who agree to pay established copayments |

**Table 2. Differences between Medicare non-veterans and veterans, 1997 (in percent)**

| | Non-veterans | Veterans |
|---|---|---|
| **Sex** | | |
| Male | 24.6 | 96.9 |
| Female | 75.4 | 3.1 |
| **Health status (1)** | | |
| Excellent | 14.3 | 17.1 |
| very good | 25.4 | 29.0 |
| Good | 31.2 | 29.5 |
| Fair | 19.6 | 16.6 |
| Poor | 9.3 | 7.8 |
| **Age** | | |
| 0-44 | 5.1 | 1.3 |
| 45-64 | 8.7 | 7.1 |
| 65-69 | 21.6 | 28.5 |
| 70-74 | 19.9 | 28.6 |
| 75-79 | 16.7 | 22.1 |
| 80-84 | 14.2 | 9.0 |
| 85+ | 13.9 | 3.3 |
| **Race** | | |
| White | 84.0 | 91.3 |
| Black | 9.8 | 6.2 |
| Other | 1.8 | 0.7 |
| Asian | 1.0 | 0.4 |
| Hispanic | 3.0 | 0.9 |
| N American Native | 0.1 | 0.0 |
| **Income** | | |
| $5,000 or less | 4.7 | 1.8 |
| $5,001 - $10,000 | 28.0 | 9.0 |
| $10,001 - $15,000 | 18.4 | 13.2 |
| $15,001 - $20,000 | 12.2 | 14.2 |
| $20,001 - $25,000 | 9.9 | 13.0 |
| $25,001 - $30,000 | 7.7 | 13.2 |
| $30,000 - $35,000 | 4.2 | 6.5 |
| $35,001 - $40,000 | 4.0 | 7.5 |
| $40,001 - $45,000 | 2.1 | 3.3 |
| $45,000 - $50,000 | 2.2 | 3.9 |
| $50,001 or more | 6.5 | 14.6 |

**Table 2. Differences between Medicare non-veterans and veterans, 1997 (in percent)**

| | Non-veterans | Veterans |
|---|---|---|
| **Annual Medicaid Coverage** | | |
| Coverage | 21.4 | 5.1 |
| **Annual Private Health Insurance** | | |
| No coverage | 41.6 | 32.9 |
| Employer sponsored | 25.0 | 34.0 |
| Self purchased | 27.1 | 26.7 |
| Both | 3.7 | 5.5 |
| **Annual HMO Coverage** | | |
| No coverage | 78.6 | 75.8 |
| Private | 6.1 | 7.5 |
| Medicare | 13.8 | 14.9 |
| Both | 1.6 | 1.9 |

(1)Self-reported health status is for community residents only (nursing facility residents excluded).
Note: all differences are significant at the $p<.05$ level.
Source: Medicare Current Beneficiary Survey, Cost and Use File, 1997.

**Table 3. Medicare and total annual spending for Medicare beneficiaries in fee-for-service, by veteran status, 1997**

| | Non-veteran | | | Veteran | | |
|---|---|---|---|---|---|---|
| | Medicare | Total (1) | | Medicare | Total (1) | |
| | Mean | Mean | % of total spending | Mean | Mean | % of total spending |
| **Nursing facility** | $ 40 | $ 2,514 | 2% | $ 5 * | $ 677 ** | 1% |
| **Home health** | $ 524 | $ 560 | 94% | $ 300 ** | $ 321 ** | 94% |
| **Inpatient hospital** | $ 2,452 | $ 2,778 | 88% | $ 2,564 | $ 3,030 | 85% |
| **Medical provider** | $ 1,368 | $ 2,057 | 67% | $ 1,434 | $ 2,263 ** | 63% |
| **Outpatient** | $ 551 | $ 870 | 63% | $ 421 ** | $ 814 | 52% |
| **Drugs** | $ 2 | $ 675 | 0% | $ 1 | $ 634 | 0% |
| **Subtotal (Medicare)** | $ 4,895 | $ 6,266 | 78% | $ 4,720 | $ 6,429 | 73% |
| **Total** | $ 4,937 | $ 9,455 | 52% | $ 4,726 | $ 7,740 ** | 61% |

(1) Total spending includes imputed data.
* Mean for veterans is significantly different from non-veterans at the p<.10 level.
** Mean for veterans is significantly different from non-veterans at the p<.05 level.
Source: Medicare Current Beneficiary Survey, Cost and Use File, 1997.

**Table 4. Differences between Medicare service users not using VA services and those using VA services (1) (in percent)**

| | 1996 non-VA users | 1996 VA users | 1997 non-VA users | 1997 VA users | 1998 non-VA users | 1998 VA users |
|---|---|---|---|---|---|---|
| **Sex** | | | | | | |
| **Male** | 41.2 | 96.4 | 41.2 | 97.8 | 41.3 | 97.0 |
| **Female** | 58.8 | 3.7 | 58.8 | 2.2 | 58.7 | 3.1 |
| **Self-reported health status** | | | | | | |
| **excellent** | 15.3 | 10.9 | 14.7 | 9.3 | 14.1 | 9.3 |
| **very good** | 25.9 | 13.2 | 26.2 | 17.5 | 26.6 | 16.3 |
| **good** | 30.7 | 25.4 | 31.2 | 32.3 | 31.8 | 30.9 |
| **fair** | 18.5 | 33.7 | 18.8 | 26.6 | 18.4 | 29.0 |
| **poor** | 9.5 | 16.4 | 9.0 | 14.2 | 9.0 | 14.1 |
| **Age** | | | | | | |
| **0-44** | 4.0 | 2.7 | 4.0 | 2.4 | 4.0 | 2.4 |
| **45-64** | 7.1 | 15.5 | 7.6 | 18.9 | 8.2 | 16.3 |
| **65-69** | 21.8 | 19.2 | 20.8 | 18.9 | 20.1 | 24.0 |
| **70-74** | 23.0 | 32.1 | 22.9 | 25.2 | 22.7 | 20.5 |
| **75-79** | 18.9 | 17.6 | 18.8 | 22.4 | 19.0 | 23.6 |
| **80-84** | 13.5 | 8.8 | 13.7 | 10.4 | 13.5 | 10.6 |
| **85+** | 11.8 | 4.1 | 12.2 | 1.9 | 12.5 | 2.6 |
| **Race** | | | | | | |
| **White** | 86.8 | 79.7 | 86.6 | 83.5 | 86.2 | 80.8 |
| **Black** | 8.5 | 15.8 | 8.5 | 12.7 | 8.6 | 12.9 |
| **Other** | 1.1 | 0.9 | 1.2 | 0.7 | 1.5 | 2.0 |
| **Asian** | 0.9 | 0.5 | 0.9 | 1.2 | 0.8 | 1.3 |
| **Hispanic** | 2.3 | 2.5 | 2.4 | 1.8 | 2.4 | 2.2 |
| **N American Native** | 0.1 | 0.6 | 0.1 | 0.2 | 0.1 | - |
| **Income** | | | | | | |
| **$5,000 or less** | 4.2 | 3.8 | 3.9 | 0.9 | 4.0 | 2.8 |
| **$5,001 - $10,000** | 24.9 | 19.7 | 23.2 | 19.8 | 21.2 | 16.6 |
| **$10,001 - $15,000** | 17.7 | 26.1 | 17.1 | 20.7 | 17.3 | 22.0 |
| **$15,001 - $20,000** | 13.6 | 17.1 | 12.8 | 18.3 | 13.5 | 14.1 |
| **$20,001 - $25,000** | 10.8 | 15.0 | 10.8 | 14.1 | 10.9 | 14.5 |
| **$25,001 - $30,000** | 7.9 | 4.5 | 9.1 | 10.5 | 8.6 | 9.1 |
| **$30,000 - $35,000** | 4.2 | 4.1 | 4.7 | 4.8 | 5.2 | 4.9 |
| **$35,001 - $40,000** | 4.5 | 1.0 | 4.9 | 3.30 | 5.0 | 4.6 |
| **$40,001 - $45,000** | 2.4 | 2.1 | 2.4 | 0.9 | 2.4 | 3.4 |
| **$45,000 - $50,000** | 2.8 | 1.6 | 2.7 | 1.8 | 3.1 | 3.3 |
| **$50,001 or more** | 6.8 | 5.0 | 8.7 | 4.8 | 9.0 | 4.8 |

continued

**Table 4. Differences between Medicare beneficiaries not using VA services and those using VA services* (continued)**

| | 1996 non-VA users | 1996 VA users | 1997 non-VA users | 1997 VA users | 1998 non-VA users | 1998 VA users |
|---|---|---|---|---|---|---|
| **Annual Medicare Coverage** | | | | | | |
| **Part A only** | 2.4 | 14.1 | 2.4 | 15.2 | 2.6 | 12.5 |
| **Part B only** | 1.0 | 0.1 | 1.0 | - | 1.0 | 0.3 |
| **Part A and B** | 96.6 | 85.8 | 96.7 | 84.8 | 96.4 | 87.3 |
| **Annual Medicaid Coverage** | | | | | | |
| **Coverage** | 18.0 | 10.4 | 18.1 | 8.6 | 18.0 | 7.8 |
| **Annual Private Health Insurance** | | | | | | |
| **No coverage** | 35.6 | 61.4 | 36.8 | 60.4 | 39.3 | 58.3 |
| **Employer sponsored** | 28.3 | 11.5 | 28.2 | 14.2 | 28.3 | 14.0 |
| **Self purchased** | 28.6 | 23.3 | 27.9 | 23.3 | 25.6 | 23.0 |
| **Both** | 5.2 | 1.9 | 4.5 | 2.0 | 4.7 | 4.5 |
| **Annual HMO Coverage** | | | | | | |
| **No coverage** | 82.1 | 89.7 | 78.9 | 83.3 | 76.6 | 84.2 |
| **Private** | 5.9 | 3.8 | 6.0 | 3.5 | 6.3 | 1.2 |
| **Medicare** | 10.7 | 6.4 | 13.6 | 12.0 | 15.9 | 14.5 |
| **Both** | 1.2 | 0.0 | 1.6 | 1.2 | 1.2 | 0.2 |
| **Veterans' status** | | | | | | |
| **Served in armed forces** | 23.6 | 96.7 | 23.7 | 98.9 | 23.5 | 98.9 |
| **Of these:** | | | | | | |
| **Served in Vietnam war** | 5.6 | 21.5 | 6.0 | 22.9 | 6.9 | 18.5 |
| **Served in Korean conflict** | 27.3 | 32.0 | 30.9 | 32.8 | 34.7 | 35.5 |
| **Served in WWII** | 72.8 | 68.1 | 69.3 | 59.9 | 64.5 | 55.5 |
| **Served in WWI** | 0.7 | 1.2 | 0.4 | 1.0 | 0.4 | 0.3 |
| **Served in peacetime** | 7.4 | 12.3 | 7.4 | 11.1 | 7.9 | 8.8 |
| **Disability from service** | 10.14 | 39.85 | 9.2 | 43.5 | 8.9 | 41.0 |

(1) Note: excludes Medicare beneficiaries not using any services in year. VA=Veterans Affairs.
Note: all differences are significant at the p<.05 level.
Source: Medicare Current Beneficiary Survey, Cost and Use File, 1996-1998.

**Table 5. Annual per capita Medicare and total spending for Medicare service users in fee-for-service, by use of VA services, 1996-1998(1)**

| 1996 | Non-VA user | | | VA user | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Medicare | Total | % of Tot | Medicare | | Total | | | % of Tot |
| Nursing facility | $ 32 | $ 2,378 | 1% | $ - | ** | $ 2,382 | | | 0% |
| Home health | $ 519 | $ 556 | 93% | $ 689 | | $ 762 | | | 90% |
| Inpatient hospital | $ 2,577 | $ 2,890 | 89% | $ 2,232 | | $ 3,786 | | | 59% |
| Medical provider | $ 1,380 | $ 2,200 | 63% | $ 979 | ** | $ 1,810 | ** | | 54% |
| Outpatient | $ 510 | $ 824 | 62% | $ 456 | | $ 1,145 | * | | 40% |
| Drugs | $ 1 | $ 619 | 0% | $ - | ** | $ 769 | ** | | 0% |
| Total | $ 5,019 | $ 9,468 | 53% | $ 4,355 | | $ 10,654 | | | 41% |

| 1997 | Non-VA user | | | VA user | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Medicare | Total | % of Tot | Medicare | | Total | | | % of Tot |
| Nursing facility | $ 34 | $ 2,363 | 1% | $ - | ** | $ 884 | ** | | 0% |
| Home health | $ 493 | $ 528 | 93% | $ 451 | | $ 454 | | | 99% |
| Inpatient hospital | $ 2,650 | $ 3,003 | 88% | $ 1,835 | ** | $ 3,121 | | | 59% |
| Medical provider | $ 1,485 | $ 2,239 | 66% | $ 855 | ** | $ 1,891 | * | | 45% |
| Outpatient | $ 556 | $ 897 | 62% | $ 352 | ** | $ 1,212 | * | | 29% |
| Drugs | $ 2 | $ 698 | 0% | $ 3 | | $ 661 | | | 0% |
| Total | $ 5,219 | $ 9,729 | 54% | $ 3,496 | ** | $ 8,223 | * | | 43% |

| 1998 | Non-VA user | | | VA user | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Medicare | Total | % of Tot | Medicare | | Total | | | % of Tot |
| Nursing facility | $ 84 | $ 2,386 | 4% | $ - | | $ 495 | ** | | 0% |
| Home health | $ 365 | $ 400 | 91% | $ 192 | ** | $ 198 | ** | | 97% |
| Inpatient hospital | $ 2,562 | $ 2,875 | 89% | $ 2,266 | | $ 3,390 | | | 67% |
| Medical provider | $ 1,470 | $ 2,350 | 63% | $ 1,169 | | $ 2,626 | | | 45% |
| Outpatient | $ 543 | $ 952 | 57% | $ 456 | | $ 1,341 | ** | | 34% |
| Drugs | $ 2 | $ 839 | 0% | $ 2 | | $ 1,095 | ** | | 0% |
| Total | $ 5,025 | $ 9,801 | 51% | $ 4,085 | | $ 9,146 | | | 45% |

(1) Excludes Medicare beneficiaries not using any services in year.

(2) Total spending includes imputed data.

*Mean for VA users is significantly different from non-VA users at the p<.10 level.

**Mean for VA users is significantly different from non-VA users at the p<.05 level.

Source: Medicare Current Beneficiary Survey, Cost and Use File, 1996-1998.

**Table 6. Annual per capita VA spending for Medicare fee-for-service beneficiaries using the VA, 1996-1998(1)**

| | 1996 VA spending | CI-lower | CI-upper |
|---|---|---|---|
| Nursing facility | $ 1,100 | $ 245 | $ 1,954 |
| Home health | $ - | $ - | $ - |
| Inpatient hospital | $ 974 | $ 471 | $ 1,477 |
| Medical provider | $ 124 | $ 88 | $ 161 |
| Outpatient | $ 272 | $ 203 | $ 340 |
| Prescription Drugs | $ 391 | $ 320 | $ 462 |
| Subtotal (Medicare-covered) (2) | $ 1,370 | $ 857 | $ 1,883 |
| Total | $ 2,861 | $ 1,859 | $ 3,862 |
| | **1997 VA spending** | | |
| Nursing facility | $ 393 | $ (253) | $ 1,038 |
| Home health | $ - | $ - | $ - |
| Inpatient hospital | $ 520 | $ 339 | $ 702 |
| Medical provider | $ 191 | $ 134 | $ 248 |
| Outpatient | $ 387 | $ 269 | $ 506 |
| Prescription Drugs | $ 293 | $ 251 | $ 334 |
| Subtotal (Medicare-covered) (2) | $ 1,099 | $ 855 | $ 1,342 |
| Total | $ 1,784 | $ 1,396 | $ 2,172 |
| | **1998 VA spending** | | |
| Nursing facility | $ 227 | $ 50 | $ 404 |
| Home health | $ - | $ - | $ - |
| Inpatient hospital | $ 483 | $ 319 | $ 647 |
| Medical provider | $ 241 | $ 156 | $ 325 |
| Outpatient | $ 409 | $ 275 | $ 543 |
| Prescription Drugs | $ 603 | $ 525 | $ 681 |
| Subtotal (Medicare-covered) (2) | $ 1,133 | $ 894 | $ 1,371 |
| Total | $ 1,963 | $ 1,649 | $ 2,277 |

(1) Note: VA spending is imputed based on payments made for similar services by other payers, predominantly Medicare.
(2) Spending without nursing facility or prescription drugs. Medicare covers only a small portion of this type of service.
90 percent confidence interval.
Source: Medicare Current Beneficiary Survey, Cost and Use File, 1996-1998.

**Table 7. Annual per capita VA spending for Medicare HMO enrollees using VA services, 1996-1998(1)**

| 1996 | VA Spending | CI-lower | CI-upper |
|---|---|---|---|
| **n=18** | | | |
| Nursing facility | $ 180 | $ (118) | $ 478 |
| Home health | $ - | $ - | $ - |
| Inpatient hospital | $ 77 | $ (5) | $ 159 |
| Medical provider | $ 209 | $ 14 | $ 403 |
| Outpatient | $ 89 | $ 30 | $ 149 |
| Prescription drugs | $ 245 | $ 69 | $ 422 |
| Subtotal (Medicare-covered) (2) | $ 375 | $ 174 | $ 576 |
| Total | $ 800 | $ 384 | $ 1,216 |
| **1997** | | | |
| **n=26** | | | |
| Nursing facility | $ - | $ - | $ - |
| Home health | $ - | $ - | $ - |
| Inpatient hospital | $ 836 | $ (498) | $ 2,171 |
| Medical provider | $ 128 | $ 59 | $ 197 |
| Outpatient | $ 37 | $ 4 | $ 70 |
| Prescription drugs | $ 217 | $ 128 | $ 305 |
| Subtotal (Medicare-covered) (2) | $ 1,001 | $ (349) | $ 2,352 |
| Total | $ 1,218 | $ (136) | $ 2,572 |
| **1998** | | | |
| **n=44** | | | |
| Nursing facility | $ 1,929 | $ (1,226) | $ 5,084 |
| Home health | $ - | $ - | $ - |
| Inpatient hospital | $ 0 | $ (0) | $ 0 |
| Medical provider | $ 117 | $ 52 | $ 182 |
| Outpatient | $ 200 | $ 65 | $ 334 |
| Prescription drugs | $ 366 | $ 233 | $ 500 |
| Subtotal (Medicare-covered) (2) | $ 317 | $ 163 | $ 471 |
| Total | $ 2,612 | $ (531) | $ 5,755 |

(1) Note: VA spending is imputed based on payments made for similar services by other payers, predominantly Medicare.
(2) Spending without nursing facility or prescription drugs. Medicare covers only a small portion of this type of service.
Data are for full-year HMO enrollees only.
Confidence interval calculated for p=.10.
Source: Medicare Current Beneficiary Survey, Cost and Use File, 1996-1998.

**Table 8. Results of multivariate analysis, 1996-1998**

| | | | | |
|---|---|---|---|---|
| **Dependent variable: Total Medicare Annual Expenditures** | | | **Mean** | **$ 4,585** |
| **R-SQUARED** | | **0.10** | | |
| **number of observations** | | **27916** | | |
| **sum of weights** | | **88,867,533** | | |
| **VARIABLE** | **PARAMETER ESTIMATE** | **STANDARD ERROR** | **T FOR H0: PARAMETER=0** | **PROB > \|T\|** |
| **INTERCEPT** | **929.79** | **628.10** | **1.48** | **0.14** |
| Female | | | | |
| 0 – 34 | 116.69 | 889.31 | 0.13 | 0.90 |
| 35 – 44 | 181.12 | 758.47 | 0.24 | 0.81 |
| 45 – 54 | -670.03 | 684.67 | -0.98 | 0.33 |
| 55 – 64 | 522.07 | 652.86 | 0.80 | 0.42 |
| 65 – 69 | 907.96 | 272.31 | 3.33 | 0.00* |
| 70 – 74 | 1129.59 | 266.69 | 4.24 | 0.00* |
| 75 – 79 | 1588.36 | 289.57 | 5.49 | 0.00* |
| 80 – 84 | 1527.86 | 328.24 | 4.65 | 0.00* |
| 85 – 89 | 1877.04 | 423.89 | 4.43 | 0.00* |
| 90 – 94 | 2797.59 | 677.83 | 4.13 | 0.00* |
| 95 + | 748.07 | 765.26 | 0.98 | 0.33 |
| Male | | | | |
| 0 - 34 | 381.29 | 579.35 | 0.66 | 0.51 |
| 35 - 44 | -14.56 | 760.09 | -0.02 | 0.98 |
| 45 - 54 | 749.81 | 634.80 | 1.18 | 0.24 |
| 55 - 64 | 1385.17 | 434.08 | 3.19 | 0.00* |
| 65 - 69 | 2162.42 | 370.14 | 5.84 | 0.00* |
| 70 - 74 | 2053.37 | 385.90 | 5.32 | 0.00* |
| 75 - 79 | 3031.94 | 394.65 | 7.68 | 0.00* |
| 80 - 84 | 2838.94 | 431.33 | 6.58 | 0.00* |
| 85 - 89 | 2299.20 | 679.11 | 3.39 | 0.00* |
| 90 - 94 | 871.41 | 1026.82 | 0.85 | 0.40 |
| 95 + (included in intercept)(reference group) | 0.00 | 0.00 | - | - |

continued

**Table 8. Results of multivariate analysis, 1996-1998, continued**

| VARIABLE | PARAMETER ESTIMATE | STANDARD ERROR | T FOR H0: PARAMETER=0 | PROB > \|T\| |
|---|---|---|---|---|
| Veteran | 13.52 | 274.44 | 0.05 | 0.96 |
| Medicare user | 4256.34 | 148.47 | 28.67 | 0.00 * |
| VA user | -520.55 | 394.88 | -1.32 | 0.19 |
| Medicaid coverage | 1673.19 | 281.13 | 5.95 | 0.00 * |
| Private health coverage-group | 190.63 | 228.20 | 0.84 | 0.40 |
| Private health coverage-individual | 747.40 | 244.90 | 3.05 | 0.00 * |
| Private health coverage-both | 74.97 | 306.58 | 0.24 | 0.81 |
| 1997 monthly county capitation rate, aged | 10.65 | 0.98 | 12.12 | 0.00 * |
| Data year | | | | |
| 1996 | 226.78 | 170.62 | 1.33 | 0.18 |
| 1997 | 209.56 | 161.33 | 1.30 | 0.19 |
| 1998 (reference group) | 0.00 | 0.00 | - | - |
| Self-reported health status | | | | |
| Excellent | -9265.98 | 528.54 | -17.53 | 0.00 * |
| Very good | -8757.79 | 493.97 | -17.73 | 0.00 * |
| Good | -7451.95 | 522.46 | -14.26 | 0.00 * |
| Fair | -5001.03 | 510.20 | -9.80 | 0.00 * |
| Poor (reference group) | 0.00 | 0.00 | - | - |

* Indicates statistical significance at 0.10 level or better.
Source: Medicare Current Beneficiary Survey, Cost and Use File, 1996-8.

**Table 9. Demographic characteristics of Medicare/DoD duals, 1998 (in percent)**

| | Duals | Medicare beneficiaries |
|---|---|---|
| Age group | | |
| Less than 65 years | 3.3 | 13.4 |
| 65-74 | 63.0 | 45.0 |
| 75+ | 33.5 | 41.6 |
| Race/ethnicity | | |
| White | 90.4 | 84.4 |
| African American | 5.2 | 9.2 |
| All other | 4.1 | 6.4 |

Source: Merged database, CMS OIS Statistics.

**Table 10. Geographic Distribution of Medicare beneficiaries, selected states, 1997 (in percent)**

| State | Medicare/DoD | Medicare |
|---|---|---|
| California | 13.4 | 9.7 |
| Florida | 11.2 | 7.1 |
| Texas | 8.8 | 5.7 |
| Virginia | 5.5 | 2.2 |
| Georgia | 3.6 | 2.3 |
| Pennsylvania | 2.5 | 5.4 |
| New York | 1.8 | 6.9 |
| Ohio | 1.7 | 4.3 |
| Illinois | 1.5 | 4.2 |
| Michigan | 1.1 | 3.6 |

Source: Merged database, CMS OIS Statistics.

**Table 11. M+C Enrollment as a percent of total eligibles, selected states, 1998**
**(in percent)**

| | DoD/Medicare | Total Medicare |
|---|---|---|
| California | 44 | 39 |
| Colorado | 38 | 32 |
| Arizona | 35 | 40 |
| New Mexico | 28 | 20 |
| Oregon | 26 | 29 |
| Washington | 26 | 24 |
| Nevada | 22 | 25 |
| Pennsylvania | 20 | 26 |
| Massachusetts | 18 | 22 |
| Rhode Island | 18 | 38 |
| New Jersey | 16 | 13 |
| Florida | 16 | 28 |
| Texas | 16 | 14 |
| Louisiana | 14 | 18 |
| Connecticut | 11 | 21 |
| New York | 10 | 17 |
| Minnesota | 10 | 9 |
| Hawaii | 9 | 10 |
| Missouri | 8 | 17 |
| Ohio | 8 | 12 |
| Maryland | 8 | 16 |

Source: Merged database, Medicare Managed Care Monthly Report, 12/98

**Table 12. Annual per capita costs for dual eligible FFS enrollees, 1997-1998**

| | 1997 | 1998 |
|---|---|---|
| **Medicare costs** | | |
| Hospital, short-term | $ 1,969 | $ 1,807 |
| Hospital, long-term | $ 77 | $ 76 |
| Skilled nursing | $ 216 | $ 205 |
| Home health | $ 316 | $ 204 |
| Hospice | $ 47 | $ 37 |
| **Part A Payments** | $ 2,625 | $ 2,328 |
| | | |
| Hospital outpatient | $ 60 | $ 63 |
| Free-standing surgery | $ 72 | $ 71 |
| Dialysis treatment | $ 48 | $ 49 |
| Other ambul services | $ 204 | $ 177 |
| Physician services | $ 732 | $ 699 |
| Diagnostic tests | $ 240 | $ 241 |
| Other physician/supplier | $ 156 | $ 162 |
| DME | $ 120 | $ 100 |
| **Part B Payments** | $ 1,632 | $ 1,567 |
| | | |
| **Total Medicare** | $ 4,256 | $ 3,895 |
| | | |
| **DoD Costs** (imputed) | $ 632 | $ 586 |
| Inpatient services | $ 335 | $ 310 |
| Outpatient services | $ 297 | $ 276 |
| | | |
| **Total Amounts** | $ 4,889 | $ 4,481 |

Note: 1998 data are based on first 8 months only. DoD costs imputed using methodology detailed in Appendix.
Source: Merged database.

**Table 13. Annual service use per 100 Medicare/DoD dual beneficiaries in fee-for-service**
**1997-1998**

| | 1997 | 1998 |
|---|---|---|
| **Medicare Part A Services** | | |
| Hospital inpatient stays | 27 | 26 |
| Short-term hospital ALOS | 5.8 | 5.6 |
| Skilled nursing stays | 4 | 4 |
| Home health visits | 616 | 403 |
| **Medicare Part B Services** | | |
| Emergency room visits | 18 | 18 |
| Outpt rehab visits | 34 | 65 |
| Primary care visits | 899 | 870 |
| Specialty visits | 229 | 215 |
| **DoD Services** | | |
| MTF Inpatient stays | 3 | 3 |
| MTF inpatient ALOS | 5.0 | 4.9 |
| MTF primary care visits | Na | 65 |
| MTF specialty visits | Na | 76 |

ALOS=Average length of stay. MTF=Military treatment facility. NA=not available.
Source: Merged database.

**Table 14. Counties with highest percent of DoD users among Medicare beneficiaries and at least 500 dual eligibles, 1998**

| State | County | 1997 AAPCC rate, aged | 1998 FFS spending | 1998 DoD users/ Medicare beneficiaries | Monthly DoD cost (FFS only) 1998 | 2002 payment category |
|---|---|---|---|---|---|---|
| KS | GEARY | $ 326 | $ 348 | 0.18 | $ 124 | Floor |
| GA | MUSCOGEE | $ 382 | $ 363 | 0.14 | $ 115 | Floor |
| MO | PULASKI | $ 379 | $ 451 | 0.14 | $ 92 | Floor |
| NC | CUMBERLAND | $ 372 | $ 357 | 0.12 | $ 74 | Floor |
| VA | PRINCE WILLIAM | $ 445 | $ 378 | 0.12 | $ 208 | Floor |
| VA | ALEXANDRIA CITY | $ 447 | $ 431 | 0.12 | $ 231 | Floor |
| LA | VERNON | $ 547 | $ 639 | 0.12 | $ 190 | Minimum increase |
| GA | COLUMBIA | $ 442 | $ 376 | 0.11 | $ 229 | Floor |
| TX | BEXAR | $ 483 | $ 573 | 0.11 | $ 293 | Floor |
| VA | FALLS CHURCH CITY | $ 447 | $ 489 | 0.11 | $ 163 | Floor |
| TX | GUADALOUPE | $ 367 | $ 490 | 0.11 | $ 265 | Floor |
| NC | ONSLOW | $ 399 | $ 396 | 0.10 | $ 93 | Floor |
| GA | RICHMOND | $ 437 | $ 379 | 0.10 | $ 244 | Floor |
| KY | HARDIN | $ 486 | $ 434 | 0.10 | $ 63 | Minimum increase |
| VA | FAIRFAX | $ 401 | $ 388 | 0.10 | $ 216 | Floor |
| OK | COMANCHE | $ 384 | $ 386 | 0.09 | $ 62 | Floor |
| VA | ARLINGTON | $ 451 | $ 472 | 0.09 | $ 194 | Floor |
| CA | SOLANO | $ 492 | $ 448 | 0.09 | $ 249 | Minimum increase |
| MS | HARRISON | $ 562 | $ 530 | 0.09 | $ 186 | Minimum increase |
| VA | FAIRFAX CITY | $ 417 | $ 401 | 0.08 | $ 166 | Floor |
| WA | PIERCE | $ 398 | $ 418 | 0.08 | $ 152 | Floor |
| OH | GREENE | $ 388 | $ 371 | 0.07 | $ 369 | Floor |
| NE | SARPY | $ 376 | $ 369 | 0.07 | $ 60 | Floor |
| TX | EL PASO | $ 439 | $ 442 | 0.07 | $ 199 | Floor |
| MD | PRINCE GEORGES | $ 602 | $ 570 | 0.07 | $ 555 | Minimum increase |
| ID | ELMORE | $ 343 | $ 381 | 0.06 | $ 101 | Floor |
| MD | ST MARYS | $ 497 | $ 523 | 0.06 | $ 310 | Minimum increase |
| TX | COMAL | $ 364 | $ 427 | 0.06 | $ 168 | Floor |
| TN | MONTGOMERY | $ 405 | $ 393 | 0.06 | $ 49 | Floor |
| TX | KENDALL | $ 363 | $ 441 | 0.06 | $ 207 | Floor |
| DE | KENT | $ 395 | $ 412 | 0.06 | $ 114 | Floor |
| FL | ESCAMBIA | $ 464 | $ 402 | 0.06 | $ 84 | Floor |
| VA | HAMPTON CITY | $ 401 | $ 368 | 0.06 | $ 91 | Floor |
| AL | RUSSELL | $ 405 | $ 399 | 0.06 | $ 103 | Floor |
| AL | DALE | $ 455 | $ 428 | 0.06 | $ 54 | Minimum increase |
| WA | ISLAND | $ 360 | $ 370 | 0.06 | $ 20 | Floor |
| FL | OKALOOSA | $ 455 | $ 411 | 0.06 | $ 55 | Minimum increase |
| CO | EL PASO | $ 423 | $ 430 | 0.06 | $ 35 | Floor |
| MD | CHARLES | $ 565 | $ 569 | 0.06 | $ 334 | Minimum increase |
| AL | COFFEE | $ 463 | $ 441 | 0.05 | $ 49 | Minimum increase |
| SC | BEAUFORT | $ 401 | $ 387 | 0.05 | $ 82 | Floor |
| VA | PORTSMOUTH CITY | $ 432 | $ 399 | 0.05 | $ 280 | Floor |
| RI | NEWPORT | $ 431 | $ 441 | 0.05 | $ 83 | Floor |
| TX | CORYELL | $ 363 | $ 537 | 0.05 | $ 126 | Floor |
| MS | JACKSON | $ 594 | $ 539 | 0.05 | $ 182 | Minimum increase |

SOURCE: OACT payment data, merged DoD dataset.

**Table 15. Spending for Medicare beneficiaries using VA or DoD services, 1998**

| | VA users in fee-for-service | | | |
|---|---|---|---|---|
| **Service type** | **Medicare (1)** | **VA spending (2)** | **Total** | **VA spending (2)** |
| Inpatient hospital | $ 2,266 | $ 483 | $ 2,749 | $ 0 |
| Medical provider | $ 1,169 | $ 241 | $ 1,410 | $ 117 |
| Outpatient | $ 456 | $ 409 | $ 866 | $ 200 |
| Total | $ 3,892 | $ 1,133 | $ 5,024 | $ 317 |

| | DoD users in fee-for-service | | | |
|---|---|---|---|---|
| | **Medicare (1)** | **DoD costs (2)** | **Total** | **DoD costs (2)** |
| Inpatient services | $ 1,256 | $ 1,392 | $ 2,648 | $ 1,146 |
| Outpatient services | $ 914 | $ 612 | $ 1,526 | $ 475 |
| Total | $ 2,170 | $ 2,005 | $ 4,175 | $ 1,621 |

(1) Inpatient includes both short-term and long-term hospital, outpatient is all Part B except DME.
(2) Both VA and DoD costs are imputed at rates equivalent to Medicare costs.

SOURCE: MCBS and merged dataset.

# Appendix A

## Methods for Creating Medicare/ DoD Merged Data Set

## Appendix A: Methods for creating Medicare/DoD Merged Data Set

This appendix provides detailed information on the method used to merge information from Medicare and the Department of Defense (DoD) and on the approach used to estimate DoD spending.

The Centers for Medicare & Medicaid Services (CMS) requested that RAND prepare estimates of average per capita costs for the full population of dually eligible beneficiaries (i.e. entitled to both Medicare and DoD health benefits), using the data and methods developed for our evaluation of the DoD-Medicare subvention demonstration. For the evaluation, RAND and Fu Associates constructed a master file that identifies these beneficiaries and links them to service utilization data. Medicare cost and utilization data were available on the fee-for-service claims submitted by Medicare providers. However, data for inpatient stays and outpatient visits at military treatment facilities (MTFs) were encounters records that did not include charges or payments for services rendered.

Enrollment, claims, and encounter data from both DoD and CMS sources are used in estimating per capita costs and service utilization for Medicare-eligible DoD beneficiaries. Enrollment data were extracted and merged from Medicare and DoD enrollment databases for all dually eligible Medicare-DoD beneficiaries. All claims or encounter records were extracted for calendar years 1997 and 1998 for the following Medicare and DoD health care service sectors:

| | |
|---|---|
| ***Medicare:*** | |
| Fee-for-service-Part A | Short-stay hospital inpatient care |
| | Long-stay hospital inpatient care |
| | Skilled nursing facility care |
| | Home health agency services |
| | Hospice services |
| Fee-for-service-Part B | Institutional outpatient services |
| | Physician/supplier services |
| | Durable medical equipment |
| ***Military Health System:*** | |
| DoD direct care | MTF hospital inpatient care (SIDR) |
| | MTF clinic outpatient services (SADR) |

Pharmacy data were not available.

### Defining the Populations

The sources of Medicare enrollment data are the Enrollment Database (EDB) and Group Health Plan (GHP) files. The EDB file provides master enrollment records for all Medicare beneficiaries, including information on entitlement, enrollment, and Medicare status. DoD enrollment data come from the Defense Eligibility Enrollment Reporting System (DEERS), which records basic information on each eligible DoD beneficiary,

including residence information and demographic data. We had requested records for all beneficiaries who were age 65 or older at any time during the relevant years, but only year-end "point-in-time" cohorts were available, for three cohorts of beneficiaries, one for each fiscal year of 1996 through 1998. For each cohort, DEERS enrollment records were extracted for DoD retirees and their dependents who had attained age 65 or older as of the end of the fiscal year (30 September).

## MATCHING DOD AND MEDICARE ENROLLMENT RECORDS

The first step in building the subvention beneficiary master file was to obtain the DoD DEERS enrollment records for all DoD beneficiaries in the country who were age 65 or older at the start of each fiscal year.[33] The second step was to match these records against the Medicare EDB enrollment records to find these beneficiaries in the Medicare data system.

Creating a dually eligible population file that was as complete as possible required advanced database merging and sophisticated algorithm programming techniques. The DoD DEERS and the Medicare EDB data sources use different systems for beneficiary identification, and therefore matching was done using common fields (i.e., Social Security Number (SSN), date of birth, and sex). Using a matching methodology provided by the National Center for Health Statistics, Fu Associates created a master file containing a unique Medicare Current Health Insurance Claim number (CHIC), Sponsor SSN, date of birth, and sex. This master file was used to assign a common person identifier to all data source records. Social security numbers appear in two locations in each of the DEERS (sponsor or dependent SSN) and EDB (Claim Account Number or Person SSN) enrollment files. All valid sponsor and dependent social security numbers from the DoD DEERS file were used to merge against the Medicare EDB. The EDB returned all records where the SSN is found in either the Claim Account Number or the Person SSN. The following algorithm was applied to determine a valid match:

*For Sponsor Records:*

With Sponsor SSN, match on: Sponsor SSN, last name, month of birth, and gender. If the SSN matches between the DEERS and EDB files, but there is no match on the last name, month of birth, or gender variables, then match on Sponsor SSN plus:

a. (if not last name) year of birth, month of birth, day of birth, and gender
b. (if not month of birth) last name, year of birth, day of birth, and gender
c. (if not gender) last name, year of birth, month of birth, and day of birth

*For Dependent Records*

With Dependent SSN, match on: Dependent SSN, last name, month of birth, and gender. If SSN matches between the DEERS and EDB files, but there is no match on the last name, month of birth, or gender variables, then match on Dependent SSN plus:

---

[33] DoD beneficiaries also were identified by applying criteria for eligibility for DoD health benefits. Because of errors in the DEERS records in eligibility coding, Fu Associates obtained records for all beneficiaries based on age 65 or older, and then applied a set of rules to identify eligible DoD beneficiaries.

a. (if not last name) year of birth, month of birth, day of birth, and gender
b. (if not month of birth) last name, year of birth, day of birth, and gender
c. (if not gender) last name, year of birth, month of birth, and day of birth

When using Sponsor SSN instead of Dependent SSN to match with EDB, there is no SSN match since the Sponsor SSN is not the dependent's SSN. Therefore, match on last name, year of birth, month of birth, day of birth, and gender.

**The Dually Eligible Medicare-DoD Population**

The matching process to identify Medicare-DoD beneficiaries nationwide yielded match rates from 93.5 percent for the 1992 cohort to 96.3 percent for the 1998 cohort. The best match rates were obtained for the most recent years, for which the most current data were available. Match rates for 1995 through 1998 are shown in Table A.1. A total of 1.3 million dually eligible beneficiaries are in the 1998 cohort with both Medicare and DoD enrollment records.

**Table A.1**
**Percentages of DoD DEERS and Medicare EDB Records Matched for All Identified Dually Eligible Beneficiaries, FY1992 through FY1998**

| Year | De-duplicated Eligible Beneficiaries | Number Matched | Match Rate |
|---|---|---|---|
| 1995 | 1,185,794 | 1,129,010 | 95.2 |
| 1996 | 1,234,640 | 1,181,963 | 95.7 |
| 1997 | 1,302,959 | 1,251,048 | 96.0 |
| 1998 | 1,353,275 | 1,303,592 | 96.3 |

This match process begins with DEERS enrollment data and then searches for matching Medicare EDB records. The reverse approach, of starting with EDB records of Medicare beneficiaries and searching for them in the DEERs, probably would generate a different set of matched beneficiary records. For either matching strategy, the issue remains that some people are lost to the information base. For the evaluation, this issue results in underestimation of the size of the denominator used to calculate TRICARE Senior Prime enrollment rates. We have confidence in data completeness for TRICARE Senior Prime enrollees because they are processed by both the Medicare and DoD systems. However, non-enrollees who are missing from the DEERS data will not be identified unless they take an action that interacts with the DEERS system.

**Data Sources and Limitations**

Each of the Medicare and DoD data systems consists of a master file containing descriptive data on the beneficiaries who are eligible for benefits, as well as centralized records on the health care utilization and payment claims for health care services delivered to its beneficiaries.

**Medicare Data Sources**

Medicare's various data systems maintain data for beneficiaries in both the Medicare fee-for-service and managed care sectors. With few exceptions, Medicare data are of high quality in terms of both accuracy and completeness, reflecting their long use in processing payments to Medicare providers. The main sources of Medicare data were:

- Enrollment Data Base (EDB) - the master file that contains the basic eligibility and enrollment data for all Medicare beneficiaries;
- National Claims History data system - contains records of payment claims for all fee-for-service providers for services to Medicare beneficiaries. The CMS generates Standard Analytic Files (SAF) from this database for use by CMS and others for analyses;

**DoD Data Sources**

The DoD data systems maintain data for DoD beneficiaries who are eligible for DoD health benefits and who are utilizing health care services provided by the MTFs or by TRICARE network providers. The DoD data systems are less centralized than the Medicare systems, and this has implications for our ability to obtain the comprehensive data required for this type of evaluation analysis. The five main sources of DoD data for our analyses were:

- Defense Eligibility Enrollment Reporting System (DEERS) – the TRICARE master file that contains the basic eligibility and enrollment data for all DoD beneficiaries;
- Composite Health Care System (CHCS) – the data system installed locally at each MTF that provide the information management support for their delivery of health care services. This system contains data on appointments, inpatient stays, ancillary services, MTF pharmacy services, and other aspects of MTF activities.
- Ambulatory Data System (ADS) – contains records of ambulatory care encounters at the MTFs, which are recorded and scanned into the system by each clinic within an MTF. This system operates completely separately from the CHCS system.
- Medical Expense and Performance Reporting System (MEPRS) - the DoD financial management data system that maintains facility-level financial data for all MTFs. Using a standard book of accounts, this system maintains records of operating costs, staff time and costs, and units of activities for each cost center.

The data contained in the CHCS and ADS system are collected locally by the MTFs in their normal course of service delivery. Standard records are extracted from these systems on a regular schedule and transported to a central DoD data facility. The Standard Inpatient Data Records (SIDR) are extracted from the CHCS data, and the Standard Ambulatory Data Records (SADR) are extracted from the ADS data. The SIDR and SADR files were the sources of data on utilization of MTF direct care services by the dually eligible beneficiaries in our evaluation population. Data on ancillary services or pharmacy prescriptions are not extracted for the central DoD data system, so we were are not able to obtain data for these MTF services.

Although the SIDR and SADR records contain the detailed data for health care encounters that were required for the analyses, these records do not provide cost information because they are not claims for service payments. Therefore, cost estimates were developed separately and added to the SIDR and SADR encounter records. Clinic-level estimates of cost per unit of service for inpatient and outpatient services were derived using data from the MEPRS system. We then applied the MEPRS unit cost estimates to each SIDR and SADR record to assign a cost for each inpatient or outpatient encounter. The methodology used to derive the unit costs and apply them to the encounter data is described later in this chapter.

The ADS was implemented in 1997 to collect outpatient encounter data because CHCS does not maintain records for outpatient visits to MTF clinics. To enter data into the ADS, each provider completed a "bubble sheet" with data for each outpatient encounter. The bubble sheets then were scanned into data files by the staff in the MTF clinics. Not surprisingly, there was some resistance to the additional workload created by this documentation requirement, and compliance rates for ADS form completion varied widely across MTFs, as well as across clinics within each MTF.

The ADS data limitations affect our analyses in several ways. First, 1998 is the first year for which reasonably reliable ADS outpatient service data are available, so we could not estimate MTF outpatient costs for 1997. Second, ADS records are less than complete for 1998, which would yield low estimates of the MTF outpatient activity and costs. Third, varying levels of data completion rates across MTFs and over time introduce bias in estimates across geographic areas.

These ADS completeness issues are illustrated in Tables A.2 and A.3, which present SADR completion ratios by site and over time for the Senior Prime demonstration sites and control sites. These tables were prepared for our evaluation of Senior Prime so are reported by fiscal year. For this analysis, we used months by calendar year. The data used in calculating these completion ratios were counts of visits by MTF, by clinic (by MEPRS code), and by month of year from both SADR and MEPRS records. These data were developed by STI at our request, using the standard DoD methods for establishing counts of SADR encounters, and were provided to us for the evaluation analysis. The completion ratios are the ratios of the SADR counts to the MEPRS counts. The average ratios reported in the tables are obtained by summing the SADR and MEPRS counts to the level of interest and then calculating the ratios. For example, the FY1998 ratio for a given demonstration site is the sum of all SADR encounters for that site during FY1998 divided by the FY1998 counts of outpatient visits obtained from the MEPRS data.

**Table A.2**
**SADR Data Completion Rates for Demonstration and Control Site MTFs, FY1998 and FY1999 (percentage)**

| Demonstration Sites | | | Control Sites | | |
|---|---|---|---|---|---|
| Treatment Facility | 1998 | 1999 | Treatment Facility | 1998 | 1999 |
| Average for all facilities | 76.7 | 87.1 | Average for all facilities | 65.9 | 74.9 |
| By MTF: | | | By MTF: | | |
| Dover AFB | 59.1 | 69.6 | McGuire AFB | 74.8 | 75.4 |
| Keesler AFB | 59.9 | 84.7 | Wright-Patterson AFB | 60.1 | 76.1 |
| Brooke AMC | 94.4 | 97.3 | NNMC Bethesda | 73.4 | 76.4 |
| Wilford Hall MC | 61.4 | 79.2 | Walter Reed AMC | 89.0 | 93.9 |
| Reynolds ACH | 88.7 | 89.9 | Kirtland AFB | 49.1 | 68.8 |
| Sheppard AFB | 90.4 | 91.9 | Holloman AFB | 65.6 | 88.8 |
| Evans ACH | 96.7 | 97.0 | NH Jacksonville | 69.6 | 74.2 |
| Air Force Academy | 83.5 | 94.0 | NMC Portsmouth | 40.5 | 54.9 |
| NMC San Diego | 66.1 | 75.6 | Tripler AMC | 84.9 | 84.9 |
| Madigan AMC | 83.9 | 94.6 | | | |

SOURCE: Analysis of outpatient visit counts reported by SADR and MEPRS data

Table A.2 clearly demonstrates the issue of under-estimation of costs involved with the SADR completion rates. In the table, we report the completion ratios expressed as percentages (multiplying the ratio by 100). In FY1998, the SADR records completed by MTFs in the demonstration and control sites represented only 76.7 percent and 65.9 percent, respectively, of the total counts reported in MEPRS. The completion rates improved for both groups of MTFs in FY1999, but they still were below the desired 96-100 percent levels. This improvement between the 2 years could yield over-estimates of the impacts of Senior Prime on increasing MTF outpatient service utilization without adjusting for the incomplete records. Completion rates for MTFs in the demonstration sites ranged from 59.1 to 96.7 percent in FY1998 and from 69.6 to 97.3 percent in FY1999. Similar variations are observed for MTFs in the control sites.

The trends in completion rates shown in Table A.3 highlight the importance of considering both the location and month of service when applying any adjustments to MTF costs for the incompleteness of the SADR records. This issue is especially important for the FY1998 data because completion ratios increased steadily each month as the new system continued to be implemented. These trends leveled off somewhat in FY1999.

**Table A.3**
**Trends in ADS Data Completion Rates for the Demonstration and Control Sites, FY1998 and FY1999 (percentage)**

| | Demonstration Sites | | Control Sites | |
|---|---|---|---|---|
| FY Month | 1998 | 1999 | 1998 | 1999 |
| 1 | 70.3 | 85.4 | 61.5 | 70.9 |
| 2 | 74.5 | 83.9 | 63.3 | 72.8 |
| 3 | 74.1 | 85.3 | 62.4 | 71.0 |
| 4 | 75.5 | 86.4 | 65.4 | 73.9 |
| 5 | 79.2 | 86.1 | 65.8 | 74.1 |
| 6 | 79.0 | 87.6 | 66.5 | 74.4 |
| 7 | 78.3 | 88.8 | 66.9 | 75.2 |
| 8 | 79.5 | 88.1 | 68.3 | 76.0 |
| 9 | 71.9 | 87.7 | 64.7 | 76.1 |
| 10 | 74.2 | 88.6 | 67.0 | 77.6 |
| 11 | 81.0 | 88.4 | 69.1 | 78.5 |
| 12 | 83.7 | 88.9 | 70.7 | 78.9 |

SOURCE: Analysis of outpatient visit counts reported by SADR and MEPRS data

Cost Estimation Methods

We use beneficiary-months of eligibility as the denominator for calculating costs and utilization rates per beneficiary month. This denominator accommodates the mobility of beneficiaries between Medicare sectors, as well as the entry and exit of beneficiaries from Medicare and DoD eligibility due to age-ins or death. Medicare eligibility was determined using data of eligibility and date of death from the EDB master file. For each month of a year, we checked that a beneficiary was alive and coded as Medicare eligible, and we then coded the beneficiary as either fee-for-service or a Medicare+Choice (M+C) enrollee based on the GHP data. For each beneficiary, we then summed the number of months of Medicare eligibility and number of months of M+C enrollment.

Costs and utilization data were summed for each beneficiary for each of the two calendar years of 1997 and 1998. The 1998 data were summarized by month to allow the flexibility to aggregate the data for the full year as well as the eight-month period that preceded the introduction of Senior Prime at the six demonstration sites. We used the 8-month data to compare the per capita costs for beneficiaries in the demonstration sites to those for other beneficiaries, and for the beneficiaries outside of the demonstration sites, we compared monthly per capita costs estimated using the 8-month and 12-month data to guide our method for establishing representative estimates of per capita costs for the entire dually eligible beneficiary population.

### Adjustment for ADS Completion Rates

Given the low ADS record completion rates for outpatient visits, it was necessary to adjust our estimates of total utilization and costs using ratios of ADS visits to total visits from the MEPRS data. RAND obtained 1998 data from on counts of SADR encounter records and MEPRS visits for all MTFs, summarized by MTF, clinic, and month using

the standard DoD methodology. We used these data to calculate average completion ratios to adjust the SADR service counts and costs for unreported outpatient encounters. We first calculated completion ratios for each MTF clinic and month and used them to calculate averages by MTF and month (for all clinics). These averages were weighted by the number of SADR records for the dually eligible beneficiaries for CY1998. We chose this method to smooth out fluctuations in clinic-level ratios due to small numbers of visits in many clinics, while retaining adjustments for differing completion ratios over time. MTF/month completion ratios were calculated for all the MTFs. Completion ratios of 1.0 were used for services provided by MTFs for which MEPRS or ADS data were not available.

We note that such adjustments involve an assumption that the ADS record completion rates are the same for older beneficiaries as for all others served by an MTF clinic. However, experience with a variety of changes in clinical practices has shown that providers tend to use the same practices with all patients (probably because it is easier to use one consistent way of working with patients). Given the large discrepancies found between ADS records and MEPRS counts, the use of completion ratios offers more acceptable estimates of true activity levels even if some error may be introduced due to higher ADS completion rates for the Senior Prime population.

**Estimation of MTF Unit Costs**

To estimate the impact of Senior Prime on the DoD costs of care, MEPRS financial data were used to develop sets of unit costs for inpatient and outpatient services that were applied to each unit of service included in the SIDR and SADR encounter records. Unit costs were calculated for each MTF in the DoD system, thus providing unit cost information for care provided by demonstration MTFs as well as for out-of-area care by other MTFs. We note that there has been some criticism within the DoD that the MEPRS data over-estimates the MTFs' costs of doing business. The source of this criticism is a reported over-estimation of the available hours of military personnel time for patient care activities because personnel often do not record time that they spend on military-related activities. While acknowledging this issue, we also understand that MEPRS offers the best available data, and it is the basis for all other cost estimations for the demonstration.

In developing our unit cost estimation methodology, our goal was to derive cost estimates that captured all of MTF costs of care for inpatient or outpatient events and that were sensitive to variations in the intensity of resources required to provide health care for an older population. We worked closely in this design effort with SRA International, the contractor that developed the Patient Level Cost Allocation (PLCA) method to estimate the Level of Effort for the demonstration and also prepared the financial data used by CMS in the year-end reconciliation of Senior Prime payments. SRA provided us valuable information on the strengths and limitations of the MEPRS data, which we applied in designing the costing methodology, with feedback from SRA. We prepared specifications for calculation of inpatient and outpatient unit costs, and SRA generated the cost estimates for us according to these specifications.

The cost estimation methodology we developed differs somewhat from the PLCA method but mirrors its approach. SRA generated the cost and workload data for MTF outpatient clinics or inpatient wards for all MTFs in the DoD system for fiscal years 1996

through 1998. Data were not yet available for 1999, although we will obtain these data from SRA as they become available. The estimated unit costs included total direct and indirect expenses for each MTF cost center (ward or clinic), including direct expenses for staff time and supplies as well as indirect expenses for ancillary clinical services, administrative services, and maintenance and other support services.

**Inpatient Stays** We estimated the cost per inpatient stay for each MTF inpatient stay using the following formula:

$$\text{Cost for inpatient stay } i \text{ in ward } j = (\text{medical per diem cost})_{ij} \times (\text{number of days})_{ij} + (\text{surgical per diem cost})_{ij} \times (\text{number of days})_{ij} + \text{surgical cost for surgical DRG}_i$$

where the number of bed days for each type of inpatient ward —medical or surgical — is the sum of the ward and ICU days in the SIDR record. DRG is the Diagnostic Related Group assigned to each inpatient stay based on the patient's principal diagnosis and treatment. Medicare uses DRGs as the basis for payments for inpatient services, and DoD uses DRGs to establish amounts billed to third party insurers for MTF inpatient services.

For each inpatient ward in an MTF identified by the MEPRS level-3 accounts (the level that inpatient wards are coded in the SIDR records), we obtained the following MEPRS data that we used to calculate average total per diem expenses:

a. Total expenses including all stepped-down expenses from MEPRS accounts D and E <u>except for</u> surgical expenses (anesthesia, surgery suite, and recovery room expenses).[34] These costs included clinical salaries, direct operating costs, support costs, allocated ICU and ancillary service costs, allocated costs from purification of cost pools that contain costs related to more than one account, and resource sharing costs that SRA assigned to the inpatient ward.

b. Total number of occupied bed days (OBD) during the year, which will be used with total expenses to generate an estimated total expense per OBD.

For each surgical DRG, we obtained an estimated average MTF-level surgical expense that included expenses for anesthesia, surgery suite, and recovery room. This cost estimate was derived as the total MTF surgical expenses divided by the total weights of surgical DRGs during the year, where surgical costs were estimated using the same method that SRA applied for the PLCA calculations. For each surgical disposition, we multiplied the MTF average surgical cost by the DRG weight for the DRG assigned to the patient stay.

This approach allowed us to capture all expenses for an inpatient disposition using a consistent methodology across all the years of inpatient records included in our analysis. This method smoothes out errors in reporting movement of patients between ICUs and regular inpatient wards by estimating average per diem costs that include costs for the regular ward services plus related ICU services. At the same time, it captures the one-time costs associated with the surgical procedure performed for each surgical stay by

---

[34] The MEPRS D accounts are clinical ancillary services (e.g., pharmacy, pathology, intensive care), and the E accounts are support services (e.g., administration, housekeeping, laundry, depreciation).

applying these costs separately for each event. The method also allows costs to increase with length of stay, thereby capturing some of the additional costs incurred by the older population. However, this approach assumes that ancillary costs are a linear function of days, whereas it is known that these costs tend to be concentrated in the early days of an inpatient stay . Therefore, the method sacrifices some precision in estimating ancillary service costs, although SRA has informed us that total MTF ancillary costs correlate strongly with length of stay.

**Outpatient Visits** For each clinic in an MTF identified by the MEPRS level-4 accounts (the level that clinics are coded on the SADR records), we obtained the following MEPRS data that we used to calculate average total expenses per outpatient visit:

a. Total MEPRS level-4 expenses for the clinic for each year, including the resource sharing expenses that SRA has estimated and assigned to each clinic.

b. The MEPRS count of total outpatient visits in the clinic during the year

c. Within the total expenses, separate identification of the expenses for laboratory, radiology, pharmacy, all other ancillary services (including allocated costs from purification of cost pools), and resource sharing.

These data allowed us to calculate the average total cost per visit for each clinic in an MTF and to estimate the shares of the total clinic expenses that are attributable to ancillary services.

# Appendix B

## Trends in Actual and Projected
## VHA Enrollment, Utilization, and Expenditures
## Department of Veterans Affairs

**DRAFT**

# Trends in Actual and Projected VHA Enrollment, Utilization, and Expenditures,

# VHA Enrollee Survey-Based VA Reliance, and

# Dual Utilization of VA and Medicare Systems: Three-Year Patient Trends in Risk Scores and Expenditures, FY 98–FY 00

**Department of Veterans Affairs**
**Veterans Health Administration**
Office of Policy and Planning (105)

**Washington, DC**
November 2002

# CONTENTS

**I. Purpose**

**II. VHA Enrollment: Background and History**

**III. VHA Actual and Projected Enrollment Trends**

**IV. VHA Enrollee Surveys: New Enrollee Cohort Reliance Analysis**

**V. Dual Utilization of VA and Medicare Systems: Three-Year Patient Trends in Risk Scores and Expenditures, FY 98 – FY 00**

## I. Purpose of Report

The purpose of this report is to provide data and information to the Center for Medicare and Medicaid Studies (CMS), Department of Health and Human Services (HHS), in response to the recent request for concurrence/comments on the CMS draft "Report to Congress on Accounting for VA and DoD Expenditures for Medicare Beneficiaries, 2002". The data and information presented here address the CMS Report's Part I analyses of the effect of using VA and DoD facilities upon Medicare utilization.

VA recommends to CMS to modify the current Part I by deleting the old CMS data analysis and replace that information with selections from the material below on more recent descriptive enrollment related trend data, recent VHA enrollee survey information on reliance, and more current VA/Medicare matched patient data. Then CMS and VA will work on a Part II Report this spring by designing an appropriate multivariate analysis using more current VA/Medicare matched databases at the county level.

The next section provides some background on and history of VHA enrollment, not addressed in the current CMS Report.

## II. VHA Enrollment: Background and History

### A. Impact of Eligibility Reform

Prior to the *Veterans Health Care Eligibility Reform Act of 1996*, P.L. 101-262, eligibility rules for VA inpatient and VA outpatient care were different and very complicated. They favored care in inpatient settings, and decisions about veterans' access to care were often made locally based upon local resources. After eligibility reform, VA health care could be provided in the most cost-effective and clinically appropriate manner. As a consequence of eligibility reform, a real national system of care evolved.

### B. The VHA Enrollment System

Congress, as a tool to help VA stay within its budget as it implemented major eligibility reforms, mandated VHA's enrollment system. VA care is not an entitlement like Medicare. As a result of the 1996 eligibility reforms, (most) veterans must be enrolled in order to obtain VA health care. Once they are assigned to one of seven distinct enrollment priority groups (Chart 1) and subsequently enrolled, they have access to a comprehensive range of benefits and services (VHA's "Medical Benefits Package" (MBP)). Some of the veterans who do not have to enroll include veterans who: (i) have a service-connected compensation rating of 50% or greater, (ii) have been discharged in the past year for a compensable disability that VA has not yet rated, or (iii) want care for a service-connected disability.

Annually, VA assesses whether it will have the resources to meet the demand for care by veterans in all priorities. If, it cannot, then VA may not continue to enroll veterans in the lowest level of priorities. The VHA enrollment system is hierarchical, with veterans in

Priority 1 having the highest priority for enrollment and veterans in Priority 7 have the lowest priority for enrollment. For the last four years, VA has been able to open the VA health care system to all veterans, even higher income veterans, if they are willing to make co-payments. But ever-increasing numbers of veterans are projected to continue enrolling, causing concomitant financial and clinical pressures. Recently, through regulation, veterans with the highest service-connected status receive priority for treatment within this enrollment system.

**Chart 1**

**VHA Enrollment Priority Groups**

The priority groups are as follows, ranging from 1-7 with 1 being the highest priority for enrollment. Under the Medical Benefits Package, the same services are generally available to all enrolled veterans.

**Priority Group 1**

Veterans with service-connected disabilities rated 50% or more

**Priority Group 2**

Veterans with service-connected disabilities rated 30% or 40%

**Priority Group 3**

Veterans who are former POWs
Veterans with service-connected disabilities rated 10% or 20%
Veterans discharged from active duty for a disability incurred or aggravated in the line of duty
Veterans who received the Purple Heart
Veterans awarded special eligibility classification under 38 U.S.C., Section 1151, "benefits for individuals disabled by treatment or vocational rehabilitation"

**Priority Group 4**

Veterans who are receiving aid and attendance or housebound benefits
Veterans who have been determined by VA to be catastrophically disabled

**Priority Group 5**

Nonservice-connected veterans and noncompensable service-connected veterans rated 0% disabled, whose annual income and net worth are below the established dollar thresholds

**Priority Group 6**

All other eligible veterans who are not required to make copayments for their care, including:
World War I and Mexican Border War veterans
Veterans seeking care solely for disorders associated with: exposure to herbicides while serving in Vietnam; or exposure to ionizing radiation during atmospheric testing or during the occupation of Hiroshima and Nagasaki; or for disorders associated with service in the Gulf War; or for any illness associated with service in combat in a war after the Gulf War or during a period of hostility after November 11, 1998
Compensable 0% service-connected veterans

**Priority Group 7**

Nonservice-connected veterans and noncompensable 0% service-connected veterans with income and net worth above the established dollar thresholds and who agree to pay specified copayments.

VA is currently in the implementation phase of splitting Priority 7 enrollees into two new priorities by a geographic or locality income adjustment:

**Priority Group 7**
Veterans who agree to pay specified copayments with income above the statutory VA Means Test threshold and below the HUD geographic index or with income below the VA Means Test threshold and below the HUD index whose networth exceed VA limits

- Subpriority a: Noncompensable 0% service-connected veterans
- Subpriority c: Nonservice-connected veterans

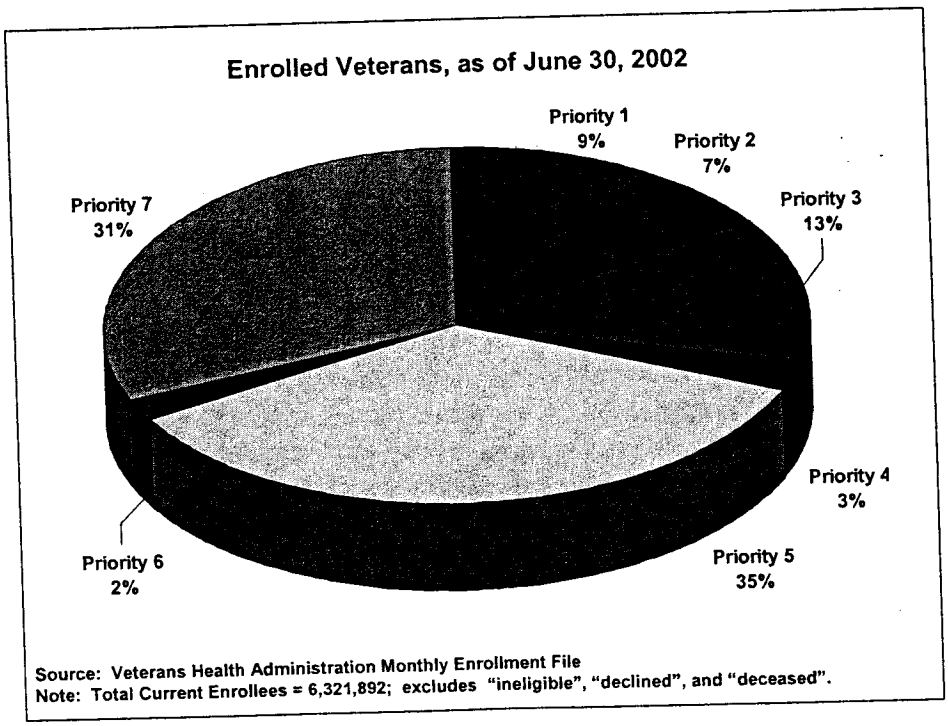
**Priority Group 8**
Veterans who agree to pay specified copayments with income above the statutory VA Means Test threshold and the HUD geographic index or income below the VA Means Test and above the HUD index whose networth exceeds VA limits

- Subpriority a: Noncompensable 0% service-connected veterans
- Subpriority c: Nonservice-connected veterans

## VHA Enrollment: A Snapshot

As of June 30, 2002, there were an estimated 25,727,000 living veterans, 9,807,000 or 38% over age 64. As of June 30, 2002, some 6,321,892 veterans (about 25% of all veterans) were enrolled in the VA Health Care System. The Priority 7 enrollees in Chart 2 below include "higher income" non-service-connected veterans, who account for about 31% of all June 30, 2002 VHA enrollees; Priority 5 enrollees include "lower income" non-service-connected veterans, who account for about 35% of all June 30, 2002 VHA enrollees.

**Chart 2**



Since the inception of VHA Enrollment, the number of Priority 7 veterans has shown the largest increase, both in absolute numbers and percent. As of June 30, 2002, there were 1,968,771 Priority 7 veterans enrolled (31% of all enrollees). Priority 7 veterans, however, are the lowest cost enrollees since they have other eligibilities and insurance and rely to a lesser degree on VA than enrollees in other priorities. They may be coming to VA to bridge gaps in their public or private insurance coverage or to reduce their out-of-pocket costs. On the other hand, the number of Priority 5 veterans as of June 30, 2002 was 2,240,191 (35% of all enrollees). Priority 5 veterans are not only more numerous than priority 7 veterans, but they are also among the most expensive to treat. Further, in contrast to Priority 7 veterans, Priority 5 veterans are often uninsured and rely heavily upon VA for their health care needs.

## III. VHA Enrollment and Expenditure Trends

### *A. Actual*

The following Charts 3-7 show the actual enrollment and expenditure trends by priority by fiscal years from the beginning of enrollment in FY 1999 to FY 2001. (VA has just recently closed its FY 2002 year and those data can be added to these charts later.) Actual enrollment trends are illustrated by priority for the total enrollee population (Chart 3) and for enrollees aged 65 and over who can be assumed to be a proxy for the Medicare population of interest (Chart 4). Then a similar set of actual expenditure trends by priority for the total and age 65 and over enrollees follow (Charts 5 and 6). Chart 7 synthesizes both enrollment and expenditures trends for the under age 65 and those age 65 and over from FY 1999 to FY 2001 on the same chart with dual axes.

The greatest growth in enrollment has come from two very different groups of veterans, *i.e.,* the lowest income veterans (Priority 5) and the higher income veterans (Priority 7). Priority 7 veterans are viewed as discretionary and VA's limited resources have traditionally, before eligibility reform and enrollment, limited their access to the system. The growth of Priority 7 enrollees approach that of the Priority 5 enrollees for the Medicare proxy population. The other priorities are much flatter and more stable over time. This growth phenomena occurs to a large degree simply because there are so many more Priority 5 and 7 veterans from which enrollees may come, *i.e.*, 5.9 million Priority 5 veterans and 15.3 million Priority 7 veterans in 2001.

The trend for the age 65 and over (Medicare proxy) enrollee eligible is illustrated in Chart 4. The priority composition of the enrollment population changed significantly between 1999 and 2001. However, the actual enrollment trends show that irrespective of the changes in the priority group composition of the enrollment population over time, the enrollment population, as a group, is increasingly elderly and, therefore, also increasingly likely to have Medicare coverage.

**Actual Enrollment Trends, FY 1999 – FY 2001**

**Chart 3**

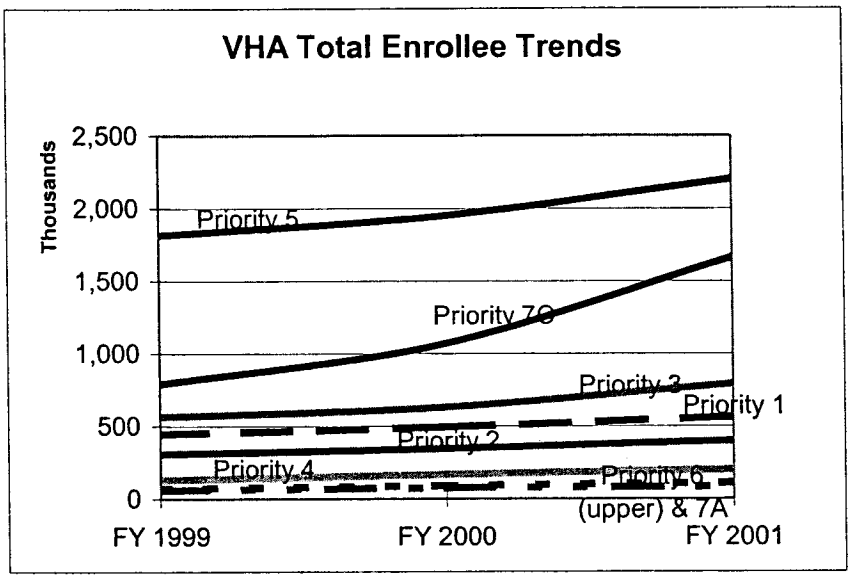
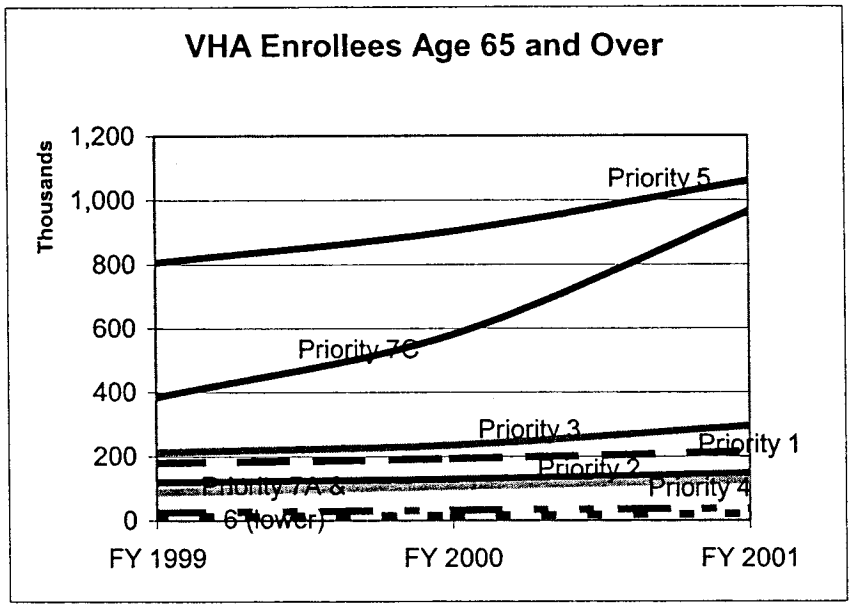



**Chart 4**



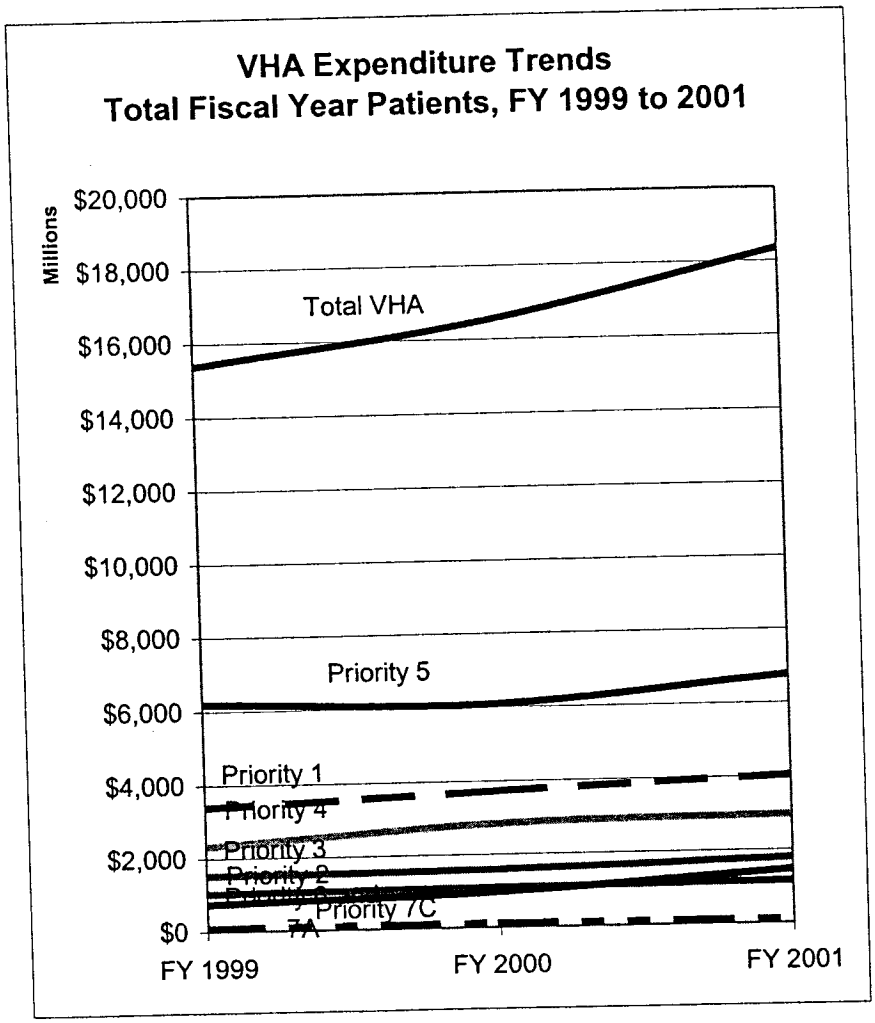

Actual VHA enrollment file data for FY 99 – FY 01 show that the percentage of enrolled veterans who were age 65 or over increased from 44% as of September 30, 1999, to 45% as of September 30,2000, and again to 48% as of September 30, 2001. [Soon-to-be finalized actual VHA enrollment file data as of September 30, 2002 are expected to show that more than half of all VHA enrollees are age 65 or over.] The number of Priority 7 enrollees aged 65 and over is growing rapidly and almost approaches the number of Priority 5 enrollees.

The actual expenditure trends by priority are quite different from the enrollment trends by priority, because of the costlier morbidity and related expenditures for the large Priority 5 lower income enrollees, the most service-connected disabled Priority 1 enrollees, and perhaps the most severely ill, but very small group, Priority 4 enrollees. Their higher expenditures are illustrated on Charts 5-7 below.

The information on Charts 5-7 is intuitively not surprising. Priority 5 enrollees are the lowest income and often the sickest of patients. They also have limited other resources from which to obtain care. Most Priority 5 enrollees do not have Medicaid eligibility. Aggregated expenditures for the priority groups are influenced by the size of the group, as well as, the cost per enrollee or per patient. Priority 5, both because of its size, as well as its cost per enrollee, account for the highest aggregated expenditures. Priority 5 is followed in expenditures by the most disabled, Priority 1, and then the very small, but severely ill, Priority 4 enrollees, including the catastrophically disabled.

**Actual Expenditure Trends, FY 1999 – FY 2001**

**Chart 5**



VHA's expenditures for enrollees age 65 and over are considerably different by priority (Chart 6) from the total of all ages (Chart 5). There's more difference in the aggregated expenditures between Priority 5 and Priority 1 for the elderly than for the total of all ages in Chart 5. Further, there is little difference in the total expenditures as a group for Priority 1 and 4, probably because age has exacerbated the expenditures for Priority 4, many of whom are nursing home residents. We also see in Chart 6 an increase in the aggregated expenditures for the elderly Priority 7C (higher income NSC enrollees) by FY 2001.

**Chart 6**

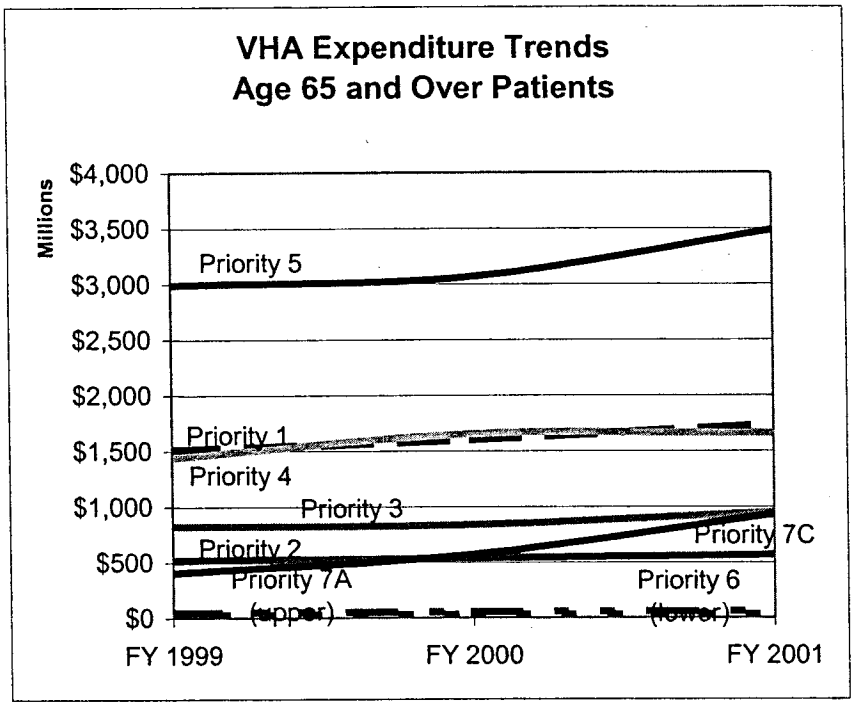
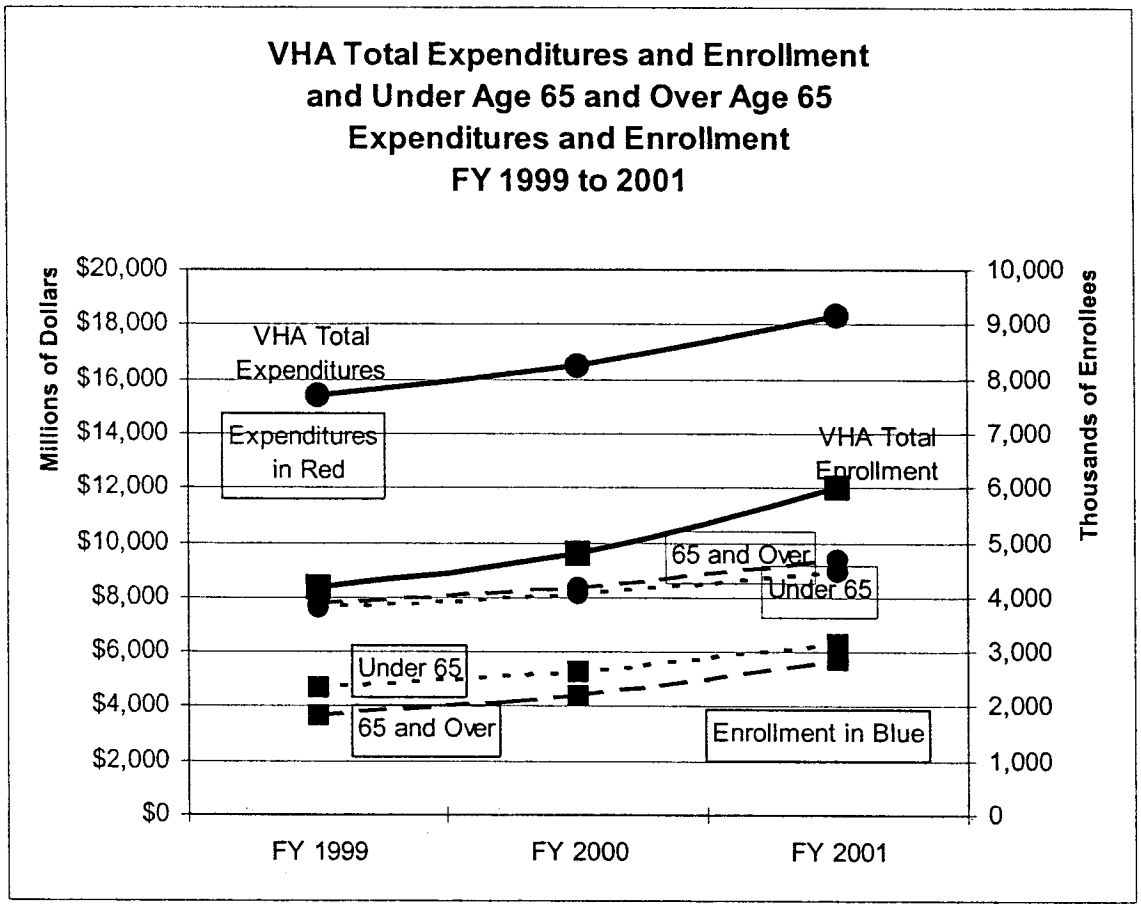


Chart 7 reveals that the two age groups are fairly comparable in size and expenditures. The expenditures for the older (Medicare proxy) enrollees are only slightly more than the younger enrollees. There were somewhat fewer elderly enrollees in earlier years than the younger enrollees, but the proportion is now approaching almost half and half, as the population is aging. The aggregated expenditures for the elderly and younger enrollees are quite similar.

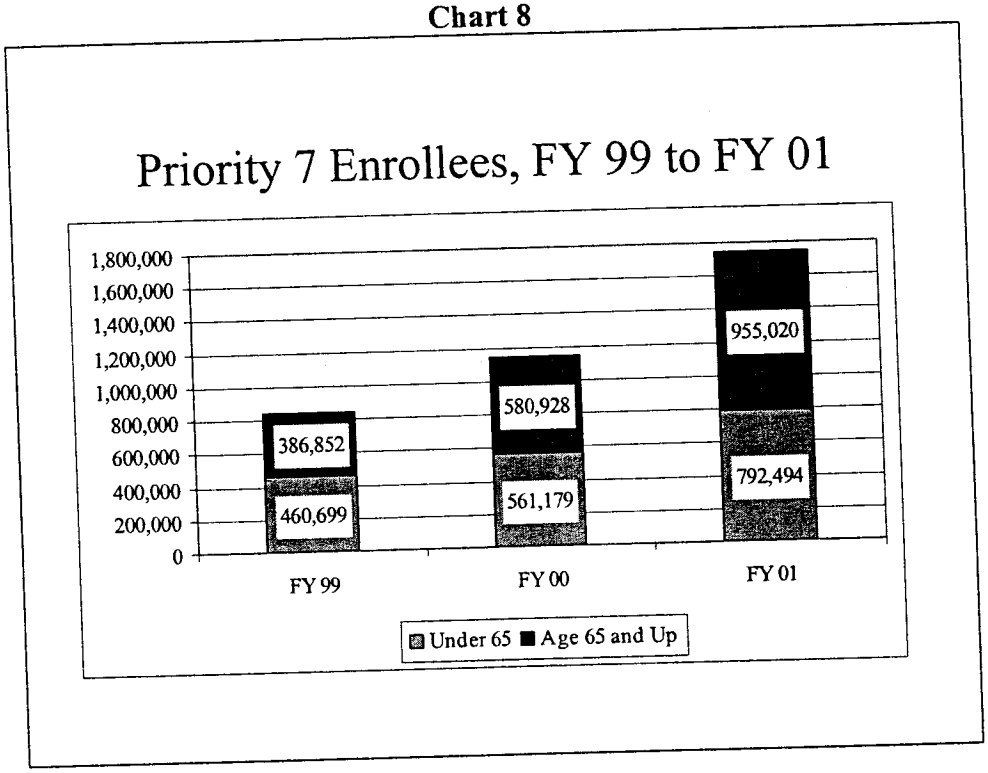
**Chart 7**



## B. Selected Actual Priority 7 Enrollment Trends

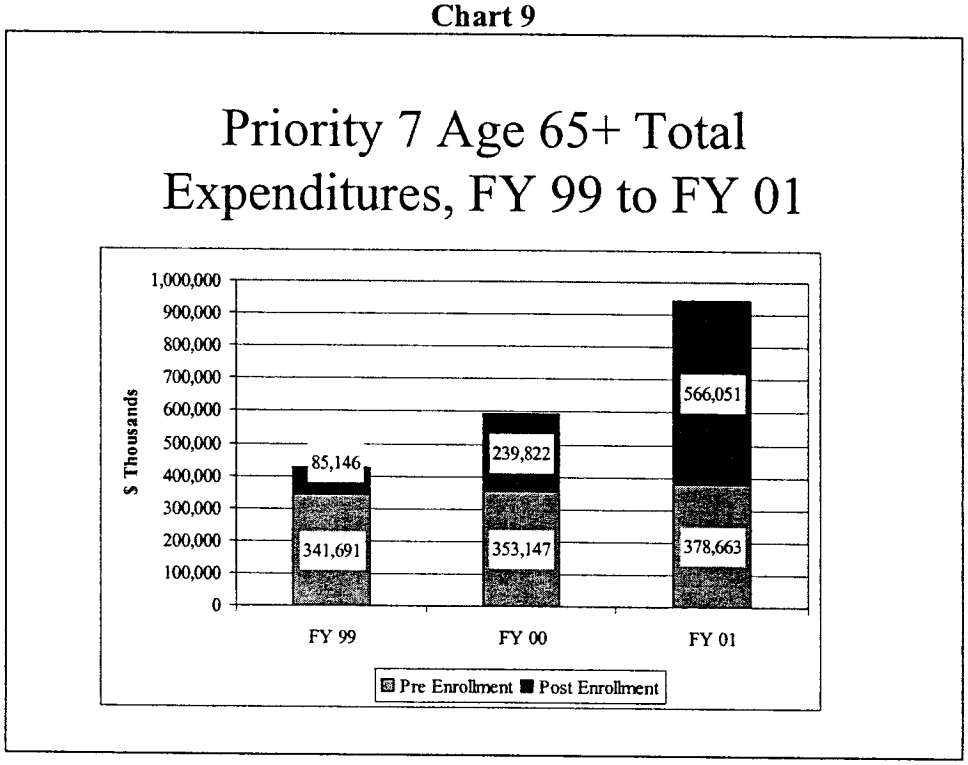
Enrollment altered greatly the number of Medicare eligible veterans seeking VA care. This recent growth is not reflected in the earlier VA/Medicare matched data. At the End-of-Year (EOY) FY 1999, there were only 847,584 Priority 7 enrollees. By EOY 2001 there were 1,747,591, a 106 percent increase. Most of the increase came from the elderly (Medicare proxy) age group (147% increase).

**Chart 8**



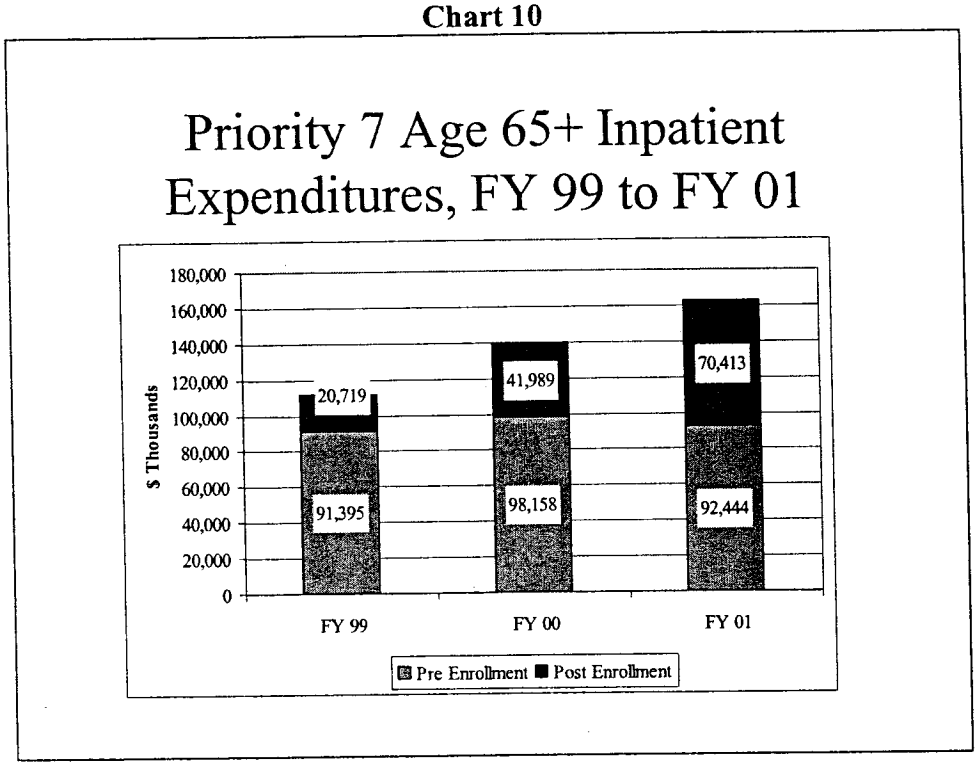
Enrollees age 65 and over (the Medicare proxy) increased 121% from FY 1999 to FY 2001. This recent growth from FY 1999 to FY 2001 was almost entirely attributed to "Post" enrollees who are new to the VA system after enrollment began (546% increase), *i.e.,* enrollees who were not a VA user in FY 96, 97, or 98 prior to enrollment implementation. Most of this Post enrollee growth occurred in the most recent year of enrollment, *i.e,* FY 00 to FY 01.

**Chart 9**



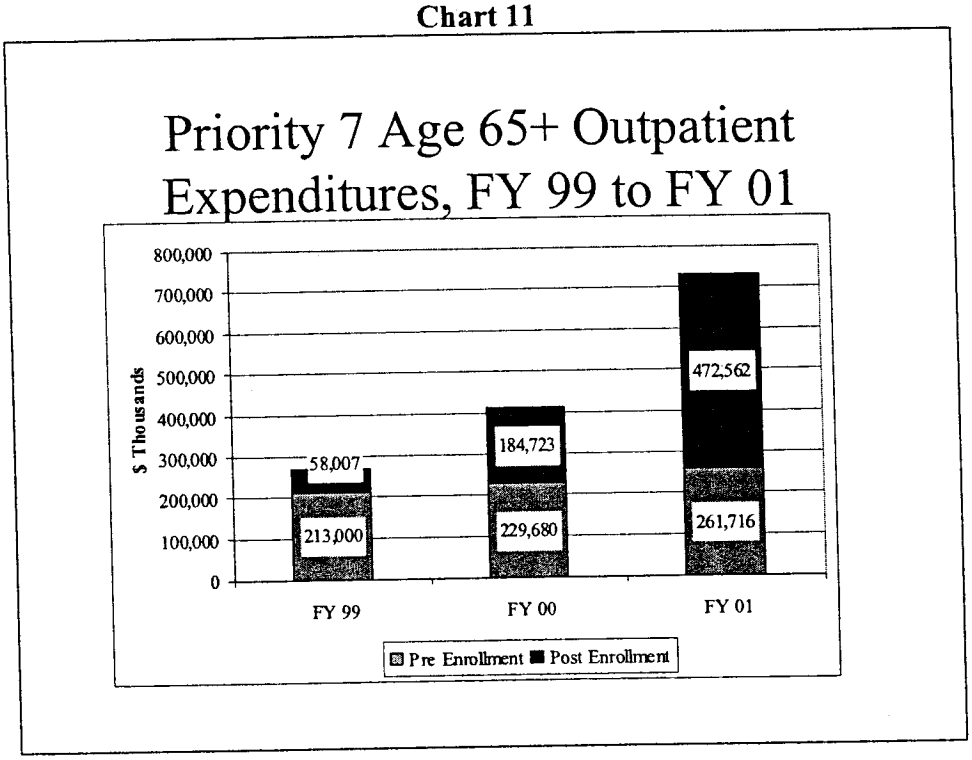
Priority 7 age 65 and over Post enrollee inpatient expenditures increased 340% from FY 99 to FY 01. The pattern was fairly stable for Priority age 65 ad over "Pre" enrollee inpatient expenditures, *i.e.*, enrollees who were a VA user in FY 96, 97, or 98 prior to enrollment implementation. Priority 7 age 65 and over Pre enrollee inpatient expenditures peaked in FY 00 and declined in FY 01, but with little variation over the 3 years.

**Chart 10**



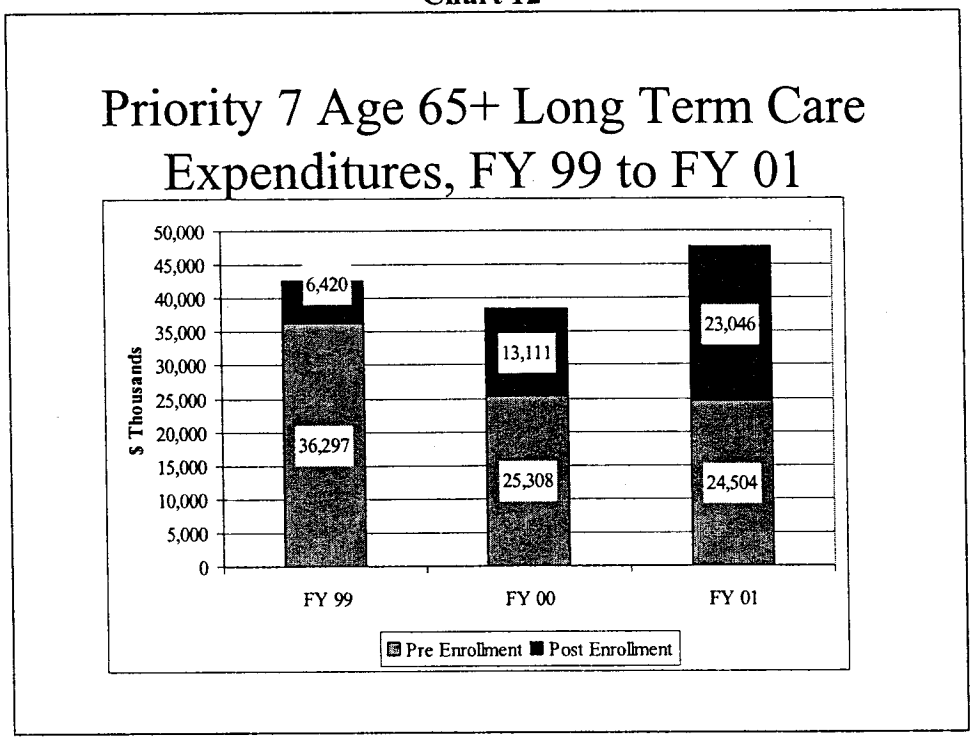
Priority 7 age 65 and over enrollee total outpatient expenditures increased 170% from FY 99 to FY 01. Most of this growth occurred in the Post enrollees (714%) from FY 99 to FY 01.

**Chart 11**



The same exponential growth pattern in Post enrollee expenditures occurred for long term care (259%).

**Chart 12**

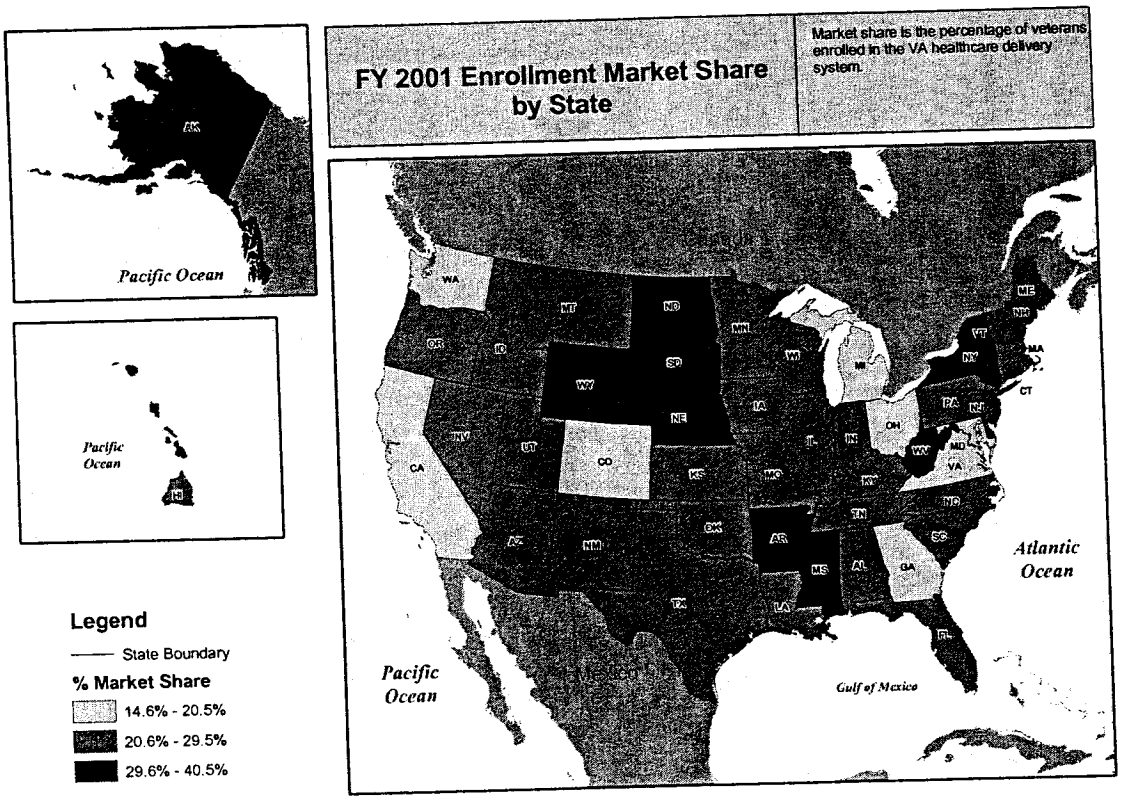



**Priority 7 Pharmacy**

Many dual VA/Medicare eligibles are coming to VA for services not covered by Medicare, *e.g.*, prescriptions. In just one VA network in Florida, VA's IG found 43% of the Priority 7 cases reviewed (949) indicated that having private sector primary and other specialty care, the sole purpose of their VA care was for prescriptions. These cases (949) represented an estimated $11.9 million annually in direct prescription costs. In order to receive prescriptions in VA, duplication of services occur, resulting in poor coordination of care with potential quality of care problems. An example is the large increase in physical exams.

**Geographic Level Data**

VHA can analyze actual, projected, or VA/Medicare merged enrollment, utilization, and expenditure data at the county level. For example, the map below illustrates VA market share of all veterans who were enrolled in the VA health care system in FY 2001. Market share can be thought of as a simple measure of "access" reliance. Maps can blow-up counties within the states for any type of information. Detailed descriptive, as well as multivariate, analyses can be produced at the county level in the CMS Part II Report.




## C. *Projections*

Based on the latest enrollment projections, developed for the Secretary's enrollment level decisions, enrollee demand shows no sign of decreasing, with a 40% increase in the number of enrollees from 6.3 million in 2002 to 8.8 million in 2010, if no constraints are implemented and if resources (supply) can meet the projected demand (Chart 13). Among the various Priorities, Priorities 7 and 5, respectively, will show the greatest increases in enrollment levels well into the future. Priority 7 enrollment is projected to increase by 89% from 1,968,771 as of June 30, 2002 to 3,717,675 as of September 30, 2012; Priority 5 enrollment is projected to increase by 25% from 2,240,191 as of June 30, 2002 to 2,794,143 as of September 30, 2012 (Chart 13). The expenditure trends (Chart 14) reveal that Priority 7, even though it is the largest group, is not the most costly. These trends are similar for the elderly enrollees (Chart 15) and their expenditures (Chart 16).

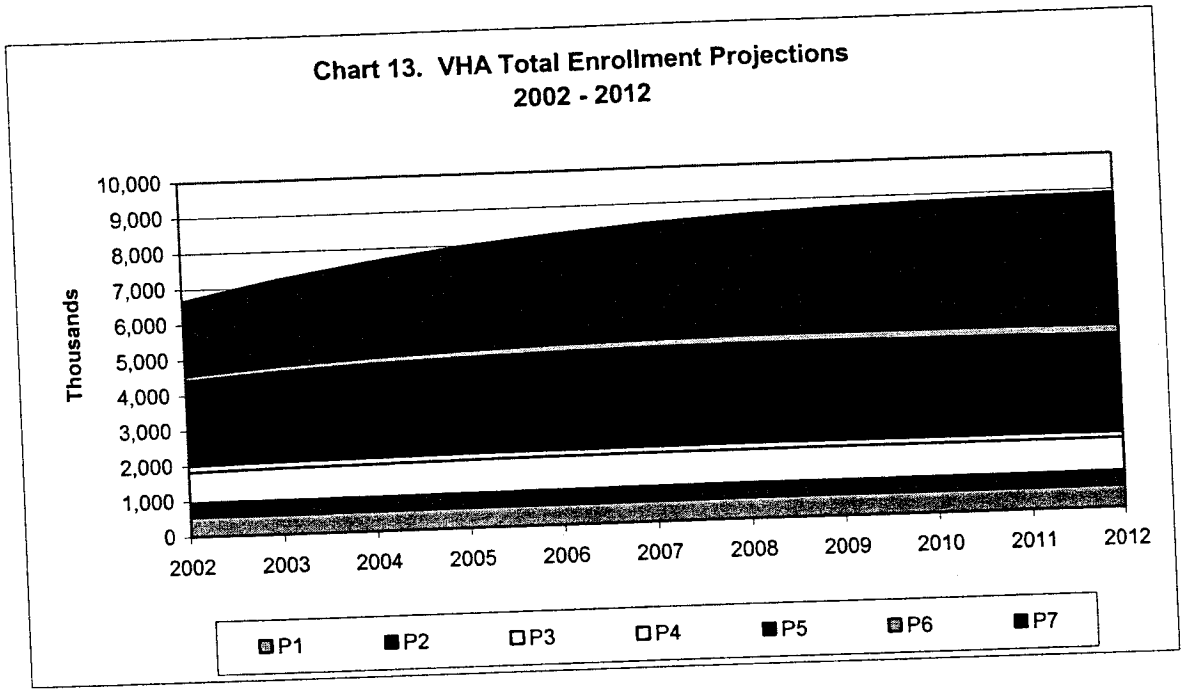


Chart 13. VHA Total Enrollment Projections
2002 - 2012
Thousands
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
P1
P2
P3
P4
P5
P6
P7

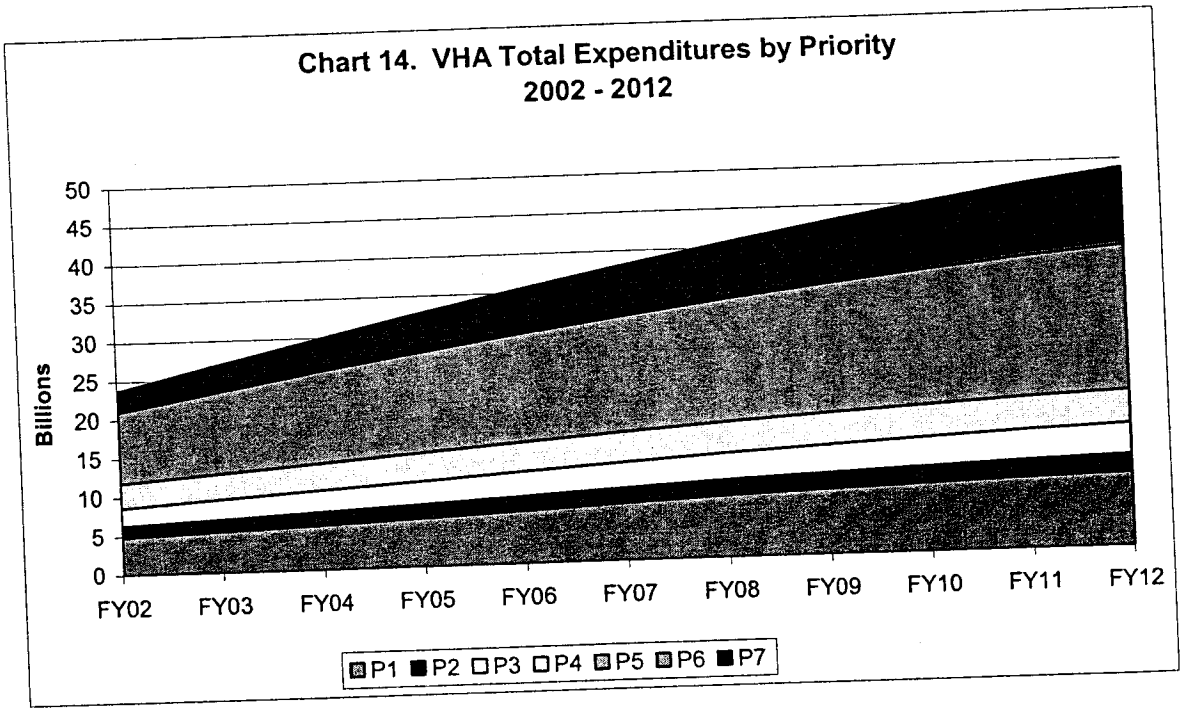
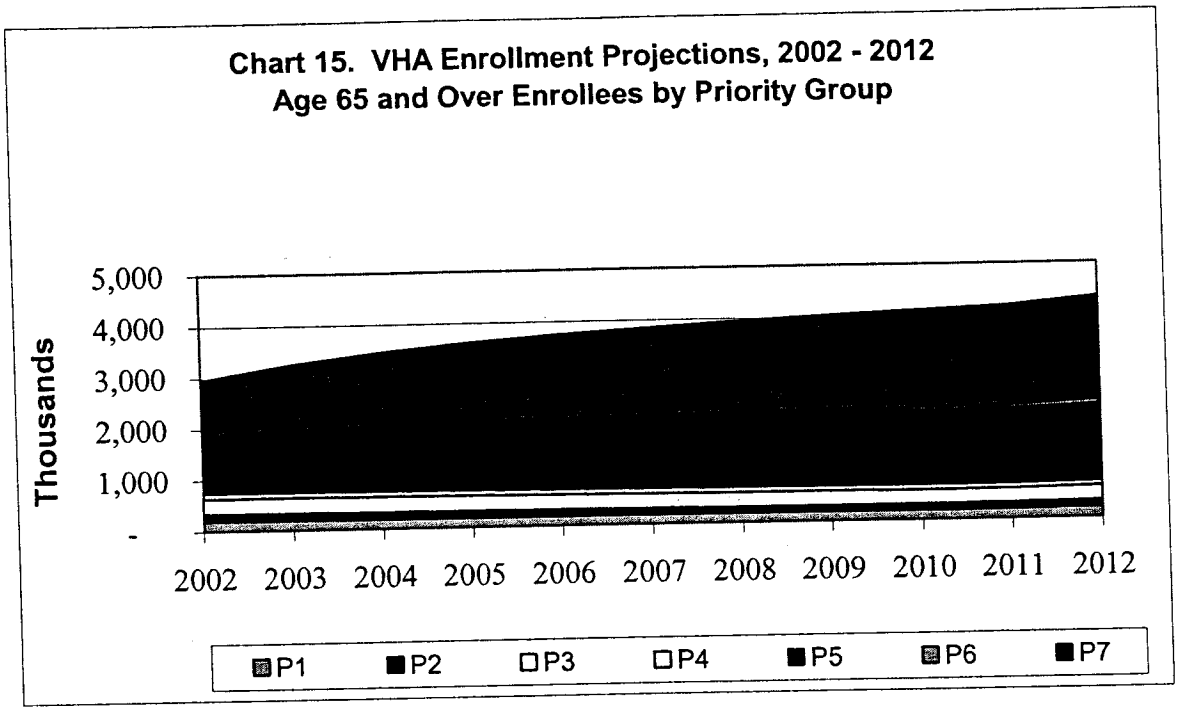
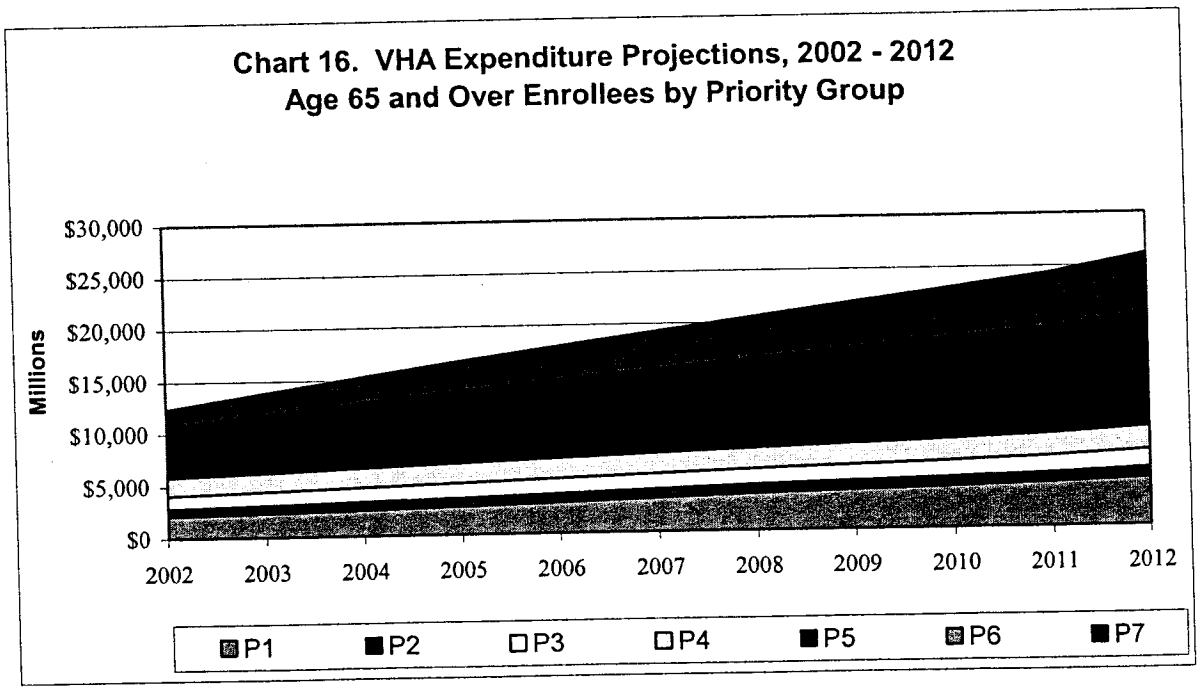


Chart 14. VHA Total Expenditures by Priority
2002 - 2012
Billions
50
45
40
35
30
25
20
15
10
5
0
FY02
FY03
FY04
FY05
FY06
FY07
FY08
FY09
FY10
FY11
FY12
P1 P2 P3 P4 P5 P6 P7

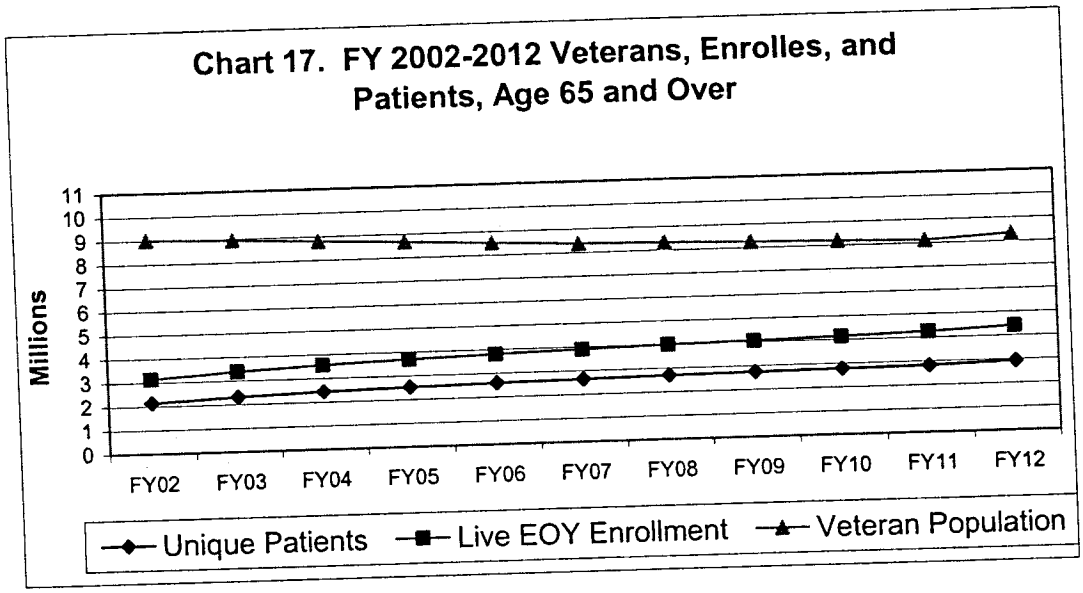


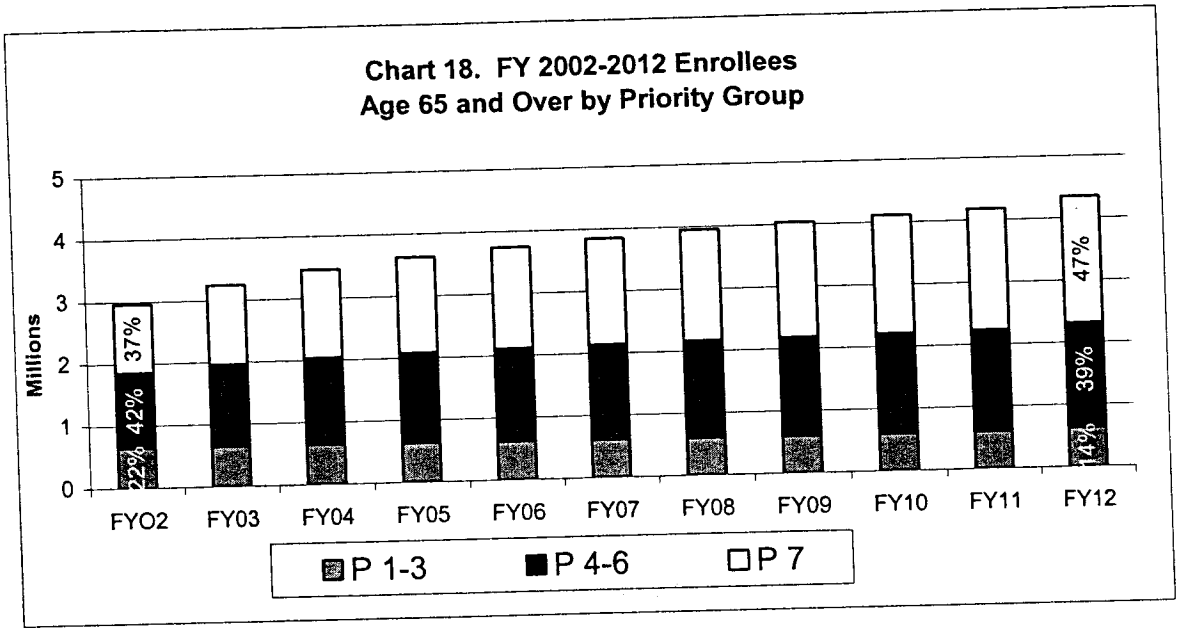

The veteran, enrollee, and patient populations are all projected to age from FY 2002 to FY 2012, with the veteran population aging slightly more than the enrollee and patient

populations. The portion of the veteran population age 65 and over increases from 36.2 percent to 40.3 percent (or +4.1 percent), while the enrollee (live-end-of-year) and patient populations age 65 and over each increase by 2.6 percent.

The age 65 and over veteran population is projected to decline just eight percent over the next ten years, while enrollees age 65 and over increase by 36 percent and patients increase by 41 percent (Chart 17).




While the proportion of enrollees age 65 and over changes just slightly over time, the distribution of age 65+ enrollees within the priority groups changes more significantly, with Priorities 1-3 decreasing from 22 percent to 14 percent of age 65+ enrollees and Priority 7 increasing from 37 percent to 47 percent (Chart 18).




Total Age 65+ Expenditures:

In FY 2002, the 46 percent of enrollees that are age 65 and over account for $12.05 billion in expenditures, or 50 percent of the projected $23.7 billion in total expenditures. By FY 2012, this age group will increase slightly to 49 percent of enrollees and account for $25.6 billion in expenditures, or 52 percent of the projected $48.9 billion in total expenditures.

Core Priorities Age 65+ Enrollees:

In FY 2002, Priorities 1-6 comprises 63 percent of the age 65+ enrollees, but account for 86 percent of age 65+ expenditures. By FY 2012, this group decreases to 54 percent of the age 65+ enrollees and expends 77 percent of the age 65+ expenditures.

Priority 7, Age 65+ Enrollees:

In FY 2002, 1.102 million Priority 7 age 65+ enrollees account for 37 percent of the age 65+ enrollee population, but utilize only 14 percent of total age 65+ expenditures and 27 percent of age 65+ pharmacy expenditures. By FY 2012, this group will increase to 47 percent, or 2.028 million enrollees, but still utilizes only 23 percent of total age 65+ expenditures and 35 percent of the age 65+ pharmacy expenditures.

## IV. The VHA OPP Enrollee Surveys:

### A. Purpose of VHA Enrollee Surveys

Each year, the Veterans Health Administration conducts a major review of past, current actual, and future potential demand for health care services from veterans. This total review of veteran demand for VA health care services involves the continuing refinement

of the VHA Health Care Services Demand Model. The VHA Health Care Services Demand Model (or VHA Demand Model), now in its fifth year, has been continuously developed and refined in a major public-private sector collaboration between VHA and the private sector health care actuarial firm, Milliman USA. The VHA Demand Model integrates data on veteran population, historical monthly VHA enrollment, VA actual unit costs, both VA and private sector workload measures, morbidity and reliance model adjustments from enrollee characteristics and health measures from the VHA surveys of enrollees and VA and Medicare dual utilization.

## B. Uses of the VHA Enrollee Surveys and Demand Model Projections

The VHA OPP enrollee surveys comprise a fundamental source of data and information on enrollees that cannot be obtained in any other way than through surveys and yet which are basic and fundamental to the VHA Demand Model projections of enrollment, utilization, and expenditures. Although the primary purpose of the VHA enrollee surveys is as critical inputs into VHA Demand Model projections and the Secretary's enrollment level decision processes, data from the enrollee surveys find their way into a variety of strategic analysis areas.

The VHA enrollee surveys provide even greater "added value" in terms of their ability to help identify not only who we serve but to help supplement our knowledge of veteran enrollees demographic characteristics, their other eligibilities and resources, their health status and need for care, and their (self-reported) utilization of VA and non-VA care or their reliance upon VA.

Other Applications of VHA Enrollee Surveys

- Inputs into projection model for reliance upon the VA vs. non-VA system(s)
- Resulting projections are used in many applications:
  - –Secretary's Annual Enrollment Level Decision
  - –Capital Asset Re-alignment for Enhanced Services (CARES) Baseline & Analyses
  - --Millenium Bill Analyses
  - –Budget Formulation & Analyses
  - –Market & Unmet Demand Analyses
  - –Planning Model for VISNs
  - –Scenario Testing
  - –Policy Decision Analyses
  - –VERA Funding Allocations within VISNs
  - –Special Analyses
  - –Private Sector Contracting
- Case-mix adjustments in VA's LTC projection model, *e.g.*, ADL's, IADL's for the total enrolled population
- Descriptive, explanatory information on enrollees, especially where administration data is poor or incomplete, *e.g.*, income, insurance coverage, multi-system eligibilities

- Analysis of enrolled veterans who are military retirees and who are covered by DoD's Tricare for Life program

## C. Vha Surveys of Enrollees Background and Methods

The "*2002 Survey of Veteran Enrollees' Health and Reliance Upon VA*" is the third in a series of surveys of VHA enrollees conducted by the Veterans Health Administration (VHA) Office of Policy and Planning (OPP) under multi-year OMB authority. Previous surveys were conducted in 1999 and in 2000, namely the "*1999 Survey of Veteran Enrollees' Health and Reliance Upon VA*", and the "*2000 Survey of Veteran Enrollees' Health and Reliance Upon VA*". All three VHA enrollee surveys were conducted by VHA OPP in collaboration with CACI International and the private sector health care actuarial firm Milliman USA.

All three VHA surveys of enrollees consisted of approximately 15-minute telephone interviews. The random samples were optimally stratified by VISN, enrollment priority, and pre or post enrollees, so that information at this level of detail could be provided as input into the VHA Demand Model. Approximately 37,500 enrollees from all priorities (about 1,800 per VISN) in the 2002 survey, about 9,000 only new Priority 5 and 7 enrollees (about 400 per VISN) in the 2000 survey, and almost 20,000 all priority enrollees (about 900 per VISN) in the 1999 survey were sampled. All three surveys were conducted in the spring of the year from about February through May. Only data from the 2002 VHA survey of veteran enrollees are included in the new member cohort analysis included in this report. The 2002 enrollee survey results in this report are weighted to represent the population of 6.2 million veteran enrollees as of December 31, 2002.

## D. VHA 2002 Survey of Enrollees New Enrollee Cohort Reliance Study Results.

The VHA OPP enrollee survey instrument has changed very little over time, for consistency purposes. The surveys provide critical and essential data and information on a variety of National and VISN level factors that are input into all of our annually updated projections, as well as our most important VA business operations. The characteristics of VA's service population changed considerably after enrollment began in FY 1999, because many newer enrollees rely much less on VA for their total care needs than our previous patients. And it was hypothesized that the sickest patients would enroll in the earlier years, with new enrollees each year thereafter being less reliant upon VA health care. To test this hypothesis we divided the recent 2002 survey respondents into new member cohorts by the year they were newly enrolled into the system and compared their most recent reliance upon VA care.

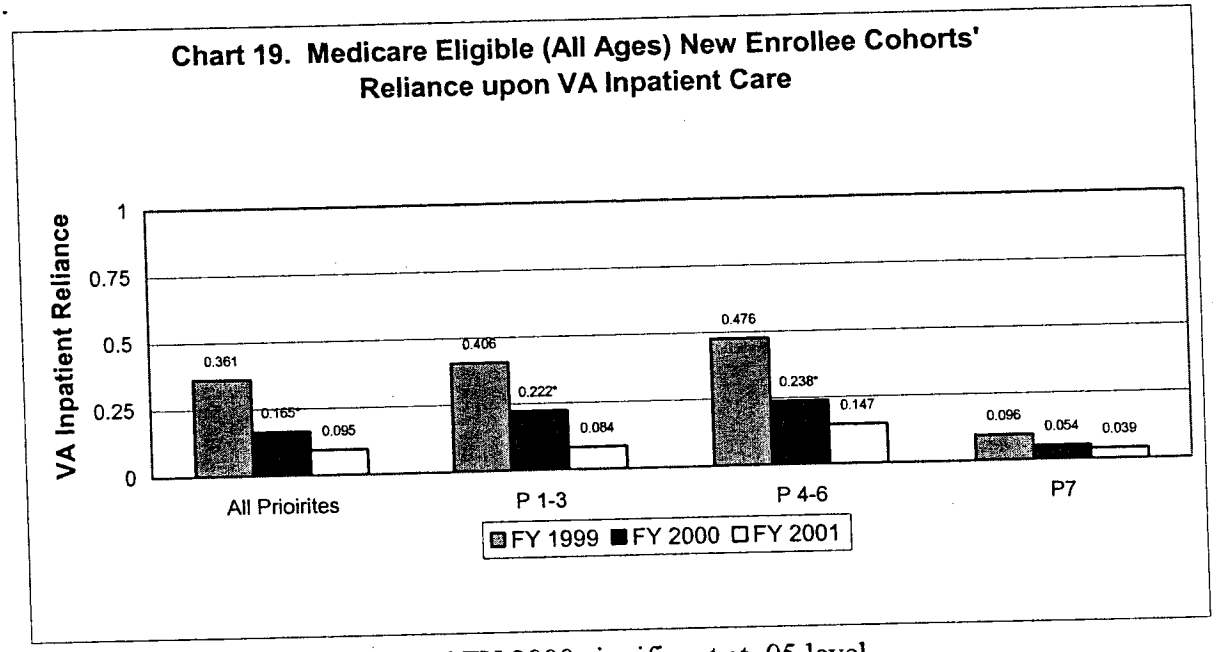
*VA reliance is setting specific (inpatient reliance, outpatient reliance, mental health facility reliance, or nursing home reliance) and is defined as the number of days or visits in a VA setting reported by an enrollee divided by the sum of days or visits in VA and non-VA settings.*

For example, if an enrollee's inpatient care was provided entirely by the VA, then his/her reported inpatient reliance is one (1.0), meaning 100% of the patient's self-reported inpatient care was provided by VA. If an enrollee's inpatient care was provided entirely outside the VA, the reported inpatient reliance is zero (0.0), meaning VA provided 0% of the enrollee's self-reported inpatient care. If an enrollee reported no hospitalizations at all, then the inpatient reliance is undefined. Thus, only enrollees who utilize some care in either a VA or non-VA setting have a defined reliance factor for that particular setting.

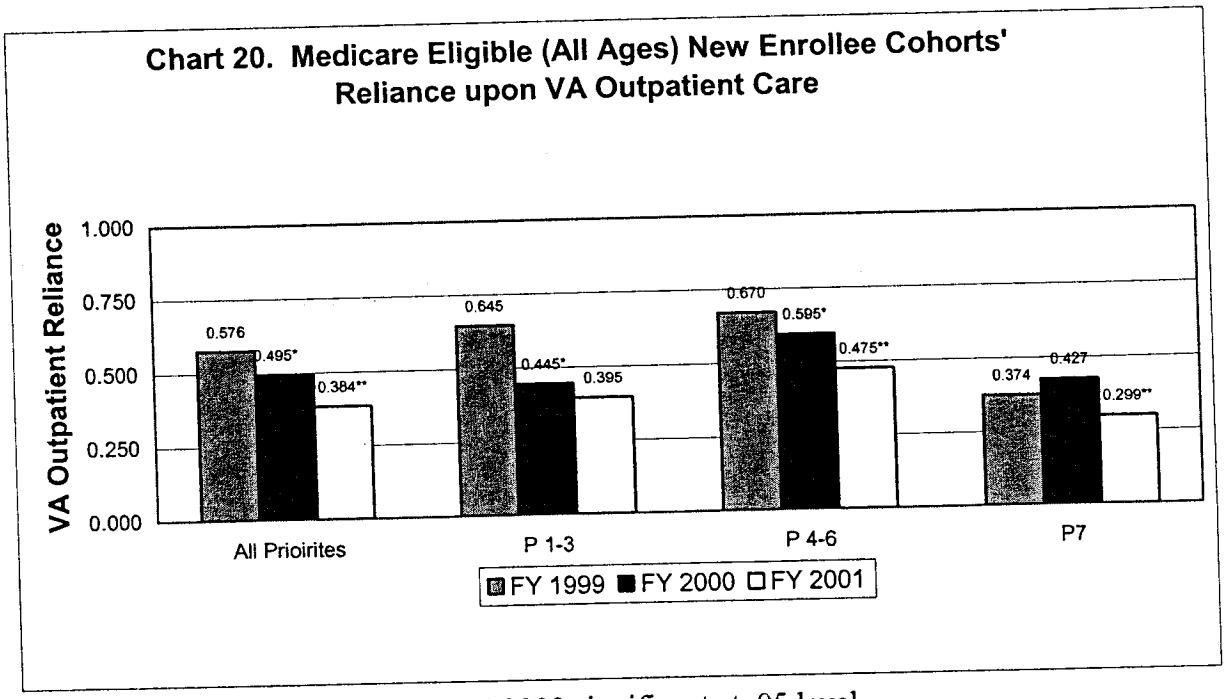
Inpatient and outpatient reliance is presented here in Charts 19 and 20 for the Medicare eligible (all ages) new enrollee cohorts (from data in Tables 1 and 2), since the interest for our purpose here is the Medicare population.

Chart 19 illustrates that each year since enrollment began, there is an apparent decrease in the current VA inpatient reliance for those newly enrolled each year. We can say with confidence ($P<.05$) that the current inpatient reliance is lower for those who newly enrolled as Priority 1-3 in FY 01 than for those enrolling the year before in FY 00. And the current inpatient reliance was significantly lower ($P<.05$) for the FY 00 new enrollee cohort than the FY 99 new enrollee cohort for all priorities except Priority 7 (Table 1). This confirms that our past patients, the majority of whom were auto-enrolled in FY 99 as our first new enrollees, and who comprised most of the FY 99 enrollees, were quite different than those who self-enrolled into the system the second year of enrollment in FY 2000.

Historically, we have always found that reliance upon VA inpatient care is lower than the reliance for VA outpatient care. This is confirmed for our all our new enrollee cohorts by comparing their current reliance levels of inpatient care (Chart 19) with the level of current outpatient reliance (Chart 20) by the year they enrolled in VA. Moreover, this higher level of outpatient reliance is sustained across each new enrollee cohort, much more so than for inpatient reliance. All new enrollee cohorts' current outpatient reliance across all priorities is much higher than their comparable inpatient reliance. We do see significant ($P<.05$) decreases in outpatient reliance for all priorities of new enrollee cohorts and several of their priority groups. There was only one increase (but it was not significant) in the Priority 7 current outpatient reliance of the FY 00 new enrollee cohort, compared to the FY 99 new enrollee cohort.




* Change between FY 1999 and FY 2000 significant at .05 level.
** Change between FY 2000 and FY 2001 significant at .05 level.




* Change between FY 1999 and FY 2000 significant at .05 level.
** Change between FY 2000 and FY 2001 significant at .05 level.

The following Tables 1 and 2 are the data tables associated with the Medicare-eligible new enrollee information in Charts 19 and 20 respectively.

In order to illustrate differences in reliance between patients who were VA patients before enrollment began, compared to those newly enrolling in the VA system after enrollment, we also explored inpatient and outpatient reliance in the tables below for the pre versus the post new enrollees. All the post new enrollee cohorts had much lower inpatient and outpatient reliance than our previous FY 99 patient base that was almost completely enrolled in FY 99. Because most of the pre enrollees were auto-enrolled in the first year of enrollment in FY 1999, it really isn't relevant to look at reliance changes within just the pre new enrollee cohorts because there were very few new pre enrollees who enrolled in FY 2000 (372) or FY 2001 (202). So even if one sees a significant difference in the outpatient reliance for the pre new enrollee cohorts in Table 2, it is not important because they could be only a few atypical new enrollees.

**TABLE 1. MEDICARE-ELIGIBLE NEW ENROLLEE COHORTS, INPATIENT RELIANCE**
**SOURCE: 2002 SURVEY OF ENROLLEES' HEALTH AND RELIANCE UPON VA**

| **Inpatient Reliance** | Priorities 1-3 | Priorities 4-6 | Priority 7 | All Priorities | Unweighted Sample | Weighted Sample |
|---|---|---|---|---|---|---|
| *Pre* | | | | | | |
| FY 1999 | 0.434 | 0.529 | 0.156 | 0.443 | 9,171 | 1,294,706 |
| FY 2000 | 0.378 | 0.251 | 0.084 | 0.263 | 372 | 36,896 |
| FY 2001 | 0.245 | 0.280 | 0.000 | 0.232 | 202 | 28,700 |
| *Post* | | | | | | |
| FY 1999 | 0.196 | 0.262 | 0.057 | 0.143 | 4,004 | 596,527 |
| FY 2000 | 0.178 | 0.236 | 0.052 | 0.151 | 2,967 | 403,270 |
| FY 2001 | 0.045* | 0.134 | 0.040 | 0.083 | 2,917 | 431,626 |
| *All Enrollee Types* | | | | | | |
| FY 1999 | 0.406 | 0.476 | 0.096 | 0.361 | 13,175 | 1,891,233 |
| FY 2000 | 0.222* | 0.238* | 0.054 | 0.165* | 3,339 | 440,166 |
| FY 2001 | 0.084 | 0.147 | 0.039 | 0.095 | 3,119 | 460,326 |
| *All Types, All Years, All Priorities* | 0.358 | 0.397 | 0.077 | 0.297 | 19,633 | 2,791,725 |

*Change between FY 1999 and FY 2000 significant at .05 level.

** Change between FY 200 and FY 2001 significant at .05 level (none on this table).

**TABLE 2. MEDICARE-ELIGIBLE NEW ENROLLEE COHORTS, OUTPATIENT RELIANCE**

**SOURCE: 2002 SURVEY OF ENROLLEES' HEALTH AND RELIANCE UPON VA**

| **Outpatient Reliance** | Priorities 1-3 | Priorities 4-6 | Priority 7 | All Priorities | Unweighted Sample | Weighted Sample |
|---|---|---|---|---|---|---|
| *Pre* | | | | | | |
| FY 1999 | 0.672 | 0.713 | 0.472 | 0.657 | 9,171 | 1,294,706 |
| FY 2000 | 0.411* | 0.618 | 0.474 | 0.504* | 372 | 36,896 |
| FY 2001 | 0.298 | 0.450 | 0.345 | 0.372 | 202 | 28,700 |
| *Post* | | | | | | |
| FY 1999 | 0.476 | 0.521 | 0.309 | 0.393 | 4,004 | 596,527 |
| FY 2000 | 0.453 | 0.593 | 0.424* | 0.494 | 2,967 | 403,270 |
| FY 2001 | 0.409 | 0.476** | 0.298** | 0.385 | 2,917 | 431,626 |
| *All Enrollee Types* | | | | | | |
| FY 1999 | 0.645 | 0.670 | 0.374 | 0.576 | 13,175 | 1,891,233 |
| FY 2000 | 0.445* | 0.595* | 0.427 | 0.495* | 3,339 | 440,166 |
| FY 2001 | 0.395 | 0.475** | 0.299** | 0.384** | 3,119 | 460,326 |
| *All Types, All Years, All Priorities* | 0.594 | 0.622 | 0.365 | 0.526 | 19,633 | 2,791,725 |

*Change between FY 1999 and FY 2000 significant at .05 level.

**Change between FY 2000 and FY 2001 significant at .05 level.

# Dual Utilization of VA and Medicare Systems: Three-Year Trends in Risk Scores and Expenditures FY98 – FY00

Management Science Group (Office of Policy and Planning)
Office of Quality and Performance

**Summary**: *Patterns of health care utilization, expenditures, and risk scores were examined for veterans dually eligible for VA and Medicare coverage during fiscal years 1998-2000.*

- *The number of Medicare eligible VA users in FY00 has grown to 2 million veterans.*
- *On average, clinical risk is nearly two times greater among Medicare beneficiaries who use VA than is found in the general Medicare population.*
- *The annual federal healthcare expenditure (combined VA and Medicare) for this population exceeds $10,000 per person.*
- *Those veterans who rely on VA most heavily have lower than average risk scores.*
- *Those who rely mostly on Medicare are more complex patients (with higher risk scores), but do not appear to seek treatment at VA for their more serious conditions.*
- *New patients seeking VA care in more recent years appear to have lower risk scores than those in previous years.*
- *Growth in VA users who are heavily reliant on VA is slower than those who rely more on Medicare.*
- *VA per capita expenditure on dually eligible users declined 18% between FY98 and FY00.*

Veterans who are Medicare eligible can choose to use the VA health care system, private sector providers reimbursed by Medicare, or both. The Management Science Group has studied health care utilization and risk during FY00 (using VHA three year user populations from FY98-FY00), FY99 (users from FY97-FY99) and FY98 (users from FY96-FY98).

Evaluating veterans' health care needs, and the extent to which VHA is helping meet those needs, requires a measure of disease burden along with data about health care service use. We chose to quantify patient complexity using an all service Diagnostic Cost Group (DCG) risk score. This measure is an extension of the (Principal Inpatient) PIP-DCG risk score system currently used by the Medicare system to risk adjust capitated Medicare + Choice payments for patient complexity. These Medicare-calibrated DCG weights are normalized so that the mean value for a risk score on the national (non-VA) Medicare population is 1.00. Risk scores are calculated for diagnoses treated solely by VHA, solely by Medicare, and diagnoses treated in both systems.

Having risk scores for each veteran based on diagnoses collected in each venue of care provides important information as well. These analyses summarize the cost to each venue of care a Medicare-eligible veteran may use, as well as the average complexity of the diagnoses receiving treatment within each venue.

# PART I

## TRENDS FOR FEE FOR SERVICE PATIENTS AND THOSE PARTIALLY ENROLLED IN A MEDICARE HMO

## Utilization and Financial Data

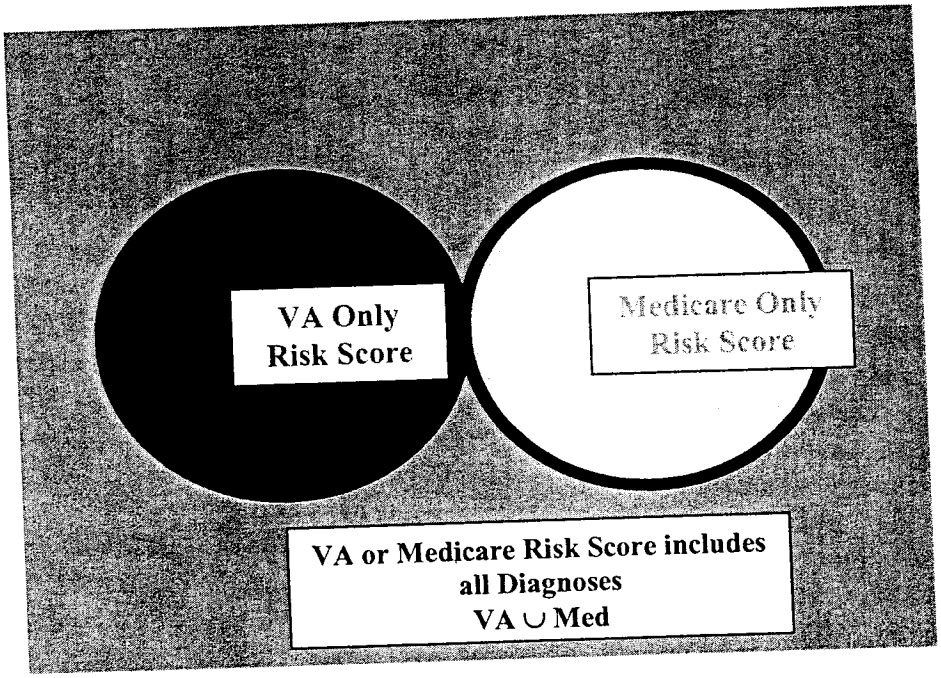
In October 1999 the VHA Policy Board funded Management Science Group (MSG) to acquire, maintain and analyze VHA and Centers for Medicare and Medicaid Services (CMS) health care utilization data sets. Since that time, MSG has (with the support of the Office of Quality and Performance) acquired, merged and maintained VHA and Medicare beneficiary enrollment and utilization data from VHA fiscal years 1998, 1999, and 2000.

The database contains 4 million veterans who were treated by VHA or Medicare or both. It draws information from all standard VHA utilization and financial data sets and all seven Medicare Standard Analytic Files (Inpatient, Physician/Supplier Part B, Outpatient, Skilled Nursing Facility, Durable Medical Equipment, Home Health Care, and Hospice). Patients with less than $100 of combined Medicare and VA expenditures were excluded. VA expenditure information does not include capital costs. Medicare expenditures include all payments made by the Medicare program, Medigap insurers and patients (out of pocket).

### VA Reliance and Risk Scores

All veterans in this database were assigned to one of three groups based on venues of care. By using expenditure and diagnostic information, each veteran was designated as either VA use only, Medicare only, or as a dual user. Expenditures were summed for VA, for Medicare Fee for Service and for Medicare+Choice premiums (M+C), as long as the veteran did not use M+C exclusively. Information for veterans who were exclusively M+C (the Medicare HMO option) were excluded from Part I of this report, since their providers are paid a flat capitated premium for all covered services, and the veteran's actual utilization costs cannot be itemized and compared with their VA use. Medicare+Choice premiums were estimated using appropriate-year AAPCC rates. Information for veteran users who were exclusively in a M+C plan are provided in Part II of this report.

**Figure 1**




Patient complexity was measured using DCG risk scores. Risk scores for each veteran were calculated based on the diagnostic codes they received when they were treated by VA or by Medicare providers. Our analyses calculate three risk scores per veteran:

- a risk score based on all diagnoses treated **by VA,**
- a risk score based on all diagnoses treated by Medicare Providers, and
- a risk score based on all diagnoses treated in ***either* VA *or* Medicare.**

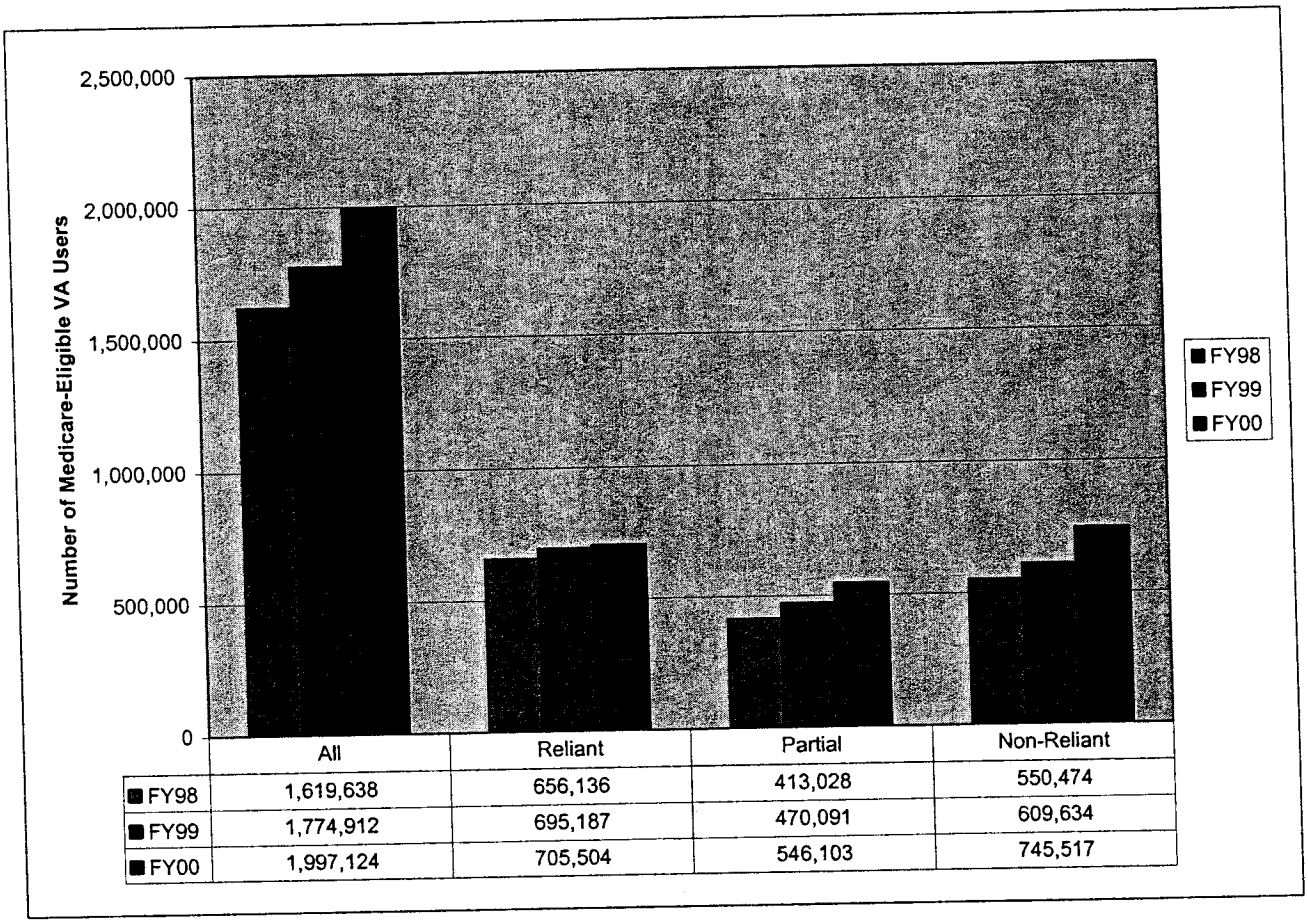
For example, a veteran whose venue of care is VA only will only contribute two risk scores to the various analyses; a **VA diagnosis** risk score and a **VA or Medicare Diagnosis** risk score. Likewise, a veteran who is designated as Medicare only will receive two risk scores, a **Medicare diagnosis** risk score and a **VA or Medicare Diagnosis** risk score. Veterans who are seen in both venues of care will have three risk scores, since they have diagnoses in both in VA and in Medicare, and they qualify for both venues as well as either venue.

We include a series of tables for FY98-00 that summarize VA and Medicare expenditures and their corresponding average risk scores. These tables separate out Medicare + Choice premiums from other Medicare payments. The first series considers all veterans who were 1) Medicare eligible in FY98 and 2) who used VA sometime during FY96-98. This three year window definition is very similar to that used by VERA. Likewise, a second and third set of tables show similar data for FY99 and FY00; that is, those veterans who were Medicare eligible in FY99 and who used the VA sometime during the course of FY97-99. The same pattern was used for FY00

Additional analyses were conducted which divided the FY98, FY99, and FY00 population according to their reliance on VA for their health care. In terms of consumption of services, veterans were characterized as reliant (over 90% of their total expenditures in VA), non-reliant (less than 25% of their expenditures in VA) or partially reliant (between 25% and 90%).

- **Trends in Reliance**

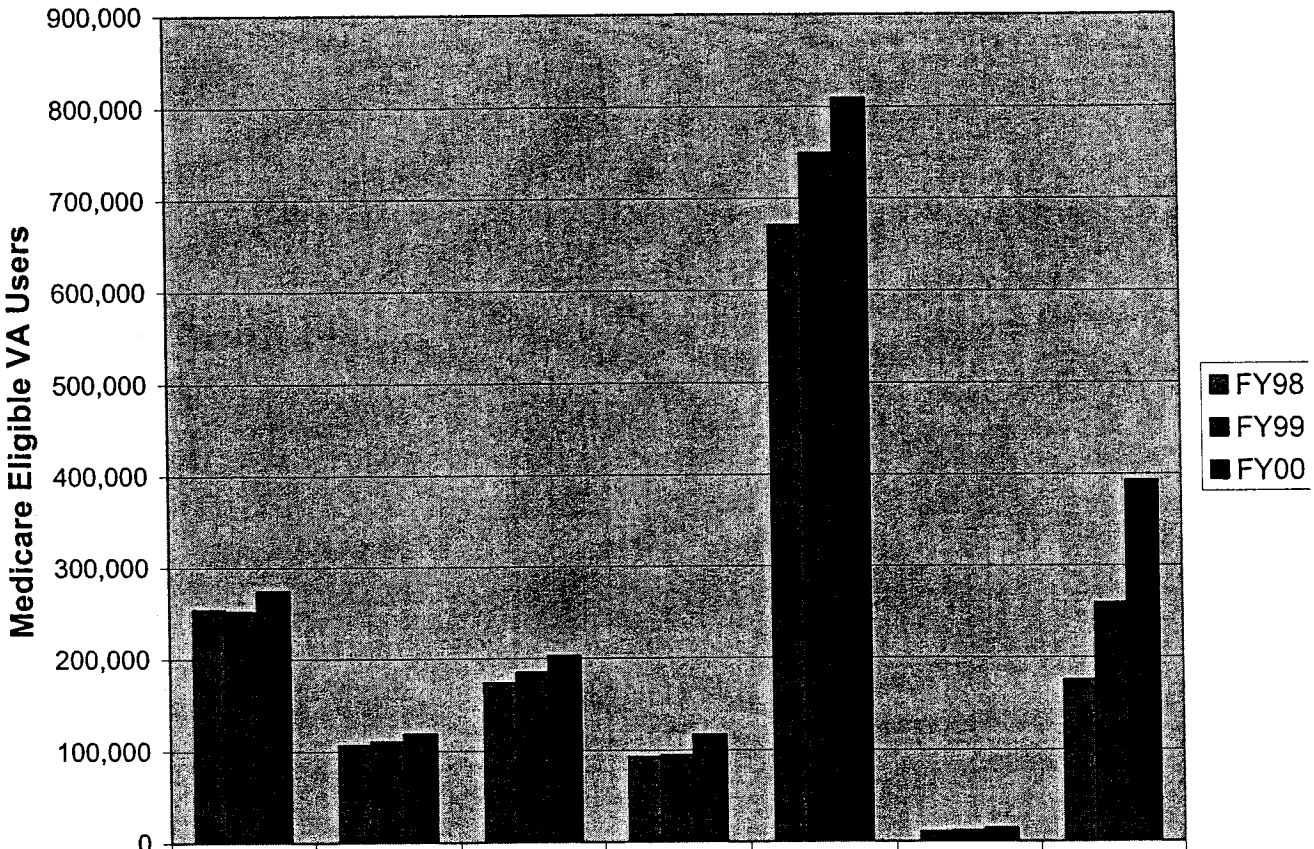
During the period from FY98 to FY00, **the overall number of dual VA/ Medicare users** grew by more than 20% to approximately two million veterans. Yet growth was far from uniform in the three reliance groups:




| | All | Reliant | Partial | Non-Reliant |
|---|---|---|---|---|
| FY98 | 1,619,638 | 656,136 | 413,028 | 550,474 |
| FY99 | 1,774,912 | 695,187 | 470,091 | 609,634 |
| FY00 | 1,997,124 | 705,504 | 546,103 | 745,517 |

While the VA-reliant group grew at a mere 7.5%, the partial use and least reliant group grew at 32% and 35%, respectively.

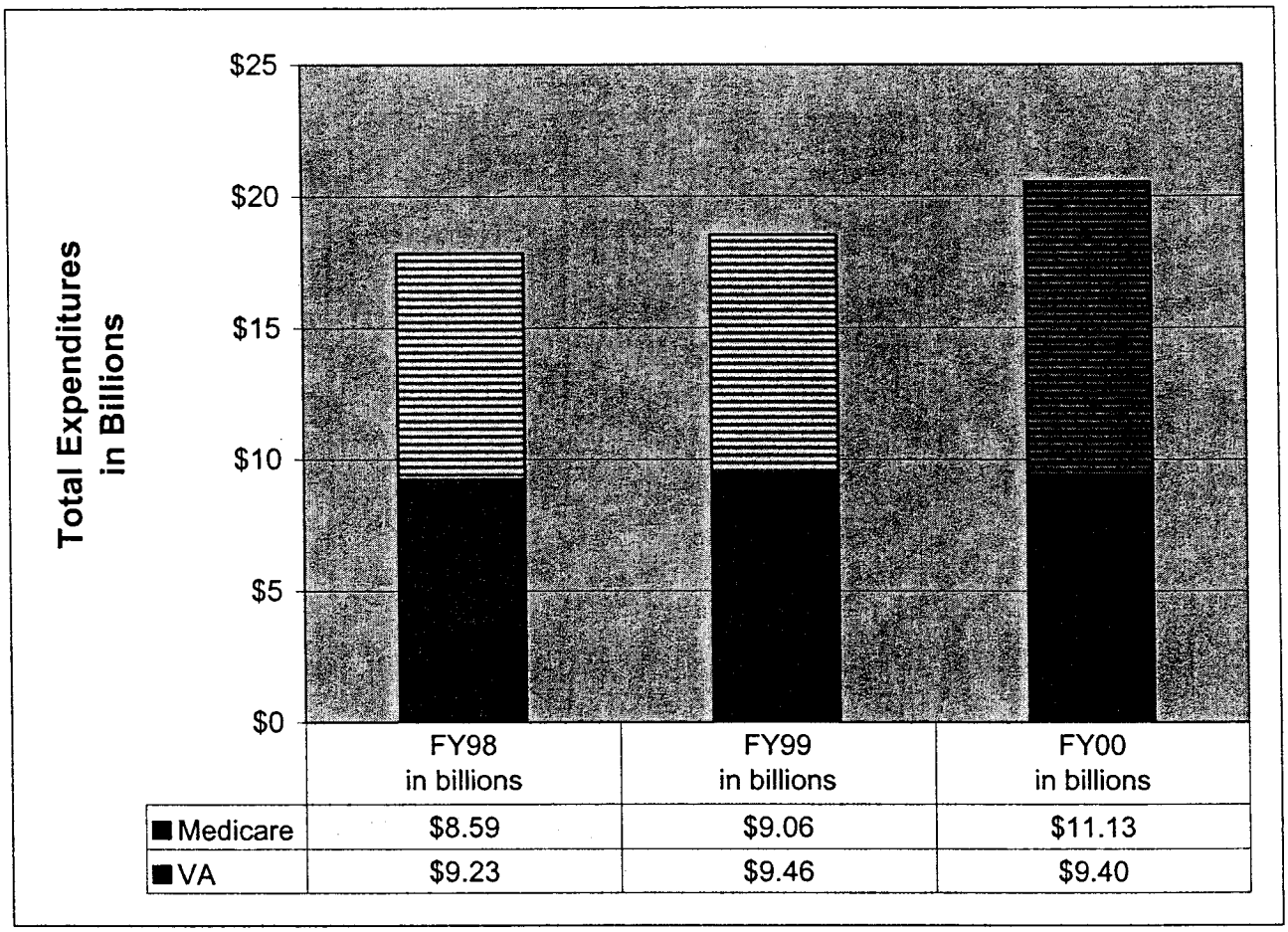
The **number** of Medicare-eligible VA users increased in all priority categories over the three-year period, but the largest growth has been among Priority 7 veterans. Medicare eligible Priority 7 veterans more than doubled while Priority 4 and Priority 5 veterans increase over 20%




| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| FY98 | 253,797 | 106,164 | 173,145 | 92,472 | 670,220 | 10,417 | 175,471 |
| FY99 | 251,603 | 110,119 | 184,794 | 94,046 | 749,021 | 11,813 | 259,079 |
| FY00 | 274,134 | 118,384 | 202,346 | 116,315 | 808,864 | 14,722 | 392,838 |

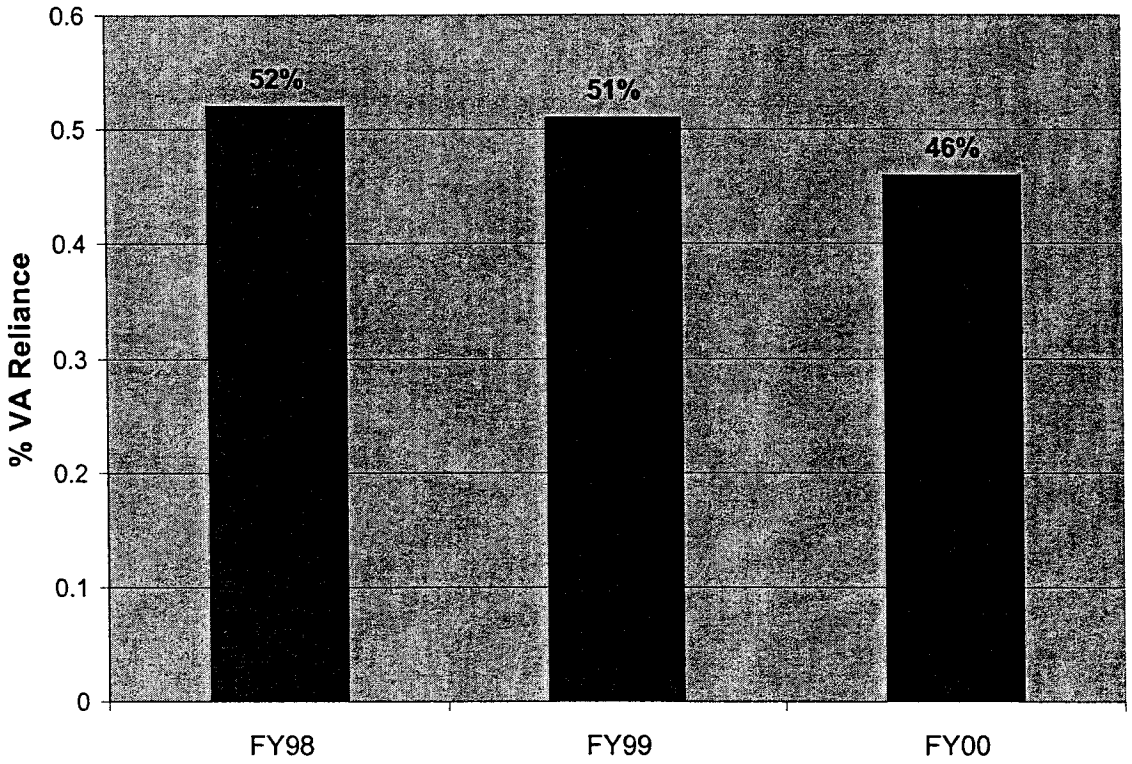
## Trends in Expenditures for Medicare-Eligible VA Users

As the size of the Medicare eligible VA users increased over the three-year period (Chart 2), overall spending also grew by 15%. But the increase was almost exclusively due to the Medicare portion. VA expenditures increased by 2% while Medicare expenditures increased by 30%.



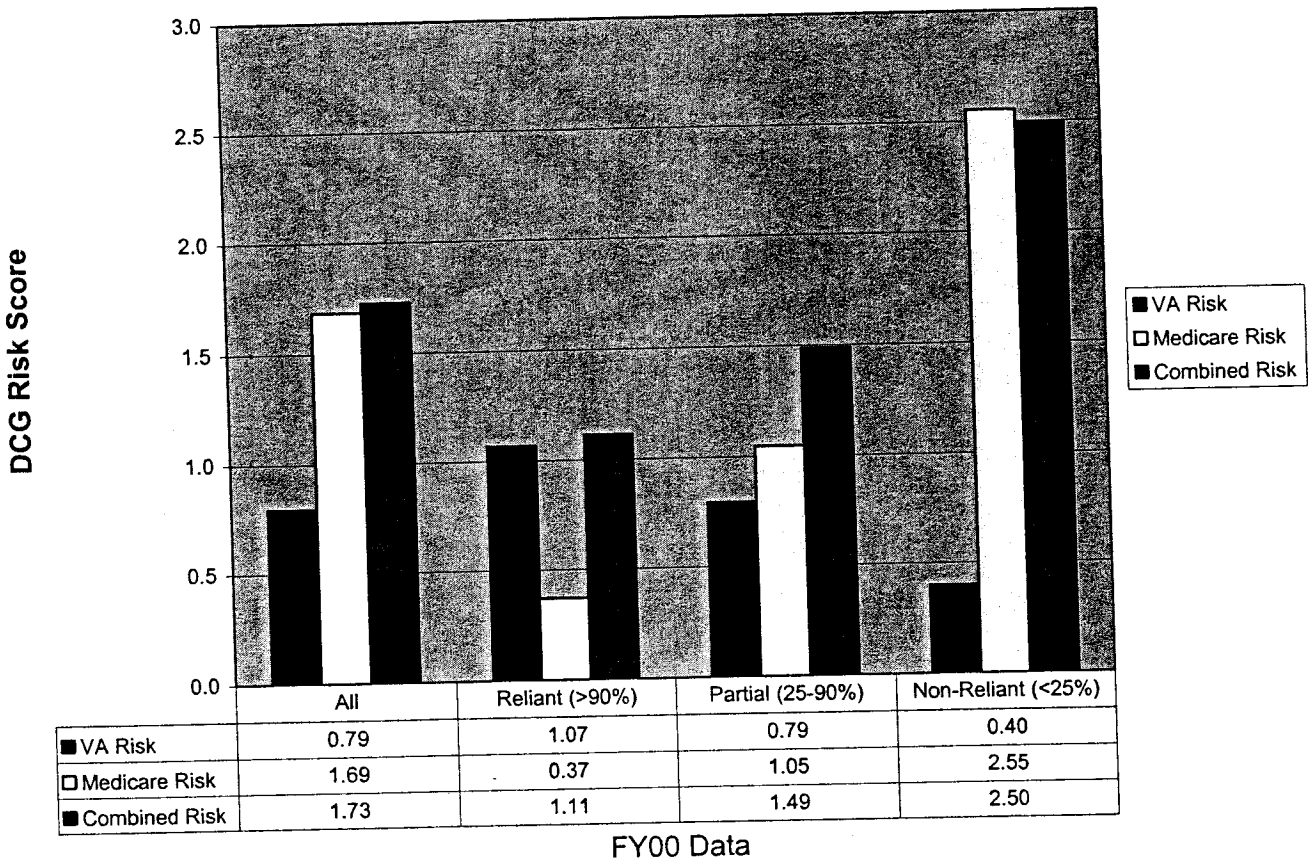

| | FY98 in billions | FY99 in billions | FY00 in billions |
|---|---|---|---|
| Medicare | $8.59 | $9.06 | $11.13 |
| VA | $9.23 | $9.46 | $9.40 |

But even though there was growth in numbers, overall reliance among that population on VA decreased over that period:



The FY00 data suggest average clinical risk for Medicare eligible veteran users is far higher than the average Medicare patient. However, the amount of risk borne by the VA is roughly one-half the level of diagnoses treated by Medicare.

Since heavier utilization often results in more thorough diagnostic coding, greater reliance on Medicare or VA produces in a higher risk score in that venue:




| | All | Reliant (>90%) | Partial (25-90%) | Non-Reliant (<25%) |
|---|---|---|---|---|
| VA Risk | 0.79 | 1.07 | 0.79 | 0.40 |
| Medicare Risk | 1.69 | 0.37 | 1.05 | 2.55 |
| Combined Risk | 1.73 | 1.11 | 1.49 | 2.50 |

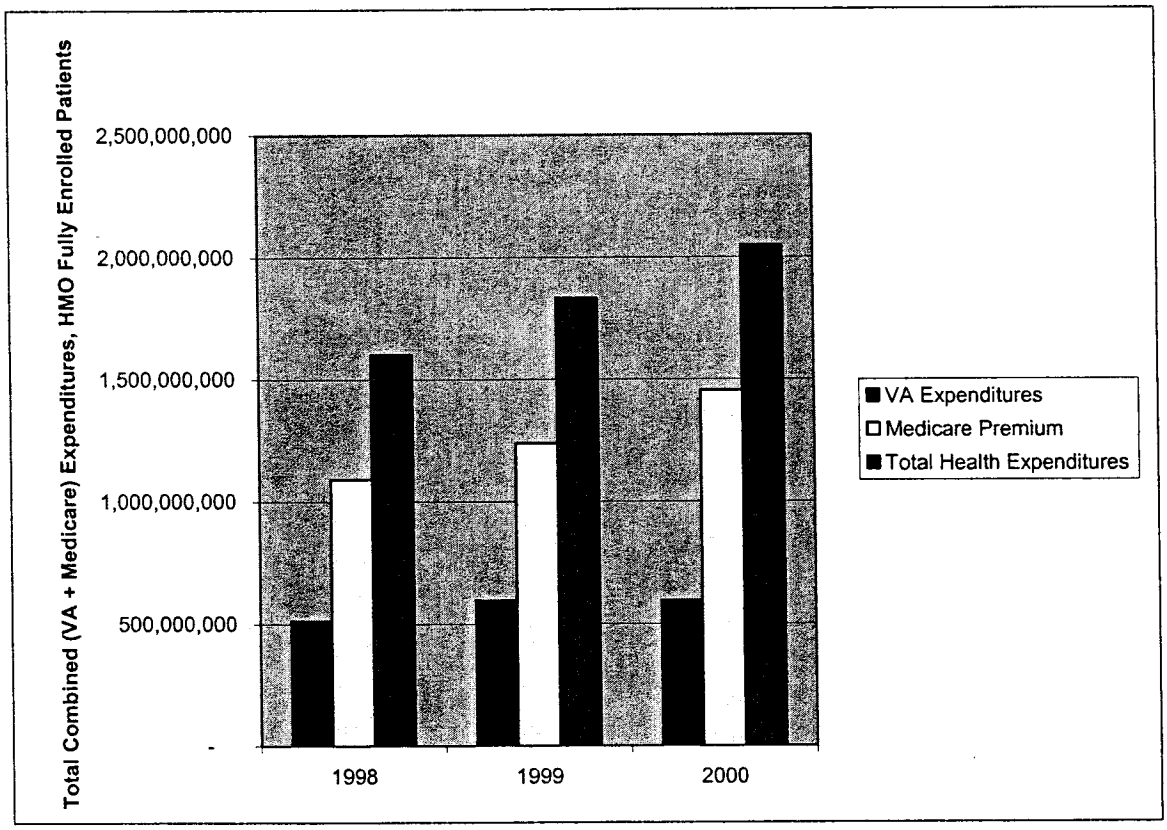
- Veteran dual eligibles are more clinically complex than other Medicare beneficiaries. Their combined risk score is nearly double than of the general Medicare population.
- The patients with the greatest overall complexity rely on VA the least (non-reliant, <25%)
- Conversely, those who rely on VA most (reliant, >90%) are least complex of the three reliance groups

## PART II

## TRENDS FOR PATIENTS FULLY ENROLLED IN A MEDICARE CHOICE PLAN

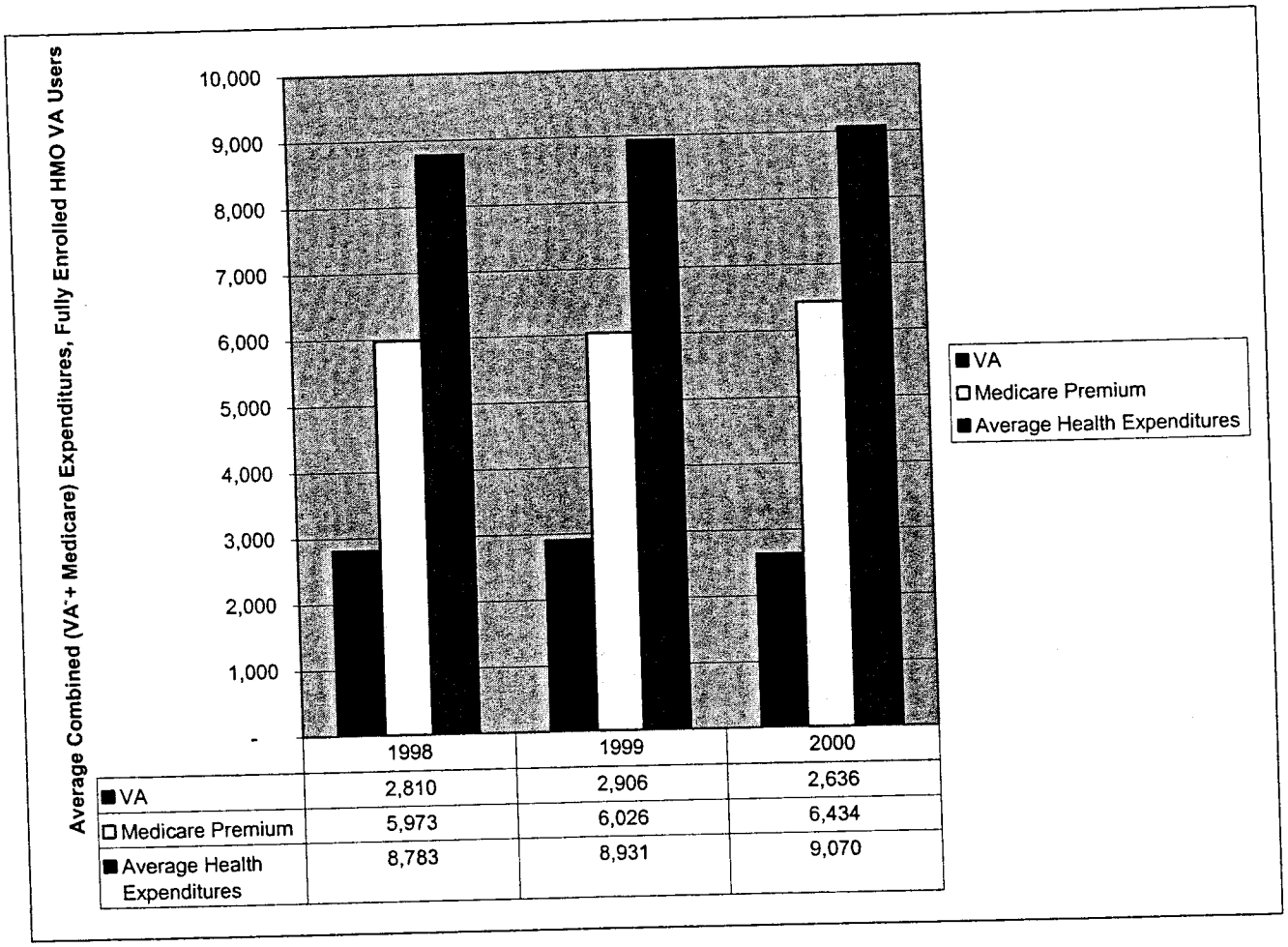
### Utilization and Financial Data

During the period from FY98 to FY99 the overall number of veteran users who were also enrolled in a Medicare Plus Choice (M+C) Plan for all twelve months of the fiscal year grew 24%, from 182k to 225k patients. These fully enrolled patients in FY00 represented some 10% of all Medicare eligible VA users. Total VA spending for this population grew by 16% while estimated total Medicare spending for premiums increased by 33%. Most of the VA increase took place between FY98 and FY99.




| | 1998 | 1999 | 2000 |
|---|---|---|---|
| VA Expenditures | 512,585,642 | 596,517,174 | 595,338,826 |
| Medicare Premium | 1,089,814,777 | 1,237,086,119 | 1,453,140,280 |
| Total Health Expenditures | 1,602,400,419 | 1,833,603,293 | 2,048,479,106 |
| Number of Medicare eligible VA users fully enrolled in a M&C Plan all 12 months | 182,443 | 205,301 | 225,845 |

Average VA expenditures for these fully enrolled HMO patients initially increased from FY98 to FY99. Average VA expenditures then fell from FY99 to FY00, resulting in an overall decrease of 6% from $2,800 to $2,600 per patient. Estimated average Medicare expenditures increased by 8% in all likelihood reflecting changes to Medicare premium structures under the Balanced Budget Act. The total annual average expenditures from both sectors is $9000 per full enrolled VA patient. This is approximately 10% less than the combined expenditures of Medicare eligible VA users who are partially enrolled in a HMO or use the Medicare Fee for Service System.




| | 1998 | 1999 | 2000 |
|---|---|---|---|
| VA | 2,810 | 2,906 | 2,636 |
| Medicare Premium | 5,973 | 6,026 | 6,434 |
| Average Health Expenditures | 8,783 | 8,931 | 9,070 |