

The Distributional Consequences of a Medicare Premium Support Proposal

Thomas Rice

University of California, Los Angeles

Katherine A. Desmond

Consultant

Abstract This article analyzes the distributional consequences of enacting a particular premium support proposal known as Breaux-Frist I. Under the proposal, the federal government would contribute a certain amount toward the purchase of Medicare coverage, based on the premiums charged by different health plans. Beneficiaries could choose something akin to the traditional fee-for-service option or a privately sponsored health plan such as a health maintenance organization. The article simulates the expected distributional impacts in three areas: among beneficiaries who choose to retain fee-for-service coverage, between different geographic areas, and according to various beneficiary characteristics. We find that the legislation would result in increased premiums for beneficiaries remaining in the Medicare fee-for-service program as a result of unfavorable selection; lead to a geographic redistribution in premium payments, with those living in areas with high levels of Medicare expenditures paying more; and a much lower financial burden than is the case now for near-poor beneficiaries who do not have full Medicaid coverage. Finally, the article discusses how these results compare to those that may occur under the premium support demonstration project, beginning in 2010, established under the Medicare Prescription Drug, Improvement, and Modernization Act of 2003.

This research was funded by the Henry J. Kaiser Family Foundation, and the present article is based in part on a report by the authors published by the foundation. We would like to express our appreciation to Tricia Neuman, the foundation's vice president and director of Medicare policy, for her helpful advice and support. We are also grateful to Thomas Buchmueller, Gary Claxton, and Jonathan Oberlander for providing comments on a draft of the report and to Jeff Lemieux and Julie James for helping us better understand the Breaux-Frist I (S. 357) premium support legislation. The article benefited considerably from comments and suggestions by three anonymous reviewers and the journal's editor. The conclusions do not represent those of the Kaiser Family Foundation or these reviewers; all errors are the responsibility of the authors.

The purpose of this article is to analyze the possible distributional consequences of changing the current Medicare program into one based on premium support. The proposal examined is known as Breaux-Frist I, which in turn was modeled on a proposal by the Bipartisan Commission on the Future of Medicare. Under the proposed legislation, Medicare beneficiaries in a particular area would receive a contribution from the federal government, based in some fashion on the premiums charged by competing health plans throughout the United States, to purchase health care coverage. The plan chosen could be the traditional fee-for-service (FFS) option sponsored by the Centers for Medicare and Medicaid Services (CMS, formerly the Health Care Financing Administration) or a privately sponsored health plan such as a health maintenance organization (HMO). Beneficiaries would pay the difference between the chosen plan's actual premiums and the amount of premium support provided by the federal government. Those opting for a more expensive plan would pay a higher amount, and those choosing a cheaper option would pay less.

Premium support proposals are designed to enhance the plan choices available, encourage efficiency through price competition, and control Medicare costs. Critics, however, contend that such a system could lead to skyrocketing costs for fee-for-service coverage and reduce the quality of care without necessarily improving overall efficiency or lowering program costs. Because there are a number of analyses already available assessing the advisability of premium support,¹ we focus just on distributional consequences. In particular, we examine how premium support would affect beneficiaries with a predilection for retaining fee-for-service coverage (which has implications for those with chronic disease); those from different geographic areas; and according to beneficiary characteristics. An analysis of several other issues raised by premium support proposals that relate more to efficiency is available in a longer report (Rice and Desmond 2002). We conclude each of the subanalyses with a discussion of how the recently enacted Medicare Prescription Drug, Improvement, and Modernization Act of 2003 differs from Breaux-Frist I in both content and possible effects.

Premium Support Proposals

Different analysts have defined the concept of premium support in different ways. In general, though, it connotes a system in which the federal

1. See, for example, Marmor and Oberlander 1998; Moon 1999; Oberlander 2000; Thorpe and Atherly 2001; and Rice and Desmond 2002.

government contributes a certain amount of money to a particular Medicare beneficiary for the purchase of health insurance coverage. The size of this contribution is tied to the actual bids proffered by health plans (including, in most proposals, the bids made by the traditional Medicare fee-for-service program). Even though the individual beneficiary receives a fixed contribution, which can be viewed as a voucher, the size of these payments may vary by geographic areas or health status. For example, the vouchers may be set at 90 percent of the cost of the average premium charged in a particular metropolitan statistical area or nationally. Regardless, the fact that an individual receives a fixed amount of resources to purchase coverage implies that there would be an incentive to choose a cost-efficient plan.

A number of ideas have been proposed that, at least loosely, can be defined as *premium support*. The following section briefly discusses some proposals that have been suggested in the academic literature as well as two pieces of congressional legislation.

Proposals in the Academic Literature

The genesis of not only premium support, but most procompetitive proposals in health care, is the work of Alain Enthoven (Enthoven 1978; Enthoven and Kronick 1989). Under his original proposal first presented in the late 1970s, Enthoven envisioned that an array of health plans, including both capitated systems such as HMOs and those based on fee for service, would compete for patients on the basis of price and quality. Employers would be required to give their employees a choice of health plans and contribute equal premium amounts to each plan. The income tax system would be modified so that the choice of a more expensive plan would not be subsidized. Health plans would be precluded from charging lower premiums to the healthiest individuals and groups to attract favorable risks. Low-income individuals and families would be given subsidies to purchase coverage.

If competition worked as envisioned, consumer choice would drive the system; indeed, Enthoven (1978) called his proposal a “consumer choice health plan.” Purchasers would weigh such factors as quality and access against cost and choose the plan that best met all of their needs, both medical and financial. Health plans would compete for enrollees by offering the types of plans and prices that would attract customers; inefficient plans would go out of business. Providers would also compete, partly through prices, to be selected as participants by the competing health plans.

The primary way in which Enthoven’s proposals have evolved is in the

role of sponsors. A sponsor could be an entity such as a large employer, a consortium of small employers that takes advantage of administrative economies of scale and enhanced bargaining power, a state agency for people enrolled in a publicly funded plan, or the federal government in its role as caretaker of Medicare. Sponsors would act as “active, intelligent, collective agents on the demand side who structure and adjust the market . . . to overcome its tendencies to failure” (Enthoven 1988: 75). The evolution in the role of the sponsor resulted primarily from a serious concern that health plans would find it easier and more profitable to compete by selecting the healthiest patients, rather than by providing care most efficiently.

In the early 1980s, Walter McClure (1982) proposed enactment of a competitive-based health care system that included Medicare. He developed two alternatives for the program: either a series of competitive-based demonstration projects or, alternatively, direct enactment of a program in which beneficiaries would receive 95 percent of the adjusted area per capita costs (AAPCC, a formula in which payments to health plans are tied to what it would have cost to treat enrollees in the fee-for-service system) and use that to purchase traditional Medicare or any other qualified health plan. Later in the decade, Randall Bovbjerg (1988) provided a detailed analysis of the concept of a Medicare voucher system. He noted that the success and popularity of such a concept would depend on a number of design features, including whether Medicare would compete against private plans, the generosity of the voucher (or here, premium support amount), methods of risk adjustment employed, the degree of subsidization for those with low incomes, and the amount of government regulation of health plans that would remain.

Bryan Dowd and colleagues (1992) proposed a system similar to McClure’s as well as an updated version a few years later (Feldman and Dowd 1998). Under these proposals, the Medicare contribution would be set “as a function of the lowest price for basic Part A and Part B Medicare benefits . . . submitted by a qualified plan in a predefined market area” (Dowd et al. 1992: 444). One of the competing health plans would be the traditional Medicare fee-for-service system. Beneficiaries choosing health plans that were more expensive than the cheapest plan available would pay the difference out of pocket.

The academic proposal that probably led to the most policy interest was developed by Henry Aaron and Robert Reischauer (1995). Rather than remaining as what they call a *service reimbursement* system, Medicare would be converted into one based on premium support in which the fed-

eral contribution would be a “defined sum towards the purchase of an insurance policy that provided a defined set of services” (ibid.: 20). Beneficiaries would have to pay, in full, any difference in premiums between the plan they choose and the amount the federal government contributes. The proposal is largely similar to those developed by Bryan Dowd, Roger Feldman, and colleagues but contains two key differences. First, although health plans would submit bids on how much they would require to enroll Medicare beneficiaries, the amount paid by Medicare would be based not on these bids, but rather on a risk-adjusted administrative formula. Second, health plans would provide the standard Medicare benefits package for all beneficiaries; there would not be a competing Medicare-operated fee-for-service system.

Gail Wilensky and Joseph Newhouse (1999) also proposed a premium support system. Although perhaps more food for thought than a formal proposal, it did contain some notable modifications from previous iterations. The authors proposed, for example, that the level of premium support “would vary . . . according to the person’s age, sex, geographic area, health risk status, wealth, and use of services” (ibid.: 101). Of particular note is that wealthier beneficiaries would receive less in premium support. Furthermore, because of the tremendous impediments raised by selection bias and our present inability to successfully risk-adjust premiums, they proposed a “partial capitation” system of paying health plans, in which “a portion of the government payment would reflect the capitation payment otherwise calculated, and the remaining portion would vary with actual services used” (ibid.: 104).

Congressional Legislation

The most specific premium support bill is the Medicare Preservation and Improvement Act of 2001, S. 357, introduced by Senators John Breaux (Democrat, Louisiana) and Bill Frist (Republican, Tennessee) on February 15, 2001. We refer to S. 357 as Breaux-Frist I, which distinguishes it from another more recent but more limited reform bill (S. 358, Breaux-Frist II) that focuses mainly on prescription drug coverage. We focus on this piece of legislation in most of our analyses primarily because it provides more specificity than any other proposals, which is a necessary feature for conducting simulations on distributional impacts. In particular, the recently enacted Medicare Prescription Drug, Improvement, and Modernization Act of 2003, which calls for a demonstration project on premiums support, contains relatively few details. The relevant portion, sec-

tion 241, is just six pages long, approximately 15 percent of the length of Breaux-Frist I.

Breaux-Frist I is not necessarily representative of other proposals in all ways, however. In particular, as will be discussed in detail later, the level of government support is based on averaging premiums charged by health plans nationally rather than locally, which has some important implications for our analysis of geographic impacts.

Breaux-Frist I. Breaux-Frist I represents a fundamental reform of Medicare based on premium support and is essentially the bill that resulted from the work of the Bipartisan Commission on the Future of Medicare. The majority of commission members (ten of seventeen) voted in favor of reforming Medicare through a system of premium support, but the proposal did not receive the eleven votes necessary for transmittal of an official recommendation to Congress and the president. Thus no recommendation was made.

Under Breaux-Frist I, the current Medicare program is replaced by a system of competing health plans, one of which is the federally sponsored Medicare fee-for-service system. Beneficiaries can choose a health plan during an open enrollment period each year. The plan can be the traditional Medicare fee-for-service program offered by CMS or a plan offered by a private organization. Major provisions of the legislation are shown in Appendix B.

A key feature of the bill is that payments to plans are adjusted for differences in beneficiary characteristics and geographic differences in input prices. Plans will be expected to take note of published adjustment factors and submit bids that will, after adjustment, provide the amount needed for their areas and patient mixes. In theory, such bids should reflect geographic- and risk-neutral beneficiaries. As will be discussed, however, adjustment factors are likely to account for a minority of the variation in Medicare expenditure. As a result, the premium support amount will cover different portions of total premiums in different parts of the country, meaning that beneficiaries in different locations could be responsible for paying very different premium contributions.

The distinction between national and region-specific costs is critical. Breaux-Frist I can be viewed as a national competitive pricing proposal, because the level of premium support received by a beneficiary in a particular geographic area is based on the average premium charged by plans nationally. Although adjustments are made for differences in local input

prices,² we show that this accounts for only a minority of regional variation in Medicare expenditures. Compared to the status quo, it could result in higher premium payments in high-expenditure states and lower payments in low-expenditure states. The alternative—a system of local competitive pricing—would probably not have as pronounced an effect geographically because the level of premium support would be based on some sort of an average of plan bid amounts in each local area. More expensive areas of the country, therefore, would receive greater premium support levels. One criticism of this approach, and probably why Breaux-Frist I relies on a system of national premium support, is that it essentially endorses the current geographic differences in spending across the country. This, it could be argued, is not in keeping with the philosophy of Breaux-Frist I, which is to enhance overall efficiency in the health care marketplace. The new Medicare legislation, in contrast, employs locally based premium support, at least during the demonstration phase.

In geographic areas where there is little competition, the legislation sets beneficiary premiums as follows. If the only available standard plan is CMS sponsored, the beneficiary premium can be no higher than 10 percent of the (weighted) average premiums for all plans in the country. For high-option plans, if no private entity wishes to contract with CMS to provide drug benefits in a particular geographic area, the Medicare Board will provide this coverage, presumably at premiums reflecting its costs. In the analysis of out-of-pocket costs, we cannot simulate how this provision will affect beneficiary payouts because it is nearly impossible to predict which parts of the country will have sufficient HMO competition and how this will change over time.

Beneficiaries with incomes equal to or less than 135 percent of the official poverty level do not pay any premiums for the lowest-cost high-option plan that is available in their geographic area, nor are they responsible for co-payments when they use services. If they choose another plan that is more expensive, then they are responsible for paying the difference in premiums (but not the co-payments). Their obligation cannot exceed that of beneficiaries with incomes just above 135 percent of the poverty level.

2. Breaux-Frist I does not specify the specific method for adjusting premium support by geography and beneficiary risk characteristics. To make it possible to conduct the simulations in the article, we have employed some plausible options (e.g., for geographic adjustments we use the 2002 geographic practice cost index that is used by the Medicare Payment Advisory Commission to adjust the Medicare physician fee schedule for geographic variation in practice expenses).

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003. This bill, which we refer to henceforth as the *new Medicare reform legislation*, was signed by President Bush on December 8, 2003. It focuses primarily on instituting prescription drug coverage under Medicare, but also includes a number of other, more controversial features, such as charging wealthier Medicare beneficiaries more for Part B coverage; establishing a new form of high-deductible health savings accounts; putting a trigger on federal general revenue contributions to Medicare at 45 percent, after which cost-containment proposals must be considered by Congress; and calling for a demonstration project to test the concept of premium support.

The premium support issue was perhaps the one that generated the most controversy. The original Senate bill did not include premium support, whereas the House bill contained premium support beginning in 2010. The conference agreement compromise was to include a premium support demonstration project beginning in that same year. The legislation is silent on many details, and various observers have noted that the regulations that are ultimately drafted by CMS are likely to be instrumental to how the demonstration is implemented (Freudenheim 2003). Some of the key provisions are as follows:

- The demonstration will last six years, four of which will constitute a phase-in, and occur in no more than six geographic areas, each of which has two or more Medicare Advantage (the new name for the Medicare managed care program) plans that enroll 25 percent or more of the eligible beneficiaries in the area.
- Medicare payments to plans will be based on a weighted average of risk-adjusted managed care plan bids and Medicare fee-for-service costs in that geographic area (described in more detail later, under the section Geographic Issues).
- Beneficiaries choosing plans charging more than this average amount will pay the difference out of pocket; those choosing plans that are less costly than the average will receive a premium reduction of 75 percent of the difference.
- Full subsidies will be provided to beneficiaries with incomes below 135 percent of the federal poverty level so long as they meet asset restrictions of \$6,000 for individuals and \$9,000 for couples.
- Beneficiary premiums can rise and fall no more than 5 percent per year.

- Upon completion of the demonstration, the secretary of Health and Human Services will submit a report to Congress evaluating the results as well as providing recommendations (presumably) concerning whether to enact the program nationwide.

Analysis of Premium Support Proposals

This section is divided into three parts, each of which evaluates a different aspect of premium support proposals. The analysis involves both literature review and original simulations and data analyses based on the 1997 Medicare Current Beneficiary Survey (MCBS) Cost and Use File, and the 1996 Medical Expenditure Panel Survey (MEPS).

Beneficiaries Wishing to Remain in the Medicare Fee-for-Service Program

This section reviews relevant literature on favorable and unfavorable selection in Medicare HMOs versus FFS coverage and then simulates the impact of premium support on Medicare beneficiaries who wish to retain their FFS coverage. Further details regarding the simulation and its underlying assumptions are provided in Appendix A.

Review of the Literature. Unfavorable selection is a problem that plagues voluntary insurance markets. It refers to a situation in which the individuals who choose a particular plan will tend to be more expensive than others, as reflected in the premiums they are charged. One way of ameliorating the problem would be to allow insurers to charge sicker individuals more than they charge others. This, however, is not typically allowed in public programs, or even in the managed competition proposals devised by Alain Enthoven. Such programs require the use of community rather than experience rating to keep premiums manageable for those individuals who are likely to be more costly. Breaux-Frist I, for example, requires that health plans charge all beneficiaries in a particular geographic area the same premium amount.

One potential way to deal with this problem is to risk-adjust premiums, and indeed, Breaux-Frist I does call for plans that receive a sicker mix of enrollees to receive higher payments and those that receive a healthier mix to receive less. The idea of risk adjustment is straightforward: pay plans that are likely to receive an unfavorable selection enough so that they are indifferent to the health status of their enrollees. For a quarter of a century

now, health services researchers have been grappling with ways of successfully risk-adjusting premiums, and some inroads have been made into the problem (Medicare Payment Advisory Commission [MedPAC] 2000). Given the potential of risk adjustment to deal with problems of selection bias, it is noteworthy that only 3 percent of privately insured health plan enrollees with a choice of health plans have their premiums risk adjusted (Keenan et al. 2001).

When unfavorable selection (without perfect risk adjustment) is coupled with prohibitions against experience rating, a premium “death spiral” can result. Under a premium death spiral, the plan that attracts the greater risks charges higher premiums, which induces healthier individuals who had remained in the plan to switch out during the next period. Over time, this spiraling can make premiums unaffordable. The typical example is unfavorable selection into FFS plans, with favorable selection into HMOs. This is because FFS plans are often attractive to sicker individuals, who have a previously established relationship with providers who are not members of a particular HMO and who seek plans with fewer restrictions.

A number of studies have been conducted that compare the health status and cost of Medicare beneficiaries in the FFS system with those of beneficiaries enrolled in HMOs. Nearly all show that, on average, healthier, less expensive individuals join Medicare HMOs. Furthermore, few of these differences are captured by the AAPCC formula (Newhouse, Buntin, and Chapman 1997). In a review of the literature through 1999, Fred Hellinger and Herbert Wong (2000) found consistent evidence of favorable selection into Medicare HMOs. One consequence is that Medicare actually lost money (an estimated 5.7 percent in the early 1990s) on HMOs. This is a noteworthy finding given that managed care was supposed to save Medicare 5 percent because, until recently, HMOs received 95 percent of the AAPCC (Brown et al. 1993). The reason for this loss was that healthier individuals joined HMOs, leaving more expensive ones in FFS. Because the AAPCC is calculated on the basis of the latter, HMOs were, on average, overpaid for providing services. This was one of the reasons that the Balanced Budget Act of 1997 sought to reduce payments to HMOs, with the unintended consequence of reducing choice and enrollment—from 6.3 to 5.1 million enrollees, for example, from 2000 to 2002 (Kaiser Family Foundation 2002).

There have been several studies of premium death spirals, three of which are reviewed here. Each focuses on those under age sixty-five. One study of a more theoretical nature was conducted by Susan Marquis and

Joan Buchanan (1999). It used information derived and updated from the RAND Health Insurance Experiment to simulate the interrelationship between health plan choice, employer contribution policies, and unfavorable selection. The authors found that if employers make identical contributions to all plan choices, and if sicker employees choose more generous and costly health plans, then a death spiral can result. In their simulations, the plan experiencing unfavorable selection was priced out of the market in just three periods (in effect, three years). They also showed that a death spiral would *not* occur under either of two alternative scenarios: when the employer contributes a percentage of plan costs rather than a fixed dollar amount, which amounts to a subsidy of high-cost plans, and when premiums are successfully risk adjusted.

One of the most dramatic, real-world examples of a death spiral occurred in the University of California health benefits system. As reported by Thomas Buchmueller (1998), the university adopted a fixed contribution policy in 1994, whereas previously it essentially paid the costs of all plans except for a high-cost fee-for-service option. This ultimately saved the university money, as plans had an incentive to compete with each other on the basis of premiums and employees had an incentive to switch to lower-cost plans. In the first year alone, medical costs per employee fell by 9 percent and by 24 percent over a four-year period. A consequence of the new policy was that the only indemnity plan, Prudential High Option, experienced a premium death spiral resulting from an unfavorable selection of enrollees. In 1993, the year prior to the change, 10 percent of employees enrolled in this plan, paying \$750 annually for single coverage. Just three years later, premiums had more than quadrupled to almost \$3,300 and enrollment had fallen to 1 percent of employees. The death spiral continued unabated; in 2001, the annual premium had risen to almost \$17,000 for single coverage and over \$40,000 for family coverage. As a result, only a handful of members remained and new enrollment was barred.

The trade-off between cost savings and unfavorable selection is also illustrated in a study of Harvard University's health plans, reported by David Cutler and Sarah Reber (1998). In this instance, a preferred provider organization (PPO) and several HMOs were offered, and until 1995, the PPO was heavily subsidized compared to the other plans. That year, Harvard adopted a fixed contribution policy. Because the PPO had an unfavorable selection of patients, out-of-pocket premium costs rose dramatically. A death spiral occurred, as the people leaving the PPO each year were less costly than those who remained. By 1997, just three years after the fixed contribution policy was adopted, the PPO plan was driven

from the market, and only HMO and point-of-service plans remained. Cutler and Reber note that even though Harvard saved 5–8 percent from the policy, there was a loss in social welfare of 2–4 percent because people who wanted one could no longer choose a PPO plan. The authors conclude by emphasizing the importance of effective methods of risk-adjusting premiums to avoid the type of death spiral that occurred at Harvard.

To our knowledge, no studies have been done on death spirals among the retiree population. One study that does provide some insights, however, was also conducted by Buchmueller (2000a) using data from the University of California health benefits system. It examined the same change to a fixed contribution described earlier, but the results differ for two reasons: retiree medical benefits supplement those provided by Medicare and are therefore less costly than full coverage, and retirees appear to be less likely to change health plans in response to premium increases because of their attachment to their current providers (Buchmueller 2000b). Regarding the latter, Buchmueller estimates that average price elasticity of demand for insurance among retirees is equal to -0.16 . That is, as premiums rise by 10 percent, demand for a particular health plan falls by only 1.6 percent. This is a much lower figure than those estimated by others for the population under sixty-five, which vary from approximately -0.3 to -1.0 . As a result, if a death spiral occurs in the age sixty-five-plus market, it will take longer to run its course, and in that regard, one had not occurred in the University of California system during the first three years after the change was implemented. Conversely, a low elasticity means that beneficiaries will be less likely to move from less to more efficient health plans.

Simulating Unfavorable Selection under Premium Support. It is difficult to simulate the likely effect of unfavorable selection under premium support proposals. This is the case for several reasons: most proposals are not very specific, we do not know what risk adjusters will be used in the future, and it is difficult to predict how both beneficiaries and health plans will respond to the new incentives. Furthermore, if a death spiral appears to be in process, Congress could try to avert it by modifying the premium support program. Indeed, it could be argued that employers avert death spirals by subsidizing their fee-for-service products. In 2002, only 17 percent of employers that offered a choice of health plans provided an equal contribution to all plan choices (Kaiser Family Foundation and Health Research and Educational Trust 2002). Despite this, it is useful to conduct this modeling exercise to anticipate the possible consequences of actual premium support proposals.

Instead of trying to project exactly what will happen in the future, our goals are more modest. We simulate the impact of unfavorable selection in the Medicare FFS program (and thus favorable selection into Medicare HMOs) under a very simplified view of the future, in which there are just two competing health plans offering identical benefits: one HMO along with the Medicare FFS program. The simulations estimate the percentage of beneficiaries who will stay in FFS, as well as the associated costs and premiums. A more detailed discussion of our methods and assumptions can be found in Appendix A, although we highlight a few of the more critical ones here.

We use the 1996 MEPS to simulate twenty years of a premium support program. Medicare enrollees over age sixty-five are selected and identified from MEPS as receiving care in either an HMO or the FFS program. In the first year of the simulation we calculate separately the average expenditures of FFS and HMO enrollees. Then three sums related to premiums are calculated: the overall premium, or payment to the plan; the government contribution toward that premium; and the beneficiary contribution. The plan payment for FFS enrollees is the average of expenditures of FFS enrollees, and the plan payment for HMO enrollees is their average expenditures. The government and patient contributions depend on the degree of risk adjustment. A completely unadjusted government contribution toward the premium would be based on overall expenditures averaged over both FFS and HMO beneficiaries combined. Thus beneficiaries would be completely responsible for the differences in costs between their plan and the national average. Full (100 percent) risk adjustment would mean that the government contribution toward the FFS premium would be based on the more expensive FFS beneficiaries only and the same for the less expensive HMO beneficiaries. With full risk adjustment, all beneficiaries would pay the same premium. Imperfect risk adjustment would mean that beneficiaries would have to pay some of the difference (we simulate 25, 50, and 75 percent) between their plan's costs and the government payment.

FFS premiums will be more expensive, in part due to unfavorable selection, and we estimate that a certain percentage of FFS beneficiaries will switch to the HMO during a particular open enrollment period. That percentage is determined using a predictive equation based upon the work of Buchmueller (2000b; see Appendix A for more detail). In the simulations, the "switchers" are randomly selected from the groups of healthier and sicker FFS beneficiaries, with the healthier patients having a higher propensity to switch (greater price elasticity). Because more of the health-

ier people switch, the FFS plan is left with an even more unfavorable selection of enrollees. This raises premiums during the next open enrollment period, prompting more to leave for the HMO, and so on.

As noted, carrying out the simulations involves a number of simplifying assumptions. Some of the key ones include the following:

- MEPS does not contain data on HMO expenditures because claims are not available. Instead, it estimates unit prices based on the prices typically paid by managed care organizations on a discounted fee-for-service basis and then applies these to beneficiary utilization rates. We assume that MEPS's simulations of these expenditures are reasonably accurate.
- Beneficiaries who have expenditures above the median are half as likely to switch to an HMO as those with expenditures below the median.
- Health plans not only understand the risk-adjustment system but will fully take it into account in submitting their premium bids to achieve the revenue necessary to treat the mix of patients who enroll in their plans.

The results of the simulation with 50 percent risk adjustment applied to the Medicare contribution are shown in table 1. In the first year of premium support, the difference in average expenditures between FFS and HMO patients (as reflected in the adjusted payments to those plans and reflecting in turn the relative health status of the two groups) is \$553 (column 1 minus column 2). HMO patients are thus 11 percent less costly. By the tenth year, unfavorable selection has resulted in a difference of \$1,373, indicating that HMO patients are now 26 percent less costly. This results in FFS premiums paid out of pocket growing from \$519 to \$744 (an increase of 43 percent, in constant dollars) over the ten-year period and enrollment in FFS declining from 83 percent to 62 percent. After fifteen years we project FFS enrollment to be 42 percent, going down to 24 percent after twenty years.

Table 2 shows the results of our simulation if risk adjustment is less successful than we had assumed (25 percent as opposed to 50 percent effective), if it is as effective as we assume (50 percent), and if it is more effective (75 percent). If risk adjustment is only 25 percent effective, FFS out-of-pocket premiums will more than double over ten years (from \$548 to \$1,219, an increase of 122 percent) and enrollment in FFS will drop to 47 percent by the tenth year. The rate at which FFS enrollment drops off (losing 2–3 percent in the early years, dropping 6 percent from the ninth

Table 1 Simulated Impacts of a Premium Support Program, Payments from Government 50% Risk Adjusted

Year	Adjusted Payment to FFS Plan (FFS Mean Expenditures) (\$)	Adjusted Payment to HMO Plan (HMO Mean Expenditures) (\$)	FFS Government Contribution (\$)	HMO Government Contribution (\$)	FFS Patient Premium (\$)	Percent in FFS
Year 1	4,819	4,266	4,300	3,977	519	83
Year 2	4,843	4,199	4,312	3,937	531	82
Year 3	4,867	4,151	4,324	3,909	543	80
Year 4	4,905	4,076	4,343	3,863	562	79
Year 5	4,944	4,029	4,362	3,835	582	76
Year 6	4,986	3,998	4,383	3,817	603	74
Year 7	5,040	3,962	4,410	3,795	630	71
Year 8	5,106	3,927	4,443	3,774	663	68
Year 9	5,179	3,912	4,480	3,765	699	65
Year 10	5,268	3,895	4,524	3,755	744	62
Year 15	5,929	3,936	4,855	3,779	1,074	42
Year 20	7,090	4,072	5,436	3,861	1,655	24

Source: 1996 Medical Expenditure Panel Survey data.

Table 2 Simulated Impacts of a Premium Support Program: Payments from Government 25%, 50%, and 75% Risk Adjusted

Year	25% Risk Adjustment Effectiveness		50% Risk Adjustment Effectiveness		75% Risk Adjustment Effectiveness	
	FFS	Percent	FFS	Percent	FFS	Percent
	Premium (\$)	in FFS	Premium (\$)	in FFS	Premium (\$)	in FFS
Year 1	548	83	519	83	494	84
Year 2	571	81	531	82	496	83
Year 3	605	78	543	80	499	82
Year 4	643	75	562	79	503	82
Year 5	694	72	582	76	507	81
Year 6	762	68	603	74	510	80
Year 7	845	63	630	71	514	79
Year 8	943	58	663	68	520	78
Year 9	1,065	53	699	65	524	77
Year 10	1,219	47	744	62	528	76
Year 15	2,590	21	1,074	42	562	69
Year 20	5,360	7	1,655	24	613	60

Source: 1996 Medical Expenditure Panel Survey data.

to the tenth year) indicates that the Medicare fee-for-service program would become increasingly more costly; in fact, our simulation shows 21 percent of enrollees remaining in FFS after fifteen years and 7 percent after twenty.

If, however, risk adjustment is more successful than we assumed (75 percent effective), the effects on FFS premiums and enrollment are much smaller. Premiums would increase from \$494 to \$528 (7 percent) over ten years, and enrollment would drop off by only 8 percentage points (from 84 to 76 percent) over that period. Longer term, we project 69 percent remaining in FFS in fifteen years and 60 percent in twenty years.

Thus it does not appear that risk adjustment under the current state of the art would be able to avert a death spiral in the very long run. The effectiveness of the risk-adjustment method used will determine the speed of the death spiral, but unless and until risk adjustment is perfected, some degree of spiraling will occur. The way to ensure the continued existence of a strong Medicare fee-for-service program would be to move away from having government pay a fixed dollar amount to all health plans. Indeed, as described earlier, research by Marquis and Buchanan (1999) showed that when plans paid a percentage of their costs rather than a fixed

Table 3 Health Status of HMO versus FFS Medicare Beneficiaries

	HMO		FFS		T-test	
	Beneficiaries		Beneficiaries		T	P-value
	Mean	Std Err	Mean	Std Err		
Number of physical conditions (0–15)	2.68	0.07	2.86	0.03	2.31	0.022
Number of mental conditions (0–4)	0.047	0.006	0.066	0.004	2.45	0.014
Number of ADLs (0–6)	0.474	0.034	0.520	0.022	1.17	0.242
Number of IADLs (0–6)	0.739	0.034	0.862	0.028	2.92	0.004
Self-assessed general health (1–5)	2.49	0.03	2.63	0.02	3.69	0.000

Source: 1997 Medicare Current Beneficiary Survey data.

Note: Sample limited to those over sixty-five, no end-stage renal disease (ESRD), living in the community alone or with a spouse.

dollar amount, which amounts to a subsidy of high-cost plans, a death spiral is less likely to occur.

What are the distributional impacts of these findings? Clearly, under Breaux-Frist I, those who wish to remain in the Medicare FFS will be disadvantaged in that their premiums will rise, meaning that they will have to either pay more or move to a managed care system that many would prefer to avoid. To examine these implications further, we used the 1997 MCBS to compare the health status of beneficiaries in Medicare HMOs to those in fee-for-service (table 3). The variables examined were self-assessed health status (scaled from 1 to 5), number of limitations to activities of daily living (ADL, scaled from 0 to 6), number of limitations to instrumental activities of daily living (IADL, scaled from 0 to 6), number of reported physical conditions (scaled from 0 to 15), and number of reported mental conditions (scaled from 0 to 4). In every instance, we found that beneficiaries in fee-for-service exhibited poorer health than those in HMOs. Compared to those in HMOs, beneficiaries in fee-for-service reported 7 percent more physical conditions, 40 percent more mental conditions, 10 percent more ADLs (not statistically significant), 17 percent more IADLs, and 6 percent lower self-assessed health. This demonstrates that if a premium spiral occurs under premium support, those who are more likely to be affected by higher premiums—the group in fee-for-service—are indeed, on average, in poorer health.

We also looked at whether those who are disadvantaged according to

Table 4 Health Status of Disadvantaged Beneficiaries

Beneficiary Characteristic	Percent in Fair or Poor Health	Percent with 3+ Medical Conditions
Female aged 80+	25	47
Male and/or under 80	20	29
Nonwhite	34	27
White	19	32
Less than high school graduation	30	36
High school graduate or higher	16	30
Income at or below 150% poverty	31	37
Income above 150% poverty	17	30

Source: 1997 Medicare Current Beneficiary Survey data.

Note: Sample limited to those over sixty-five, no ESRD, living in the community alone or with a spouse.

selected definitions were more or less likely to be in poorer health. Table 4 shows that elderly females, the less educated, and those with lower incomes report lower self-assessed health and more chronic medical conditions, and nonwhites report lower self-assessed health (but not fewer conditions). Overall, it appears that rising FFS premiums due to unfavorable selection will make it particularly difficult for these groups of beneficiaries to remain in the FFS system, should they wish to do so.

We believe that these results apply equally well to the new Medicare reform legislation. The part of the legislation devoted to the premium support demonstration does not address risk adjustment specifically, but other parts do. When discussing how Medicare Advantage (HMO and PPO) plans will be paid beginning in 2006, the conference agreement summarizes the bill's procedure as follows: "The use of a risk adjustment methodology that uses demographic factors and health status factors will continue as under current law, and the Secretary will continue to have the flexibility to develop and implement new risk adjustment methodologies."³ This is essentially the same procedure as in Breaux-Frist I.

One difference, however, is that the demonstration project explicitly limits changes in premiums to 5 percent per year (under Breaux-Frist I there is a less specific mention of phase-ins to prevent large changes in beneficiary obligations). This could artificially reduce the speed at which a premium death spiral would be reached in the fee-for-service sector. It

3. *Medicare Prescription Drug, Improvement, and Modernization Act of 2003*. Conference Agreement. HR.1.ENR, p. 114. waysandmeans.house.gov/media/pdf/hr1/hr1jtexplstate.pdf.

is not clear, of course, whether such a provision would be included as part of national Medicare policy once the demonstration project has ended.

Geographic Issues

Perhaps the major difference between Breaux-Frist I and the new Medicare reform legislation is that the former bases premium support on plan premiums averaged nationally, while the latter bases it on local premiums. These two methods are discussed separately here.

Premium Support Based on National Premium Averages. Breaux-Frist I is a national competitive pricing system. Premium support is based on what plans charge, averaged nationally rather than locally. Adjustment is made for higher costs in different geographic areas. These adjustments are based only on variations in input costs. However, plans must design their premium bids to reflect the total costs of providing patient care in the areas being served. Thus, in areas where Medicare expenditures are higher even after adjusting for input costs, beneficiaries will pay more in premiums; in other geographic areas, they will pay less.

We investigated the potential shift in beneficiary liability across geographic areas under Breaux-Frist I. The first column of table 5 shows the amount of variation in per-beneficiary Medicare spending for thirty-four states in 1995 (Gage, Moon, and Chi 1999). (Not all states are shown because the analysis discussed below is limited to those states for which there is a statewide cost adjustment factor.) Medicare spending ranged from a low of approximately \$2,665 in Hawaii to a high of \$5,857 in the District of Columbia and was highest in one of the states not shown, Louisiana (\$6,213). Overall, there was a 2.3-fold difference. The U.S. average was \$4,662. Thus, as illustrated here, when plan service areas correspond to states, there would be tremendous variation in plan premiums without some type of geographic adjustment. The amount of variation would be even higher if, as likely would be the case, service areas corresponded to substate areas.

Following Breaux-Frist I, a geographic adjustment would work as follows. Suppose that the costs of practicing medicine are 20 percent higher than average in a particular geographic area. If the average national government contribution to premiums is \$5,000 annually, then Medicare would provide \$6,000 ($\$5,000 \times 1.20$) per beneficiary in this high-cost area. In contrast, in an area whose costs are only 90 percent of the average, the government contribution would be \$4,500.

Table 5 National Average Medicare Spending per Beneficiary, Multiplied by State GPCI, Compared to Actual State Averages

State	Average Spending (\$)	GPCI	U.S. Average × GPCI (\$)	Difference in Dollars	Difference in Percent
Alabama	5,238	0.870	4,056	-1,182	-23
Alaska	4,999	1.172	5,464	465	9
Arizona	3,395	0.978	4,559	1,164	34
Arkansas	4,488	0.847	3,949	-539	-12
Colorado	3,763	0.992	4,625	862	23
Connecticut	5,291	1.156	5,389	98	2
Delaware	4,566	1.035	4,825	259	6
DC	5,857	1.166	5,436	-421	-7
Hawaii	2,665	1.124	5,240	2,575	97
Idaho	3,619	0.881	4,107	488	13
Indiana	4,533	0.922	4,298	-235	-5
Iowa	3,599	0.876	4,084	485	13
Kansas	4,620	0.895	4,172	-448	-10
Kentucky	4,464	0.866	4,037	-427	-10
Minnesota	3,177	0.974	4,541	1,364	43
Mississippi	5,181	0.837	3,902	-1,279	-25
Montana	3,933	0.876	4,084	151	4
Nebraska	3,581	0.877	4,089	508	14
Nevada	3,727	1.039	4,844	1,117	30
New Hampshire	3,993	1.030	4,802	809	20
New Mexico	3,378	0.900	4,196	818	24
North Carolina	4,355	0.931	4,340	-15	0
North Dakota	3,907	0.880	4,103	196	5
Ohio	4,641	0.944	4,401	-240	-5
Oklahoma	4,843	0.876	4,084	-759	-16
Rhode Island	4,697	1.065	4,965	268	6
South Carolina	4,373	0.904	4,214	-159	-4
South Dakota	3,847	0.878	4,093	246	6
Tennessee	5,255	0.900	4,196	-1,059	-20
Utah	3,714	0.941	4,387	673	18
Vermont	4,059	0.986	4,597	538	13
West Virginia	4,061	0.850	3,963	-98	-2
Wisconsin	3,936	0.929	4,331	395	10
Wyoming	4,172	0.895	4,172	0	0
U.S. average	4,662				

Source: Source of first column: Gage et al. 1999.

Note: Figures shown here are the sum of Medicare program spending and beneficiary co-payments. The last three columns are based on the authors' calculations.

We model this method of adjusting for geographic cost differences as follows. The second column of table 5 provides the 2002 geographic practice cost index (GPCI) that is used by the Medicare Payment Advisory Commission to adjust the Medicare physician fee schedule for geographic variation in practice expenses. The GPCI might be considered a good candidate for carrying out geographic adjustment for cost differences because it accounts for the cost of practicing medicine, but not for geographic differences in utilization.

The third column demonstrates the application of the GPCI. We multiplied the national average figure of \$4,662 by each state's GPCI. The fourth column shows how much this product differs from actual Medicare expenditures in that state. The final column expresses this difference as a percentage of actual Medicare expenditures. For example, in Alabama the adjusted national payment would be 23 percent lower than actual expenditures. In Minnesota, the adjusted national payment is 43 percent higher than actual expenditures. It should be noted that the GPCI does not correct for differences between states in beneficiary characteristics and health status.

If we assume that health status differences between states are negligible, the table shows that adjusting for costs of practice does not account for a large share of variation in Medicare expenditures. In Alabama, in fact, costs are greater than the national average but the GPCI is less than one, thereby accentuating geographic cost differences. Alabamians spend \$1,182 more than the adjusted average, whereas Minnesotans spend \$1,364 less.

If the GPCI were used as a basis for adjusting government contributions under a premium support program, there would remain substantial differences in premiums paid by beneficiaries in different geographic areas. This is because, by design, the GPCI covers only differences in practice costs, not differences in the quantity and intensity of services used in a particular area. As a result, beneficiaries under a premium support system like the one modeled here would pay more or less in Medicare premiums depending on resource usage in their area.

It should be noted, however, that we have assumed that the variations we show in state spending are not attributable to differences in health status. To the extent that there are major differences in health status across states, then the differences we show in table 5 are overestimated. That is, if greater expenditures in a state are the result of a sicker case mix, risk adjustment will bring payments up to more closely match the national average. John Wennberg and colleagues (2002: W97–W98) find that there

is some relationship between health status and region, although it accounts for a relatively small portion of spending differences. They create “an ‘illness index’ that uses regional rates of heart attack, stroke, hip fracture, cancer, and gastrointestinal hemorrhage, and death of Medicare beneficiaries to quantify the underlying disease burden in a region,” finding that this measure explained only 27 percent of regional differences in Medicare spending across regions.⁴ Thus, if one wished to be more conservative, the absolute values of the figures shown in the last two columns of table 5 could be reduced by 27 percent. This, of course, does not change the direction or even the magnitude very much, so the same conclusions would hold.

A further wrinkle to the issue of geographic differences lies in the role of the CMS-sponsored fee-for-service plan. Our discussion to this point has focused on the private plans that may choose to enter the premium support market. We have assumed that such plans will submit local premium bids that reflect local patterns in health care utilization. These plans will be competing with a government plan that will have a premium bid reflecting nationally averaged utilization. Payments to the CMS plan will be geographically and risk adjusted just as those to the private plans, so that if enrollees were sicker or in higher input-cost areas, the CMS bid would be adjusted accordingly.⁵ No adjustments will be made for geographic differences in utilization. Therefore private plans’ local bids will be juxtaposed to the CMS FFS plan’s national bid.

Since current enrollment in FFS accounts for almost 90 percent of Medicare beneficiaries, the role of the CMS plan in the market will be considerable. The discrepancy between local and national bidding could have the following results. In low-utilization areas, private plans will be relatively cheaper than the CMS plan, because they will base their premiums on lower-than-average utilization, whereas the CMS plan will be based on average utilization. Beneficiaries in such areas will have an incentive to choose the private plans, and plans will have an incentive to enter these markets. In competing with CMS (the pool from which beneficiaries must, for the most part, be drawn), private entities may not have an incentive to lower premiums substantially below those charged by

4. In another study, David Cutler and Louise Sheiner (1999) conducted a similar analysis and found that inclusion of illness variables reduces the standard deviation of Medicare spending across 212 regions of the country from \$869 to \$510.

5. Although the CMS plan would have a single nationwide premium bid, geographic adjustment would still be necessary if, for example, FFS enrollees on average came from higher or lower input-cost areas.

CMS. Unless there is meaningful price competition among private plans, therefore, there may be little downward pressure on premiums. Competition might occur not in pricing but in offering additional benefits. To the extent that this is true, premiums in such areas will stay near that of the CMS plan and thus will reflect national average utilization.

In high-utilization areas, the CMS plan will be relatively cheaper than the private plans, as it will be based on average, as opposed to higher-than-average, utilization. Beneficiaries in these areas would have to pay more to enroll in a private plan than they would have to pay in FFS. They may be unwilling to do so, which in turn could deter private plans from entering the market. To the extent that this is true, few private plans will enter the market and FFS will continue to dominate.

The overall effect of these factors will depend on the responses of private firms and beneficiaries to the incentives they face. If there is substantial entry and competition, beneficiaries in low-utilization areas will pay lower premiums than the rest of the country. Beneficiaries in high-utilization areas will have to pay higher premiums, but competition could produce a downward pressure on utilization in order to wrest beneficiaries away from FFS. The ultimate degree of disruption, in terms of geographic differences in beneficiary premiums, cannot be predicted with certainty.⁶ Our point is simply that a system such as the one outlined here has the potential to greatly alter the status quo, resulting in a major distributional impact between geographic areas.

Premium Support Based on Local Plan Premiums. The alternative to the system in Breaux-Frist I is to base premium support on local rather than national bids, and that, in effect, is what will occur under the new Medicare reform legislation. According to the bill, so-called benchmark premiums are calculated as a weighted average of local bids for Medicare Advantage plans and the AAPCC in that geographic area for the FFS sector.⁷ Beneficiaries who choose a plan costing more than the benchmark amount pay the difference in premiums between the plan's bid and the

6. Breaux-Frist I does include a provision allowing for a phase-in of geographic and risk adjusters to protect Medicare beneficiaries. Our discussion has focused on the long-term impacts, but implementation may not be abrupt.

7. One wrinkle is that this weighted average is calculated using (in most cases) the nationwide percentage of beneficiaries in the fee-for-service system, rather than the local percentage. Because the demonstration will occur in areas with a high percentage of Medicare Advantage enrollees, the benchmark premium in the demonstration areas will tend to be closer to the FFS premium. This will mean that Medicare Advantage plans will be more likely to price their plans attractively—that is, near or below the benchmark amount. This dynamic will be accentuated to the extent that the risk-adjustment system does not fully account for differences in health status.

benchmark, whereas those choosing a plan costing less than the benchmark receive a premium reduction for 75 percent of the difference.

Under a premium support program relying on bids averaged locally, political concerns likely will arise because the Medicare payments could vary dramatically between different states. The amount of premium support provided by Medicare will be higher in high-utilization states and lower in states where usage is more parsimonious. Congressional representatives from the low-cost states are likely to question why their constituents are getting a lower subsidy than those in other states—just as rural representatives, of late, have been vocal about lower Medicare+Choice payments in their districts—but at the same time paying as much in taxes.⁸ In fairness, though, Medicare already subsidizes some states more than others, albeit more implicitly than explicitly compared to what would occur under premium support.

In addition, the status quo does contain a major geographic inequity. Because the Medicare HMO payments are tied to fee-for-service costs, payments to HMOs are much higher in some geographic areas than in others. As a result, beneficiaries who are fortunate enough to live in geographic areas with high AAPCCs (which reflect higher utilization as well as input costs) are more likely to be offered additional benefits from their HMOs, such as prescription drugs, and are less likely to pay premiums beyond the Part B deductible. To illustrate, in 2001, over 70 percent of beneficiaries living in metropolitan areas with one or more Medicare HMO options had access to a zero-premium plan. In contrast, this was true of only about 30 percent of those living in nonmetropolitan areas adjacent to a central city who also had one or more HMO options available (Gold 2001). Thus, in considering the geographic issues inherent in premium support proposals, one should also keep in mind problems with the current system.

Although locally based premium support could lead to different levels of Medicare subsidies to different parts of the country, one would expect that the premiums paid by beneficiaries would be relatively homogeneous across different parts of the country. Interestingly, however, estimates made by CMS's actuary about the premium support measure in the original House of Representatives bill (H.R. 1) showed substantial variations in out-of-pocket premiums in different parts of the country (Department

8. Part A of Medicare is financed by the same payroll tax (2.9 percent, split evenly between employers and employees) across the nation. Part B is financed largely through general revenues, which are also based on equal federal tax rates across the nation.

of Health and Human Services 2003). To give one extreme example, seniors wishing to remain in the FFS program would pay an estimated \$675 in annual premiums if they lived in Davidson County, North Carolina, but \$2,400 annually if they lived in Jefferson Parish, Louisiana. Even within a state, differences in estimated premiums can vary more than twofold, as was the case, for example, in Florida and California (House Budget Committee 2003).

The actuary's report does not provide the reason for such large variations. One likely explanation is that the actuary assumed that, in high-utilization areas, HMOs would be able to price their plans at relatively low levels because there is a great deal of potentially wasteful utilization that could be cut. The FFS plan, in contrast, would be based on historic levels of utilization. In short, even though the Medicare reform legislation uses a system of local premium support in the demonstration project, it is not clear that this will ameliorate differences across the country in out-of-pocket premiums. Thus in this respect it may not be very different from the national premium support system in Breaux-Frist I. As discussed earlier, much depends on the responses of beneficiaries and private plans to the market incentives they face.

Beneficiary Characteristics

The overall purpose of premium support is to increase the efficiency of the Medicare program. But as noted in the introduction, we do not examine efficiency considerations in this article; various citations to other work—both others as well as our own—are noted there. Our focus here, rather, is the distributional impacts of premium support, and these will depend largely on the specifics of particular proposals. We simulate only Breaux-Frist I because it alone provides sufficient detail for doing so. Under the proposal, beneficiaries with incomes equal to or less than 135 percent of the official poverty level do not pay any premiums for the lowest-cost high-option plan that is available in their geographic area, nor are they responsible for co-payments when they use services. If they choose another plan that is more expensive, then they are responsible for paying the difference in premiums (but not the co-payments).

Unfortunately, even after choosing a particular proposal to evaluate, it is difficult to accurately predict how beneficiary costs will change. The extent to which beneficiaries will spend more or less than they do now under Breaux-Frist I depends on several factors, including:

- Whether the type of competition envisioned in premium support proposals drives down premiums and results in a fuller set of benefits being offered;
- The cost of the particular health plans that beneficiaries choose;
- Whether they currently have supplemental insurance and, in the case of those who choose the standard CMS plan, whether they continue to purchase Medigap insurance;
- The extent to which accurate risk and geographic adjusters to premiums are developed and applied.

Our analysis examines two distinct groups of beneficiaries: those above 150 percent of the national poverty level and those at or below 135 percent. The reason for choosing these levels is that the former group does not receive any premium subsidies under Breaux-Frist I, whereas the latter group receives a full subsidy for the lowest-cost high-option plan. We do not examine those between 135 and 150 percent of the poverty level, who would receive a partial subsidy based on a sliding scale. After providing estimates of the effect of Breaux-Frist I, we discuss how the results might differ under the new Medicare reform legislation.

Beneficiaries above 150 Percent of the Poverty Level. Because it is so difficult to predict the impact of premium support proposals on beneficiary costs, we limit ourselves to a more specific question: how much different subgroups of beneficiaries would have to pay to retain fee-for-service coverage. We examine two scenarios. In the first, it is assumed that beneficiaries choosing FFS coverage would spend the same amount of money out of pocket as they do now.⁹ The second scenario contains a single change: we add an extra \$1,000 to total out-of-pocket costs to reflect the fact that FFS coverage may be considerably more expensive. This could be true for two reasons. First, such coverage may be less efficient than HMO coverage, and second, we showed earlier that FFS coverage will be more expensive if sicker beneficiaries continue to enroll in it and if risk-adjustment methodologies are imperfect.

9. Although this is surely a simplification, there is some reason to believe that it could reflect the future. Those choosing the high-option FFS plan will have to pay more for it and will also have additional out-of-pocket costs because it does not provide first-dollar coverage. These two costs may be similar to what they are paying now for Medicare and Medigap premiums and out-of-pocket expenses. Beneficiaries choosing the standard FFS plan will possess the same Medicare benefits that they currently have and under the legislation will be allowed to keep their Medigap policies. Note that under Breaux-Frist I, those choosing an HMO or the FFS high-option plan will not be allowed to retain their Medigap coverage.

In fact, experience from the employment market demonstrates that the \$1,000 difference between FFS and HMO coverage is not an unrealistic assumption. In 1999, average FFS premiums for individual coverage exceeded HMO premiums by about \$400 annually, and FFS enrollees were also subject to annual deductibles that averaged about \$230; such deductibles were rare in HMOs. Finally, the typical HMO enrollee faced a \$10 co-pay per visit, whereas the typical coinsurance rate in FFS was 20 percent, which in most cases results in higher costs (Kaiser Family Foundation and Health Research and Educational Trust 1999). Thus the total difference could easily approximate \$1,000 annually.

To conduct this analysis, we use the 1997 MCBS Cost and Use File and calculate each beneficiary's total out-of-pocket costs as the sum of three components: the Medicare premium, private insurance premiums, and out-of-pocket costs associated with service usage. We then calculate this total as a percentage of beneficiary income and recompute this percentage under the second scenario, where we assume that FFS coverage costs \$1,000 extra. Because the MCBS measures medical expenses for an individual and not his or her spouse, but provides combined beneficiary and spouse income, we can only calculate this percentage most accurately for individuals living alone.

The results for those with incomes above 150 percent of poverty are summarized in the first row of table 6. It shows total out-of-pocket costs as well as these costs as a percentage of income under the different scenarios. Recall that we are assuming that these costs will remain at their current level (12 percent of income) under premium support if beneficiaries choose the least costly plan available. The figure rises to 17 percent for those who choose a plan costing \$1,000 more in premiums, which may reflect the cost of the Medicare FFS program.

The other rows show how these percentages vary for different groups of beneficiaries. Most disadvantaged groups will have to pay more for FFS coverage under premium support than would better-off beneficiaries. As a comparison, nonvulnerable beneficiaries (defined as those under eighty years of age, white, living in a metropolitan area, high school graduate with income over 250 percent of the poverty level, in good health with no physical or mental conditions or limitations in daily activities) currently spend 7 percent of their income out of pocket on health-related expenses (not shown in tables). This compares to those who have or are: nonwhite (10 percent of income spent out of pocket), lacking a high school diploma (12 percent), living in nonmetropolitan areas (13 percent), or in fair or poor health (15 percent). Those living in nonmetropolitan areas and in poor or fair health spent 16 percent of income out of pocket.

Table 6 Out-of-Pocket Costs for Medicare Beneficiaries Living Alone

Beneficiary description	Beneficiary Spending under Current System		Beneficiary Spending under Premium Support	
	Total out of pocket ^a (\$)	Out of pocket as percent of income	Out of pocket as percent of income ^b	Out of pocket as percent of income ^c
Income above 150% of poverty	2,408	12	12	17
Nonwhite	1,713	10	10	15
< HS graduate	2,141	12	12	18
Nonmetro	2,470	13	13	18
Fair/poor health	2,840	15	15	20
Nonmetro and fair/poor health	2,919	16	16	22
Income ≤ 135% of poverty	256	4	5	23
Currently receiving Medicaid				
Nonwhite	151	2	2	19
< HS graduate	172	3	3	20
Nonmetro	155	3	3	22
Fair/poor health	314	4	5	20
Nonmetro and fair/poor health	194	3	3	19
Income ≤ 135% of poverty	936	18	5	23
Currently receiving QMB/SLMB				
Nonwhite	494	7	3	21
< HS graduate	943	18	3	21
Nonmetro	874	17	3	22
Fair/poor health	1,209	25	6	27
Nonmetro and fair/poor health	1,153	16	3	18
Income ≤ 135% of poverty	1,918	35	4	22
No Medicaid/QMB/SLMB				
Nonwhite	1,462	23	2	18
< HS graduate	1,883	32	3	19
Nonmetro	2,079	51	3	25
Fair/poor health	2,049	38	6	24
Nonmetro and fair/poor health	2,172	51	4	25

Source: Respondents from the 1997 MCBS who are living alone, in the community, aged 65+ (no ESRD).

^a Includes Medicare premiums, private insurance premiums, and out-of-pocket costs.

^b Assuming FFS out-of-pocket costs same as under current system.

^c Assuming plan that costs \$1,000 more.

When we add an extra \$1,000 to account for the possibility that the Medicare FFS program might be significantly more expensive than HMO options, the percentage of income that would have to be devoted to out-of-pocket expenses becomes very high for some groups. It exceeds 20 percent of income for those in fair or poor health. This compares to 10 percent of income for the nonvulnerable seniors living alone (not shown in tables).

Thus out-of-pocket costs already comprise a very large percentage of income for some seniors. If the Medicare FFS program's premiums turn out to be higher than they are now, nonpoor seniors will have to pay much more if they want to retain this coverage. For vulnerable seniors this will, on average, comprise a large share of their incomes. The results are likely to be similar under the new Medicare reform legislation. This is because the same dynamic operates as under Breaux-Frist I: among the income groups that do not receive additional subsidies reserved for the poor, those wishing to remain in FFS are likely to face higher premiums. And to the extent that vulnerable seniors wish to do so, it will constitute a greater share of their incomes.

Beneficiaries at or below 135 Percent of the Poverty Level. Breaux-Frist I subsidizes individuals at or below 135 percent of the poverty level for the full amount of the lowest-cost high-option plan available in an area. To analyze its impact, it is most useful to divide this population into three groups: those who currently have full Medicaid benefits, those who currently have Qualified Medicare Beneficiaries (QMB) or Specified Low-Income Medicare Beneficiaries (SLMB) coverage, and those who have none of these. (Sample sizes in the MCBS do not allow us to examine QMB and SLMB separately.) Those with full Medicaid currently have their Medicare Part B premiums and cost-sharing requirements covered and also receive other state Medicaid benefits such as prescription drug and dental coverage. QMB pays premiums and cost-sharing requirements but does not cover extra services, while SLMB pays the premiums but not the cost sharing or extra services.

One would expect that premium support would not have much of an impact on current Medicaid beneficiaries if they choose the lowest-cost high-option plan in their area. In contrast, it could lead to considerably lower costs for those who have QMB, SLMB, or no public supplementation. As in our previous analysis, we start with current out-of-pocket costs as a percentage of income and compare this to two alternative scenarios: (a) when the beneficiary chooses the lowest-cost high-option plan available in his or her area (whose premium is fully subsidized under the leg-

isolation) and (b) when the person chooses a plan than costs \$1,000 more annually, which, as discussed earlier, might approximate the case for the Medicare FFS high-option plan (but could also be a more expensive HMO).

In the analysis, we make a simplifying assumption: how much different subgroups of beneficiaries who currently have full Medicaid coverage spend out of pocket approximates what they would spend under premium support if, under the latter, they choose the lowest-cost plan in their area. We believe this is a reasonable assumption because both current Medicaid and Breaux-Frist I cover most such costs. The 1997 MCBS shows beneficiaries living alone who are jointly covered by Medicare and Medicaid spend just 4 percent of income out of pocket on medical care. We also assume that beneficiaries who currently have QMB, SLMB, or no supplementation will experience the same out-of-pocket costs under premium support as do those who currently have Medicaid.

The remainder of table 6 shows the simulated impact of premium support for those currently with full Medicaid coverage, those with QMB or SLMB, and those who have none of these forms of Medicare supplementation. As discussed, we assume that there will be little change for those currently with Medicaid coverage. But there will be dramatic declines in spending for the other two groups. As shown in table 6, those who currently have QMB or SLMB would average a reduction from 18 percent to 5 percent of income spent out of pocket under premium support if they choose the lowest-cost high-option plan available. The remaining rows show that these reductions for certain particularly vulnerable subpopulations are even greater. For example, they fall from 25 percent to 6 percent for those in fair or poor health. Beneficiaries living in nonmetropolitan areas in fair or poor health would have health spending fall from 16 percent to 3 percent of income.

The figures are even more dramatic for those who currently do not have Medicaid, QMB, or SLMB. On average, health costs fall from 35 percent to just 4 percent of income. The most dramatic figures are for those in nonmetropolitan areas in fair or poor health. They now average 51 percent of income spent on health care, but this would decline to just 4 percent under premium support.

The results are much different, however, if the beneficiary does not choose the lowest-cost plan available. Suppose that a person instead chooses a plan \$1,000 more costly per year, which could approximate the cost of the Medicare FFS high-option plan. Looking at the last column of table 6, costs would rise dramatically (compared to their current level,

shown in column 2) for those who currently have Medicaid. They would rise a little for those with QMB and SLMB, but decline for individuals who currently have no public supplementation.

It is important to note two caveats. The results show substantial financial advantages for many low-income beneficiaries compared to the status quo, assuming they choose the lowest-cost high-option plan in their areas. There could be, however, a problem associated with doing so. Because the lowest-cost high-option plan might change from year to year, low-income persons might have to change plans as frequently as annually to continue receiving free coverage. It should be noted, though, that in price-competitive areas other plans might not be much more expensive than the cheapest one. Second, and as indicated earlier, these simulations apply just to one premium support proposal. Congress, of course, can enact any provisions that it likes, and if legislation ultimately becomes law its subsidy provisions could differ considerably from those simulated here.

A case in point is the new Medicare reform legislation. On the face of it, the system of subsidies appears to be the same as under Breaux-Frist I: those with incomes below 135 percent of the federal poverty level receive full premium subsidies, and those with incomes between 135 and 150 percent of poverty receive subsidies on a sliding scale. There is a significant difference between the two bills, however. The new Medicare reform legislation also stipulates that beneficiaries who are not eligible for Medicaid and who wish to qualify for the subsidies must also meet a stringent asset test of \$6,000 for individuals and \$9,000 for couples (2006 dollars). As a result, a significant but unknown percentage of poor and near-poor beneficiaries will not qualify for premium subsidies.

Discussion

The passage of the new Medicare reform legislation in 2003 changed the landscape for premium support. There is now a demonstration project on the books, scheduled to begin in 2010 and end in 2016. This aspect of the legislation is rather vague, however, so even if the political situation does not change in the next six years, the particulars of its implementation are as yet unknown. Moreover, much could change. Already, legislation has been introduced to repeal parts of the law, including the premium support demonstration. Just three days after President Bush signed the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 into law, Senators Kennedy and Graham introduced S. 1992, the Defense of the Medicare and Real Medicare Prescription Drug Benefit Act. This bill not

only calls for the repeal of the demonstration project, but, among other things, also would increase prescription drug coverage and repeal the health savings accounts.

Recent history provides another reason to question whether the demonstration project will take place as planned. The legislation calls for up to six demonstration sites. In the past, however, local congressional representatives—prodded by both the managed care industry and Medicare beneficiaries—blocked premium support demonstration projects in Baltimore, Denver, Kansas City, and Phoenix, in keeping with a NIMBY (not-in-my-backyard) philosophy (Nichols and Reischauer 2000; Dowd, Coulam, and Feldman 2000). The same thing could occur again, with senators from Arizona and Oregon already stating opposition to having their states be one of the demonstration sites (Freudenheim 2003). The upcoming demonstration project does differ from these previous attempts because Medicare's fee-for-service program would explicitly compete against private managed care plans; previous efforts focused just on managed care plans competing against each other. Some observers believe that including Medicare FFS in the demonstration would make managed care plans more favorably inclined to participate, but others believe the opposite is the case.¹⁰

In this article we have attempted to simulate some key distributional aspects of a particular premium support proposal that provides the most detail, Breaux-Frist I.

Our simulations show that it would have some major distributional impacts. In many ways the most desirable impact concerns out-of-pocket spending for low-income Medicare beneficiaries. We found that near-poor beneficiaries who do not have any supplemental coverage, as well as those currently covered by QMB and SLMB, would spend far less of their incomes on health care than they currently do. These effects would be diminished, however, for beneficiaries choosing to stay in the (more costly) fee-for-service system. The new Medicare reform legislation is less generous than Breaux-Frist I because it requires poor and near-poor individuals not dually eligible for Medicaid to also pass a stringent asset test in order to obtain full subsidies to purchase a health plan.

Probably our most disturbing finding concerns selection bias: Under

10. Karen Ignagni, president of the American Association of Health Plans, the main lobbying organization for HMOs, was quoted as saying that the exclusion of Medicare FFS "was tantamount to 'tilting competition unfairly against private plans'" (Dowd et al. 2000: 26). In contrast, Robert Reischauer, previous director of the Congressional Budget Office and president of the Urban Institute, has stated that inclusion of FFS makes the new demonstration project "even more controversial" (Freudenheim 2003: 1).

Breaux-Frist I—and, we argue, under the new reform legislation—those wishing to remain in the fee-for-service program will have to spend far more than they do now on premiums. As the legislation is currently written, Medicare fee-for-service would enter a gradual death spiral, as healthier individuals switch to HMOs and sicker ones remain in fee-for-service. This could be ameliorated only if a method of risk adjustment were developed that is more successful than those being proposed now or if Congress chooses to provide additional subsidies to beneficiaries in the fee-for-service program. The latter may indeed occur, but if it does, it would simultaneously do away with the major potential efficiency-producing aspect of the legislation: giving beneficiaries an incentive to choose more efficient plans.

As noted, more so than any other aspect of this article, the results of the geographic simulations are very specific to Breaux-Frist I and not necessarily to other proposals for premium support. The legislation uses a system of national rather than regional supports. Under such a scenario, beneficiaries in areas with relatively high health care costs may have to pay far more in premiums than those living in other areas. This is by design, as it would give an incentive for profligate areas to reduce unnecessary utilization. At the same time, we believe that this provision of the legislation would make it especially difficult to be approved by Congress since representatives of the “losing” states would undoubtedly attempt to block its approval. Interestingly, however, the CMS actuary also predicts substantial regional variations in out-of-pocket premiums under a local premium support scheme such as the one included in the Medicare reform legislation.

Indeed, there are a number of question marks about premium support. In this article we analyze only distributional issues, but in other research we reviewed efficiency issues, including whether there would be sufficient competition, impacts on Medicare costs, and information and quality concerns (Rice and Desmond 2002). In fairness, though, the current Medicare system is also plagued by problems: key products and services remain uncovered, costs are escalating rapidly, Medicare HMOs continue to leave the market, quality is generally viewed as spotty, physicians in some areas are beginning to withdraw from the program, and beneficiaries who are most financially vulnerable are least likely to have subsidized supplemental coverage. It can therefore be argued that *not* reforming Medicare, in some fashion, is equally risky. Whether the new Medicare reform legislation succeeds in correcting some of the faults remains to be seen as various aspects of the legislation, perhaps including the premium support demonstration, are implemented.

Appendix A: Simulation of Medicare FFS and HMO Enrollment and Premiums

To conduct the simulations it was necessary to make a number of simplifying assumptions. Among them is that data from the 1996 MEPS can be used as a basis of estimating beneficiary expenditures in the Medicare FFS and HMO populations. An advantage of using the MEPS data is that they contain imputed expenditures for patients receiving care in Medicare HMOs. Unlike Medicare fee-for-service plans, there is no record of actual expenditures for beneficiaries in Medicare HMOs. This is because Medicare pays a fixed sum to an HMO for each enrollee. MEPS imputes the medical expenditures for beneficiaries in HMOs as specified in the MEPS documentation: “Events covered under capitated arrangements were imputed from events covered under managed care arrangements that were paid based on a discounted fee-for-service method” (Agency for Healthcare Research and Quality 2000: C-65). To estimate initial premiums in the simulations, we used the average estimated annual expenditures (excluding prescription drugs) from the 1996 MEPS for those in Medicare HMOs (\$4,319) and those in the Medicare FFS plan (\$4,802). We have lumped together patient co-payments and supplemental insurance payments into these premium amounts, under the assumption that patients should be largely indifferent between these forms of payment.

It is not clear what portion of the difference in premium levels between HMOs and FFS is due to savings that accrue from greater HMO efficiency versus the portion that is due to favorable selection in the baseline year. This information is not needed, however, to conduct the simulations. Rather, we are assuming that whatever efficiency advantages that HMOs enjoy in the baseline year will continue into the future. We further assume that the Medicare FFS program will not do anything to improve its efficiency over time relative to HMOs, nor will policy makers respond to a declining FFS market share by providing (say) additional subsidies to bolster declining enrollment. For the sake of simplicity in the simulations we assume that these factors remain constant.

Following Buchmueller, we make a conservative assumption that Medicare beneficiaries are not strongly driven by premiums when deciding whether to switch health plans because of their attachment to their current providers. We therefore use his calculated elasticity of demand for insurance of -0.16 (Buchmueller 1998). In our simulations, we do not use the price elasticity per se. Instead we use a modification of the predictive equa-

tion from Buchmueller's probit analysis to estimate the probability of choosing FFS when comparing the FFS premium to the HMO premium. These relative probabilities are then used to estimate the number of beneficiaries who would switch plans. The modifications to Buchmueller's predictive equation involve collapsing effects for variables not found in MEPS into the constant term. We also adjusted the constant term to yield probabilities of choosing FFS in line with the relative likelihood found in the MEPS data set. Finally, we also divide the overall price effect into two effects, one each for sicker and healthier beneficiaries, assuming that those whose health expenditures are above the median are half as likely to switch to an HMO as those below the median. There have been no published studies on the relationship between health status and plan switching among Medicare beneficiaries. In one study (Stromberg, Buchmueller, and Feldstein 2002: table 5), the authors find that sicker plan enrollees under sixty-five in the University of California system who were new hires or had been an employee for one to five years were indeed less likely than their healthier counterparts to switch plans during open enrollment, but this was not true of those who had been employees for more than five years.

Another assumption we make is that plans will determine what payments they need to receive in order to cover the costs of their expected patient mix. The plans will refer to published risk-adjustment factors and will calculate bids that will yield, after adjustment, the targeted payments. Thus plans known to have sicker than average patients will bid amounts lower than their targets, knowing the adjustment factor will be used to bring the payments up. Similarly, plans with healthier patients will bid over their targets, knowing that risk adjustment will bring the payments below their bids.

A final assumption is that the formula used for risk-adjusting payments to plans will be 50 percent successful. The AAPCC explains only about 1 percent of variation in beneficiary expenditures, formulas that account for past inpatient experience (which are now being used by CMS) explain about 6 percent, and those that account for ambulatory conditions as well (which may be used by CMS in 2004) explain about 11 percent (MedPAC 2000). It might appear, then, that explaining 50 percent of variation is overly optimistic or pessimistic. This is probably not the case, however. It is sometimes claimed that a risk-adjustment formula does not have to predict each individual's cost accurately; rather, it needs to predict costs for the health plan as a whole. As stated by Harold Luft (1995: 28):

Although perfect, or even moderately high, explanatory power is unachievable, policy may not require a perfect risk adjustment methodology. Predicting the medical care use of an individual may not be necessary for the functions required of risk adjustment. The Casinos in Las Vegas are unable to predict the roll of the dice; they merely know the long-run odds will be in their favor. Likewise, life and health insurance companies need not know precisely the expenditures of each enrollee to be able to predict well for groups. . . . The lesson is that concern about the poor explanatory power of models focusing on individual expenditures is misplaced if the real question is how well one can predict for groups, particularly groups reflecting nonrandom risk-related selection. It is precisely such situations in which risk adjustment is needed.

This viewpoint, however, is not shared by all analysts. Joseph Newhouse (1994), for example, claims that risk adjustment must be successful at the individual level, not just the group level. Otherwise, health plans will still have an incentive to avoid enrolling or retaining potentially costly individuals. If one adopts this viewpoint, then the problems associated with imperfect risk adjustment simulated below understate the problem faced under premium support.

Exactly how much *group* variation in expenditures can be predicted by various risk-adjustment mechanisms is an open question. It has been estimated, for example, that risk adjusters using inpatient utilization information overestimate spending by the lowest-cost quintile by 110 percent and underestimate them for the highest quintile by 25 percent (MedPAC 2000). A formula that used outpatient information as well would do better, overestimating costs for the lowest quintile by 23 percent and underestimating them for the highest quintile by 14 percent. (Although CMS is working to include ambulatory conditions in future formulas, it will require considerable amounts of data from health plans that, in many cases, currently are not being collected.) Thus our assumption that a risk-adjustment model might account for 50 percent of group variation in expenditures does not seem excessively optimistic. To account for the uncertainty surrounding the effectiveness of risk adjustment, however, we repeat the simulation using two different assumptions. One simulation assumes that risk adjustment is 75 percent effective and the other 25 percent effective.

Appendix B: Major Provisions of Breaux-Frist I (S.357)

Standard Plans

Entities submit offers for Medicare plans, including information on benefits, premiums, and service area. All plans must include as core benefits those which are currently available under Medicare Parts A and B. CMS offers one standard Medicare FFS plan throughout the United States, including only core benefits. The Medicare Board computes a premium for each plan, reflecting the actuarial value of the core benefits. The Board then computes a weighted national average premium (NAP).

The Medicare Board pays each plan its bid, adjusted for published geographic and risk factors. The methodology to be used for these adjusters is not specified; however, the geographic adjustments must be based on input costs only.

The beneficiaries' obligation is computed as follows:

- If the plan's premium bid is less than 85 percent of the NAP, the beneficiary obligation is 0.
- If the plan's premium bid is 85–100 percent of the NAP, the beneficiary obligation is computed on a sliding scale based on the amount by which the bid exceeds 85 percent of the NAP [$0.8 \times (\text{bid} - 0.85\text{NAP})$]. If the bid is exactly 85 percent of the NAP, the beneficiary obligation will be 0. If the bid is exactly 100 percent of the NAP, the beneficiary obligation will be 12 percent.
- If the plan's premium bid is over 100 percent of the NAP, the beneficiary obligation is the sum of:
 1. The applicable percentage of the NAP—equivalent to current Part B premiums divided by total per capita expenditures, plus
 2. The amount by which the premium bid exceeds the NAP.
- If the only plan offered in a particular service area is the CMS plan, the beneficiary obligation cannot exceed the applicable percentage of the NAP.

High-Option Plans

All entities offering a standard plan must also offer a high-option plan that includes prescription drug and stop-loss coverage in addition to the core

benefits. The drug benefits may vary, but must be actuarially equivalent to \$850 on January 1, 2004. They are indexed thereafter to increases in outpatient prescription drug costs. The stop-loss coverage limits Medicare beneficiary cost-sharing for core benefits to \$2,000 in 2004, indexed thereafter by increases in average spending per beneficiary.

Beneficiaries will pay the additional costs for high-option plans with the following discounts:

- Beneficiaries with incomes greater than 150 percent of poverty will receive a 25 percent discount.
- Beneficiaries with incomes between 135 and 150 percent of poverty will receive discounts between 25 percent (for those with income at 150 percent of poverty) and 50 percent (for those with income at 135 percent of poverty), based on a sliding scale.
- Beneficiaries with incomes at or below 135 percent of poverty can enroll in the lowest-cost high-option plan in their area and pay no premium. If such a beneficiary enrolls in another plan he or she must pay the difference.

CMS will contract with private entities to offer prescription drug benefits under high-option plans in an area that can be local, regional, or national. Multiple entities can contract with CMS. Access to a CMS-sponsored high-option plan is guaranteed in all areas, even if no private entity enters into a contract with CMS.

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