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**MEDICARE
SUBVENTION
DEMONSTRATION**

**Enrollment in DOD Pilot
Reflects Retiree
Experiences and Local
Markets**



**Health, Education, and
Human Services Division**

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Congressional Committees

Military retirees aged 65 and over can get health care at military medical facilities only when space is available and therefore cannot rely on them for comprehensive, continuous care, which is usually important to this age group. Many of these retirees want to use their Medicare benefits at military facilities, but federal law does not allow Medicare to pay the Department of Defense (DOD). DOD has expressed interest in delivering such care to these older retirees if Medicare law changed so that Medicare could reimburse DOD.

In light of these concerns, the Balanced Budget Act of 1997 authorized a 3-year, six-site demonstration project, called Medicare subvention, which allows Medicare-eligible military retirees to enroll in new DOD-run health maintenance organizations (HMO). Medicare can pay DOD for the health care provided to retirees enrolled in the demonstration project, subject to certain conditions. The demonstration's stated goal is to implement an alternative for delivering accessible and quality care to these "dual-eligible" retirees¹ without increasing the cost to Medicare or DOD.

Although retirees had expressed interest in a Medicare subvention program, the number who would in fact join such a program was unknown. Before the demonstration, many military retirees aged 65 or older had joined a Medicare managed care plan, such as Kaiser or Humana. Others had relied on traditional fee-for-service Medicare or supplemented it with private insurance that pays for Medicare deductibles and other out-of-pocket expenses. How would retirees eligible for the demonstration weigh the advantages of a new program against those of their familiar health care and insurance arrangements?

The demonstration, in which DOD set up HMOs for retirees aged 65 and over, began in September 1998 at the first site and is now operational at all sites. The Balanced Budget Act directed us to evaluate the demonstration by studying a broad range of issues.² As part of the evaluation, this report to

¹Throughout this report, we use the term "retirees" to refer to military retirees and their dependents and survivors aged 65 and over. Most of these older retirees are dual-eligibles—that is, they qualify for both Medicare and military health benefits.

²We reported on the demonstration's early phases in *Medicare Subvention Demonstration: DOD Data Limitations May Require Adjustments and Raise Broader Concerns* (GAO/HEHS-99-39, May 28, 1999) and *Medicare Subvention Demonstration: DOD Start-up Overcame Obstacles, Yields Lessons, and Raises Issues* (GAO/GGD/HEHS-99-161, Sept. 28, 1999).

your committees examines enrollment in DOD's pilot HMOs for seniors.³ Specifically, we discuss (1) how successful the demonstration has been in enrolling eligible beneficiaries, (2) what influenced retirees to join DOD's pilot HMOs, and (3) what factors accounted for differences in enrollment rates across demonstration sites.

To address these issues, we analyzed data from our survey of nearly 20,000 Medicare-eligible military retirees in the demonstration areas, supplemented with Health Care Financing Administration (HCFA) and DOD administrative data. (See app. I for a description of survey methods and app. II for a description of our statistical model of enrollment in Senior Prime.) In addition, we used DOD-generated reports about enrollment in and disenrollment from the subvention demonstration project. We performed our work according to generally accepted government auditing standards between June 1998 and November 1999.

Results in Brief

In the first year of DOD's Medicare subvention demonstration, over one-fifth of Medicare-eligible military retirees in the demonstration areas enrolled in TRICARE Senior Prime, DOD's HMO pilot for seniors, although enrollment rates differed markedly—from 10 to 38 percent of those eligible—across the six demonstration sites. Two sites reached their enrollment targets and started putting applicants on a waiting list; consequently, the number of enrollees understates interest in the program at these two sites. The demonstration allows retirees who turn age 65 after the demonstration's start to "age-in"—enroll in Senior Prime regardless of the site's enrollment limit—if they were enrolled until turning 65 in DOD's managed care plan for younger DOD beneficiaries. Slightly more retirees are aging-in than DOD had expected. At the two sites where the number of enrollees has already reached the target level, a large number of age-ins may strain clinics' capacity. Disenrollment rates—often used as a measure of dissatisfaction with health plans—are running at almost 5 percent per year demonstrationwide, relatively low compared with many other Medicare managed care organizations.

A retiree's recent use of the military health care system was a strong predictor of enrollment in Senior Prime—the greater the reliance on military health care in the previous year, the greater the likelihood of enrolling. Among those retirees who had obtained all their health care from military facilities, over 60 percent joined Senior Prime. Most retirees, however, had not used military care in the previous year—apart from

³Addressees are listed at the end of this letter.

getting prescriptions filled—and few of these nonusers enrolled. Several related factors also influenced retirees' decisions:

- Satisfaction with previous health care. Not surprisingly, users of military health care who were very satisfied with it were the most likely to enroll, whereas retirees satisfied with civilian care were unlikely to choose Senior Prime.
- Knowledge of Senior Prime. Although DOD undertook marketing efforts, over 40 percent of retirees reported that they knew nothing about Senior Prime. Aside from some unusual cases, retirees who did not know about Senior Prime did not join—suggesting the importance of marketing efforts.
- Convenience. Retirees living close to military health care facilities were more likely to join Senior Prime.

Any potential expansion of DOD subvention would probably also tend to attract retirees with these characteristics, although they are a minority of all military retirees.

Differences in site enrollment rates partly reflected the sites' different histories of serving retirees. Sites that had provided high levels of care to many older retirees had an advantage, since users who depended on military health care were more likely to choose Senior Prime. In addition, features of the local market and the site helped to shape individual enrollment decisions:

- Managed care presence. At sites where enrollment in Medicare managed care was relatively low, enrollment in Senior Prime tended to be comparatively high. Conversely, where enrollment in Medicare managed care plans was high, enrollment in Senior Prime tended to be low. If an expanded subvention program reflected the demonstration's experience, enrollment in a Senior Prime-type program could be expected to be higher where competition from other Medicare managed care plans was limited, but lower where such plans were widespread.
- Site targets. Sites with very low targets—relative to the number of eligible retirees—tended to enroll smaller proportions of retirees. Enrollment rates were higher at sites with very ambitious targets; this was true even if sites did not meet their targets.

Background

Military Retiree Health Care

Currently, about 1.3 million retired military personnel, dependents, and survivors aged 65 and older reside in the United States, and this number is expected to increase to over 1.5 million by 2004. Military retirees under age 65 are eligible for comprehensive coverage through various health plans sponsored by DOD's TRICARE program. When they turn 65 and become eligible for Medicare, however, retirees lose their right to participate in DOD's health care plans. These older retirees remain eligible for free inpatient and outpatient care at military health care facilities, but only when space and resources are available. The downsizing of the military medical system, the growth in the number of retirees, and the introduction of managed care into military medicine have all contributed to a decline in "space-available" care. As its name suggests, this care is not expected to be available on a regular and continuous basis, which older retirees often consider important. Although some retirees aged 65 and over rely heavily on military facilities for their health care, most do not, and at least half do not use military health care facilities at all. In addition to using DOD resources, retirees may receive care paid for by Medicare and other public or private insurance for which they are eligible. They may also get some care from Department of Veterans Affairs facilities.⁴

Medicare

Most military retirees aged 65 and over are eligible for Medicare, a federally financed health insurance program that covers health care expenses of the elderly, some people with disabilities, and people with end-stage kidney disease. HCFA, within the Department of Health and Human Services, administers Medicare. Under traditional Medicare, beneficiaries choose their own providers, and Medicare reimburses those providers on a fee-for-service basis. Beneficiaries who receive care through traditional Medicare are responsible for paying a share of the costs for most services. Most beneficiaries have supplementary coverage that reimburses them for many of the costs that Medicare requires them to pay. Major sources of this coverage include employer-sponsored health insurance; "Medigap" policies, sold by private insurers to individuals, and Medicaid, a state/federal program that provides health care to low-income people.

⁴Department of Veterans Affairs facilities are available to retirees, but not to their dependents or survivors.

Beneficiaries may use an alternative to traditional Medicare, the Medicare+Choice option. Medicare+Choice allows beneficiaries to enroll in private managed care plans⁵ and other types of health plans. Managed care plans provide all traditional Medicare benefits and typically offer additional benefits, such as prescription drug coverage. Members of these plans generally pay less out-of-pocket than they would under traditional Medicare. (For most beneficiaries, belonging to a Medicare+Choice plan makes a Medigap policy unnecessary.) When choosing a plan, beneficiaries must weigh these benefits against other features of managed care. For example, beneficiaries enrolled in Medicare managed care plans are “locked out” of Medicare coverage for providers not in their plan. These beneficiaries also usually must obtain approval from their primary care doctor before they can see a specialist.

Although in recent years Medicare managed care enrollment has increased markedly nationwide, enrollment varies by region, and not all beneficiaries live in areas where plans are available. As of October 1999, about 18 percent of Medicare beneficiaries were enrolled in Medicare+Choice, most in capitated managed care plans.⁶ In the last 4 years, managed care enrollment has doubled, from 3 million in 1995 to over 6 million in 1999. Enrollment is concentrated in the West, Northeast, and Florida. In some counties, over 40 percent of beneficiaries are members of managed care plans; in others, even though plans are available, fewer than 1 percent of beneficiaries have chosen to enroll. Although most Medicare beneficiaries live in areas where they are able to join a Medicare managed care plan, about 30 percent of beneficiaries live in counties where no plan is available.

TRICARE Senior Prime

The Medicare subvention demonstration permits DOD to create HMOs that participate in the Medicare+Choice program and enroll military retirees eligible for Medicare. Under the demonstration, enrolled beneficiaries may use their Medicare benefit in TRICARE Senior Prime, the group of new, DOD-run HMOs operated exclusively in the demonstration’s test sites. To be eligible for Senior Prime, a retiree must

⁵In this report, “managed care plan” refers to a capitated managed care plan—an HMO that contracts with Medicare and receives a fixed monthly payment for each Medicare beneficiary it serves, regardless of the actual costs incurred in providing the care to the beneficiary.

⁶About 90 percent of Medicare+Choice beneficiaries were enrolled in capitated managed care plans. The remaining beneficiaries were enrolled in plans that Medicare reimburses for costs they incur when providing care.

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- be enrolled in Medicare part A and part B;⁷
 - reside in one of the six geographic areas covered by the demonstration;
 - be a “dual-eligible”—eligible for both Medicare and military health care benefits;
 - have used a military treatment facility (MTF) before July 1, 1997, or turned age 65 on or after July 1, 1997;⁸ and
 - agree to use Medicare-covered and MTF services only through Senior Prime.

Senior Prime builds on TRICARE Prime—DOD’s HMO program for active duty personnel, family members, and retirees under age 65. Currently, Senior Prime does not require its enrollees to pay a premium. In addition to services typically covered under TRICARE Prime, such as hospital and physician services, Senior Prime provides home health and other Medicare-required services. Similar to TRICARE Prime, Senior Prime enrollees are assigned a Primary Care Manager; only physicians or other providers, such as nurse practitioners, who deliver services at military facilities may be Primary Care Managers for Senior Prime enrollees. Other services may, at Senior Prime’s option, be provided at a military facility or by a civilian network provider, but beneficiary copayments differ depending on where the service is delivered. For example, inpatient hospitalization is free at military facilities but requires a copayment at civilian hospitals.⁹ Senior Prime gives its members priority for treatment at military facilities over other dual-eligibles. Like enrollees in private Medicare managed care plans, Senior Prime enrollees are locked out of Medicare coverage for services provided outside the plan. Enrollees who use civilian providers without authorization are responsible for the full charge.

Senior Prime is operated under a Memorandum of Agreement (MOA) between HCFA and DOD. Each site must meet most conditions of participation required of private Medicare+Choice plans, such as beneficiary protection and quality assurance. However, the MOA waived certain requirements regarding fiscal soundness, physician licensure, and the maximum travel time to primary care doctors.

⁷Medicare part A covers inpatient hospital, skilled nursing facility, and hospice care. Medicare part B covers physician and other outpatient services, for which beneficiaries who elect part B pay a monthly premium.

⁸MTFs include hospitals (both medical centers and community hospitals) and clinics.

⁹In planning for the demonstration, DOD anticipated that most services would be provided at MTFs.

Sites differ in the number of dual-eligible retirees in their area and their enrollment targets (see table 1) as well as by geographic region, size of MTF, and managed care penetration in the local Medicare market.

Table 1: Senior Prime Sites and Selected Features

Site	Start of service delivery	Eligible retirees (as of 6/30/98)	Target enrollment	Total enrollment (as of 11/1/99)
Madigan (Wash.)	9/1/98	18,655	3,300	3,987
San Antonio				
San Antonio area (Tex.)	10/1/98	33,426	10,000	11,265
Texoma area (Tex./Okla.)	12/1/98	6,871	2,700	2,116
San Diego (Calif.)	11/1/98	33,580	4,000	3,805
Keesler (Miss.)	12/1/98	7,177	3,100	3,036
Colorado Springs (Colo.)	1/1/99	13,432	3,200	3,430
Dover (Del.)	1/1/99	3,894	1,500	835
Total		117,035^a	27,800	28,474

Note: Total enrollment may exceed target (planned) enrollment because total enrollment includes both regular enrollees and enrollees who aged-in to Senior Prime (that is, reached age 65 after the start of service delivery and subsequently joined Senior Prime), whereas the target enrollment number excludes age-ins. However, DOD assumed that age-ins would be about 10 percent of target enrollment. Although the demonstration treats the San Antonio and Texoma areas as one site, for the purpose of analysis we treat these areas, which are roughly 300 miles apart, as separate sites.

^aAt the time of our survey (Nov. 1998–May 1999), we estimated the number of retirees in the demonstration areas at 107,414. (See app. I for details.)

Source: DOD, TRICARE Senior Prime Plan Operations Report (Washington, D.C.: DOD, Nov. 1, 1999). The number of eligible retirees (by site and total) is drawn from DOD's Defense Enrollment Eligibility Reporting System (DEERS) for the third quarter of fiscal year 1998.

Because sites' ability to support the demonstration was a factor in site selection, the demonstration sites are not representative of all military health care service areas. In addition, military health care resources are greater in demonstration areas than in other areas served by military hospitals. In demonstration areas, about 80 percent of retirees live near a military medical center—a teaching hospital with multiple specialty clinics—whereas in other areas served by military hospitals, only 30 percent of retirees live near a medical center.

Over One-Fifth of Eligible Retirees Have Enrolled in Senior Prime, Although Rates Differ Widely Across Sites

After its first 10 months of operation,¹⁰ DOD's pilot Medicare managed care plan had attracted over one-fifth of all military retirees who were eligible at the start of the demonstration—roughly 25,000 enrollees. However, enrollment rates by site have varied widely. Anticipating strong interest in Senior Prime, sites set enrollment targets that also were to serve as limits that guarded against overextending site resources. Some sites set higher targets for enrollment than others, relative to the number of eligible retirees. Two large sites that reached their targets have substantial waiting lists, a sign that demand for Senior Prime exceeds enrollment in those areas. Retirees who turn 65 after the initial enrollment period and who were previously in TRICARE Prime are guaranteed acceptance in Senior Prime, regardless of whether a site has reached its target for regular enrollees.¹¹ To date, almost 3,300 of these age-ins have enrolled, somewhat more than DOD expected. Once in Senior Prime, almost all retirees have remained; the percentage of those disenrolling has been modest.

Demonstrationwide Enrollment Rate Masks Sizeable Differences Among Sites

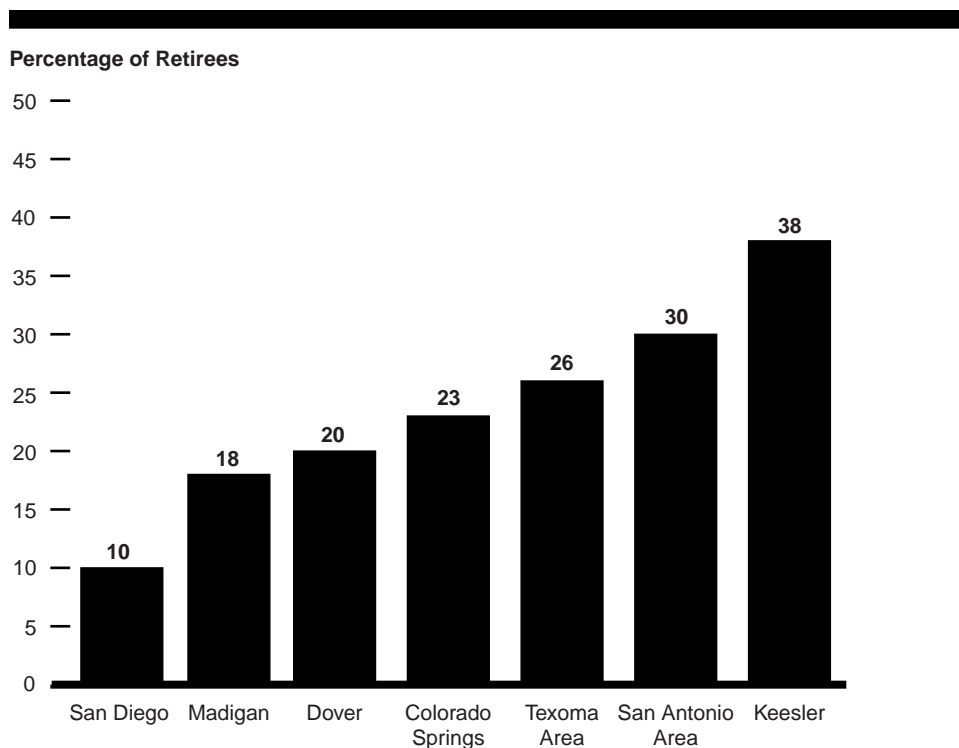
About 22 percent of retirees in the demonstration areas who were Medicare-eligible when the demonstration began have enrolled in Senior Prime, but sites differ considerably in their enrollment rates.¹² As figure 1 shows, Senior Prime enrollment rates as a proportion of eligibles vary nearly fourfold across sites—from 10 percent of eligible military retirees at San Diego to 38 percent at Keesler.

¹⁰Sites started to deliver health care on different dates. We use the first 10 months of data for every site so that the site enrollment numbers are comparable. Through October 1999, regular enrollment in the demonstration had reached 90 percent of target enrollment demonstrationwide.

¹¹A "regular enrollee" was aged 65 or older when the site began delivering care.

¹²The enrollment rate is the number of regular enrollees as a percentage of the number of eligible retirees in the third quarter of fiscal year 1998; the number of eligibles is from DOD's DEERS database. See also app. I.

Figure 1: Enrollment as a Share of Medicare-Eligible Military Retirees, by Site



Note: Data are based on 10 months of operations at each site. Enrollment refers to regular enrollees only. The number of Medicare-eligible military retirees in the demonstration areas for the third quarter of fiscal year 1998 is from DOD's DEERS database.

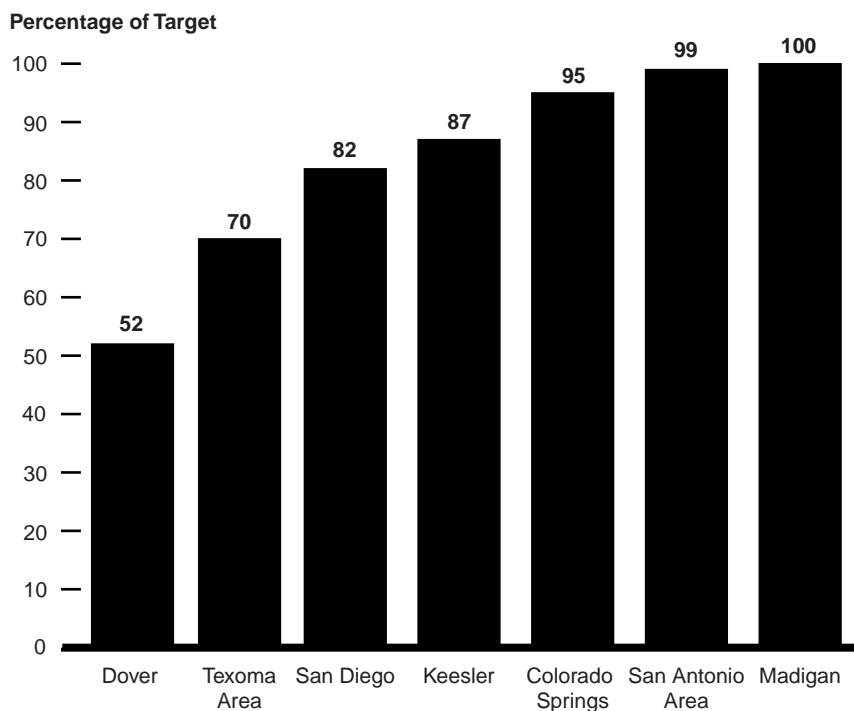
Source: Iowa Foundation for Medical Care, TRICARE Senior Prime—Enrollment Processed Report, monthly reports, June 1999 through October 1999 (Washington, D.C.: DOD, 1999).

Sites Differ in Ambitiousness of Enrollment Targets as Well as Success in Meeting Targets

Although sites set their own enrollment targets, they differ in how closely regular enrollment has approached their targets. Two of the largest sites, Madigan and San Antonio, are at or very close to their targets.¹³ Other sites' enrollment levels range from 95 percent of the target at Colorado Springs to 52 percent at Dover. (See fig. 2.)

¹³At sites that have reached their targets, actual enrollment may differ from the target, from month to month, because of deaths and disenrollments.

Figure 2: Enrollment as a Percentage of Target, by Site



Note: Data are based on 10 months of operations at each site. Enrollment refers to regular enrollees only.

Source: TRICARE Senior Prime—Enrollment Processed Report, monthly reports, June 1999 through October 1999.

In setting targets, all sites considered their capacity, especially in primary care clinics, but the process involved considerable judgment; sites also differed in their use of other criteria. Sites had varying views of how attractive Senior Prime would be to their retirees, and this affected the targets they set. Some sites also factored in their experience, including limited experience in providing ongoing care to selected groups of retirees aged 65 and over, and several sites considered the number of Senior Prime enrollees they would need to break even financially. In addition to establishing a target for regular enrollment, all sites allowed for age-ins, estimating that they would equal 10 percent of the regular enrollment target.¹⁴

¹⁴GAO/GGD/HEHS-99-161, Sept. 28, 1999, p. 14.

In view of their differing criteria and judgments, it is not surprising that some sites set higher enrollment targets than others. Sites that succeeded in meeting their targets did not necessarily enroll high proportions of their eligible retirees.

Enrollment Understates Demand at Sites That Have Reached Their Enrollment Targets

Applications at two sites, Madigan and San Antonio, have exceeded enrollment targets, so actual enrollment understates interest in the demonstration for these sites. Each site created a waiting list and allows applicants from its waiting list to enroll as regular enrollees leave Senior Prime. After 10 months of Senior Prime operations, the waiting lists have grown to a combined total of almost 1,900 applicants. The number of regular enrollees plus the number of applicants on the waiting list exceeds target enrollment at Madigan by more than 20 percent, and in the San Antonio area by 12 percent.

However, the number of applicants on the waiting list may not give a complete picture of the additional demand for Senior Prime. In particular, the waiting list can understate additional demand because its length may discourage some retirees from submitting applications.¹⁵

Volume of Age-Ins May Strain Capacity at Some Sites

A large number of age-ins may stretch resources and cause delays in seeing a physician at sites where the number of enrollees has already reached the site's target. (Sites can limit the number of regular enrollees but cannot limit the number of retirees who age-in.) For the first year of care delivered under Senior Prime, we currently project that the average age-in rate will be 12 percent of target enrollment—somewhat higher than the 10-percent rate DOD had been planning on.¹⁶ Anecdotal evidence from several sites suggests that some retirees are enrolling in TRICARE Prime just before turning age 65 in order to qualify for Senior Prime.

However, age-in rates vary by site. At Madigan, in the first 12 months age-ins equaled 16 percent of target enrollment, while in the San Antonio area they reached 12 percent; age-ins at both sites have been higher than expected. At San Diego, for the same period, the age-in rate was 8 percent.

¹⁵Although DOD limits the number of applications on the waiting lists at each site, this limit has not yet been reached at any site.

¹⁶In our analysis of enrollment rates, we compared sites using the first 10 months of care. In analyzing the rate of aging-in, this section focuses on 12 months because the DOD projection, to which we compare the sites' age-in rates, is on an annual basis.

Exceeding capacity could create problems, but sites have several options for easing the potential strain on capacity. A site could reduce the amount of space-available care that it gives retirees aged 65 and over who are not enrolled in Senior Prime. Also, the MTF could refer TRICARE Prime and Senior Prime enrollees to civilian network providers more often; however, this would be costly for DOD. If capacity problems were not overcome, there would be a risk of reduced access to care and increased difficulty in meeting DOD's access standards.¹⁷

Relatively Few Enrollees Overall Have Chosen to Leave Senior Prime

Early experience with Senior Prime showed that relatively few enrollees have chosen to leave the plan. Over the first 9 months of plan operation, the average disenrollment rate was 4.6 percent.¹⁸ In Medicare managed care plans generally, early disenrollment rates are usually higher than longer-term rates, and that is true in Senior Prime. Early disenrollments—those that occur within 3 months of start-up—may signal either that beneficiaries did not understand the plan when they signed up or that they were dissatisfied with their early experience in it. In Senior Prime, disenrollment during the first 3 months of operations averaged 7.8 percent, falling over the subsequent 6 months to 3.5 percent. Senior Prime's disenrollment rates compare favorably with those found in private Medicare managed care plans, which in several large markets range from less than 5 percent to more than 40 percent.

Retirees who sign up for a plan may also cancel their application before their effective enrollment date. Over the first 9 months of plan operations, the overall cancellation rate was 3.4 percent. More than 80 percent of cancellations occurred in the first 3 months.

¹⁷See Defense Health Care: Appointment Timeliness Goals Not Met; Measurement Tools Need Improvement (GAO/HEHS-99-168, Sept. 30, 1999).

¹⁸Rates have been annualized. The disenrollment rate is total voluntary disenrollments divided by average monthly enrollment. See Medicare: Many HMOs Experience High Rates of Beneficiary Disenrollment (GAO/HEHS-98-142, Apr. 30, 1998), p. 14.

Satisfied Users Who Depended on Military Health Care Typically Enrolled, While Retirees Lacking Knowledge of Senior Prime Generally Did Not

Retirees' recent experience with military health care strongly influenced their decision to enroll in Senior Prime. Retirees who had depended primarily on military facilities for their recent health care were much more likely to join Senior Prime than those who had received little or no care from military facilities. Not surprisingly, retirees who were satisfied with military health care were more likely to join than those who were not. Convenience was also a factor, with those who lived close to an MTF more likely to enroll. Retirees who had more information about Senior Prime also were more likely to enroll. A significant share of retirees reported knowing nothing about it; surprisingly, a few of these enrolled, although most did not.

The following discusses the four factors our analysis identified as particularly important in retirees' decisions to enroll in Senior Prime.¹⁹

Previous reliance on military health care facilities. Retirees were much more likely to join Senior Prime if they had relied on the military health system for most or all of their health care during the previous year.²⁰ As figure 3 shows, over 60 percent of retirees who had received all of their recent health care at military facilities enrolled in Senior Prime, whereas only 6 percent of retirees who had received no military care in the previous year enrolled. In part, this reflected the design of the program: To be eligible for Senior Prime, retirees must have used military care since becoming Medicare-eligible—depending on a retiree's age, this could have been many years earlier.²¹ However, we found that the extent to which a retiree recently had used military care affected whether the retiree enrolled in Senior Prime. Most retirees residing in the demonstration areas—almost 60 percent—had not received any military care in the

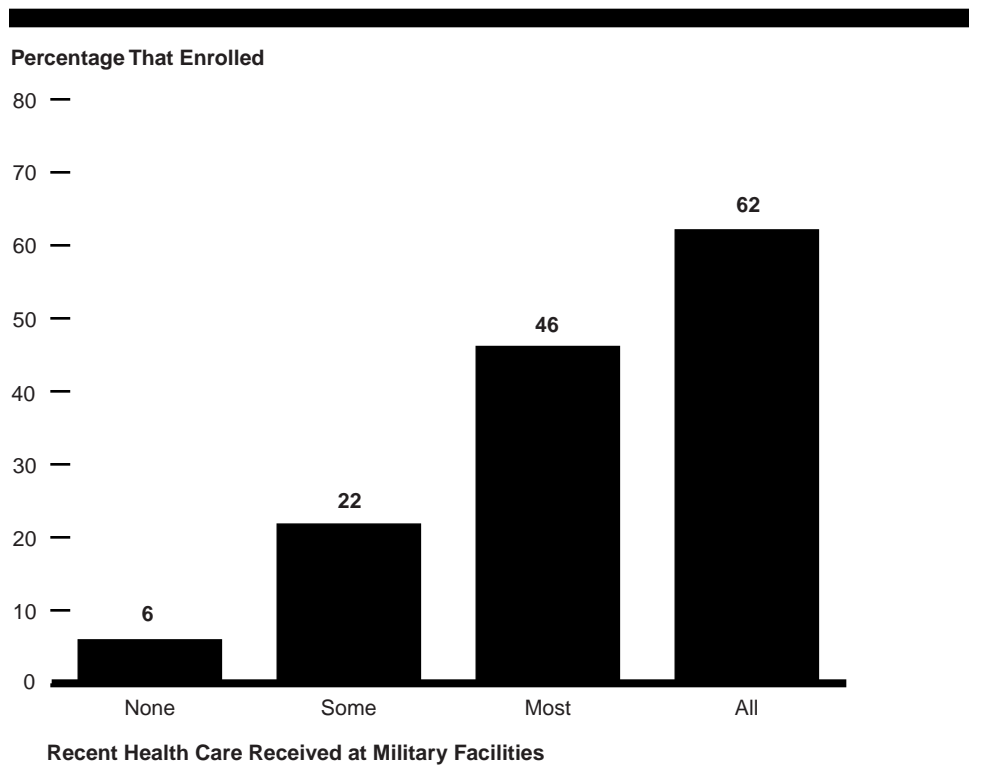
¹⁹Our discussion of the factors leading retirees to enroll is based on the statistical model presented in app. II. By using the model, we were able to examine the impact of particular characteristics on enrollment while taking account of (or "controlling for") a large number of factors. Because the model analyzed data from our survey of retirees at the subvention sites and there were only a few age-ins at the time we drew our sample, our discussion is largely limited to regular enrollees. We have removed from the analysis just under 5 percent of retirees who were not enrolled in both Medicare part A and part B and were therefore not eligible for Senior Prime. We examine retirees' actual behavior—whether they enrolled—rather than whether they "tried to" or "planned to" enroll.

²⁰Retirees were asked how much of their health care—excluding pharmacy services—during the past year had been at military health care facilities. (In a separate question, retirees were asked if they had their prescriptions filled at military pharmacies, civilian pharmacies, or other places.) Senior Prime enrollees were asked to report on the 12 months before their Senior Prime coverage became effective.

²¹This requirement did not apply to retirees who had been Medicare-eligible only since July 1, 1997. Previous military facility use was not verified during the enrollment process; applicants merely answered affirmatively a question about using military facilities. Retirees were not required to be recent users of military care, and some retirees had been eligible for Medicare for over 20 years, giving them a large window in which they could have received military services in order to be eligible.

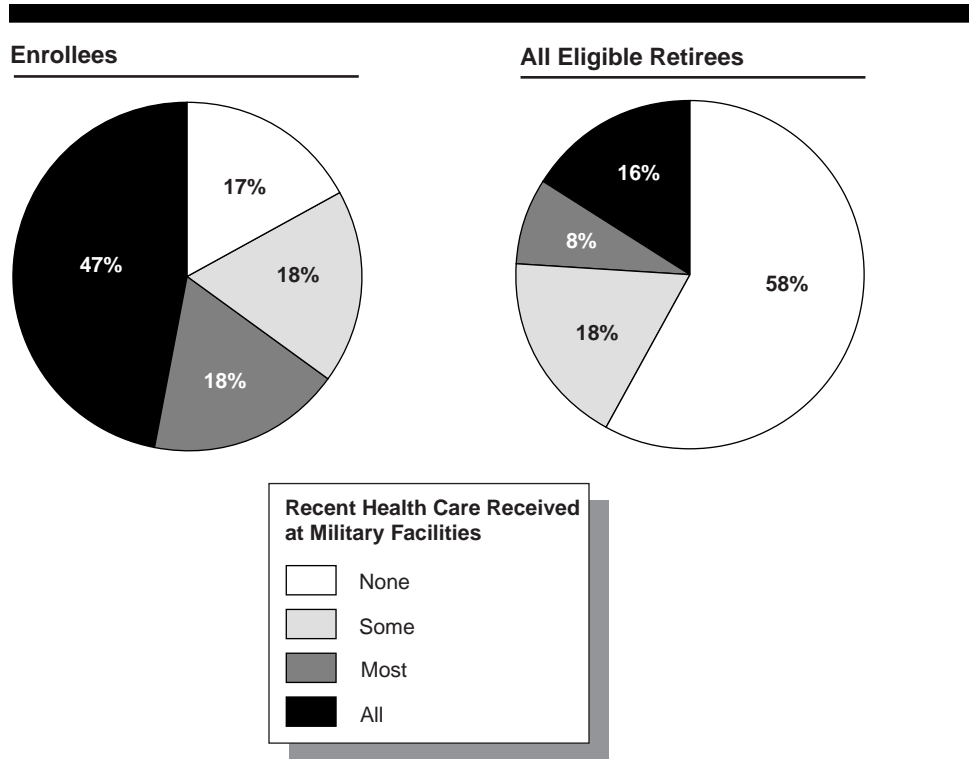
previous year, and far fewer—less than one-sixth—had depended entirely on military facilities for their care (see fig. 4). As a result, the Senior Prime population is very different from the demonstration population as a whole. Before the demonstration, 47 percent of enrollees had relied entirely on military care, while only 16 percent of all retirees in the demonstration areas had done so. By contrast, 17 percent of enrollees had not used military care at all in the recent past, compared with 58 percent of all retirees.

Figure 3: Greater Reliance on Military Facilities for Recent Health Care Predicted Enrollment in Senior Prime



Source: GAO subvention survey and HCFA administrative data.

Figure 4: Enrollees Differed From Eligible Retiree Population in Previous Reliance on Military Health Care



Source: GAO subvention survey and HCFA administrative data.

Satisfaction with previous health care. Satisfaction with their previous health care was also linked to whether retirees chose Senior Prime. As table 2 shows, retirees who were very satisfied with military health care were much more likely to join Senior Prime than those who were less satisfied.

Table 2: Satisfaction With Previous Military Care Predicted Enrollment

Overall satisfaction with military care	Percentage who enrolled
Very satisfied	62
Moderately satisfied	42
Less satisfied	22

Note: Data are based on all retirees who reported receiving at least some of their care (excluding prescriptions) during the past 12 months at military facilities.

Source: GAO subvention survey and HCFA administrative data.

Retirees’ own accounts of why they enrolled or did not enroll in Senior Prime underline the importance of their previous sources of health care. When asked why they enrolled in the program, enrollees most often cited the quality of care at military facilities and a preference for MTF care—both reflecting enrollees’ previous positive experiences with military facilities.

Conversely, when asked why they did not enroll in Senior Prime, nonenrollees most often cited satisfaction with their current coverage. Retirees who relied exclusively on civilian physicians and were satisfied with their care were much less likely to enroll, suggesting a reluctance to disrupt their health care arrangements. This is consistent with Senior Prime marketing materials and briefings: Retirees were told that if they had a civilian physician and wanted to continue receiving care from that physician, Senior Prime might not be the right choice.²²

Convenience of military health care. The convenience of military care was also a factor in retirees’ enrollment decisions. Those who lived closer to a military facility—measured in either miles or reported travel time—were more likely to enroll (see table 3). This is supported by enrollees’ own accounts of why they enrolled: About 76 percent of those who gave reasons for joining Senior Prime mentioned the convenience of military facilities, and about 14 percent cited this convenience as their main reason.

Table 3: Travel Time to Nearest MTF Predicted Enrollment

Travel time	Percentage who enrolled
Less than 15 minutes	31
15 to less than 30 minutes	23
30 minutes to an hour	14
More than an hour	11

Source: GAO subvention survey and HCFA administrative data.

Knowledge of Senior Prime. Despite DOD’s marketing and informational efforts, over 40 percent of retirees reported that before receiving our survey they knew nothing about Senior Prime. About 28 percent of retirees who did not enroll reported that not having enough information about

²²We previously reported that during our visits to subvention sites, Senior Prime staff and retirees commented that the temporary nature of the demonstration made retirees reluctant to enroll in Senior Prime (see GAO/GGD/HEHS-99-161, Sept. 28, 1999, p. 12). In our survey, retirees were asked why they did not try to enroll and were given 12 possible reasons to choose from. Although the program’s temporary status was not among these reasons, all respondents had the opportunity to write in additional reasons for not enrolling, and about 2 percent of nonenrollees mentioned the temporary nature of the program.

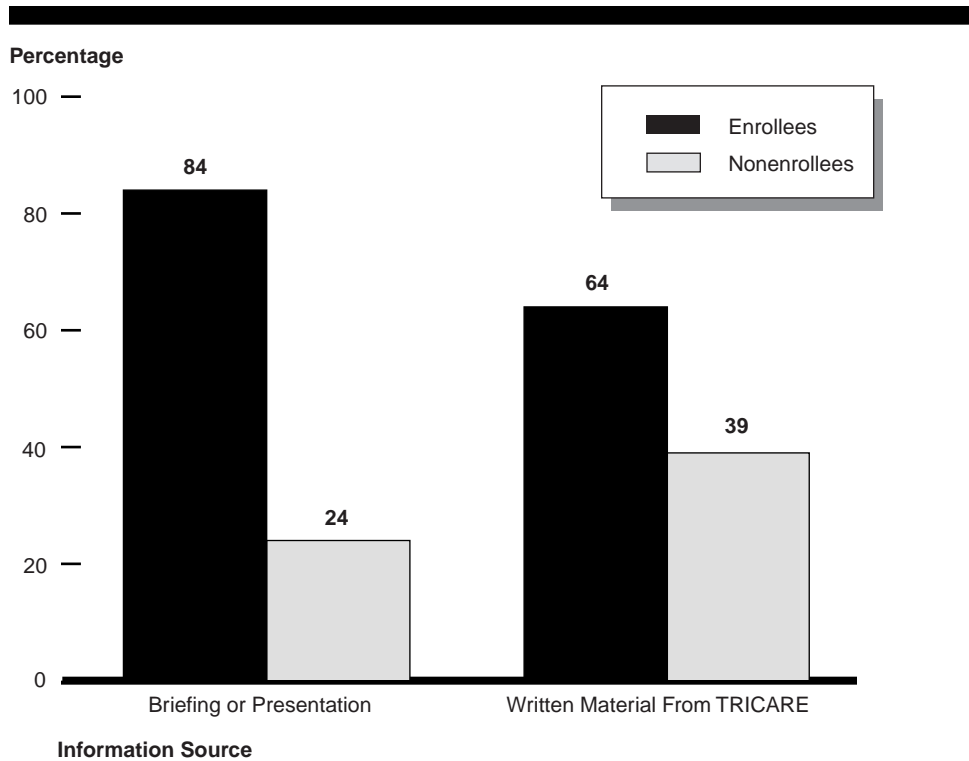
Senior Prime was one reason for not enrolling, and a similar number cited not understanding the program; many cited both reasons. Overall, the less retirees knew about Senior Prime, the less likely they were to enroll. Over 60 percent of retirees who said they knew a great deal about Senior Prime enrolled, whereas only 2 percent of retirees who reported knowing nothing about it enrolled.

It is surprising that some retirees who claimed to have no knowledge of Senior Prime could have enrolled. Although our data are not definitive on this point, there are at least two possible explanations: A spouse or other family member could have handled most of the enrollment paperwork, with the result that the retiree did not readily recall it; or the retiree could have known about Senior Prime when enrolling but forgotten about it when answering our questionnaire several months later.²³

It is hard to identify precisely the impact of information on enrollment, since those who enrolled may have actively sought more information. Both enrollees and nonenrollees who knew about Senior Prime reported learning about it from similar information sources. They mentioned five main sources of information: written information from sites, presentations or briefings about Senior Prime, written information from an organization that represents military retirees or their families, newspapers, and conversations with friends and neighbors. Enrollees, however, were more likely than nonenrollees to have read information provided by the sites or to have attended a presentation or briefing, perhaps reflecting their own prior interest. (See fig. 5.)

²³We found that retirees' level of knowledge about Senior Prime did not vary materially with time. Comparing those who answered our survey earlier with those who answered later, there was little difference in knowledge about Senior Prime.

Figure 5: Enrollees Were More Likely Than Nonenrollees to Have Learned About Senior Prime From Sites' Marketing Efforts



Note: Data are based on retirees who knew about Senior Prime and reported how they learned about the program.

Source: GAO subvention survey and HCFA administrative data.

In principle, knowing about Senior Prime could be linked to previous use of military facilities (and the resulting exposure to on-base publicity), but the evidence on the extent to which each factor—recent use of military care and knowledge about Senior Prime—contributed independently to enrollment is striking. As table 4 shows, at each level of military health care use, the less retirees knew about the demonstration program, the less likely they were to join. Similarly, at each level of knowledge, the less retirees had used military care recently, the less likely they were to enroll.

Table 4: Knowledge of Senior Prime and Previous Use of Military Care Independently Affected Enrollment

Amount of recent care received at military facilities	Knowledge of Senior Prime			
	A great deal	Something	A little	Nothing
All	88	75	53	17
Most	75	58	27	11
Some	52	32	15	2
None	30	15	6	1

Note: The numbers are the percentages of retirees in each group who enrolled in Senior Prime.

Source: GAO subvention survey and HCFA administrative data.

Differences in Medicare Markets and MTF Factors Affected Sites' Enrollment Rates

Sites had very different enrollment rates. A site's previous record in serving retirees and its effectiveness in informing beneficiaries about Senior Prime affected the proportion of its retirees who enrolled. In addition, some evidence suggests that a site's Medicare market and other local factors influenced enrollment. Retirees living in areas with a greater Medicare managed care presence were less likely to choose Senior Prime than were retirees in areas where managed care plans had lower market shares. Finally, although sites with ambitious enrollment targets tended to be less successful in meeting them, these sites tended to enroll higher proportions of retirees than sites with less ambitious targets, other things being equal.²⁴

Sites' Enrollment Rates Reflect Previous Experience in Serving Retirees and Success in Marketing Senior Prime

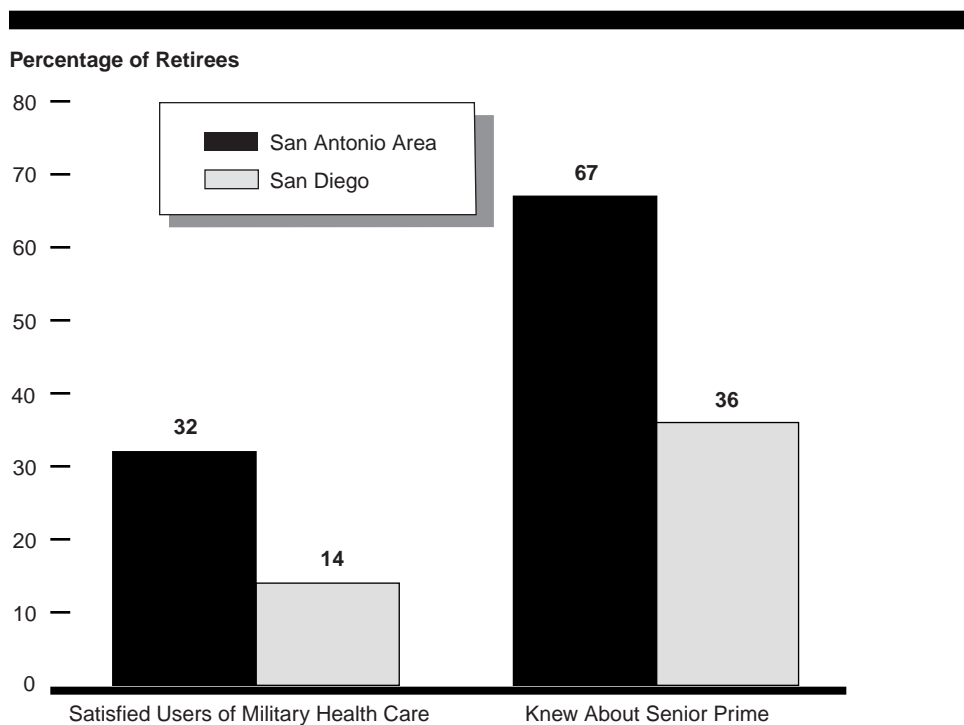
To demonstrate the effect of sites' varying histories and actions on enrollment rates, we analyzed two sites that, despite their apparent similarities, enrolled very different proportions of their eligible populations. Both San Diego and the San Antonio area have large military medical centers and are located in areas with substantial numbers of military retirees (each site's area includes around 33,000 retirees). The two sites' combined population represents over half of all retirees eligible for the demonstration, and the sites' enrollees compose about half of the demonstration's enrollees. However, San Antonio enrolled almost 30 percent of its eligible retirees, while San Diego enrolled only 8 percent.²⁵ Compared with San Diego, San Antonio had more retirees who had received much of their recent care at military facilities, were satisfied with

²⁴This section, like the previous one, is based on the statistical model that identifies each factor's influence on enrollment while controlling for the effects of other factors (see app. II).

²⁵These estimates are based on GAO survey data that reflect enrollment at an earlier point in time than the data in fig. 1, which reflect enrollment 10 months after the start of service delivery.

military care, and knew about Senior Prime—all characteristics linked to joining Senior Prime. (See fig. 6.) If San Diego’s population had mirrored San Antonio’s in these three respects alone, the number of applicants would have at least doubled and San Diego would have met its target and would have had to establish a waiting list.

Figure 6: San Antonio and San Diego Retiree Populations Differed



Note: "Satisfied users of military health care" refers to retirees who received most or all of their recent care at military facilities and were satisfied with military care.

Source: GAO subvention survey.

Site Enrollment Linked to Availability and Appeal of Civilian Alternatives and to Site Enrollment Targets

Sites’ success in enrolling retirees in Senior Prime was influenced by the strength of the Medicare managed care presence in the area. Where Medicare managed care was strongest—San Diego—the Senior Prime enrollment rate was lowest. By contrast, enrollment rates tended to be

higher in areas where, before Senior Prime, Medicare managed care was virtually nonexistent (Keesler and the Texoma area).²⁶

The strength of Medicare managed care in any area (measured by the percentage of Medicare beneficiaries who enroll) reflects the extent to which Medicare managed care plans are available and are able to attract Medicare beneficiaries by their reputations, benefit packages, and low out-of-pocket costs. High managed care penetration often brings increased competition for members, which can lead plans to offer more generous benefit packages. The more attractive these are, the more likely retirees would be to choose such a plan rather than join Senior Prime. Additionally, those retirees who were most favorably disposed toward managed care had already had the opportunity to choose it in areas where managed care was well established.

By contrast, in areas with less managed care, retirees may have chosen Senior Prime because their health care options were more limited. Compared with retirees at sites with a substantial managed care presence, retirees at sites lacking managed care were more likely to say that they did not want to enroll in Senior Prime because they did not want to join a managed care organization or an HMO. Nonetheless, while Senior Prime's HMO status may have deterred some retirees in the weaker managed care areas from enrolling, on balance the lack of competition from managed care alternatives boosted enrollment.

One other market factor was significant—the availability of nonfederal primary care physicians, measured as the number of physicians in an area relative to its population. In areas with fewer physicians, retirees were somewhat more likely to join Senior Prime, which assigns them a primary care manager and assures them of access to care.

In addition to local market factors, the enrollment target set by each site tended to influence the site's actual enrollment rate. Sites with more ambitious targets (relative to the number of eligible beneficiaries) typically enrolled a larger proportion of retirees than less ambitious sites (see table 5). For example, Madigan—a site with one of the lower targets—had reached its target by the time of our survey and had closed enrollment (except for age-ins), resulting in a lower rate of enrollment than it might have had with a higher target.

²⁶Medicare managed care strength—the percentage of Medicare beneficiaries enrolled in managed care plans—was measured at the county level before the start of Senior Prime at each site. At the Colorado Springs and Dover sites, managed care plan pullouts occurred around the time the programs started.

Table 5: Higher Enrollment Targets Linked to Higher Actual Enrollment Rates

Site target relative to retiree population in area	Percentage who enrolled
High	36
Medium	26
Low	12

Source: GAO subvention survey and HCFA and DOD administrative data.

Concluding Observations

Early experience indicates that Medicare-eligible military retirees residing in the demonstration areas are interested in using military facilities for their health care, although the amount of interest varies widely across sites. Our analysis of the demonstration and the sites' records in enrolling retirees suggest using considerable caution in generalizing this experience to other possible subvention sites. As we have discussed, subvention demonstration sites were not selected to mirror the full range of military health facilities and the diversity of civilian health care environments. Instead, they were largely sites that DOD thought could run a successful program. In the demonstration areas, a disproportionate number of retirees live near medical centers, which offer a broad range of services and are well-positioned to provide the full continuum of Medicare services. In nondemonstration areas, far fewer retirees live near military medical centers. Moreover, whether retirees considered a site's Senior Prime program to be attractive depended partly on local market factors. Although the demonstration was not designed to measure the impact of local variation, we found evidence that such diverse characteristics as Medicare managed care penetration, the availability of nonfederal physicians, and the targets set by the sites affected enrollment. In terms of these characteristics, demonstration sites and other areas differ. Finally, both military health care and Medicare are dynamic programs. Retirees must assess Senior Prime's attractiveness in relation to the military and civilian alternatives. To the extent that these alternatives change, the attractiveness of Senior Prime will change, creating a further impediment to generalizing the demonstration's enrollment rates beyond its current boundaries.

Agency Comments and Our Evaluation

DOD and HCFA reviewed a draft of this report and concurred with our findings. HCFA noted that the draft did not discuss how Senior Prime's demonstration status affected beneficiaries' decisions to enroll. We have added a discussion of retirees' and Senior Prime staffs' comments on this point, as well as evidence from our survey. Both agencies also suggested

several technical changes to the report, which we incorporated where appropriate. DOD and HCFA comments are presented in appendixes III and IV, respectively.

We are sending copies of this report to the Honorable William S. Cohen, Secretary of Defense; and the Honorable Nancy-Ann Min DeParle, Administrator of HCFA. We will make copies available to others upon request.

If you or your staffs have questions about this report, please contact me at (202) 512-7114. Other GAO contacts and staff acknowledgments are listed in appendix V.



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Abbreviations

ADL	activity of daily living
CAHPS	Consumer Assessment of Health Plans Study
DEERS	Defense Enrollment Eligibility Reporting System
DOD	Department of Defense
HCFA	Health Care Financing Administration
HMO	health maintenance organization
M+C	Medicare+Choice
MOA	Memorandum of Agreement
MTF	military treatment facility

Health Care Survey of Subvention Demonstration Beneficiaries

The primary data source for this report is our health care survey of beneficiaries eligible for the DOD/Medicare subvention demonstration. This mail survey, which was conducted between November 1998 and June 1999, sampled enrollees and nonenrollees at each of the seven sites.²⁷ The bulk of data collection was done 2 to 4 months after health care delivery started, with the exact dates varying by site.

The survey had two major objectives:

- to compare Senior Prime enrollees with nonenrollees, identifying factors associated with enrollees' decision to join the program; and
- to serve as the baseline for determining the impact of the demonstration on Senior Prime enrollees' and nonenrollees' health care use, access to services, quality of care, and out-of-pocket costs.

In order to meet the second objective, the survey was designed as a two-wave panel, in which the same individuals would be surveyed twice—at the beginning and at the end of the demonstration—thereby permitting us to examine change over time.

Questionnaire Design

In constructing the questionnaire, we developed questions pertaining to retirees' previous source of care, access to care, satisfaction with care, knowledge of Senior Prime, and reasons for enrolling or not enrolling, and other topics related to our study objectives. To ensure that the questionnaire was as comprehensive as possible and that our questions reflected existing practice, we reviewed literature on access to care and compiled questions from five existing instruments: the Health Care Survey of DOD Beneficiaries (1997), the Medicare Current Beneficiary Survey (1996), the CAHPS (Consumer Assessment of Health Plans Study) Medicare Managed Care Questionnaire (1997), the National Access to Care Survey (1994),²⁸ and the Access to Care in Medicare Managed Care Survey (1996).²⁹ In addition, we selected the SF-12, a set of questions developed by the New England Medical Center Health Institute to capture health status. After a series of pretests with groups of retirees, the final questionnaire included the topic areas shown in table I.1.

²⁷Although the Balanced Budget Act of 1997 specifies six test sites, for the purpose of analysis, we treat the San Antonio area and the Texoma area, which are about 300 miles apart, as separate sites.

²⁸Jointly sponsored by the Robert Wood Johnson Foundation and the National Center for Health Statistics, and fielded as a supplement to the 1993 National Health Interview Survey.

²⁹Conducted by Mathematica Policy Research, Inc., for the Physician Payment Review Commission.

**Appendix I
Health Care Survey of Subvention
Demonstration Beneficiaries**

Table I.1: Major Survey Sections and Topics Covered

Section	Topics covered
Health Care in the Past Year	Health care use; waiting times for appointments; waiting times in office; amount of care received at military facilities; ability to obtain care, reasons why not, and any consequences; global satisfaction; out-of-pocket expenses
Satisfaction With Care	Primary care doctor (military, civilian, or other; one doctor or group of doctors), satisfaction with primary care doctor, specialists (military, civilian, or other), satisfaction with specialists, satisfaction with military health care
Health Attitudes and Preventive Health Care	Attitudes (worrying about health, avoiding doctors), smoking history and behavior, advice on smoking cessation and weight loss, chronic conditions and last check-up for selected conditions, last eye exam, recent mammogram, Pap smear
Health and Activities of Daily Living (ADL)	SF-12 items, current health compared with 1 year ago, needing help with ADLs
Health Insurance Coverage	Current coverage: Medicare part B, Medigap, HMO, other private insurance, Federal Employees Health Benefits Program, cost of insurance coverage
Senior Prime	Enrolled, tried to enroll, reasons why wanted to enroll or did not try to enroll; insurance coverage before Senior Prime; knowledge of Senior Prime and sources of information; true/false knowledge-testing questions
Demographics and Other Information	Demographics (such as age, marital status, education, income), zip code, member of organization that represents military retirees or their families, nearest military hospital, travel time to nearest military hospital, military hospital would most likely use, military sponsor or dependent, rank at retirement

Many of the questions refer to individuals' health care experiences during the past 12 months. We asked Senior Prime enrollees, however, to report this information for the 12 months before they joined Senior Prime so that we could gauge their preprogram experience with the military and civilian health care systems.

Sample Design

We defined our population as all Medicare-eligible military retirees living in the demonstration sites. We treated one site, San Antonio, as two sites for sampling purposes, because the two parts of the site (San Antonio and Texoma) are roughly 300 miles apart. Samples of enrollees and nonenrollees were selected at each site 1 to 2 months after the start of service, resulting in a demonstrationwide sample with 14 strata—seven sites and two enrollment states (enrollee and nonenrollee) for each site. The sample of enrollees was drawn from all those enrolled in the

demonstration according to HCFA's Medicare transaction files. The sample of nonenrollees was drawn from all retirees aged 65 and over in the Defense Enrollment Eligibility Reporting System (DEERS) who (1) had Medicare part A coverage, (2) lived within the official demonstration zip codes, and (3) were not enrolled in the demonstration. The sample size was dictated by our requirement to compare enrollees and nonenrollees at each site and over time, taking into account expected attrition as a result of death, a move to another area, and other types of nonresponse.³⁰ The total initial sample for all sites was 19,107, drawn from a population of 119,210.

We made two further adjustments to the population size:

- In the course of the survey, we ascertained that 747 people had died before the date of sampling. These 747 people represented 6,108 people in the population (using individual sample weights), so we adjusted the population estimate downward to remove them. (See table I.2.)
- In both the population and the sample, we retained retirees who had only Medicare part A coverage. However, in this report, all those who did not have both part A and part B were excluded from the analysis because they are ineligible for the demonstration.³¹ These 604 people who were removed from the sample represented 5,688 people in the population, and we adjusted the population estimate accordingly. (See table I.2.)

Together, these two adjustments resulted in a demonstration population size of 107,414.³²

³⁰We specified a sample size sufficient to determine a minimum detectable difference of .07, using a 95-percent confidence interval, with a power of 0.8. The finite population correction was applied. In Dover, the enrollee sample fell short of our desired sample because Dover's population of enrollees was quite small and because we tried to minimize the burden on respondents by not sending the survey to retirees who had received the DOD Beneficiary Survey several months earlier.

³¹Of those retirees without part B who answered our survey, about half had employer-sponsored insurance. They were more often officers, had higher income, and were younger than those without employer-sponsored insurance, and relied less on MTFs for their health care.

³²Because our sample was drawn at different times (1 to 2 months after the start of service at each site), there is no single number to which it can be compared. DOD estimated the population in the subvention sites at 117,035 in the third quarter of fiscal year 1998, at 102,512 in the fourth quarter, at 97,502 in the first quarter of fiscal year 1999, and at 97,970 in the second quarter. DOD has not yet explained the reason for the decline.

**Appendix I
Health Care Survey of Subvention
Demonstration Beneficiaries**

Table I.2: Survey Responses and Nonresponses

Response rate: 85.74%

	Number of people excluded	Sample size	Number excluded from population estimate	Estimated population size
Initial sample and population		19,107		119,210
Adjustments to initial sample and population				
Died before date of sampling	747	18,360	6,108	113,102
Did not have both part A and part B	604	17,756	5,688	107,414
Final sample and population				
Response		15,224		
Nonresponse		2,532		
Total		17,756		107,414
Reasons for nonresponse				
No information received and no information available	1,471			
Not users of military care	51			
Moved/undeliverable address	632			
Refused	160			
Too sick to respond	101			
Died after sampling	83			
Others	34			
Total nonresponses	2,532			

Response Rates

Starting with a sample of 19,107 retirees and their dependents, we obtained usable questionnaires from 15,224 people—an overall response rate of 86 percent. Response rates were similar across sites, but at all sites, enrollees responded at higher rates than nonenrollees (see table I.3). Each stratum was separately weighted to reflect the population, with enrollee strata generally having smaller weights, reflecting both their higher response rates and the fact that they were sampled at a higher rate than were nonenrollee strata.

**Appendix I
Health Care Survey of Subvention
Demonstration Beneficiaries**

Table I.3: Population, Sample, Response Rate, and Weight, by Stratum

Stratum (enrollee/nonenrollee)	Population	Sample size	Number of respondents	Response rate (percent)	Sample weight
Madigan					
E	3,185	1,276	1,199	93.97	2.66
N-E	14,727	1,484	1,205	81.20	12.22
San Antonio area					
E	8,105	1,452	1,351	93.04	6.00
N-E	22,496	1,514	1,210	79.92	18.59
San Diego					
E	2,067	1,150	1,075	93.48	1.92
N-E	27,256	1,520	1,213	79.80	22.47
Keesler					
E	2,194	1,169	1,091	93.33	2.01
N-E	4,466	1,317	1,013	76.92	4.41
Texoma area					
E	1,539	1,043	973	93.29	1.58
N-E	4,939	1,389	1,085	78.11	4.55
Colorado Springs					
E	2,398	1,197	1,116	93.23	2.15
N-E	10,432	1,512	1,225	81.02	8.52
Dover					
E	543	442	417	94.34	1.30
N-E	3,067	1,291	1,051	81.41	2.92
All sites					
E	20,031	7,729	7,222	93.44	2.77
N-E	87,383	10,027	8,002	79.80	10.92
Total	107,414	17,756	15,224	85.74	7.06

A Model of Factors Affecting Enrollment in TRICARE Senior Prime

This appendix describes the data and methods used to model enrollment in the DOD Medicare subvention demonstration project. To explain how factors were identified that influenced military retirees to enroll in Senior Prime, the appendix summarizes (1) the approach to the analysis of Senior Prime enrollment, (2) the statistical model and methods used, (3) the results of estimating the model on data from our survey of retirees, (4) the adequacy and performance of the model, and (5) the model's limitations.

Approach

The model's objective is to explain individual retirees' decisions to enroll in TRICARE Senior Prime. The results of the model can also be used to account for differences among the sites in their enrollment rates. To analyze why some retirees chose to join while others did not, we considered six categories of individual-level variables and two categories of market environment and site-specific variables. Table II.1 lists the categories and variables.

Table II.1: Potential Influences on Enrollment in TRICARE Senior Prime

Category	Variables
Individual-level variables	
Demographic and other factors	Age, sex, rank, income, marital status, race, eligibility status (military sponsor, dependent, and so on), travel time to nearest military hospital, distance to nearest military hospital within demonstration area
Prior utilization, health status, and health conditions	Outpatient visits, hospital admissions, prescriptions, SF-12 health status score, self-reported health, chronic conditions, limitations on ADLs
Usual source of care	Amount of care received from military treatment facilities (MTF) and from civilian providers
Health insurance coverage and health costs	Coverage: Medicare supplemental, Federal Employees Health Benefits Program, other private plans, HMOs Costs: health insurance, health care (out-of-pocket)
Satisfaction with care	Satisfaction with primary care physician, satisfaction with specialist—separately for MTF and civilian provider; overall satisfaction with military health care
Knowledge of Senior Prime	Knowledge of Senior Prime before receiving GAO survey
Market environment and site variables	
Medicare market	Medicare+Choice (M+C) plan penetration rate, M+C plan pullouts, M+C capitation rate, Medigap premium
MTF and area characteristics	MTF resources for retirees aged 65 and over, site capacity limit on Senior Prime enrollment, primary care physicians per 1,000 people

Common sense as well as previous research suggests that the decision to enroll is related to each category and the variables it contains. Within each category, some variables had an expected direction of impact: For example, being satisfied with primary care at an MTF is expected to spur a retiree to join Senior Prime. Other variables might make enrollment either more or less likely. For example, a history of having made many visits to a civilian outpatient provider could make a retiree more likely to enroll, since Senior Prime's outpatient visits are generally cheaper than civilian care. However, that same history could make enrolling less likely by strengthening a patient's ties to a specific civilian provider.

The market environment and site variables reflect factors that might affect a retiree's decision to enroll and that vary between demonstration sites. Specifically, the Medicare market variables represent health insurance options available to retirees in addition to Senior Prime. For example, the Medicare+Choice penetration rate represents the extent to which private Medicare managed care plans are available and are considered by the area's Medicare beneficiaries to offer attractive benefit packages. Other things being equal, a higher penetration rate is expected to dampen interest in Senior Prime. MTF or site variables represent the resources and options available to retirees at a specific military health facility. Some site variables are expected to nudge retirees in a single direction: For example, the greater a site's capacity to accommodate retirees in Senior Prime, the more likely they would be to enroll. Other site variables, however, could either spur enrollment or discourage it.

Most individual-level variables are binary variables (for example, "officer" is classified as "yes" or "no" for each retiree). We generally constructed these variables from the survey responses of demonstration-area retirees (see app. I), although several individual-level variables were constructed from administrative and related data. The market environment and site variables are constructed from aggregate data; they pertain to a county or zip code and are drawn from Medicare, industry, and DOD data sources. However, even these market variables differ within a site to some extent, because retirees are dispersed within a site across several zip codes or counties.

Statistical Model and Results

The analysis of how strongly these individual-level and market/site variables influenced the demonstration-area retirees used logistic regression—a standard statistical method of modeling an either/or (binary) variable. In this case, a retiree either enrolls in Senior Prime or

Appendix II
A Model of Factors Affecting Enrollment in
TRICARE Senior Prime

does not. How likely is a retiree with certain traits—age 72, satisfied with military health care, and so on—to enroll? Given such information, logistic regression predicts the probability that a person enrolls.

The coefficient on each variable measures its effect on the dependent variable. In logistic regression, the dependent variable is related to each retiree’s probability of enrolling in Senior Prime.³³ Explanatory variables—demographics, satisfaction, knowledge of Senior Prime, and others listed in table II.1—generally enter the model as separate, additive terms. The model’s estimates pertain to the entire demonstration population, not just those retirees in our survey sample. To make the estimates generalizable, we applied sample weights to all observations.

Blocks of variables differ in their contribution to the model’s explanatory power. The “knowledge of Senior Prime” block and the “satisfaction with care” block make the largest (13.99 percent) and second largest (10.95 percent) contributions to the model’s predictions of who enrolls or does not enroll. The satisfaction block measures how satisfied the retiree was with his or her usual source of care—military or civilian. The third largest contribution to the model’s explanatory power comes from the market environment and site block (4.6 percent). Other categories’ contributions are less important although still of the same relative size as the market/site block: usual source of care (2.6 percent) and insurance coverage and cost (1.6 percent). The contribution of the utilization and demographic blocks is less than 1 percent each. (See table II.2.)

³³To avoid statistical problems with analyzing the probability directly, logistic regression analyzes a related dependent variable—a function of the probability, P, divided by (1-P). However, the estimated probability, P, can be calculated from the logistic regression.

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A Model of Factors Affecting Enrollment in
TRICARE Senior Prime

Table II.2: Contribution to the Model's Explanatory Power by Each Block of Variables

	Model explanatory power (pseudo-R ²)	Contribution of block (percent)
Full model	0.43	
Models with one block deleted		
Demographic and other factors	0.42	0.87
Prior utilization	0.43	0.37
Usual source of care	0.41	2.62
Health insurance coverage and health costs	0.42	1.64
Satisfaction with care	0.37	10.95
Knowledge of Senior Prime	0.35	13.99
Market environment and site-specific factors	0.40	4.58

Note: A block's contribution reflects the loss in explanatory power from deleting the block from the full model. The block's contribution is calculated by comparing the likelihood ratio of the full model to the likelihood ratio of that model with the block omitted. For example, if the "usual source of care" block is omitted from the full model, the model's explanatory power declines by 2.62 percent. In general, the percentage of the likelihood ratio lost from the full model (L_n) by the same model with a given block j deleted (L_j) is $[(L_j - L_n) / L_n] * 100$.

Although the set of explanatory variables we considered was sizeable, the set we selected for our preferred model was smaller. Selection of a narrower set of variables reflected primarily statistical criteria. Many plausible variables tested were statistically insignificant, including most demographic variables; explicit measures of health status; and several Medicare market variables, such as the number of Medicare+Choice plans that had pulled out of an area and the Medigap premium in the area.³⁴ The details of the model estimates are presented in table II.3.

Table II.3: Estimated Effects of Selected Factors on Enrollment in Senior Prime

Category and description of variables	Odds ratio	Estimated coefficient ^a	Z-statistic
Demographics and other factors			
Age at time Senior Prime service began < 70 years old	1.19	0.17	2.74
Travel time < 30 minutes or distance < 10 miles to nearest military hospital	1.91	0.65	7.75
Prior utilization			
Outpatient visits made during the past 12 months: 0-4	1.26	0.23	3.35
Specialist visits made during the past 12 months: 0-1	1.18	0.16	2.32

(continued)

³⁴Many such variables, taken individually, are correlated with enrolling. However, in the logistic regression, which controls for other factors, these variables are insignificant.

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Category and description of variables	Odds ratio	Estimated coefficient^a	Z-statistic
Usual source of care			
MTF usage during the past 12 months: all or most care at MTF	1.52	0.42	5.65
Hospitalized during the past 12 months, but not in MTF	0.66	-0.41	-4.01
Prescriptions filled during the past 12 months at military pharmacy only	1.35	0.30	3.87
Prescriptions filled during the past 12 months at civilian pharmacy only	0.47	-0.76	-10.94
Health insurance coverage and health costs			
Covered by Federal Employees Health Benefits Program just before Senior Prime became effective	0.75	-0.29	-2.47
Monthly insurance cost during the past 12 months: > \$100	0.71	-0.35	-4.63
Monthly insurance cost during the past 12 months: None	1.40	0.34	4.67
Out-of-pocket money spent for medical care during the past 12 months > \$0	0.72	-0.32	-4.85
Satisfaction with care			
Overall satisfaction score with military health care: from 0 (dissatisfied) to 1 (satisfied)	7.40	2.00	19.42
Primary care at MTF and very satisfied/satisfied with primary care	1.55	0.44	4.22
Primary care at civilian facility and very satisfied/satisfied with primary care	0.47	-0.75	-9.79
Specialist care at civilian facility and very satisfied/satisfied with specialist	0.71	-0.35	-4.15
Knowledge of Senior Prime			
No knowledge of Senior Prime	0.08	-2.57	-26.83
Market environment and other site-specific factors			
Medicare+Choice market penetration rate	0.64	-0.44	-1.92
Site capacity limit on Senior Prime enrollees, relative to number of eligibles (%) > 40 %	1.59	0.47	5.29
Site capacity limit on Senior Prime enrollees, relative to number of eligibles (%) < 20%	0.46	-0.77	-10.76
Number of physicians ^b per 1,000 people	0.96	-0.04	-6.84
Constant	0.34	-1.08	-6.99

(Table notes on next page)

Appendix II
A Model of Factors Affecting Enrollment in
TRICARE Senior Prime

^aEstimated coefficients have P-values of 0.01 or less, except for “specialist visits in the past 12 months” (P-value = 0.02) and “Medicare+Choice penetration” (P-value = 0.05). P-values are rounded to nearest hundredth.

^bIncludes nonfederal primary care physicians only.

In table II.3, the “odds ratio” column indicates how much more likely (or unlikely) it is for enrollment to occur if the retiree has a trait, compared with a similar person who lacks the trait. For example, holding other factors constant, a retiree who was less than age 70 was 1.19 times more likely to enroll than someone aged 70 or older. By contrast, a retiree who had had prescriptions filled only at civilian facilities was less than half—0.47—as likely to enroll as other retirees. (The odds ratio is derived from the estimated coefficient³⁵ and conveys the information in the coefficient in a more intuitive way.) The Z-statistic and its associated P-value indicate the statistical significance of an estimate.³⁶

The results identify many variables that raised the odds of a retiree’s enrolling in Senior Prime. Those with an odds ratio greater than one include age less than 70, living near the MTF (in travel time or distance), few outpatient or specialist visits in the previous 12 months, substantial MTF use in the past 12 months, prescriptions filled only at an MTF in the past 12 months, zero monthly insurance costs, overall satisfaction with military health care, very satisfied with primary care at the MTF, and a high site target for (and limit on) Senior Prime enrollment. The remaining variables in table II.3 reduced the odds of a retiree’s joining Senior Prime. These variables include the following: hospitalized but not at an MTF, prescription filled at civilian pharmacy only, covered by a Federal Employees Health Benefits Program plan before Senior Prime began service at the retiree’s site, satisfied with primary care at a civilian facility, and a strong Medicare managed care presence in the area.

³⁵The coefficient indicates each explanatory variable’s estimated effect on the dependent variable, holding other variables constant.

³⁶The variables listed in table II.3 have estimated coefficients that are significantly different from zero at conventional levels of significance; all the coefficients’ P-values are less than .10 and all but two have P-values less than or equal to .01. The standard error for each coefficient was calculated reflecting the sample design and sample weights. We used the procedures in Stata, Release 5, for maximum-likelihood logit estimation and robust variance estimates. We reestimated the model using the logistic procedure in SUDAAN, Release 7.5.3, and confirmed the accuracy of Stata’s variance estimate around each coefficient. Also, our bootstrap estimates of coefficients and standard errors—using 100 replications drawn from our sample—support the stability and precision of the estimates.

Adequacy of Model

The model performs satisfactorily by several yardsticks. First, it has considerable explanatory power;³⁷ the model produces a 43-percent improvement over assuming that retirees all have the sample's mean probability of enrolling. Second, the direction of estimated effects of variables on the probability of enrollment generally is what would be expected. (For example, a retiree who is satisfied with a specialist at a civilian facility is less likely to enroll.) Third, examination of the model's residuals did not reveal a problem with model specification.^{38, 39} Finally, the model accounts for variation in site enrollment rates quite well. As table II.4 and figure II.1 show, for six of the seven sites, the model's prediction of enrollment is not significantly different from actual enrollment; the exception is Dover.⁴⁰

Table II.4: Actual Enrollment Rate Compared With Predicted Rate, by Site

Numbers are percentage points			
Site	Actual ^a	Predicted	Residual
Colorado Springs	21.7	20.2	1.5
Dover	17.2	21.6	-4.5 ^b
Texoma area	25.7	24.9	0.8
Keesler	35.8	35.8	0
Madigan	17.8	17.2	0.6
San Antonio area	28.9	29.2	-0.3
San Diego	8.2	8.5	-0.4

^aActual enrollment at the time of survey.

^bStatistically significant at the .05 level.

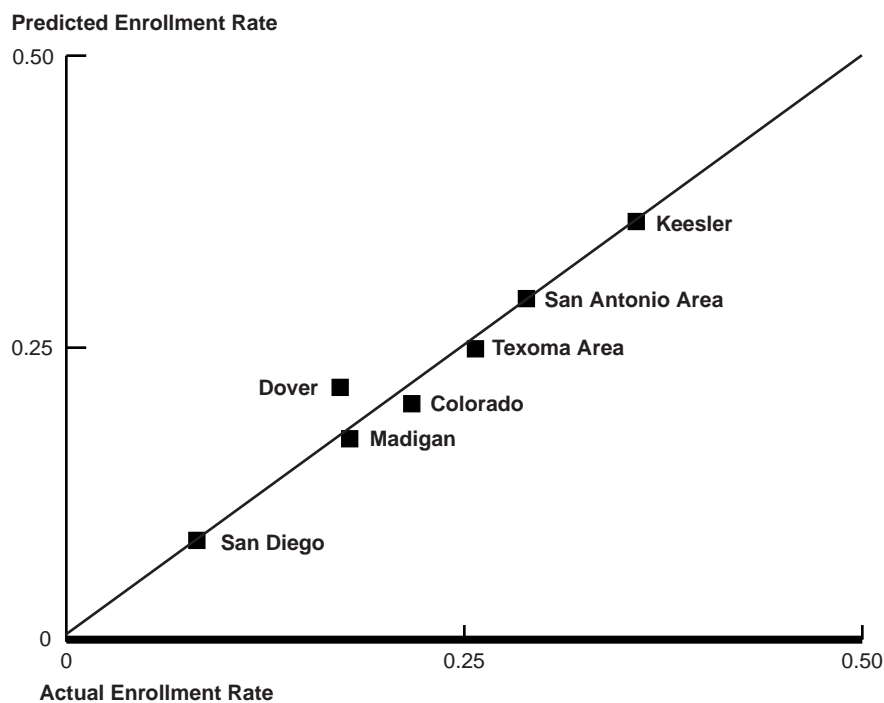
³⁷A measure of the model's explanatory power, its "pseudo R²," is 0.43. That is, the explanatory variables in the model generate a "likelihood ratio" that is 43 percent lower (in absolute value) than the likelihood ratio implied by the simplest model—the mean of the dependent variable. (The likelihood ratio in effect represents the amount of variation in the dependent variable that the model leaves unexplained.)

³⁸The residuals were ranked by predicted probability of enrollment, and the retirees who responded to the survey were divided into 100 cohorts—groups of predicted and actual values. A linear regression of predicted values (by group) on actual values (by group) yielded an adjusted R² of 0.97—evidence of the model's predictive power. See David W. Hosmer and Stanley Lemeshow, *Applied Logistic Regression* (New York, N.Y.: Wiley, 1989).

³⁹Additional evidence for the soundness of our model specification is that estimates of another logistic regression—with a larger set of plausible regressors—are similar to the smaller, preferred model. All variables in the latter model were statistically significant (at a level of P=.10) in the larger model. Both models had similar explanatory power. Only a few variables that were significant in the larger model did not appear in the preferred model, which table II.3 presents.

⁴⁰Dover differs from other sites in two relevant respects. First, Dover's MTF is a clinic, while other sites, which have hospitals or medical centers, have more clinical resources to offer potential enrollees. Second, Dover retirees seeking space-available care are relatively close to military facilities in Maryland; Washington, D.C.; and Pennsylvania. Both factors may help account for Dover's enrollment being substantially less than predicted.

Figure II.1: Actual Enrollment Rate Compared With Predicted Rate, by Site



Most of the individual-level variation in the probability of enrollment is accounted for by individual-level factors, such as satisfaction with military care. By contrast, market/site variables—Medicare market and MTF or site factors—account for a relatively modest amount of enrollment variation among individuals. This is to be expected. These contextual factors vary most between sites and vary much less within sites; however, much of the variation in individual-level factors is within sites.

However, both individual-level and contextual factors are important in accounting for variations in enrollment among sites. Key individual-level variables—MTF usage, satisfaction with care, and knowledge of Senior Prime—varied substantially between sites. This makes sense, since retirees were responding to different MTFs, which had different resources, practices, and reputations. Both contextual and individual-level variables contribute to the accuracy of enrollment predictions by site. When the contextual variables are omitted from the model, the average residual (in absolute value) for site enrollment increases by 3.2 percentage points (or

over threefold). Similarly, when MTF usage, satisfaction with military care, and knowledge of Senior Prime are dropped from the model, the average absolute residual for site enrollment increases by 3.8 percentage points (or over fourfold).

Limitations

The design of the demonstration limited our analysis of market/site factors to some extent. Specifically, the sites selected did not represent the range and diverse combinations of local market and site variables. Instead, many potentially important market/site variables—such as Medicare+Choice penetration rates, Medigap premiums, and sites' capacity for Senior Prime—tend to vary together. This makes it difficult to estimate precisely their separate effects.⁴¹ As a result, the estimated model could not make explicit the role of premiums for Medicare+Choice and Medigap plans or the roles of Medicare+Choice copayments and Medicare fee-for-service coinsurance amounts. To some extent, the influence of these factors was accounted for indirectly, through use of the Medicare+Choice penetration rate.

Estimates of the effects of explanatory variables in the model may be understated, to the extent that these variables are measured imperfectly. For example, the measure of retirees' knowledge of Senior Prime used in the model probably overstates the extent to which retirees knew about the demonstration program. As a result, the estimated effect of that variable may be understated.

These limitations caused by demonstration design and variable measurement do not, however, affect our major findings. The model has substantial explanatory power at the individual level and predicts site enrollment rates well.

⁴¹In addition, our estimates of the effects of Medicare market and site variables differ somewhat, depending on the specification of these variables.

Comments From the Department of Defense



HEALTH AFFAIRS

THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, DC 20301-1200

17 JAN 2000

Mr. William J. Scanlon
Director, Health Financing and Public Health Issues
Health, Education, and Human Services Division
U.S. General Accounting Office
Washington, DC 20548

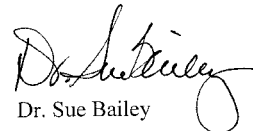
Dear Mr. Scanlon:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "MEDICARE SUBVENTION DEMONSTRATION: Enrollment in DoD Pilot Reflects Retiree Experiences and Local Markets," dated December 21, 1999 (GAO Code 101878/OSD Case 1933).

The DoD has reviewed the draft report and concurs without further comment. Suggested technical changes for clarification and accuracy have been provided separately.

The Department appreciates the opportunity to comment on the draft report. Please feel free to address any questions to my project officers on this matter, Dr. Richard Guerin (functional) at (703) 681-4263 or Mr. Gunther J. Zimmerman, (GAO/IG Liaison) at (703) 681-7889.

Sincerely,


Dr. Sue Bailey

Enclosure:
As Stated

Comments From the Health Care Financing Administration



DEPARTMENT OF HEALTH & HUMAN SERVICES

Health Care Financing Administration

The Administrator
Washington, D.C. 20201

DATE: JAN 10 2000

TO: William J. Scanlon
Director
Health Financing and Public Health Issues
General Accounting Office (GAO)

FROM: Nancy-Ann Min DeParle *NMID*
Administrator

SUBJECT: General Accounting Office (GAO) Draft Report: "Medicare Subvention Demonstration: Enrollment in DOD Pilot Reflects Retiree Experiences and Local Markets" (GAO/HEHS-00-35)

Thank you for the opportunity to review your draft report to Congress concerning enrollment in the Medicare subvention demonstration. We appreciate GAO's continuing work in this area and agree with the report's major observations and conclusions.

We remain committed to working with the DOD and VA to see if there is a way to improve access to care for America's military retirees and veterans while protecting the Medicare Trust Funds. These demonstrations provide the opportunity to assess how a coordinated approach to subvention might improve efficiency, access and quality of care for Medicare-eligible military retirees and veterans in a select number of sites. In implementing the demonstration, we focused on two imperatives: protecting beneficiaries and protecting the Medicare Trust Fund.

The GAO report highlights several enrollment issues faced by the demonstration sites. The report does not however, address the issue of how a beneficiary's decision to join is affected by the fact that the program is a demonstration. Yet, anecdotally and from the evaluation contractor's work (and previous GAO reports), this does appear to be a factor. We note that the report does not offer any recommendations to the Health Care Financing Administration.

We appreciate the effort that went into this report and the opportunity to review and comment on the issues raised. We look forward to working with GAO on this and other issues.

Attachment

GAO Contacts and Staff Acknowledgments

GAO Contacts

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Staff Acknowledgments

Other GAO staff who made significant contributions to this work include Robin Burke, Robert DeRoy, Dae Park, Linda Radey, and Martha Wood.

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