Pharmacy Options for DOD Medicare-Eligible Retirees

Robert A. Levy

Center for Naval Analyses
4401 Ford Avenue • Alexandria, Virginia 22302-1498

Approved for distribution: February 2000

Laurie J. May
Laurie J. May, Director
Medical Team
Resource Analysis Division

This document represents the best opinion of CNA at the time of issue.
It does not necessarily represent the opinion of the Department of the Navy.

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED
For copies of this document, call the CNA Document Control and Distribution Section (703) 824-2130

Contents

THIS PAGE INTENTIONALLY LEFT BLANK

Introduction and summary

Adding pharmacy options

The Navy's Bureau of Medicine and Surgery asked CNA to examine several alternative pharmacy plans that would extend prescription coverage to the DOD 65+ Medicare-eligible population. To some extent, the analysis in this document is a follow-on to CNA's 1998 study [1] that showed the cost of providing a national mail order pharmacy (NMOP) plan to the DOD 65+ population. Although I will reference and occasionally rely on certain assumptions that we made then, the analysis goes well beyond our previous work.

The specific pharmacy plans that I examined fall under three general categories. After paying an enrollment fee, beneficiaries may receive prescriptions (1) through mail order, (2) at the military treatment facility (MTF) or through mail order, or (3) at retail pharmacies or through mail order. Table 1 lists the copayments for each option and indicates whether beneficiaries face a cap on payments by DOD for its share of their drug costs.

Table 1. Applicable copayments and cap for three pharmacy plans

Pharmacy plan	Copay	Cap on DOD payments per beneficiary
Option 1		
NMOP	$8	No cap
Option 2		
MTF[a]	$0	No cap
NMOP	$8	No cap
Option 3		
Retail pharmacy	20%	$1,500 or no cap
NMOP	$8	$1,500 or no cap

a. Those who don't enroll would not have access to prescriptions at the MTF.

As table 1 shows, each mail order prescription involves an $8 copay. In the third option, I examine the cost implications when DOD payments per beneficiary are capped at $1,500 and when there is no cap. In all three sets of cases, I estimate the cost for two different values of the enrollment fee—$100 and $250.

Findings

The projected costs to DOD and the beneficiaries have been calculated for all DOD 65+ Medicare-eligible beneficiaries, those residing both in and out of catchment. Although the TRICARE Management Activity (TMA) is proposing a plan with demonstration sites only out of catchment, I assume that any new benefit would be proposed for all beneficiaries. Later, I will provide the estimated participation rates and costs for both in-catchment and out-of-catchment areas.

Table 2 presents the results for the different plans.[1] The costs to DOD range from $191 million for the MTF-plus-NMOP plan with a $250 fee to about $358 million for the retail-plus-NMOP plan with a $100 fee. The latter plan's cost would fall by almost $69 million with a $1,500 cap on payments by DOD, but this entire cost would then shift to the beneficiaries themselves. One point that is important and relevant to the discussion of all plans is that the base case is really the policy for the 65+ population in place today—namely, that DOD's paying all of the cost of prescription drugs for both in-catchment and out-of-catchment beneficiaries who go to MTF outpatient pharmacies.

The table also projects the number of beneficiaries who would participate in each plan. These numbers are out of a total of almost 1.35 million DOD beneficiaries in 1999 who are 65 and older—580,670 in catchment

---

1. These projected costs pertain to the individual programs once they reach a "steady state." In other words, I do not examine any transition costs or problems that may arise with program implementation.

and 768,528 out of catchment.[2] In this analysis, I included the roughly 385,000 beneficiaries who reside in base realignment and closure (BRAC) catchment areas.[3] Also note that, with the exception of the second set of options that included the MTFs, the number of beneficiaries participating in each plan does not include those beneficiaries currently using the MTFs for their outpatient drug prescriptions. I will, however, provide estimates of beneficiary use of MTF outpatient pharmacies later in the paper.

Table 2.   Cost estimates and participation for pharmacy benefit plans

Benefit plan	Cost in millions of dollars to		No. of new participants
	DOD	Bene- ficiaries	
NMOP			
With $100 fee	329.1	105.1	507,780
With $250 fee	266.3	157.1	416,654
MTF + NMOP			
With $100 fee	292.8	141.3	870,726[a]
With $250 fee	191.7	231.6	714,802
Retail + NMOP			
No cap			
With $100 fee	357.5	114.1	507,780
With $250 fee (no cap)	293.9	166.0	416,654
$1,500 cap on DOD expenditures			
With $100 fee	288.6	183.0	507,780
With $250 fee	225.0	235.0	416,654

a. The number of new participants refers to the sum of MTF users who sign up plus the mail order users shown in the other cases (depending on the enrollment fee).

2. The population values for DOD's 65+ beneficiaries were derived from DOD's new Managed Care Forecasting and Analysis System (MCFAS), the successor to the Resource Analysis Program System (RAPS) that had been used until last year to determine beneficiary populations. MCFAS version 2.2.1 uses the actual population for 1998 and projects the population for 1999 and beyond. The numbers here refer to the 1999 values.

3. Inclusion of these beneficiaries is the main reason that the estimated costs for the NMOP with a $100 fee, the plan closest to the NMOP with no fee plan we studied last year, is now higher—$280 million versus $267 million.

THIS PAGE INTENTIONALLY LEFT BLANK

Method and data sources

Approach

Deriving the values in table 2 required information from a number of different sources. The basic elements include:

- The insurance coverage and, in particular, the pharmacy coverage held by civilians and DOD beneficiaries

- Prescription drug use among the 65+ population

  — First, deriving pharmacy use by the civilian population and how it depends on their holdings of pharmacy insurance

  — Second, estimating DOD use based on the civilian values

- The cost of prescriptions faced by prospective DOD participants and its relationship to the costs faced by civilians over the age of 65

- The insurance holdings of the DOD population and their current place for obtaining prescriptions (i.e., the MTFs or civilian pharmacies).

The imposition of an enrollment fee means that the determination of the cost of a program depends on the entire distribution of spending on drugs by individuals, not just the average. In [1], in which we assumed no enrollment fee, we needed only the average number and cost of prescriptions. But here, knowledge of the entire distribution is important because those beneficiaries at the low end of the distribution (representing individuals requiring few or no prescriptions during the year) would probably not join any plan for which they must pay a fee (even assuming, as I do, that they are averse to risk).

In this analysis, I rely on a dataset that contains health care utilization, including prescriptions, for the Medicare-eligible population. The

Medicare Current Beneficiary Survey (MCBS), conducted by the Health Care Financing Administration (HCFA), is probably the most widely used data set for information on the health care needs of the Medicare-eligible population. (In fact, much of the information on prescription drug use and cost used by President Clinton and his new proposed drug benefit add-on to Medicare is derived from this data set.) The 1995 file has probably the most complete information on prescription drug use in terms of the number per year and their cost.[4] It allowed me to examine the civilian population's pharmacy needs and, perhaps just as important, their holdings of pharmacy insurance and out-of-pocket costs. One disadvantage is that, without a great deal more work, I couldn't quantify the exact size (in terms of the days filled) of the prescription. Later, however, I will show how I approximated this number when deriving cost estimates.

Are the MCBS data appropriate for deriving use and cost for the DOD population? I believe that, despite some important differences, the answer is yes. There are differences in demographics between the DOD over-65 population and the Medicare-eligible group in the civilian world, but I can reduce many of these differences by placing some simple "filters" on the data. For example, the Medicare-eligible population surveyed in the MCBS includes those who are younger than 65 but disabled, those in long-term care facilities, and those who died during the year in which the information was collected. In order to draw a population with characteristics similar to those of DOD beneficiaries, I deleted anyone in the sample under 65, anyone who died (the DOD survey asked people in the following year about their utilization in the previous year, so they are presumably alive at the time), and anyone institutionalized for long-term care (for this group, everything they take, including aspirin, is considered a prescription drug). In addition, I removed those who were on Medicaid (about 10 to 12 percent of the Medicare-eligible population in the civilian sector, but probably less than 1 percent for DOD). What remains is a population that should be representative of the DOD population and whose use

---

4. This analysis relies on the 1995 data. The 1996 file is now available, but it was not when I began the analysis. As I show later, I projected both pharmacy use and pharmacy prices to 1999.

of prescription drugs should be relatively similar. Does the mix of gender and age (e.g., those between 65 and 74 or 75 and older) look the same? The answer is not really, but I'll show those differences and correct for them later.

For now, let's examine the data on the civilian population, focusing on the kinds of insurance they hold and the likelihood that they have prescription insurance. Although I rely on the OSD/Health Affairs Beneficiary Survey to determine the beneficiary's holdings of private insurance, the MCBS data are useful because, while the DOD survey has good information on the type of insurance held by beneficiaries (employer provided, self-purchased, etc.), it contains no information on whether these plans cover prescription drugs. The MCBS contains information on this for the civilian population, and I assumed similar values for the DOD population.

Insurance coverage in the civilian market

Table 3 presents the numbers of people projected from the MCBS that match the characteristics of the DOD population. The total number of noninstitutionalized Medicare beneficiaries is a little more than 36 million. Using the filters mentioned earlier leaves a projected population of almost 27 million 65+ Medicare-eligibles. The table shows the number of such people with no health insurance coverage, those with some kind of supplemental health care coverage (i.e., in addition to Medicare)—possibly provided by their employer or purchased on their own—and a category that I refer to as *other pharmacy* insurance.

Table 3. Distribution of noninstitutional Medicare beneficiaries, by type of supplemental and drug coverage

Type of coverage	Number of persons (in millions)			
	Total	With primary drug coverage	With secondary drug coverage	With no coverage
All persons	26.61	15.21	1.75	9.65
No supplemental coverage	2.16	0	0	2.16
Supplemental coverage				
Employer-provided[a]	11.17	9.56	0.26	1.35
Individually purchased	10.03	3.26	0.73	6.04
Medicare HMO	2.53	2.32	0.11	0.10
Other pharmacy	0.72	0.07	0.65	0.0

a. Employer-provided coverage is the most analogous to what DOD would offer its beneficiaries.

To compute these numbers, I followed the method used in a recent journal article that discussed the pharmacy coverage and use of prescription drugs in the civilian health care market [2].[5] The authors define primary drug coverage as coverage by any one of several plans that may be held by the individual. In other words, *primary* coverage includes those who have drug coverage from their primary supplemental coverage; *secondary* coverage includes those who do not have drug coverage from their primary supplemental coverage but obtain some drug coverage from another source. For example, someone might have employer-provided or individually purchased insurance that does (or does not) include drug coverage, but the Veterans Administration (VA) covers at least some of their drug purchases. I would refer to the coverage by the VA as secondary drug coverage. What I found was that some people appeared to have some kind of drug coverage, but no supplemental health care coverage. Therefore, I defined the *other pharmacy* insurance category to represent those who had no regular supplemental insurance but, according to my definition of drug coverage, had either primary coverage (only a very small number) or more likely had some form of secondary drug coverage.[6]

Why are these categories of interest? They show the extent of drug coverage in the civilian world (including DOD 65+ beneficiaries), which I assumed can be used to represent the number of DOD beneficiaries likely to have some kind of prescription drug coverage.

Civilian pharmacy use and cost

Given the categories shown in table 3, I created categories describing the extent of the general population's prescription drug coverage. I defined those in the civilian population with what I'll refer to as *full*

---

5. One of the authors (John Poisal) and I had several conversations about the data, and he has been very helpful in the construction of variables from the data set.

6. I relied on measures that summarized the kinds of insurance held over the entire year. It's possible that the individuals in the *other pharmacy* category experienced changes in their coverage during the year that the summary measure would not capture.

coverage, which means they had prescription drug coverage through their employer-provided health care policy or through their Medicare HMO; those with *partial* coverage, which means they purchased it on their own or had drug coverage through some secondary source; and those with *no coverage* of any kind, including pharmacy.

Because pharmacy use and costs have increased since the MCBS was conducted in 1995, I needed to estimate the 1999 use and cost values. I relied on data from HCFA on drug spending growth that is based on a combination of actual changes (currently through 1997) and predictions through 2008 for the entire U.S. population (in other words, not just the Medicare-eligible population). HCFA breaks down the growth in drug spending into changes in (1) population, (2) age-sex factors, (3) economy-wide prices, (4) drug prices, and (5) a factor referred to as utilization and intensity (e.g., intensity captures shifts to pharmacy from other health care services). For purposes of this analysis, I used the combination of economy-wide prices and drug prices for the total change in pharmacy prices and the utilization and intensity factor for the change in prescription drug use.

Table 4 shows these changes for 1996 through 1999. It presents the price factor, utilization factor, and total change over the 4-year period (by using 1999 factors, I'm implicitly assuming that the numbers derived in this analysis would represent those at the end of 1999). According to HCFA values, prices rose over the period by just under 15 percent, but utilization rose by more than 34 percent. For purposes of this analysis, I then increased the number of prescriptions by 34.5 percent, but the total cost of pharmacy increases by the product of the two factors, or by more than 54 percent from 1996 to 1999.

Table 4. Factors accounting for drug spending growth, 1996-1999[a]

Year	Prices	Utilization	Total
1996	1.033	1.081	1.117
1997	1.027	1.096	1.126
1998	1.028	1.082	1.112
1999	1.052	1.049	1.103
Total	1.147	1.345	1.543

a. Note that these factors must be multiplied to derive the total effect.

Table 5 shows the projected 1999 average number of prescriptions, the amount covered by some source (whether primary or secondary), and the out-of-pocket (OOP) costs that remain for the nearly 27 million Medicare-eligibles in the civilian population who roughly match the DOD 65+ population. The group with no coverage had the fewest prescriptions, the lowest average cost per prescription, and the smallest total amount spent on drugs—$713 for the year.

Table 5. Means for those with full, partial, and no coverage

	Coverage		
	Full	Partial	None
Number of scripts	26.1	26.9	22.8
Cost per script	$43	$36	$31
Total cost	$1,111	$978	$713
Covered (or uncollected) cost	$751	$449	$29
OOP cost	$359	$529	$684

Those in the full-coverage category did not have quite as many prescriptions as those who were partially covered, but the average cost per script was higher and, more important, more of the cost was covered by insurance. People purchasing their own insurance account for much of the coverage in the partial category. Prescription drug coverage, perhaps through a Medigap plan, is costly and would likely be dropped for any of the proposed DOD plans. For those with what we're calling full coverage, about two-thirds of the total cost was covered by all sources and, although not shown in table 5, most of that was because of their private employer-provided coverage or was through their HMO. It's not surprising that, in general, those who are covered will spend more on drugs. Because they are covered, each prescription costs them less. There is also the possibility, however, that those who need the drugs the most try to make sure they have "rich" coverage. I can't tell which is dominant, the price or selection effect, but for purposes of this paper it doesn't really matter.

In the analysis, I will assume that the use of prescription drugs by DOD beneficiaries who sign up for one of the three alternative plans will "look like" those in the civilian market who have full coverage.

Does full coverage mean there are no OOP costs to the beneficiaries? No. Those who rely on NMOP or retail pharmacies have some OOP costs, and the full coverage group should represent them fairly well. How about those who receive all of their drugs at the MTF and pay nothing for them? There seems to be no group like that in the civilian world; I could not find people with any significant drug costs who had almost zero OOP costs. Therefore, although I realize that the full-coverage group's numbers may not match those of people who rely on the MTF for free prescriptions, they are the best available from the civilian population.[7]

Estimating DOD pharmacy use and cost

In this subsection, I'll examine DOD beneficiaries' prescription drug use based on data drawn from the civilian sector. Earlier, I indicated that there were some differences in the age-sex characteristics between the two groups. This may be important for estimating prescription drug use because, in general, males have fewer prescriptions during the year than do females. Those at the lower end of the age distribution, not surprisingly, require fewer drugs as well.

Correcting for demographic differences

Table 6 compares the civilian and DOD age-sex distribution, divided into four groups. I have broken down the DOD population even further, representing those residing in and out of catchment areas. The four mutually exclusive groups represent men and women between the ages of 65 and 74 and those 75 and older. As table 6 shows, the civilian population includes more women and is generally older than the DOD population. More than 56 percent of the civilian population is female versus about 45 percent for DOD (and less than 42 percent out of catchment), and those older than 75 make up about 43 percent of the civilian population, but only 32 percent of DOD beneficiaries. Because we wanted to examine differences between the in- and out-

---

7. Based on pharmacy use data for 1995 through 1997 that I received for a few Navy MTFs, beneficiaries' use and cost data were "in the ballpark" of the full-coverage group. It's hard to make more precise comparisons without a DOD-wide MTF data set.

of-catchment areas, where the need for additional prescription drug insurance will be different because of the more extensive use of the MTFs in catchment, it was not especially difficult to take account of these age-sex differences at the same time.

Table 6.   Age-sex characteristics of civilian and DOD 65+ populations

Age-sex group	Civilian population (%)	DOD population (%)	
		In catchment	Out of catchment
Men between 65 and 74	26.3	34.3	39.0
Men 75 and older	17.2	17.3	19.7
Women between 65 and 74	31.0	33.2	29.1
Women 75 and older	25.5	15.2	12.3

Deriving the prescription drug spending distribution

The distribution of projected drug spending for DOD beneficaries was derived from the four age-sex distributions discussed above derived from the MCBS. One other important adjustment must be made to the civilian cost values shown in table 5. DOD does not pay the same amount for prescriptions that people in the civilian sector pay. Retail pharmacies purchase drugs based on the industry's average wholesale price (AWP). DOD faces a different set of prices under the Distribution and Pricing Agreements (DAPA) and is able to purchase drugs at a significant discount from the AWP. TMA estimates that the average savings for DOD, when compared to the prices paid in the civilian sector (which may include some discounts for mail order and retail purchases), is about 23 percent.[8]

Applying this discount to the civilian cost data, I then aggregated the four individual pharmacy cost distributions to one distribution representing beneficiaries residing in catchment and a second one for those beneficiaries residing out of catchment. The aggregation used

---

8.   I tried to obtain information on the difference in average costs faced by DOD and the civilian pharmacy market but cannot verify or refute the 23-percent value. Therefore, I use it in this analysis but want to point out that our results depend on assuming this value for the cost differential.

the weights for the DOD populations provided in table 6. There turned out to be only small differences in the pharmacy cost distributions for each of these two populations.

As an example, figure 1 shows the distribution of costs that I use to represent the in-catchment DOD population's pharmacy costs, assuming that DOD provides prescription drug coverage through one of the plans being analyzed in this paper. To reiterate, these distributions were derived from the cost distributions of the civilians who had pharmacy insurance provided either through their employer-provided supplemental insurance or through a Medicare HMO. The final distributions, however, reflect the age-sex characteristics of the in-catchment or out-of-catchment DOD Medicare-eligibles as well as the assumed 23-percent discount applied overall to DOD costs.

Figure 1. Implied distribution of total prescription costs for beneficiaries residing in catchment
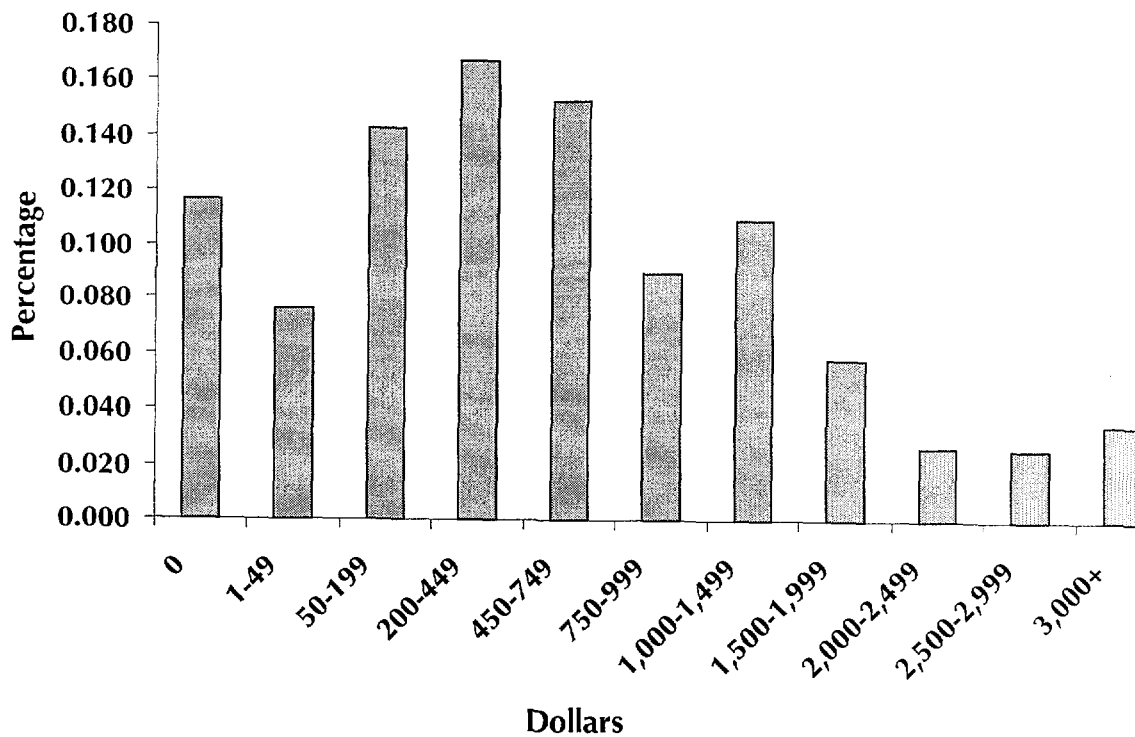
The values shown in the figure imply that somewhat less than 12 percent of this population would have no drug expenditures, another 7.6 percent would spend less than $50, and another 14 percent would spend less than $200. Note that the lower bound of these categories is somewhat below the proposed enrollment fees. As long as people are what economists refer to as "risk averse," they will be willing to pay a positive amount to prevent incurring an uninsured loss. It was beyond the scope of this analysis to estimate the exact risk premium; therefore, I assumed it to be $50 in each case. In other words, I'm assuming that even those who are likely to experience as little as $51 in total drug costs would be willing to pay $100 for the insurance or to join the program.[9] Also note that, at the upper part of the distribution, almost 15 percent of the population will experience total drug costs greater than $1,500.

The percentages representing the number of beneficiaries who fall within each category allowed me to determine who would be willing to pay the enrollment fee. Those who are likely to incur costs greater than the enrollment fee are potential candidates for one of the plans.[10] An important issue, however, concerns the number of each type of prescription that would be demanded because a mail order prescription has one fee (an $8 copay per prescription) that must be paid by the beneficiary, an MTF prescription has no per-script fee, and a retail prescription has a 20-percent per-script copay. Determining the cost of a specific plan to DOD and the beneficiaries means first coming up with some way of projecting the mix of such prescriptions associated with the plan.

Determining the number of prescriptions

In the analysis, the mail order prescription will be described in terms of a 75-day "metric" rather than the more typical 90-day mail order

---

9. It may be that the risk premium would vary depending on the specific benefits associated with a DOD plan; to simplify matters, I assume that it's constant across plans.

10. Note that the distribution alone is not enough. I have to merge this information with the beneficiaries' source of prescriptions and their insurance holdings. I'll discuss that in the next section.

quantity. The reason is that DSCP provided CNA with information showing that 65+ DOD beneficiaries in BRAC catchment areas used an average of about 12.5 prescriptions, where the average supply per fill was about 75 days. One way to think of this is that for every three 90-day fills there was one 30-day fill, which averages out to four 75-day fills. Because the DSCP cost data reported this 75-day average, I continue to use the 75-day average here, even though the actual fills will undoubtedly be a combination of short- and long-term prescriptions. In [1], based on the DSCP data, we calculated that the 1999 ingredient and dispensing cost to DOD would be about $56.34 for the 75-day average fill. The total cost would then be about $8 more given the beneficiaries' copayment.

Information on the mail order costs of prescriptions, broken out by beneficiary category, for February and March of this year showed that the average cost to DOD would be about $56 (implying that our extrapolation from 1998 values to 1999 was a reasonable one). Together with the $8 copay, the total cost of $64 continues to be an appropriate estimate. Then, to derive the number of mail order scripts for each cost group, when NMOP is the only option, I assume that beneficiaries receive all of their prescriptions by mail. Certainly, most of the over-65 population's prescriptions are for maintenance purposes. Given the incentive to reduce the number of scripts (due to the copay of $8 per script), it seems reasonable that most, if not all, of the scripts would be purchased through mail order.

I needed to determine how many mail order prescriptions would be in each cost group in the pharmacy cost distribution (specifically, the groups shown in the x-axis of figure 1). Because of the enrollment fee and the assumptions on the risk premium, some beneficiaries at the low end (in terms of cost) of the distribution would not choose to join the plan. The beneficaries in the other groups—starting with the $50 to $199 group—would join if the fee were $100. This lowest group would then drop the plan if the fee were $250, implying that the beneficaries in the remaining eight groups would join.

Let C_j represent the average cost for category j, where $j = 1$ would represent the $50 to $199 category and $j = 9$ would represent the $3,000+ category. Therefore, to calculate the number of mail order scripts

within each group, I divided C_j by the $64 cost per mail order script. In this way, I derived an implied number of 75-day prescriptions, which is shown in table 7.

Table 7.   Determining the number of mail order scripts, by cost category

Total cost category (dollars)	Number of mail order scripts
50 to 199	1.9
200 to 449	5.0
450 to 749	9.3
750 to 999	13.5
1,000 to 1,499	19.1
1,500 to 1,999	26.9
2,000 to 2,499	34.9
2,500 to 2,999	42.9
3,000+	67.1

The more complicated problem concerns how to divide up the number of scripts that might be purchased through mail order versus those purchased at retail pharmacies. In the TMA plan, both the mail order and retail cost would be subsidized, but at different amounts. The assumption here is that retail purchases would cover a smaller number of days of use for the drug, something on the order of 30 days per prescription. How much would it cost? Assuming there are no savings associated with purchasing larger amounts of drugs at one time (i.e., three 30-day prescriptions would cost the same as one 90-day prescription) and using the $64 cost per 75-day fill leads to a cost per 30-day fill of about $25. However, TMA assumes that prescriptions purchased at retail pharmacies would cost about 40 percent more than the Best Federal Price that DOD pays (and that is available at MTFs or through NMOP). The final retail cost would then be about $35 per script (equal to 1.4 times $25), with DOD paying 80 percent, or $28, and the beneficiary paying the remaining 20 percent, or about $7. The cost to the beneficary is close to the $8 copay under the mail order program, but recall that each mail order provides an average 75-day fill, or 2.5 times the quantity provided in a 30-day fill. Thus, there are financial incentives to minimize the purchase at retail pharmacies.

Similar to the approximation for the number of mail order fills, the number of mail order and retail fills is determined by starting with the average cost for each group in the pharmacy cost distribution. For cost group j, the average cost was denoted by C_j. There is no single solution that describes the number of scripts of each kind. After discussions with TMA, however, I used the following rule of thumb: about 75 or 80 percent of the prescriptions would be mail order and the remaining 20 percent or so would be purchased at retail pharmacies. This led to the simple equation (really an approximation) shown below:

$$C_j = m_j \times 64 + r_j \times 35 \,,$$

where m_j refers to the number of mail order scripts for the jth cost group and r_j refers to the number of retail scripts for the same cost group.

Table 8 presents one such set of values—the set I used in determining the cost of the NMOP-plus-retail option. It would take major changes in these values to really make much of a difference in the cost of the program. The values also allowed me to determine the differences in cost, to both DOD and the beneficiaries, when the plan placed a cap on the costs for which DOD would be liable. In other words, just as the President's plan for the Medicare drug benefit caps the government's liability at a set amount per year ($2,500 in the first year), the original TMA proposal contained a $1,500 cap on the amount for which DOD would be liable. I thought it would be useful to compare a plan with and without a cap for two reasons: (1) simply to understand the degree to which costs get shifted from DOD to the beneficiaries and (2) because even though the new TMA plan apparently has dropped the cap, the new cost estimates pertain only to the demonstration project, and I have no way of comparing my estimates for any plan with theirs. I do, however, have TMA's original cost estimates that covered all DOD 65+ beneficiaries. I can compare the new estimates with their initial ones.

17

Table 8. Assumed number of mail order and retail prescriptions, by cost category

Total cost category (dollars)	Number of scripts	
	Mail order	Retail
50 to 199	2	0
200 to 449	4	2
450 to 749	8	2
750 to 999	12	3
1,000 to 1,499	17	4
1,500 to 1,999	24	6
2,000 to 2,499	30	8
2,500 to 2,999	36	12
3,000+	60	13

Table 9 presents the cost to DOD and to the beneficiaries. The first two columns show the cost to DOD and the beneficiaries without any cap imposed. The values represent the mix of scripts shown in table 8 with the copays we've already discussed for DOD and the beneficiaries. Thus, for two mail orders, DOD pays twice the per-script share, or $112, and the beneficiaries pay twice the $8 copay, or $16. The values are computed in this way with retail scripts costing DOD 80 percent and costing the beneficiaries 20 percent. For those whose costs are above $3,000, the average cost was just under $4,300, with the government's share being $3,724. The total cost is the same when the cap is imposed, but the cap means that the beneficiaries pay a greater share for categories above the $1,500 to $1,999 group.

Although it's possible that beneficiaries will reduce the number of scripts they fill once they are beyond the cap, here we assume that they do not. In other words, even though they must pay all of the cost, if the provider issues a prescription, they fill it.[11] This means that the total cost of the drugs is the same in the two cases; what differs is who pays

---

11. Another realistic case might be that prescriptions given at the end of the year would be postponed a few weeks so that they become covered again at the beginning of the next year. But, I have no way of knowing how often this might occur, so I ignored any such change in behavior.

for it. Therefore, with the cap imposed, DOD never pays more than $1,500. For beneficiaries whose total bill is more than $3,000, the average cost would now be about $2,795 versus $571 if there were no cap. How serious a problem that would be for DOD beneficiaries depends on their holdings of insurance and whether they use the MTFs. We turn to that next.

Table 9. Dividing the costs (in dollars) between DOD and beneficiaries, by cost category

Total cost category (dollars)	Cost with no cap		Cost with cap of $1,500	
	To DOD	To bene-ficiary	To DOD	To bene-ficiary
50 to 199	112	16	112	16
200 to 449	280	46	280	46
450 to 749	504	78	504	78
750 to 999	756	117	756	117
1,000 to 1,499	1,064	164	1,064	164
1,500 to 1,999	1,512	234	1,500	246
2,000 to 2,499	1,904	296	1,500	700
2,500 to 2,999	2,352	372	1,500	1,224
3,000+	3,724	571	1,500	2,795

Determining who might participate

Thus far, we've presented the civilian population's holdings of supplemental insurance, including coverage for pharmacy, and the patterns of use we would expect of DOD beneficiaries in and out of catchment. The HA survey of DOD beneficiaries can be used to determine who would likely sign up for each plan.

First, I use the questions in the survey to determine where beneficiaries who need prescriptions filled them. I create four groups—those without any prescriptions, those who rely on the MTF alone, those who rely on the civilian sector alone, and those who use both the MTF and civilian sources. For each group, the beneficiaries' responses indicate who has no supplemental health insurance, who has insurance

provided through their own (or their spouses') employers, who purchases it on their own, and who belongs to a Medicare HMO.[12] These are the same categories (except for the *other* category) in the description of the civilian population's holdings of insurance. Note that I can't tell who has prescription drug insurance. For that, I need to combine the information from the HA survey with that from the MCBS.

I assume that those who have prescription drug insurance from their supplemental employer-provided insurance or from their Medicare HMO would not be interested in any of the DOD plans. In fact, the contractor for the mail order plan would not pay for the scripts once it determines they are covered by either plan. How many individuals would likely be affected? Table 10 shows the percentage of DOD beneficiaries with and without health care coverage. Whereas only about 8 percent of civilian Medicare-eligibles over 65 had no coverage, the corresponding DOD values are 14 and 11 percent, in and out of catchment, respectively. The main reason is that many beneficiaries rely on the MTF for all or part of their care, including pharmacy. More out-of-catchment beneficiaries rely on employer-provided insurance than do those residing in catchment, but both are less than the percentage observed in the civilian world (about 42 percent). A greater percentage of DOD beneficiaries purchase their own insurance, but only about 5 percent, or half the civilian rate, belong to Medicare HMOs.

Table 10. Percentage of DOD population with supplemental coverage

	In catchment	Out of catchment
No coverage	14	11
Employer provided	20	25
Individually purchased	61	60
Medicare HMO	5	4

---

12. I determine whether they belong to a Medicare HMO through their responses implying that they have no supplemental insurance, do have both Medicare parts A and B, and belong to a private HMO.

To answer the question concerning who would likely participate in each of the proposed DOD plans that we're examining, we need to combine the information from both surveys. I assume that those with employer-provided coverage or coverage from their Medicare-HMOs with pharmacy coverage will not participate in these plans. Even if their prescription drug coverage would be better under one of the DOD plans, it seems unlikely they would drop their health insurance to join the DOD pharmacy plan. In other words, I use the percentages derived from table 3 describing the percentage of those holding coverage through their employer-provided plan or Medicare HMO and assume that the same percentages would hold for DOD beneficiaries with this kind of supplemental coverage. Almost 86 percent of those with employer-provided coverage have pharmacy coverage, and almost 92 percent in Medicare-HMOs have pharmacy coverage. All others are potential candidates, but whether they participate depends on where they go to receive or purchase their prescriptions (i.e., whether they go to the MTF or civilian pharmacies).

Table 11 presents two sets of percentages, again after aggregating by age-sex group. For example, for those residing in catchment, 7 percent reported having no pharmacy prescriptions, 28 percent used only the MTF, 21 percent used only civilian sources, and 43 percent used both the MTF and civilian pharmacies. After correcting for those projected to hold pharmacy coverage from their supplemental plan, I derive the "corrected" values representing those who might choose a new pharmacy plan from DOD. The largest changes are for those who rely on civilian sources for prescription drugs. The civilian-only group falls from 21 to 14 percent and the MTF-and-civilian category falls from 43 to 35 percent.

Table 11. Sources of prescription drugs for DOD beneficiaries (percentages)

	In catchment		Out of catchment	
	Original values	After correcting[a]	Original values	After correcting
No scripts	7	6	11	9
MTF only	28	25	11	9
Civilian only	21	14	52	37
Both MTF and civilian	43	35	27	23

a. For those with pharmacy coverage through their employer-sponsored plan or their Medicare HMO.

A few implications are evident from table 11. First, figure 1 implied that just under 12 percent of the in-catchment beneficiaries had no prescriptions. Table 11, which is based on the survey of DOD beneficiaries, shows that only 7 percent had no prescriptions. At least for the part of the distribution representing zero use, the civilian utilization data probably understate the number of individuals using pharmacy services. This isn't too surprising, however, because the in-catchment individuals have access to free prescriptions from the MTF, and I already stated that there is no group quite like this in the civilian sector. Second, more out-of-catchment beneficiaries had zero scripts during the year (because fewer of them could rely on the MTF). For this group, the percentage with zero scripts turns out to be very close to the civilian data (the difference is only about half of a percentage point) and most likely confirms the notion that whether one has access to an MTF is an important factor when choosing to join one of the DOD-sponsored plans. It's also not surprising that more out-of-catchment beneficiaries rely on civilian sources for their prescriptions.

Although those who rely more heavily on civilian sources for prescription drugs also tend to have more non-DOD pharmacy coverage, even those who use the MTF often have employer-provided coverage or belong to a Medicare HMO. Using the information on pharmacy coverage to delete those who wouldn't, or couldn't, join one of the new DOD plans cuts the number of potential candidates for DOD coverage by several percentage points. Thus, potential candidates for a plan with an enrollment fee—which corrects for pharmacy insurance holdings but also excludes infrequent users—would be about 74 percent of all in-catchment beneficiaries and 69 percent of those out of catchment. Other factors, including cost and MTF use, may limit participation further. We turn to the final determination of who participates and what it costs both DOD and the beneficiaries in the next section.

Results

The basic elements that are needed for the calculations include:

- The percentage of the population that would take a specified plan

- The number of 75-day and 30-day prescriptions that would be required by DOD beneficiaries under each plan

- The total cost per script and the amount paid either by DOD or the beneficiaries themselves.

These three elements, plus a few other related assumptions, lead to the final cost estimates for each plan.

The base case—today's participation and cost

To provide a context for the estimates I'll present for each pharmacy plan, it's useful to know what DOD and its beneficiaries spend today on prescription drugs (i.e., before any new plan is put into effect). The numbers I'll present are not based on actual budget estimates for the 65+ population; rather, I've derived them from the same underlying calculations that I've used to estimate costs associated with each plan. I want to reiterate that they are approximations of the actual spending today, but I believe they serve two purposes: as a rough guide that can illustrate the underlying assumptions that I use to calculate each plan's cost and as a benchmark to which to compare these proposed plans.

Table 12 presents the estimates of who participates today and how much it costs. Participants in the system are those who rely on the MTF for all or part of their prescriptions. I derive the number of participants from the DOD beneficiary survey as reported in table 10. One additional assumption that I used was that those beneficiaries who rely on the MTFs for part of their scripts count as "half-users."

Table 12. Estimated participation and cost of the current DOD pharmacy benefit

	In catchment	Out of catchment	Total
Number of beneficiaries (in thousands)			
Relying on MTFs	288.4	183.0	471.4
Relying on civilian sources	249.9	499.3	749.2
Cost (in millions of dollars)			
To DOD	245.3	154.5	399.8
To beneficaries	236.3	468.3	704.6
OOP	148.0	292.2	440.2
Covered costs	88.4	176.1	264.5

I simplified the calculations of the total pharmacy cost to beneficiaries by grouping them into two categories—those who have pharmacy insurance through their employers or Medicare HMO and those who don't (in other words, I've combined those with partial and no coverage). As before, I calculated the total and OOP costs for individuals in the civilian population. The average pharmacy cost for those with full coverage was more than $1,100 but about $870 for those who had no insurance or had to purchase it on their own. Their total cost may be less, but they pay more of the cost themselves. Using these values but applying the 23-percent discount for DOD will lead to expected costs within the MTFs.

Together with the DOD survey data on which beneficiaries rely on the MTFs for prescriptions, I estimate that DOD currently pays about 36 percent of the 65+ beneficiaries' pharmacy costs,[13] the beneficiaries themselves pay about 40 percent of the total cost, and insurance or secondary sources pay the remaining 24 percent. How this changes under each new plan is what I turn to next.

---

13. DOD costs could be less to the extent that they also collect from third-party payers; however, I have no information on this so I count all of the costs as DOD payments.

NMOP only (option 1)

Determining who would sign up for the NMOP-only plan requires two additional assumptions. First, because there is not only an enrollment fee but a per-script copay as well, only those beneficiaries who rely on civilian sources, and not the MTF, would decide to sign up. Therefore, we exclude those beneficiaries who rely on the MTF alone for their prescriptions. Second, for those beneficiaries who rely on both the MTF and civilian sources for their prescriptions, I make the simple assumption that half of the prescriptions would be obtained at the MTF and the remaining half from mail order.[14]

To determine the cost to DOD under the two different enrollment fees of $100 and $250, I begin with the distribution shown in figure 1, but exclude the percentage of individuals at the lower tail of the distribution. If the enrollment fee is $100, I would exclude only that part of the distribution representing those with less than $50 in outlays for prescriptions; if the enrollment fee is $250, I would exclude that part of the distribution representing those with less than $200 in outlays. The overall cost would then be given by multiplying three different sets of values:

- The number of participants, which begins with the information shown in table 11. The calculation takes the percentage of those who rely on the civilian pharmacies alone and adds one-half of the percentage of those who rely on both the MTF and civilian sources. This percentage is then multiplied by the total number of beneficiaries, and values are derived for both in-catchment and out-of-catchment DOD beneficiaries.

- The expected number of 75-day scripts, which was derived in table 7.

---

14. In this and the remaining cases, the number of beneficiaries who rely on civilian sources or the MTFs for pharmacy obviously excludes those with no prescriptions (see table 11). Therefore, when estimating the number of participants in a given plan and its expected costs, I recalculated the distribution within each cost group to take account of those who had at least one prescription. Specifically, I divided the values of the original distribution by 1 minus the proportion of zero users.

- The cost to DOD and the beneficiary. With an average cost of $64 per mail order prescription, DOD would pay $56 per script and the beneficiary would pay $8 per script.

Putting these values together leads to the final number of participants and costs, both in and out of catchment, as shown in table 13.

Table 13. Estimated participation and cost of the NMOP-only plan

	$100 fee	$250 fee
Expected number of participants (in thousands)		
In catchment	170.0	139.9
Out of catchment	337.7	276.8
Total	507.7	416.7
Costs (in millions of dollars)		
Cost to DOD		
In catchment	127.8	124.7
Out of catchment	252.1	245.7
Total	379.9	370.4
Fees collected		
In catchment	17.0	35.0
Out of catchment	33.8	69.2
Total	50.8	104.2
Net cost to DOD		
In catchment	110.8	89.7
Out of catchment	218.3	176.5
Total	329.1	266.2
Cost to beneficiaries		
In catchment	35.3	52.8
Out of catchment	69.8	104.3
Total	105.1	157.1

The net cost to DOD, that is, after subtracting out the enrollment fees paid by the beneficiaries, is about $329 million for a $100 enrollment fee and $266 million for a $250 enrollment fee. DOD's total cost of providing prescription drugs can be obtained by adding either of these values to the cost to DOD for providing prescriptions at the MTF—$400 million—as shown in the last section. The DOD beneficiaries pay some of the bill as well, ranging from $105 to $157 million.

These numbers include both the fees they must pay and their share of the drug costs. For participants in the plan, that would still represent a large savings over what they were already paying either for insurance (since they would generally drop their individually purchased plans) or the drugs themselves.

MTF plus NMOP (option 2)

This case is a simple extension of the NMOP-only case because all of those who were formerly using civilian sources and signed up for the NMOP plan would join here as well, even if they didn't use the MTF. The question I want to answer here is which MTF users would not join because there is now an enrollment fee of either $100 or $250.

The enrollment fee would cause infrequent pharmacy users to stop using the MTF because the fee would cost more than the drugs they are likely to receive. I've made one other assumption that is probably worth stating explicitly. Table 11 presented the sources of the beneficiaries' prescriptions (i.e., the MTF or civilian sources) and how that would change if they had coverage through their employer's health care plan or their own Medicare HMO. Although it's debatable whether those using the MTF should be adjusted downward because of their insurance holdings as well, I decided for consistency to do that. In other words, I assume that those who apparently relied on the MTF but who (based on my inference) had employer-provided coverage would not (or could not) participate in the plan. The differences in cost are fairly small, but, to the extent that there are third-party collections, it would be appropriate to adjust the numbers downward.

Table 14 presents the number of participants and costs for the MTF-plus-NMOP plan. Because I see no reason for the users of civilian pharmacies to change at all from the NMOP-only plan, the number of participants expected to join option 2 includes the sum of MTF users and NMOP users. I show the additional fees collected by those who rely on the MTF as well as some savings in drug costs that would arise as low users of pharmacy drop out of the program. The net cost to DOD and the beneficiaries was calculated by taking the values in the previous table, but adjusting for the additional fees collected from MTF users. It excludes the savings in drug costs at the MTFs

(mainly because those costs were not shown in the NMOP-only plan).

Table 14. Estimated MTF users and costs of MTF + NMOP plan

	$100 fee	$250 fee
Expected number of users (in thousands)		
In catchment	394.7	324.7
Out of catchment	476.0	390.1
Total	870.7	714.8
Costs (in millions of dollars)		
Additional fees collected		
In catchment	22.5	46.2
Out of catchment	13.8	28.3
Total	36.3	74.5
Savings in drug costs		
In catchment	0.5	4.6
Out of catchment	0.3	2.9
Total	0.8	7.5
Net cost to DOD[a]		
In catchment	88.4	43.5
Out of catchment	204.5	148.2
Total	292.9	191.7
Cost to beneficiaries		
In catchment	57.7	99.0
Out of catchment	83.6	132.6
Total	141.3	231.6

a. The costs to both DOD and beneficiaries include the cost of the NMOP program as well. The net costs to DOD exclude the savings in drug costs.

DOD's costs go down, regardless of the enrollment fee, but the beneficiaries' costs rise. For example, with a $250 enrollment fee, the NMOP-only plan would cost DOD $266 million, but adding the MTF option leads to a cost of only $192 million. Beneficiaries would find that their costs rise, however, from $157 million to $232 million. This cost increase occurs because the MTF users have to enroll to receive free prescription drugs. As I said earlier, the number using the MTF falls as well, although the savings here are small because their demand for prescription drugs was already low.

Retail plus NMOP (option 3)

The third and final plan includes allowing beneficiaries to sign up and use either the mail order or retail pharmacies for prescriptions. The beneficiary would be responsible for an $8 copay for each script purchased by mail order and a 20-percent copay for each script purchased through retail pharmacies. This is essentially the TMA plan being proposed as a demonstration for two out-of-catchment sites.

The number of participants would be the same as those who sign up for the NMOP-only plan. No MTF users would sign up, and anyone who would potentially benefit from the NMOP-only plan would still benefit here. Table 8 showed the numbers of mail order and retail scripts that I assumed for this case. Together with the expected costs to DOD and the beneficiaries—shown in table 9—I can estimate the costs of this program first without a cap and then with one. The cap means that DOD would pay its share of costs, but only toward the first $1,500. After that, all costs become the beneficiaries' responsibility.

Table 15 presents the findings with no cap applied. Note that, with or without a cap, the fees collected don't change. Given my assumptions thus far, particularly the constant $50 risk premium, there is also no difference in who would sign up for the plan; the enrollment fee affects only those at the low end of the distribution, but the cap affects those at the high end of the distribution. Beneficiaries may not like the cap, but either plan benefits them nonetheless.

First, comparing the results in table 13 for the NMOP-only plan with the results in table 15 for the (no cap) retail-plus-NMOP plan shows that the latter plan leads to slightly higher costs, both for DOD and the beneficiaries. A mail-order-only plan would save everyone some money, but, to the extent that some prescriptions are purchased for shorter term needs, the cost would still be relatively small. With a $100 enrollment fee, DOD would have to pay an additional $28 million ($357 million less $329 million) and the beneficiary would pay an additional $9 million ($114 million less $105 million). For the $250 enrollment fee plan that TMA is proposing for DOD beneficiaries, I project the cost to DOD to be about $294 million.

Table 15. Estimated participation and cost of the retail + NMOP plan—
no cap on DOD costs

	$100 fee	$250 fee
Expected number of partipants (in thousands)		
In catchment	170.0	139.9
Out of catchment	337.7	276.8
Total	507.7	416.7
Cost (in millions of dollars)		
Cost to DOD		
In catchment	137.3	133.9
Out of catchment	271.0	264.1
Total	408.3	398.0
Fees collected		
In catchment	17.0	35.0
Out of catchment	33.8	69.2
Total	50.8	104.2
Net cost to DOD		
In catchment	120.3	98.9
Out of catchment	237.2	195.0
Total	357.5	293.9
Cost to beneficiaries		
In catchment	38.3	55.8
Out of catchment	75.8	110.2
Total	114.1	166.0

Table 16 presents the results when a cap is imposed to limit DOD's costs. The total cost of the purchases remains the same; the only difference is that high-end users of prescriptions pay more of the total bill. DOD's costs go down by about $69 million, which must then be borne by the beneficiaries themselves. Again, they will still find themselves with reduced prescription drug costs compared to having to rely on their own sources, whether they purchase the coverage or not. But, the benefit is clearly lower when the cap is imposed.

How do these numbers compare to TMA's initial estimates? With a $100 enrollment fee, they estimated DOD's gross cost at $336 million and enrollment fees collected from beneficiaries at $104 million, leading to a net DOD cost of about $232 million. Table 16 shows that my estimate of gross DOD costs is just slightly higher, but the fees

collected are much lower. The final net cost is about $289 million versus their estimate of $232 million.

Table 16. Estimated participation and cost of the retail + NMOP plan— $1,500 cap on DOD costs

	$100 fee	$250 fee
Expected number of partipants (in thousands)		
In catchment	170.0	139.9
Out of catchment	337.7	276.8
Total	507.7	416.7
Cost (in millions of dollars)		
Cost to DOD		
In catchment	114.1	110.7
Out of catchment	225.3	218.4
Total	339.4	329.1
Fees collected		
In catchment	17.0	35.0
Out of catchment	33.8	69.2
Total	50.8	104.2
Net cost to DOD		
In catchment	97.1	75.7
Out of catchment	191.5	149.3
Total	288.6	225.0
Cost to beneficiaries		
In catchment	61.5	79.0
Out of catchment	121.5	155.9
Total	183.0	234.9

What is even more different is the case in which the enrollment fee is $250. TMA's final net cost estimate for DOD is about $76 million. DOD pays out about $320 million but collects almost $244 million in fees. I estimate that DOD would pay out $329 million and collect $104 million in fees, with the net cost to DOD being about $225 million, or an increase of almost $150 million over the TMA estimates. Why the difference? TMA projects that many more beneficiaries would sign up and pay the $250. I believe they overstate this number greatly and I do not subscribe to several of the assumptions they used to determine the pharmacy costs to those who do sign up. It is, therefore, not surprising that our numbers turn out to be so different.

31

THIS PAGE INTENTIONALLY LEFT BLANK

Concluding remarks

This memorandum has examined three alternative pharmacy plans that could be offered to DOD Medicare-eligible beneficiaries. My findings include the following:

- Of the three plans, the MTF-plus-NMOP plan would cost DOD the least and the retail-plus-NMOP plan without a cap the most.

  - With a $250 enrollment fee per beneficiary, the net cost to DOD would run about $192 million for the NMOP plus MTF plan and about $294 million for the NMOP plus retail plan.

  - The beneficiaries would contribute $232 million and $166 million, respectively, for these two plans.

- The NMOP-only plan with a $100 fee would cost DOD almost $329 million (although this number includes those currently receiving the BRAC catchment mail-order benefit). Fewer beneficiaries would participate with a $250 fee, and the cost to DOD goes down to about $266 million.

- Placing a cap on DOD's liability reduces the cost to DOD of the retail-plus-NMOP plan by about $69 million, but this cost shifts to the beneficiaries.

- Finally, any plan must be considered with care and all assumptions, including those made in this analysis, should be carefully scrutinized. Pharmacy costs have been rising of late and many health care analysts believe that the future will bring even further increases in pharmacy use and cost. The HCFA projections for prescription drug expenditures suggest that they will rise at about 9 percent per year and would mean that any cost estimate provided in this analysis would rise, without any change in DOD beneficiary population, by about 69 percent by 2005.

THIS PAGE INTENTIONALLY LEFT BLANK

References

[1] Robert A. Levy and Richard D. Miller. *Options for Improving Access to Health Care for Retirees*, Sep 1998 (CNA Annotated Briefing 98-60)

[2] Margaret Davis et al. "Prescription Drug Coverage, Utilization, and Spending Among Medicare Beneficiaries." *Health Affairs*, Jan/Feb 1999

THIS PAGE INTENTIONALLY LEFT BLANK

List of tables

38

Distribution list

Research Memorandum D0000337.A1

SNDL

BUREAU OF MEDICINE & SURGERY
Attn: MED 03
Attn: MED 03, CAPT WILKINS
Attn: MED 08
Attn: OFFICE OF THE SURGEON GENERAL, CAPT HUNTER

ASSISTANT SECRETARY OF DEFENSE (HEALTH AFFAIRS)
Attn: COL BLUM
Attn: COL FREDERICK
Attn: MARY GERWIN

CNO
Attn: N80
Attn: N931

TRICARE MANAGEMENT
Attn: CAPTAIN HOSTETTLER

OSD
Attn: COMPTROLLER, RACHEL FOSTER
Attn: PA&E, CARLA TIGHE