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Medicare+ Choices: Impact Of Self-Selection

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Summary: There has been considerable discussion in the past few years on the amount of self-selection that exists between managed Medicare plans (e.g., Medicare risk plans operated by Health Maintenance Organizations and traditional fee-for-service Medicare. Research has indicated that managed plans attract healthier insureds, resulting in increased costs in the fee-for-service sector. Several features of the Balanced Budget Act of 1997 will add to the possibility for self-selection (further managed care opportunities via point-of-service, higher deductible Medicare plans, etc.), while other features may reduce the possibility of selection (reduced adjusted average per capita cost, potentially resulting in lower HMO benefits).

In this session, three experts discuss different aspects of self-selection among Medicare options. The discussion will include Health Care Financing Administration studies as well as early Medicare+ Choices experience.

Mr. Gregory A. Delamarter: Our first speaker is Sally Burner, who is a supervisory actuary with the Health Care Financing Administration (HCFA), who will also close the discussion with some concluding comments after the other two panelists have talked. The second will be Eric Smithback. He is a consulting actuary with Milliman & Robertson, and he's going to talk about the self-selection issue from the point of view of the Health Maintenance Organization (HMO) or the provider. The third will be Dale Yamamoto, who's a consulting actuary with Hewitt and Associates, and he's going to talk about this issue from the point of view of the employer.

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Note: The chart referred to in the text can be found at the end of the manuscript.

Ms. Sally T. Burner: I'm going to start out with a look at some of the studies that have tried to quantify if there is risk selection, and if so, how bad it is. I guess all of you are familiar with the current payment methodology: the capitation rate is 95% of the adjusted average per capita cost (AAPCC), which now is being replaced with the Medicare + Choice payment rate, but it's basically the same concept. This is supposed to be an estimate of what an enrollee would cost if they had stayed in fee-for-service Medicare. For a specific HMO, it takes into account projected U.S. per capita cost, historical county per capita cost, and then an adjustment for enrollee demographic characteristics. The demographic characteristics currently controlled for are age, sex, Medicaid status, institutional status, and, in 1995, an additional factor was added to account for the working aged status. The payment for a given HMO includes the average demographic cost factor for the HMOs enrollees in the country, divided by the average demographic factor for the county. It's intended to account for enrollee health status, but it has shown to be a weak predictor of future health-care costs.

Numerous studies have shown that Medicare beneficiaries enrolled in HMOs are, on average, healthier than beneficiaries in fee-for-service plans, after controlling for the demographic adjusters included in the AAPCC. In the 1996 Physician Payment Review Commission's report to Congress they looked at this issue, and I'll talk a little bit about their findings in a minute. They put together a list of the studies and the results that have been done on this subject, and I'm just going to mention them quickly. Most of the studies—at least the initial studies—looked at pre-enrollment cost and use of services. The earliest study was done by Edgars in 1980 and compared inpatient spending and services between 1976 and mid-1979 for beneficiaries enrolled in the Group Health Cooperative of Puget Sound with a control group of fee-for-service beneficiaries. They found that the HMOs enrollees had about 60% fewer services and 40–50% more expenditures than the fee-for-service control group. A subsequent study by Edgars and Prahota in 1982 looked at pre-enrollment spending during 1976–79, for beneficiaries who joined HMOs in 1980 and 1981. After adjusting for the risk factors used in the Medicare payment, they found that total expenditures were about 20% lower for the HMO enrollees. Analysis of 17 plans in the Medicare competitive demonstration between 1982 and 1985 found that in the two years before enrollment, risk-adjusted expenditures for HMO enrollees were 21% lower than those for fee-for-service enrollees, and were 54% higher for those who eventually disenrolled than for those in the control group. Again, a large study done by Helen Brown in 1990 found that average risk-adjusted expenditures in the two years before enrollment were 23% lower for those who joined an HMO, compared with the fee-for-service control group, and pre-enrollment incidents of hospitalization for high-cost diagnosis were 25% lower for enrollees.

As I said, the Physician Payment Review Commission looked at this issue when they were preparing their 1996 report to Congress because most of these studies, as you notice, were old, and they wanted to address the criticism that the estimates made in the 1980s and early 1990s were no longer relevant to the recent HMO enrollment experience. But what they found verified the previous findings. HMO enrollees tend to be drawn from fee-for-service beneficiaries with low costs, and HMO disenrollees have high subsequent fee-for-service expenditures. They looked at people who enrolled between July 1989 and June 1994 and those who disenrolled prior to the end of 1994. They looked at total expenditures across the group and compared them. They also looked at expenditures for the six-month period prior to enrollment and, for those who disenrolled, for the six-month period after disenrollment. The results substantiated the findings of earlier literature. Spending by new HMO enrollees was only 63% of that for beneficiaries in the fee-for-service control group in the six-month period prior to being enrolled in an HMO. A significant difference exists between those who remained enrolled and those who subsequently left. You can see that it is 63% overall, for the continuous enrollees it was 56%, but for those who subsequently disenrolled it was actually higher, 103%.

Post-enrollment data yielded two general findings. On average, beneficiaries who left had higher spending than the fee-for-service group. In the six months after disenrollment, expenditures were 60% higher. Some observers consider their cost rise to be equal to those who are still in fee-for-service plans, and others suggest that part of this is pent-up demand, that some of these people delay services until they switch plans, which results in very low utilization just prior to enrollment. So you have to make your own judgments. Other studies have done cross-sectional studies of this population. Now, this is a little bit harder. Two factors make it difficult to study HMO beneficiaries while they're in HMOs. The first is that, until very recently, little information has been available. Medicare records contain only mortality and limited hospitalization data. Now, this, of course, will be changing as we begin to collect encounter data. We'll have at least information on inpatient stays, starting with discharges on or after July 1, 1997. And we're looking at collecting additional data down the road. There are also surveys, such as the Medicare current beneficiary survey, which is conducted by HCFA, and other surveys that provide additional information such as self-report health status and use of services. The second thing that we have to be aware of is that use of services in HMOs reflects two things. It reflects risk selection, but also it reflects HMOs efficiency in delivering services. So all the differences are not attributable just to risk selection. If HMO's are doing their job, part of the reason that they have lower costs is that they're able to manage care, and it's hard to figure out how much is attributable to which piece.

There have also been quite a few mortality rate studies, and these have uniformly shown lower rates for enrollees, even after adjustment for risk factors. An early General Accounting Office (GAO) study found enrollee mortality rates were 23% lower than those for the fee-for-service beneficiaries. Gerald Reilly in our Office of Research, which is now the Office of Strategic Planning, has spent quite a few years looking at this issue and has published several studies, mainly in the *Health Care Financing Review*. An early one he did in 1989 showed 34% lower mortality rates for HMO enrollees in the first year after enrollment. And a subsequent by Reilly, Lubitz, and Ravey found the mortality rates for HMO enrollees in the two years after enrollment were 32–60% lower than those for fee-for-service beneficiaries. A more recent study, in 1991, using 1987 mortality data, found HMO enrollees had 20% lower mortality rates, but disenrollees had 23% higher rates relative to the fee-for-service beneficiaries.

Other studies have tried to use a comparison of health status measures, functional health status, prevalence of chronic disease, and self-reported health status. These showed more mixed results. A study by Lichtenstein in 1991 of 10,000 HMO enrollees and nonenrollees in the same market found favorable selection in seven plans, neutral selection in 16 plans, and unfavorable selection in none of the plans. There are also studies that try to measure both the cost and risk selection. Probably the most famous one of these was conducted by Randy Brown at Mathematica in 1993. It was a major evaluation of the early Medicare risk program, and it attempted to measure both cost and risk selection of a cross section of Medicare HMO enrollees. Beneficiaries were surveyed, because of lack of information of the program data, to obtain self-reported measures of health care use and to identify risk factors such as chronic illnesses and functional health status. These were then used to impute utilization and selection. The study estimated utilization at 20% below fee-for-service average, and that risk selection accounted for about half the difference. The widely-cited conclusion, that's still quoted fairly frequently today, is that Medicare is paying 5.7% more than it would have spent had the enrollees remained in the traditional fee-for-service program. So instead of the Medicare risk program saving Medicare money, according to this study, we lose money on everybody who goes into an HMO.

Reilly, using one of the early rounds of the Medicare current beneficiary study, also looked at this issue. He found the average predicted costs based on various health status measures were substantially lower for HMO respondents than for fee-for-service respondents. The cost ratios here are the ratio of the individual's cost to average Medicare cost. The model used demographic data, self-reported conditions, functional status, and general health status to predict cost ratios for 1992. He also did a simpler model that used just demographics and self-reported

health status. His study confirmed the previous studies, that HMO respondents tended to be healthier than the fee-for-service respondents. So the problem of overpayments that was documented in Brown does not seem to have improved with the recent expansion of the Medicare risk contracting program. The ratio of average demographic cost factors for HMO and fee-for-service respondents is 97%. If all you do is use the ratio using the AAPCC demographic factors, then the ratio of HMO to fee-for-service is 97%. However, when health status is controlled for, the average predicted cost of HMO enrollees was only 85% of the average predicted value for the fee-for-service respondents. This suggests that the AAPCC payments would be 12% lower if better health status was taken into account. So this study says that we lose about 7%, and that's consistent with the range found in the Mathematica study. The authors point out that—or wanted to point out that some of this may be attributable in part to improvements in health status due to better access to services or quality of care in HMOs.

I guess it was two or three years ago that Jack Rogers did a study using the 1992 Medicare current beneficiary survey. It was very surprising, because his results were different than almost any of the previous studies. He found that after controlling for demographic cost factors built into the AAPCC payment formula that risk contracting HMOs attract an equally costly mix of Medicare beneficiaries, that there is little or no bias selection, and that Medicare actually is saving 5% on each of its HMO enrollees. Well, they were using the Medicare current beneficiary survey, and that was produced in the office of the actuary in HCFA and we knew that there were a couple of problems with that particular file. First, he used chronic conditions as part of his model, and the questionnaire is supposed to reflect the question, Have you ever been diagnosed with a particular condition? In the initial interview they ask, Have you ever been diagnosed with it?. . . but in subsequent years they ask only about the previous year. The two responses are supposed to be linked to give you an “ever.” Well, in 1992, they weren't linked. So the incidence of chronic conditions was much lower on the 1992 file than it was in subsequent and in updated, corrected files. The other thing that we found is that, HCFA for some reason—and anybody who deals with HCFA data is probably more familiar with this than I am—the HCFA master file did not have people correctly indicated as to whether or not they were in a risk HMO or not. It showed some people who were actually in HMOs, as still being in Medicare fee-for-service plans. On the Medicare current beneficiary survey, we do not have actual Medicare expenditure data for people in HMOs because we don't know that, so these all look like zero-cost people, because they went into the fee-for-service part with zero dollars, which also skewed his findings.

So what we decided to do was to replicate the study, using 1994 Medicare current beneficiary survey. There has been a much larger number of HMO enrollees in the

initial survey, and there was a real size problem with the initial study as well. The way our study worked was we matched each HMO respondent to all the fee-for-service respondents who were in the same county with the same demographic factors. So one HMO person was matched to all their look-alikes in the fee-for-service sector. The matching fee-for-service records were reweighted so that the sum of their weights equaled the single HMO weight, but the relative weights within the matches were maintained. Each HMO enrollee's Medicare costs in 1994 were then predicted, using a two-part regression model, developed on the basis of claims data for the fee-for-service sample. The first part estimated the probability of having spending in a year, and this used a logit function. The second part estimated the amount of spending for those with spending, and this was done using a logarithmic transformation of the Medicare spending: Part A and Part B were done separately.

First, I want to discuss some of the findings that we had on the differences between the two groups. Not surprisingly, the fee-for-service risk subset and the HMO group look the same, because they were matched on AAPCC characteristics. The HMO population generally is younger than the whole fee-for-service population, has many fewer institutionalized—about a third—and about half of them are Medicaid. The comparisons that were important were between the fee-for-service risk subset and the HMO subset, in the HMO group. What we found is that the fee-for-service risk subset has significantly poorer health, on average. Twenty-one percent of that group are in fair or poor health, compared to only 18% in the HMO risk group, and this was statistically significant.

Chronic conditions were what got messed up in the Jack Rogers study, but hopefully ours was right. What we found is that the fee-for-service risk subset had higher incidence of cancer, significantly higher myocardial infarctions, and an overall higher proportion with heart disease. On the other hand, the HMO group had a higher percentage with diabetes. The number of other chronic conditions seemed to be fairly similar between the two groups. One of the other measures we used in the study was activities of daily living (ADLs), and the instrumental activities of daily living (IADLs). What we found here was that the fee-for-service risk subset had a higher percentage of difficulty with each of the five ADLs, and with three out of the five IADLs. They have a higher average number of ADLs, 0.42, compared to 0.35, and IADLs, 0.50 to 0.44. This is suggestive of better functional status among HMO enrollees.

Now we get to the dollar part. Comparing the predicted costs for the HMO group to the actual cost of the managed fee-for-service risk subset provides an estimate of the amount of selection experienced by plans participating under the risk HMO

program. Predicted values of the HMO group were 90% of those of the fee-for-service risk subset. We also found that the model underestimated Part A costs and overestimated Part B costs consistently in Jack's study and my replication of it as well. To correct for this bias, the average predicted costs for HMOs were divided by the ratio of predicted-to-actual costs for the fee-for-service subset. HMO's have risks that are only about 89% of fee for service. This suggests that Medicare is paying HMOs, on average, 6.9%, or 0.95 divided by 0.889, more than it would have paid for the same people, had they remained in an HMO. These findings are very consistent and similar to those that were found in the early Mathematica study, as well as the more recent Office of Research and Development study.

One thing I wanted to say is, people think that some of the provisions of the Balanced Budget Act (BBA), will actually make the selection problem a little bit worse. The reduction in the payment rates will shrink the disparity, so that will move them closer together. However, the availability of new types of plans will probably exacerbate the problem, especially the medical savings accounts (MSAs) and provider-sponsored organizations (PSOs). The MSAs with the high deductibles, tend to experience favorable risk selection. Even though people will be locked in eventually, what can happen in the meantime is someone can choose an HMO option when healthy and then move to another Medicare+ Choice option or fee-for-service plan if they develop medical problems or want to schedule a nonemergency procedure, such as a hip replacement. The impact won't be as large as it may otherwise, because the MSA is a limited demonstration. Actually, when the estimates were done of the impact of BBA, a cost was added for this. We also believe that there will be costs connected with PSOs, as these types of groups will be able to steer their healthier patients into their networks and advise the sicker beneficiaries to remain in traditional fee-for-service or go to some other kind of plan. That was one of the big fears, how much skimming they can do, since they control the information: it's their own patients coming in, they know their history, and they're in the best position to figure out whether or not they should be able to make money on the people in these plans. So it appears that several of the BBA provisions may actually make the current situation worse.

Mr. Eric L. Smithback: Speaking now at the last session, and especially following somebody with such good information, I think that making it interesting is really hard. I'm going to make it short. I want to talk a little bit about selection issues from the HMO and provider sides. I work a lot with HMOs and provider groups that contract with HMOs in Medicare risk arrangements. Looking at all the studies, I think that there seems to be some general agreement that selection exists: the more choice you have, the more selection will occur. The only thing we're really arguing about is how much selection, in what plans, and when. And we can argue about that for a long time, because we basically don't know.

There are a few things that we maybe can agree on. I think, one that, we can agree that selection does exist. The studies that Sally discussed generally indicate that selection is a big factor in plans. I think that we all agree that people do make choices, that sometimes they don't exactly evaluate benefits the way an actuary would, but they are able to assess their self-interest. And so selection exists whenever you give somebody a choice. I think that the impact decreases with time, meaning the time from the point of selection. Now, you can try to construct examples in which that may not seem to be true, like in an assessment spiral in a small group, but every time somebody gets a 17% rate increase, by staying, they are, in fact, making a choice. So in a ratings spiral, a continuous series of choices is being made, but there's really only one choice being made, and selection goes away over time—it regresses toward the mean.

I think that one thing that's interesting to consider, when you look at some of the studies that Sally discussed, is the amount of medical expenses that occur in the last year of the person's life. Then ask yourself, how likely is it that somebody who is terminally ill is going to change their medical coverage and join an HMO and potentially select a different doctor? I think that single act leads to a lot of the difference, especially when you look at things like health status six months before selection, and things like that. So there's a huge amount of expense that is expended in the last year of somebody's life. Those people aren't likely to switch; anybody who's in the hospital isn't likely to switch. And so there's going to be a larger amount of selection at the point of choice; that selection will eventually disappear. And I think that the last thing we can agree on is that it's difficult to measure this. Perhaps we can on an aggregate basis; when we look at studies covering the whole Medicare population, we can make some kind of judgement as to the amount of selection. But if we're in a particular market, and that market has varying numbers of plans and it has different types of providers, and the AAPCC is different, we have almost no hope of evaluating how much selection a new HMO, or even an existing HMO, will have in a market, because it does vary a lot from plan to plan. Selection is dynamic: it changes over time. Finally, we must also consider the environment that Medicare risk plans are in, which makes it extremely hard to judge how much selection there is, because there are a lot of things going on: not only selection and elimination of fraud and abuse, but also the changes that people have to make in order to be successful at Medicare risk products.

Next let's consider the amount of change that's necessary when people move into a Medicare risk product, for example, from the point of view of a provider group. Now the plan we'll consider is a pretty typical \$10 co-payment, no prescription drug coverage plan. The minute that provider gets capitated, capitation revenue is reduced substantially from the fee-for-service payments they were getting before,

because HCFA takes away 5%, and the HMO generally takes anywhere from 15% to 20% of the revenue for its own administrative expenses. In addition, the co-payments go down substantially because instead of getting 20% of the physician expense—instead of getting 20% or actually more like 50% of the outpatient hospital expense—the providers get only \$10 copayments.

The net effect in this example is that revenue is dropping about 30%. The change in behavior needed to avoid catastrophic financial loss in this situation is huge. Whenever we have a situation where the change is this big, we cannot measure things like selection; we cannot isolate variables like that. The actual range that plans go through, from a provider perspective, is probably 25–35%, if we don't have a prescription drug benefit, and with a prescription drug benefit it can sometimes get up to a 40% reduction in revenue. Now, part of that reduction in revenue is covered by selection I think that we'll all agree to that: that somehow, of that 29% reduction, 7% of it perhaps is covered by selection. And maybe in the first quarter it's higher than that, maybe it's 15%. But what if we are able to use risk adjusters to get rid of the effects of selection: What impact will that have on Medicare risk plans? The savings here are pretty hard to achieve. Physicians don't want to take big discounts off Medicare payment rates. So when you look at that 29% drop, where does it come from? It comes from drops in hospital payments; it comes from getting rid of medical education payments, which are being taken away. It comes from discounts on the hospital side; it comes from changes in utilization. When you add it all up, 25% of the savings, perhaps, that we need, are from selection. If that goes away, an awful lot of these risk claims are going to be in trouble.

At any rate, in this environment, we cannot measure selection. But we can make some general comments from a more practical perspective perhaps about what plans do, what causes selection, and how they treat it on a day-to-day basis. The types of things that seem to cause selection, in the typical HMO world, are the place and method of solicitation. I'm not sure that in this country we have the three-floor walkups with no elevator, but there are more subtle forms of that. I think that the place where you enroll people, if you go through active seniors groups and things like that, will have a different effect on your population than if you were to enroll in a hospital, which may be what some of the PSOs are going to be doing, effectively. The panel of physicians is important in terms of the types of people that are brought into these plans. The presence of academic medical centers in your panel might have an impact on the type of people you see, or how many oncologists you have may have an impact on the type of people you see. Oncologists are very hard to contract with typically. What does that mean? Do people with cancer enroll as often in an HMO plan?

Ms. Burner: They don't.

Mr. Smithback: They don't. Why? Because you can't contract with oncologists. Other factors are benefit design, the presence or absence of prescription drug benefits and pricing of the plan, whether people have to spend money to join the plan with a \$20 member premium is going to be subject to less positive selection than a plan with a \$10 member premium. All of these things are in effect, and all of them are somehow, to some extent, manipulatable by the HMO. Now, there are some environmental things that the HMO can't manipulate, like the level of AAPCC in the area, and how many plans there are competing with them. But, generally, the HMO has some control over individual selection.

How they take that into account in pricing is more of a mystery. We've seen that the HMO, in order to make money, or the provider group that's being subcapitated, needs to have substantial reductions in utilization. So when the HMO prices the product—when the providers decide whether they can make money on the product—they have to forecast some kind of substantial reductions in utilization. This is done commonly in one of two ways. One is to look at what some plan in Kansas City did last year, and say, "Well, they did that, so we could probably do that," even though you're in New Jersey and Kansas City's a little different. In that example, you can't tell how much is selection; you can't really tell anything. You're just making a stab at what the utilization will be. Milliman & Robertson uses a little more sophisticated way of doing it; we have models that project, fee-for-service utilization and utilization under well-managed conditions. We look at the management capabilities of the organizations and attempt to predict where their utilization will be, based on those models and based on the experience of similar plans. But we don't really have the tools to identify the selection point of view. So in terms of pricing, initially, selection is a very nebulous thing, and it really can't be identified separately. As we go forward on existing plans, I think that the selection is already there, but what we need to do is realize that the trends should be higher, because there will be some wearing off of selection.

For point-of-service plans, we can do a little bit more complicated work. People do need to make assumptions as to how many people are going to go in and out of network. I've seen people price for that in two ways. One is to ask, For a person who stayed out of the network, what would their costs be? For a person who's in the network, what will their cost be? Let's average those and add on a selection factor, to increase costs by anywhere from 3% to 5% over what they would have been for those people in separate situations. Or you can actually go with benefit-specific use rates and figure out, for emergency room usage, how much will be in network, how much will be out, and the likely impact of allowing people choices.

So for point-of-service plans, we do have to make pricing decisions based on what we perceive to be individual selection patterns.

Now we're going to enter the brave new world of Medicare + Choices. On the one hand, we have selection caused by all these new plans. On the other hand, we have risk adjusters, which are somehow leveling the field instead of seeing it get more diverse. The AAPCC in this case is the fulcrum: it's moving to the left and to the right, depending on where you are and complicating things beyond belief. What happens in this new world? Well I'm not sure that we're able to talk about this and draw any real conclusions here. I think that we can say that MSAs, PSOs, and Preferred Provider Organizations (PPOs) aren't defined today, we don't know what they'll look like, how they'll be priced, and we can't say what their impact will be. PSOs, I expect, will be very similar to HMOs. The PSO process is similar to what a provider group setting up an HMO goes through. They will tend to act like provider-owned HMO's, and provider-owned HMOs tend to act like other HMOs in many respects. Risk adjusters will cause a significant change to the extent that they are successful.

Going beyond what we can say for sure, I can make a few predictions. I think that PPOs will have a very small impact. HICFA has one PPO now, or are there more? I think that just one PPO plan is offered, in Pennsylvania. It does enroll people, which is surprising to me, because it's offered in conjunction with a point-of-service plan. The point-of-service plan, seems to have better benefits and has a \$20 per month premium. The PPO plan has an \$80 per month premium, so the price is \$700 a year more. It's not clear what you get for that premium. Surprisingly, people do enroll, although it's only about 2% of the total people for that HMO. It seems to me that PPOs have so many problems in this market, that they're just not likely to be a big player. MSAs, to the extent they succeed, probably will have an adverse impact on everybody else. Based on what we've seen, the MSA market will not be very big, so there won't be a huge impact due to these, and it won't be a significant consideration for pricing of HMOs. But I'd just point out that drugs are a wild card, in MSA plans. And to the extent MSA plans are priced the way people have said they will be priced, we can take my parents, and we can construct ways for them not only to create tax havens, but also to cover their drug costs in a cost-effective way. I know that I can use an MSA, if it's priced reasonably, not only to change my parents' payment patterns but also to create a tax shelter for them. And because of that, because of this drug benefit that Medicare isn't providing, there may be a big opportunity for MSAs. We just have to see how the pricing is done before we can make that statement.

I think there will be a limited number of PSOs. The capital requirements are fairly high. In many places they can just go out and get an HMO license anyway, so I'm

not sure that they'll be a significant factor, because they're already out there as provider-sponsored HMOs. I think, especially if risk adjusters do their job, that some of these PSOs are going to fail or have significant financial problems. I don't know much about the risk-adjusters methodology. I've heard David Willey say that he knows all about it, so afterwards we can ask him. But to the extent risk-adjusters are successful, I think that they will cause a lot of problems for HMOs. We can just assume that they will only be partially successful, and that they will be game to some extent. But I think that they are a real problem for Medicare HMOs lurking on the horizon.

So after Choices comes in, what do we say about pricing? PPOs are unclear. HMOs and PSOs really have to worry about risk adjusters. They may have to worry about MSAs. Plan design should probably be conservative for this one-year period before risk adjusters go into effect, because we don't want to launch products and have to cut back benefits. AAPCC impact will be interesting for many reasons; removing medical education, things like that—these are all important factors. And some plans like in southern Florida, where the AAPCC has been extremely high, may start to have problems supporting all the additional benefits that they supplied in the past. People should fight for market share, which I think just contradicts most of the other things I just said. But clearly, as you need to save more money and as your revenue declines, market share is more important because most savings in Medicare risk plans are at the expense of hospitals. And to the extent you have good market share, hospitals are more likely to listen to you.

Finally, utilization management and customer service: if the risk adjusters work, you're less likely to be competing on the basis of how well you select people. And to the extent that's true, everything else becomes much more important. Efficiency and service are the things that you end up competing on. Regarding point-of-service plans, I don't know that anything changes after Choices that we haven't already mentioned. And I guess the last comment is that, clearly, as we sit through this presentation and we hear all these studies, some of them conflicting, we don't have a way to measure selection. But I think that we may not ever have a good way to measure it on a plan basis. What we need to do is start thinking about how to measure selection on a plan basis. And there are some indicators that we might want to think about collecting that we haven't been doing a very good job with before today. Utilization rates compared to fee for service: I think we've done that for a couple of years now; and we've done chart audits. Health status assessment isn't a tool that we're using very well today, but it's clearly something we need to start thinking about. Market surveys are going to become more important as there are more options in the market place, because you can appreciate the amount of selection you're getting and the problems caused by selection only by being aware

of the other alternatives, what other choices people have. We're going to need to start collecting data in risk-adjuster format, making sure that we can figure out what risk adjusters will be applied. And we're going to need to measure in-network and out-of-network use rates, as point-of-service plans expand and multiply.

Mr. Dale H. Yamamoto: The progression of this discussion has been fascinating to me. Sally has very extensive databases and functions that, frankly, I've never heard of, that enable us to take a look at the effect of risk selection on HMOs, and between HMOs, managed-care plans, and the fee-for-service environment. Now we have our health plan provider consultant that isn't willing to make any kind of statement, and I feel like some kind of country actuary from the Midwest who's going to say, "You know, I don't have a lot of data, but I can make some pretty good statements about where I think selection is among the different plans." And I actually am going to out from the employer's perspective, they're really concerned about losing some of the "good risks" to HMOs, because from their perspective, they have self-funded programs that, if they do lose a good risk, are affected financially from some perspectives. I don't think a lot of employers right now are really concerned about that; they're more concerned about how they're going to cope with all the different new options that their retirees are going to have available to them. So they're more worried about the administrative perspectives right now. I think they'll come along and worry about the finances a little bit later. But, I believe, when they do try to figure out what's going on, they'll find out that their self-funded plans will, indeed, on a per- retiree or per-member basis, see some higher costs. And they may not exactly know what's going on with this higher cost basis and why it's happening. So I think that our duty as actuaries is to inform them.

You know what's happening in the real world all along—you have been concerned about from the beginning. And when you take a look back at some of the studies that employers have done, and looking at what kind of selection patterns exist because of multiple options being given to employees, you do see some kind of pattern that, yes, to a certain extent, some HMOs do get some of the better risks, and because of that, you end up with some higher costs in your indemnity plans. I do have to admit that actual selection costs are difficult to confirm. The only things that we have been able to do, for the most part, are some look back studies that try to figure out exactly what's going on with selection. But even given those, when I have had the occasion to take a look at self-funded HMOs experiences, relative to the fee-for-service experience, you don't always get great data. This chart has been smoothed out a lot, but one of the things that we took a look at for a self-funded HMO for a large client is the costs per member after adjustments for plan designs only (see Chart 1). I have to admit that we didn't make any adjustments for age or gender, or any kind of demographics or geographic differences. But we did notice that the longer someone is in an HMO, the closer they actually do get to be a

similar risk to a fee-for-service type of participant. So it actually does confirm, at least in this one specific case, a lot of the things that we as actuaries really believe will happen, within the environment.

This is a real case study of a client that adopted Medicare risk HMOs back in 1994. They're sponsoring them, so they don't really get any kind of specific data from the HMOs themselves, given that it's a fully insured kind of plan. But one of the things that we did was try to collect claims data for the 1995–97 calendar years and then split them up, at least the indemnity claims, between those that enrolled in HMOs and the other retirees. So, in essence, it's one of those traditional look back studies to see what kind of experience these retirees had before they moved into the risk HMO. And for this particular client, these are the actual data we ended up with. The second-to-the-last line is the implied selection when you take a look at the cost per enrollee (see Table 1). It's kind of a per-member per-year kind of cost. They do seem to have pretty much a 59% implied selection, versus 101% implied selection for the people who did not go into the HMO. We thought, well maybe it's because of the ages, because younger retirees tend to move to HMOs as opposed to older retirees, but if you just look at the average ages, they're very close to the same, basically 73 years old. So demographics in this particular case didn't have a lot to do with the differences in claims that we're seeing between the two groups. At least for this one relatively large group, you can see some selection happening with this particular case.

TABLE 1
MEDICARE HMO CASE STUDY

Parameters	HMO	Non-HMO	Total
Incurred claims	298,940	19,834,514	20,133,454
Average enrollment	561	21,688	22,249
Claims per enrollee	533	915	905
Implied selection	0.589	1.011	1.000
Average Age	73.0	73.3	73.03

I guess we can project this onto, potentially, the other Medicare+Choice plans that are going to be offered; there may continue to be this kind of selection pattern that would be working against the employer. And from many perspectives, we're going to be consulting with them and trying to help them make decisions about exactly how much you subsidize a Medicare+Choice program, if you subsidize it at all. One option that I know a many of our clients are considering is that maybe you don't subsidize a Medicare+Choice plan directly, but one thing that you can do is potentially let people go ahead and join the Medicare+Choice plan, but also keep the employer-sponsored plan from the perspective that, I would suspect, over time a lot of the Medicare+Choice plans will slim down many of the supplemental benefits, particularly prescription drugs. From that perspective the retirees can keep

the employer-sponsored plan, solely to get prescription drug coverage, go into the Medicare+ Choice plan to get all of their medical services paid for. From that perspective, many of the players end up benefiting from that kind of arrangement, if that really works out.

Ms. Burner: I'm going to finish up very quickly. The subject of Medicare risk adjusters has come up several times, and I have a few studies that look at what is being proposed currently as the method of risk adjustment. We are required to implement a risk-adjusted payment system for Medicare+ Choice payments beginning January 1, 2000. Hospital encounter data were mandated for discharges on or after July 1, 1997, and the BBA gives us the authority to collect full encounter data, starting with services on or after July 1, 1998. But we're currently looking at that and determining whether or not that's feasible, and how we would go about doing that.

So, as the only data we are getting are inpatient data, we're going to be using an inpatient encounter data model as the risk adjuster. We're using a principal inpatient diagnostic cost group model, this model uses the principal diagnosis codes from hospital data only. It has 12 cost groupings based on International Classification of Diseases, 9 Revision (ICD-9) hospital diagnosis. The diagnoses groups are based on total payments for the person. The person is assigned to a single highest cost group for which they are eligible, and the current demographic adjustments are also embedded in the model.

The way this works is, the ICD-9 codes are grouped into 144. I love these terms principal-inpatient diagnostic cost group (PIP-DCG). Basically, this was done by looking at things that are clinically homogeneous and meaningful, separated by costliness, and with a reasonable frequency, at least 500 cases in the sample. So, basically, they just sorted everybody, sorted all the codes, looked at the cost associated with the codes, classed them into 12 PIP-DCGs with similar costs. I forgot to mention that these were sorted by beneficiaries' costs in the next year, because what we're trying to do is have the hospital stay in one year predict cost in the subsequent year. So it was not looking at the current year's costs, but the subsequent year's costs. If you look at PIP-DCG 17, that contains those conditions, and those were the average costs in 1992 for people who had that particular diagnosis. So anybody who was in a PIP-DCG 17 had costs in the range of 17 to 21,000. You go down to the PIP-DCG 7, and they're less complicated; they're in the \$7,000 range. And then the last one is PIP-DCG 2 and they're for people who have no hospital claims. They had average spending of around \$3,000.

A male aged 65–69, based on the AAPCC adjusters only, would receive 78% of the average cost. If he falls into PIP-DCG 7, he'll get 165%. If he falls into the top one,

he'll get 461% of the average. So it really does make quite a difference. But 81% of beneficiaries will receive the lowest payment. Only 2% are in DCG 7, and only 0.4% are in the highest DCG. So most of the payments will be made on the very lowest risk-adjusted category.

The likely risk-adjusted approach uses inpatient data. We hope this is only an interim adjuster, because people are afraid that because it is provider-based, you have to have a hospitalization, in effect, to get a higher payment, that may add some odd incentives to the current system—there may be, instead of an incentive to move people out of hospitals, the incentive to start moving people back into hospitals. That isn't what we want. But until we get fuller encounter data, we're using what we have: just inpatient data. The payments will be made prospectively; that means we'll be using 1999 data to project the year 2000 payments. We also found that the rate book might have to be rescaled. In some counties, looking at what the payments would have been using the AAPCC demographic adjusters, and then looking at the risk scores, the new risk-adjustment model will send a lot of money among counties. Some counties have much higher risk scores than the AAPCC, so there may be some, trying to smooth this out by multiplying the basic county rate by the ratio of their AAPCC demographic factors to the risk score. And then that would be used, times an individual's risk score, to get the final payment for that person. Each individual enrollee gets their own risk score. Each person is actually looked at, put into a group, and their payment is computed. And this risk score, which has both components—the diagnostic component as well as the demographic component—is used to determine the capitated rate.

The last one is our implementation schedule. We're now collecting the encounter data. By early next year, we have to have the data in place for the 45-day notice in January, and then the final notice; they have to be out that early for the ACR submissions for the following year. So we're looking at having to get this whole thing in place and up and running by early in 1999. But they will be the initial rates, and we still have time to do some adjusting and refining. I think that the final rates are supposed to be in place by the beginning of the year 2000. Let me stress that I believe that this is only the first step, and we've done research and are continuing to look at development of other DCG and Ambulatory Care Group models that use not only inpatient hospital, but outpatient facilities and physician data as well. So, farther down the road, as we're able to collect better encounter data and get it from outpatients and the physicians, we will hopefully be improving this and moving it to a better risk adjuster.

Mr. Ronald E. Bachman: Sally, you indicated that the payments are only going to be prospective. It seems to me that some of the demonstration projects are going

retrospective, making an adjustment to July through the year following the experience. Is that not going to occur?

Ms. Burner: My understanding is that it's purely prospective.

Mr. Bachman: All of it's prospective, going forward?

Ms. Burner: Yes.

Mr. Bachman: Has there been any attempt to understand what the impact on the market is likely to be when, potentially, 7%, 10%, 12% reductions are made, which could translate into \$40, \$50, \$60 per month per member, as a reduction in the capitation rate?

Ms. Burner: I'm sorry, this isn't my area. There may be people here who know. One of the reasons for the adjustments being made is to help alleviate some of the huge swings in payments that would have been made without them. This is sort of trying to make it a little bit more budget-neutral in areas than it would have been if it would have gone straight from AAPC to the risk-adjustment system. There still will be, certainly, plans that receive more and other plans that receive less, but this interim adjustment was trying to sort of mitigate the swings.

Does anybody also have a comment on the impact on the market, or other thoughts?

Do you believe that the figures you have discussed are relatively close to what will eventually come out of the process?

Ms. Burner: No. Long term, I think we will develop a much better risk adjustment. In particular, I don't think anybody thinks that using the hospitalization in one year is a great predictor of expenses in the following year. But it's proven to be better than using AAPCC characteristics only.

Panelist: Well, I guess I'd say that, I don't think we've had time to really think about it too much, or to analyze it, but clearly there's going to be a big effect on many HMO risk plans; it's just going to cause a lot of problems. The plans were set up and they run today—especially new plans—under kind of the implicit assumption that they will get some gain from the selection. I believe that. And many of these plans lose money as it is, when they first start out. It will exacerbate the problems. I think that this type of scheme is a little bit complicated. I'm not sure: it could potentially go too far, in terms of adjusting risk, when you look at the types of people who go into HMOs, so it might even over-correct.

Ms. Burner: I don't think so. It seems to me that the studies I've seen, even with the best risk adjusters, account for very little of the variation. So even with a good risk adjuster, you're still going to have a lot of variation on the accounting pool or unexplained.

Panelist: I also think that, in the interim, until they go to all claims or at least include outpatient data, that there's going to be a tremendous amount of gaming and many more hospital admissions to get your payments, and I don't know if they're going to put a minimum length of stay.

Mr. Bachman: Exactly what you think will happen, I think will happen: you'll have admissions with a diagnosis so that you get better payments—that seems to be a fairly easy game to play. Especially if you're a PSO and you have control over the delivery system as well. Finally, Sally, are you familiar with any of the studies on fraud and abuse? It seems to me that the GAO did some studies—and maybe HCFA has—on fraud and abuse under the Medicare program. I thought that had been identified as maybe in the 5–10%, 7% range, of fraud and abuse. And with a lot of the savings, as well as the selection, when you capitate and put it in the private market, it seems that fraud and abuse can be cut dramatically, because you're controlling the providers, and it's more of your local family that you're dealing with. How does that fit through here, and is that savings going to be reduced through this type of a process, because it's hard to determine what you're really risk-adjusting?

Ms. Burner: I have no idea. I'm sorry; I know that we have a lot of fraud and abuse provisions, but I'm not familiar with them specifically or how they work. It seems to me that the big fraud and abuse provisions that I'm aware of, concern tracking providers who have once been thrown out of the program and show up with a different number in the next town: more on the Durable Medical Equipment (DME) kind of providers, more so than looking at something that may affect the capitated payments.

From the Floor: Looking at the various types of risk adjusters that have been studied, including in the Society's study, prospectively, most of them are not very accurate; the degree of prediction is much lower. And it doesn't make any difference. The Ambulatory Care Group is on a concurrent basis, close to 40–50%. But then it drops down between 15% and 20%. Why did the government kind of insist on using it prospectively or maybe it's Congress and not HCFA itself—because projecting changes in health for over a year, admittedly, sounds like experience rating, if you do concurrently. And it is, to some extent, experience rating.

Ms. Burner: My understanding was that, the principle behind this wasn't to figure out what these people actually cost, because then you just pay them cost they found that people who had certain hospitalizations in the prior year have higher subsequent physician costs and whatever. What they're trying to do is compensate for that; they're not trying to pay what they actually cost, because then we'd just get rid of the HMO risk program and pay everybody on a cost basis. So it's not looking at it to get at exactly what the people cost, it's to give additional payments for high-cost people, but still have them manage the risk.

From the Floor: There have been some discussions in the past several years about forms of reinsurance and—somewhat like some of the states have done with small group reform—payments for catastrophic cases and various things like that, as long as you subtract something from the premium for it. But we have a long way to go, just starting this one out, so some of these other kinds of combination things might help level everything out and not come out rather extreme.□

Ms. Burner Right, this issue is sort of regression to the mean. They've actually looked at some sort of, for instance, ultimate and select models, in which the payment is lower for the first couple of years, and eventually it goes up to the average payment. So we're not finished; this is the first step in a very long process, I think.

CHART 1
ACTIVE EMPLOYEE PATTERNS

