

MEDICARE PAYMENT ADVISORY COMMISSION

PUBLIC MEETING

Ronald Reagan Building
International Trade Center
Horizon Ballroom
1300 13th Street, N.W.
Washington, D.C.

Thursday, April 24, 2003
9:40 a.m.

COMMISSIONERS PRESENT:

GLENN M. HACKBARTH, Chair
ROBERT D. REISCHAUER, Ph.D., Vice Chair
SHEILA P. BURKE
AUTRY O.V. "PETE" DeBUSK
NANCY-ANN DePARLE
DAVID F. DURENBERGER
ALLEN FEEZOR
RALPH W. MULLER
ALAN R. NELSON, M.D.
JOSEPH P. NEWHOUSE, Ph.D.
CAROL RAPHAEL
ALICE ROSENBLATT
DAVID A. SMITH
RAY A. STOWERS, D.O.
MARY K. WAKEFIELD, Ph.D.
NICHOLAS J. WOLTER, M.D.

AGENDA ITEM:

Variation in per beneficiary Medicare expenditures
-- David Glass, Dan Zabinski

MR. GLASS: All right. Since this is mainly updating last month's presentation we can go pretty rapidly. We basically incorporated the commissioners comments into the draft you received and we want to show you today how we've addressed some of those concern, show the results of some new analysis, and get any other ideas you may have for the chapter.

This is just reviewing, again, adjusting makes a difference. This is going from expenditures, which are those gold bars, to the black bars where we've adjusted for input prices, health status of beneficiaries, and some special payments made to hospitals. As you can see, the distribution comes in quite a bit, variation decreases. So the apparent problem of massive variation across the land is probably a little overstated if you instead make some adjustments for things that you'd want to adjust for.

There are various measures. We can go from under 20 percent of the distribution being within 5 percent of the national average to over 50 percent.

Now one of the questions that came up was, do Part A and Part behave differently? Is one of them driving it, or the other driving it, or what's the story? So here we show -- this is the unadjusted. This is the expenditures. We have Part A and Part B. Again, this is going against -- plotted on the bottom is the percent of national average this represents. You can see, the pictures aren't quite the same, but interestingly enough, the variation is almost identical.

If we then go to the adjusted version of the same data we can see that just like when we had the summation in the first chart, these all move towards the middle again and variation decreases, not surprisingly given the result for the total. So we don't think there's a big story to be told of Part A driving it or Part B driving it or anything like that.

Now what all these have shown is that there is some variation remaining, and because of that Dan is going to present some work about what some of the remaining variation might be attributed to.

DR. ZABINSKI: One thing we wanted to do was at least get an idea of the extent to which policy may be able to address the variation in expenditures after we made the adjustments for differences in input prices, health status, and special payments to hospitals. We call that adjusted amount the adjusted service use, as indicated in the commissioners' briefing materials.

Now as part of the method to determine the potential effectiveness of policy, we use regression analysis to identify which variables explain variation in adjusted service use. But because health care is delivered in local markets, rather than doing the regressions at the state level, for which we did the variation analysis to this point, we used the unit of analysis

that we believe better approximates health care market areas, that being the metropolitan statistical area, or the MSA, for beneficiaries who live in urban areas, and state-wide rural areas for beneficiaries who live outside urban areas.

Our analysis actually consists of two regressions. In the first, we use only demographic data to explain variation. The results from that regression are indicated on this slide, which shows the coefficients and the t-statistics from the regression for each variable, where a t-statistic greater than two indicates the variable is statistically significant at a 5 percent level. All the variables listed on this diagram exceed that threshold of two, so they are statistically significant.

The coefficients on the table tell us how much a one percentage point change in each of the variables listed changes the per capita service use on average. For example, we'll pick out the percent of the 65 and older population that is Hispanic. The coefficient on that variable is about 20. What that means is that a unit increase in a percent of the population that's 65 and older that is Hispanic increases the per capita service use by about \$20 on average.

To summarize the table, I would say that the poverty rate for those who are 65 and older, and the percent of the 65 and older population that is Asian both have negative coefficients, indicating that use rates tend to be lower in areas with relatively high values of those variables. Also, the percent of the non-Medicare population that is uninsured, the percent of the 65 and older population that is African-American, and the percent of the 65 and older who are Hispanic have positive coefficients, indicating that use rates tend to be higher in areas with relatively large values of those variables.

In our second regression we wanted to test the hypothesis that use of health care services is affected by market conditions such as the supply of health care resources, the technological sophistication of those resources, and the structure of the local health insurance market. What we did is we used hospital beds per 1,000 beneficiaries as a measure of supply of resources, the percent of hospital beds that are in intensive care units, or ICUs, as a measure of technological sophistication, and HMO penetration in the area to represent the structure of the local health insurance market.

Now we did have some concerns about using these variables because we're not necessarily certain of the direction of cause and effect. By that I mean, for example, it's not clear whether a positive relationship between the supply of health care resources and the service use indicates whether a greater supply of resources encourages more service use or whether high service use attracts more resources. Now we've heard a strong argument by Elliott Fisher that strongly suggests that greater resources, such as hospital beds, does encourage more service use. But I'm sure that some respected researchers could effectively argue against that point.

But despite this uncertainty we have over the cause and effect direction, we did include the market-related variables in our regression and results of that regression include, first of

all, that the demographic variables listed on the previous slide are still significant, but some have lost magnitude, as expected. Then second of all, of the three variables that we added for this regression, both the supply of hospital beds and the percent of hospital beds in the IC have positive coefficients and are significant at the 5 percent level. The HMO penetration is actually negatively but it's not statistically significant.

Finally, the R-squared, we have an R-square equal to 0.39 indicated at the very bottom there. What that indicates is that the variables in the regression are explaining about 39 percent of the variation in adjusted service use. What I'd like you to remember is that what we are explaining is -- what the 39 percent explains is the variation that remains after we have already made adjustments that explain 40 percent of the variation in Medicare expenditures.

Now at this point I had a question, and I'm sure most of you have the same question, is what accounts for the variation we have yet to explain? I think one possibility basically is differences in quality of care. At the March meeting, for example, David showed a diagram that shows that areas with relatively high service use tend to have lower quality of care. Perhaps that means that areas with poor quality of care, they have the idea that poor quality of care creates the need for more services. So maybe you have the concept that if you improve quality care in high use areas perhaps the variation in service use might decline.

A second possibility that might explain the variation we have yet to identify could be differences in pattern practice variation, as argued by John Wennberg and his colleagues at Dartmouth. For example, this is something that Kevin Hayes touched on earlier, they have found that large differences in service use that depend on resources and for which medical science is not well developed, largely explains a lot of the dispersion in health care services. They call these supply-sensitive services and they include things like frequency of physician visits, use of imaging and other diagnostic tests, use of hospitals as a site of care, and then also use of intensive care units as a site of care.

To summarize, I think probably the key takeaway point from this analysis is that there are limited policy options that may be available for addressing the variation in service use. First of all, we have found that demographic variables explain a fair amount of the variation, but there is little probably that policy can do about geographic differences and demographic profiles.

Second of all, if it is true that greater resource supply does result in more use, I'm not sure that policymakers would be willing to significantly reduce the variation in the supply of resources or the technological sophistication of those resources.

Third, although I think it is possible to address the differences in practice patterns as identified by Wennberg and his colleagues, that may require overcoming an obstacle of the desire for physicians to maintain their autonomy and how they practice care.

Finally, I think one possibility at least where policy may

be able to be effective is to affect the differences in quality where they could impact the variation in service use.

That's all I have. I'm going to turn it back over to David and he's going to conclude by summarizing the key findings from our work.

MR. GLASS: Thanks, Dan. So again, these conclusions, most of them you've seen before. The first one is about what measure to use. We keep bringing it up because people keep using the wrong measure. So that's our first conclusion, they should quit using the misleading measure.

The second is, much of the variation is caused by difference in the cost of inputs, health status, and provider mix. We said that covered about 40 percent of the variation at the state level. And as Dan just showed, some of the remaining variations associated with demographic differences and differences in health care supply and technology.

As we said last month, higher quality does not seem to follow from higher use. Again, other research seems to be supporting that conclusion.

Equalizing state payments by increasing use. It's going to increase your beneficiary cost sharing in low use states and that would also increase Medigap premiums and all that sort of thing. Causes of the remaining variation, which they're probably not best addressed at the state level just because there's a lot of variation within states in terms of, among other things, the health care supply, and health care technology, and in fact the demographics and everything else. So if you want to really get to some of those things you probably have to go to some smaller geographic level, more market-oriented level.

Finally, incentives for high-quality providers might decrease state level variation if those providers happen to be in low use states as it seems likely many are.

One important thing about that is, you wouldn't want to do those kind of incentives for high quality at a state level because that would not be targeted well at all. You'd be giving incentives to providers who are high quality and providers who are low quality. If you're going to do that sort of thing you really have to probably do it at a provider or group of provider level.

That's all we've got.

DR. NELSON: This is obviously very interesting and since expenditure is a product of both price and volume, most of our attention has been directed toward volume differences, geographical volume differences in calculating expenditures there's a lot of confusion about the magnitude of the geographic differences in physician fee schedule payments for similar services. There's confusion among the profession and there's confusion among policymakers, and oftentimes there's this general perception out there that there's a huge difference in physician payments for the same services from one area to another.

Now obviously the GPCIs make a difference and liability costs make a difference, but some of the practice expense formula was still based on historic charges. I don't know how big the magnitude of the differences is from one part of the country to

another, and I think that it useful for us to include some information about that, not only to clarify this issue in the minds of a lot of folks but also to see if we can develop any kind of conclusions about a correlation.

MR. GLASS: We can show -- there's two ways of doing it. You can show what the range is of the variation in the various GPCIs. Then you can also compute like for an office visit, here's what a physician gets paid. Do you think that would be better, more useful.

DR. NELSON: I think it would be useful to have both. I'm not sure how much -- the GPCI difference is relatively small, just single digit percentages above and below.

MR. GLASS: I'm not quite sure. I don't think that's quite right.

DR. NELSON: I might be wrong. I guess that's another reason I'd like to see some numbers.

DR. ZABINSKI: If Kevin Hayes was here I think he could off the cuff probably answer that question. I know on the hospital side, the effect of the hospital wage index is quite substantial. But I'm not sure how large it is on the physician payments.

DR. NELSON: It's the physician payment piece that I'd be interested in.

MR. GLASS: We could illustrate it with a couple of common procedures, or office visits, or something like that, to show how much it costs.

DR. REISCHAUER: Dan, a couple of questions. You mentioned that about 40 percent of the variation across states was explained by desirable or policy-related factors. Did you do the same for the metropolitan areas? Is it 40, 45?

DR. ZABINSKI: It's really similar. Even when I do it at the county level it's right around 40. That surprised me a little bit, but that's the way it came out. That's all I can say.

DR. REISCHAUER: It's also that 70 percent of the population lives in metropolitan areas so that's the answer.

DR. ZABINSKI: That's true.

DR. REISCHAUER: The supply variable that you used was hospital beds per 1,000 beneficiaries. I guess that surprised me why you would have beneficiaries as opposed to population overall or some weighted construct which was a national average of the under-65 population's use of hospitals versus the over 65, or doctors per population.

DR. ZABINSKI: I'll answer that last part first, because that's one thing we looked into. Basically I looked at doctors per 1,000 beneficiaries. The reason why, there's really colinearity problems between supply of hospitals and beds and supply of doctors, so you get t-statistic problems.

DR. REISCHAUER: I wasn't suggesting using them both, but one presumes that the doctor has something to do with the fact that the person goes to the hospital.

DR. ZABINSKI: I'm a little behind you on using the general population rather than the number of beneficiaries, what your thought is on why that's better.

DR. REISCHAUER: The ratio of elderly -- total population to

non-elderly population varies across the country rather significantly, and all the beds might be filled by lots of under 65-year-old people. They might be there for that reason.

DR. ZABINSKI: I don't have any problem doing it that way. It's simple enough.

DR. REISCHAUER: Then a third suggestion, and I'm not sure quite what I'm thinking here but it was inspired by Alan's point. We're explaining the variation after we've taken out the price differences or the geographic adjustments for cost differences. I'm wondering if we're taking that residual as a dependent variable, it might be interesting to put in as an independent variable what this price variation is. In a sense, if it's wrong in some sense, systematically wrong across the country, over or under, you might get --

DR. ZABINSKI: Are you saying like the hospital wage index as an explanatory variable?

DR. REISCHAUER: Yes.

DR. STOWERS: I've got two or three things. On page 4, we talk about input price adjustments and the local differences in providing care. But then, for example, on down the wage index is used and then one would expect -- we really get into justifying that the wage index is okay, and there's considerable controversy on whether the wage index, urban, rural, whatever -- in fact we're even trying to fix it in stages with the percentages we put towards --

I'm wondering if that's really somewhere we need to go in this chapter. For us to make that assumption here that it's fine.

MR. GLASS: I'm not sure we're making an assumption. I think we're referring to previous work we did that showed it tended to reflect prevailing wage levels.

MR. HACKBARTH: The analysis that Julian has reported on that Kathleen Dalton did, as I understood it, showed that in the aggregate in fact the wage index was doing a pretty good job of adjusting. And some previous analysis that we had done for the rural report in June 2001 of a different type also led us to a similar conclusion.

That is not to say that for every individual hospital the wage index is accurate. There are some individual hospital issues about accuracy and equity. But in the aggregate, all of the research that we've done suggests that it does a pretty good job. Is that a fair --

MR. PETTENGILL: I'll talk a little bit tomorrow about the nature of the error of the wage index. It's basically that either large hospitals or hospitals located in high wage areas tend to be a little bit overcompensated by the wage index, but otherwise it appears to be pretty much okay.

DR. STOWERS: Then my second part was on the poverty rate 65 and older being actually plus 32. How does that relate, as we've talked in earlier reports about the amount of secondary insurance that they're liable to have, and that relating to the amount of services and so forth? It seems like we could go a step further there as a variable and look at those that have secondary insurance being much more likely to use services. I think that's

been back through reports of PPRC and --

DR. ZABINSKI: I thought about that as a particular variable. The problem I ran into was I couldn't get it at the MSA level. I could get it at the state level. One thing I could do -- this isn't entirely clean but it might get you in the right direction -- is take the entire state-wide supplemental insurance rate and apply the same rate to all the MSAs within that state or something like that. I could do that.

DR. STOWERS: I just think that's a tremendous factor in here in the amount of services used as far as patient behavior in seeking services.

Then my last part, I think we have to be a little careful, on page 10, of having a negative be that that would increase the amount of copay of those who are not receiving services. I don't mean this in a funny way, but that would be almost like, I don't want to make more money so I'd have to pay more taxes. If we truly are needing the services then they ought to be offered and I think it might not be so bad that there's more copay to pay in that.

MR. GLASS: Except that the quality thing showed that they don't seem to be needing more services. Just because it's a low use state doesn't mean that they're not getting the needed services.

DR. STOWERS: No, but I'm relating back to the poverty thing a little bit. If truly the poverty people are unable to afford the secondary insurance and are therefore -- I don't think that's all black and white is what I'm trying to say. I do think those that can't afford the secondary insurance are less apt to get care and that kind of thing.

MR. HACKBARTH: If the predominant effect were that in the low use states, they're low use because people aren't getting needed care, then you would expect a different quality relationship than the one we found in fact.

DR. STOWERS: Looking at it in general. But I'm saying hot spots of poverty may be different.

MR. HACKBARTH: So we can note that to the extent that there's underuse driven by less complete insurance coverage that you'd want to increase that, even if it meant that copays went up. But the principal finding here, looking at the aggregate, is in fact the low use states -- at least based on this limited ordinal measure of quality -- do not have worse quality. In fact, they seem to have better quality.

DR. MILLER: This may be apparent, but I'm just going to say it again. The other point we were trying to make in this analysis is to the extent that people are just talking about just raise the rates in my state, we wanted to make sure that people understood, that has a beneficiary implication because any rate increase they're going to bear, depending on the service.

DR. STOWERS: And I totally agree with that.

DR. MILLER: That was really a driving point we were trying to make sure that people didn't lose sight of.

MR. HACKBARTH: I think that's a critical point that sometimes is overlooked in the discussion.

DR. STOWERS: And I think it's a great point, and I wouldn't

change that at all. I still believe there's local access problems that may justify some of these lower numbers. And we shouldn't try to explain that away in looking at access to care.

DR. WAKEFIELD: Last week Tom Scully had the pleasure of being out in North Dakota with the co-chairs of the House Rural Health Care Coalition. I happened to be at one of the meetings that he attended and I understand that, of course, the messages were the same at the other meetings that he was at.

And that was to a person basically almost everyone one of them, actually, who were presenting had a copy of that JAMA Jenks article, interestingly enough, that you referenced earlier, Nick. And of course, they had it because I think it is -- state one at the top is North Dakota, or North Dakota is up in the very top two or three.

And so, the folks who were speaking to him said we're out here, a low use state, from their respective of course disadvantaged by their payment rates. And yet we've got high quality, we're doing really well on -- sort of leading the pack in terms of at least this set of quality indicators. And why is that? Why is it that our payments here, but our quality is here, and shouldn't there be some incentives in the system associated -- or rewards in the system associated with the provision of high quality care?

So that was that discussion.

But I guess I'd say because you have it as one of your conclusions, incentives for high quality providers might decrease state level variation, and you also mention best not to use states because that washes out differences and lifts the boast of poor quality providers.

MR. GLASS: It doesn't target it well.

DR. WAKEFIELD: Yes, so it's not targeted adequately enough.

Could you envision stepping away from raising rates, for example, with the adverse impact that that has, and was clearly illustrated in the text; i.e., impact on the beneficiary out-of-pocket payments, and so on. And have you thought at all about how else might one incent those providers, either rewarding them or incent providers on quality? That might be different from just lifting rates, bonuses --

MR. GLASS: That was this morning's discussion, I think, and I do not want to rehash that, that's for sure.

DR. WAKEFIELD: I guess I'm bring it back here, because you put it --

MR. GLASS: That is the connection, though, is that that's why we think a good way of doing it is somehow -- as was discussed this morning. But how exactly --

MR. HACKBARTH: So basically the reference here is to as the reader reads carefully every chapter of our report, they will be clear.

DR. WAKEFIELD: It will hold this together.

MR. HACKBARTH: The links between our different analyses.

DR. WAKEFIELD: All I was saying here is on this one, is there anything else that you can think of that would address this issue, since you've raised it as a conclusion in this particular chapter, that would address this issue of incenting quality.

Based on the work you did in this chapter.

MR. GLASS: No, because as we say, we think it should be targeted to the high quality providers or provider groups or whatever you want, but probably not a state or something like that. So I guess we're just trying to make the link to the other discussion of incentives.

DR. REISCHAUER: I want to try again what I tried with David and failed miserably earlier. We're paying a certain price in North Dakota and getting high quality. And if you're in North Dakota, you say I should be rewarded for that. But really the way markets work we should say great, this is efficient. And what we should say is in those areas where we're getting low quality, we shouldn't pay as much.

DR. WAKEFIELD: I understand that. I think the flip side of that is folks are sitting out there with the payments that they're getting. They see what the outpatient outcomes are, at least according to one recent study. And it's hard for them to reconcile those differences. I agree the you, Bob. I mean, absolutely I agree with you.

So you've got all these other folks out there --

MR. DURENBERGER: Don't give in so easily.

DR. WAKEFIELD: But Dave, I've been on here for four years. Over time you get whittled down. You'll experience this two years from now. I'm regressing to the mean, exactly.

I understand your point, Bob, but for folks out there, it's really hard to accept that. That's the point that I'm making.

And what, if anything, should we be thinking about in terms of linking quality and performance? That's the other point.

DR. REISCHAUER: It was suggested this morning what we should be thinking about is an update where those people who are providing good quality get the full update. And those who aren't get a percentage point below.

DR. WAKEFIELD: I was trying to see if I could get anything like that out of the staff, but I wasn't able to.

DR. WOLTER: Just quickly, I'm still not quite as comfortable on the input price issue as everybody else is. I think there's wage index, there's base rate, there's physician geographic adjusters. And I think that there still may be some issues there that need more attention. I don't think it's an obvious conclusion to me that everything is all set just the way that it should be. So I think that to the extent that that is part of the geographic variation, it might still use some more work.

A couple of other interesting things. It's interesting that the percentage of uninsured rate drives up Medicare costs. That would be an interesting thing for further exploration. I don't know how we would sort it out. Are these people in their late 50s and early 60s who, when they hit the Medicare program become high users? Is it just serendipitous? Is it related to the relationships between public payment and private payment?

So that if you're less well paid in Medicare and Medicaid, there's more cost shifting into the private sector and the uninsured rates go high. I don't know what it might be, but it might be worth sorting out.

And then it's interesting when we look at the physician services and we look at imaging tests and other sources -- and this is just rough. But in some areas those three areas, imaging, tests and other services, have two times the average use -- two times the average, not two times the minimum. And if we were to then apply the same analysis to hospital services, which I'm sure we've done, where are those areas where the hospital utilization and spending is also at levels like that. And then match that up with this whole issue of where the higher input prices are. It might be interesting to see if there's any correlation there.

But I think that there's some variation based on utilization it would appear from other work, and it's hard for me to reconcile that with the conclusion we imply here, that once we adjust a few things out, the variation becomes much narrower.

MR. GLASS: I guess I'm not sure why it's hard to reconcile that.

DR. WOLTER: If I read the trend or the drift of the argument here is once you adjust for input prices and patient acuity, the variation's within some more reasonable range.

DR. ZABINSKI: It's a lot smaller, but I wouldn't say it's small. I think there's still a lot of variation left.

MR. HACKBARTH: It explains 40 percent, right? The policy factors explain 40 percent of the variations.

DR. WOLTER: My next question is are the patients sicker in Miami? I think those are the questions people are asking in areas where there is a much lower expenditure annually per beneficiary.

DR. ZABINSKI: According to our healthy status adjuster yes, they are sicker on average.

DR. WOLTER: That would be good information to have.

MR. HACKBARTH: Is there a table in the paper that has the illness analyst laid out?

DR. ZABINSKI: We have one where we sort of add each layer, first do the input prices, then input prices plus health status.

MR. GLASS: We don't have a table by state of health status or by -- the number Dan was using was MSA and state-wide rural. We don't have a table like that.

DR. WOLTER: That would just be a little bit at odds with some of the Wennberg and subsequent similar studies, in terms of expenditure in the relationship to quality. That's all I'm saying.

DR. MILLER: I think we're definitely talking past each other. I think what we're saying is that after you adjust for the fact that a person in Miami is more sick, you're still seeing a level of variation that they are saying 60 percent of that continues out there, and then backtrack to Kevin's paper, he was saying that variation continues to be quite wide, even after you've adjusted for health status.

DR. WOLTER: That would be a great couple sentences to put in that way in this report.

DR. MILLER: I wanted to say this about that comment and a couple of others. One thing that we're working on is that we have an overview that cuts across all of the chapters and a way

to try and make these connections between is there an incentive that one could put in here? We're going to try and do that in this overview, which is just not together right at the moment.

MR. HACKBARTH: I really want to do everything we can to avoid misunderstanding on this point. I don't think that our analysis is inconsistent with Wennberg's analysis. I think they are complementary pieces of analysis. Basically Wennberg and colleagues are focusing on that 60 percent of the variation that is not explained by our policy adjustment factors and health status. Those were very important questions.

The fact that they do explain 40 percent in no way diminishes the significance of Wennberg's work. I noted that in the most recent draft you had responded to my request that we move some of that towards the front of the discussion, and I appreciate that. And I'm going to be looking at that some more, because I think it's very easy for people to lose sight of --

MR. GLASS: Most researchers just blow by the stuff we spend a long time on because they're dealing with a different question really.

DR. ZABINSKI: The starting point is different.

MS. ROSENBLATT: Dan, I have two questions on the analysis. The first one is when you adjusted for HMO penetration, and I was surprised to see that you didn't get statistical significance. Did you use HMO penetration in the total population or just the over-65.

DR. ZABINSKI: That was the total population. I'm probably going to say too much now, but anyway I'll do it. I think what's going on there is -- and this is just speculation, but this is my gut feeling, is that HMO penetration, they're perhaps heavily in the real low use areas and probably in real high use areas. The idea is that they're in low use areas because it matches well with their nature, and perhaps they're in real high use areas where they see an opportunity where they can have some impact on, wriggle room on having their coordinated care have some effect on the amount of care that's used.

It's sort of like there are two things that are canceling each other out. So in the end, the net impact on the HMO looks really small. But that's just speculation.

MS. ROSENBLATT: I'm not sure I agree with the speculation but I am glad you used total HMO because I think that's more appropriate than just HMO in the over-65.

My other question is did you try any of your analyses truncating the claim amount? Because we've run a lot of analyses trying to look at risk adjusters at Wellpoint. What we found is we get much higher statistical significance, a much higher fit, of any kind of measurement if we truncate it like \$25,000 or something like that, in an attempt to take out the random variation.

DR. ZABINSKI: First of all, we can't -- this is basically from information we got from CMS. And it starts as county level data which we aggregated into the MSA level. So we can't really truncate, in that sense, at the claim level. But I don't think truncating like that would have any effect because we are aggregating to the MSA level. And I generally believe that the

population size is adequate enough where outliers don't really have much of an adverse effect on your results in this case.

MS. ROSENBLATT: I don't know because our data in California, we've got a lot of data. And I was surprised at how much of an effect it had. But it sounds like you can't do it anyway.

DR. STOWERS: I'm sorry to delay. I just want to address maybe a disparity here that kind of answers Mary's question a little bit.

I think what we have to realize is what we use for quality indicators are mainly preventive health care services and those kind of things. And that's not what's the big cost driver in these states. It's the high-tech, as we know, and the imaging services and all of that that are the big dollar items. So I think you could have a state that is looking very good on these preventive measures and not have the dollar disparity.

So it makes sense that there's not a direct correlation in a lot of these cases between what we're using as quality indicators and where the costs are. So if they're doing well on preventive may not mean that they have high exposure.

There's kind of a dichotomy in what the high-priced items are that are driving the costs. And what we're using over here is the quality measure.

DR. ZABINSKI: One thing I forgot to say in response to Alice's question on HMO penetration. Other researchers got the same result that I did. For some reason HMO penetration, the statistical significance just doesn't come out, for whatever reason.

MR. HACKBARTH: To pick up on Ray's comment, I think we do need to be care in the quality section, because these are limited measures and we're using this ordinal ranking. So we want to be careful not to overstate that finding.

Thank you very much.