MEDICARE PAYMENT ADVISORY COMMISSION

PUBLIC MEETING

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

Friday, April 25, 2003
9:04 a.m.

COMMISSIONERS PRESENT:

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

AGENDA ITEM:
Sources of variation in hospital financial performance
under prospective payment
-- Julian Pettengill

MR. PETTENGILL: What I wanted to do this morning is quickly give you an overview that covers four items. First is the concept behind this analysis. Second, I'd like to briefly review the preliminary findings that Kathleen Dalton and I presented at the last meeting just to remind you where we were. Then I'd like to talk a little bit about what we said we would do and what some of you asked for. Then lastly, I'll report on the new findings that we've added to the chapter in the interim.

Remember that the objective of this analysis is to identify factors that contributes hospitals' inpatient PPS margins and estimate the shares of the variation in margins that they account for. This is one way of evaluating whether the payment system is working and whether it's working the way you would expect it to.

Because that our focus and we're focused on margins that are affected by both hospitals' payments and their costs, we look at any of the variables that might affect either one, either payments under PPS or hospitals' inpatient operating costs, or both. We have broken the variables into two sets, those that are part of the payment system and then hospital characteristics, and each of those has two subgroups. They're shown on the screen.

The payment factors include cost adjusters. That is, variables that are included in the payment system because they're intended to track the effects on providers' costs of factors that are beyond their control. These consist of things like case mix, the local market wage level, and other input price differences to the extent that they exist, cost-related portion of the indirect medical education adjustment, geographic rate differentials embodied in the base rates, and to some extent also the outlier and transfer policies.

The policy adjustments are given that name because they're not associated with cost differentials, but in fact they're included in the system to support other objectives. These include the portion above costs related to IME, the DSH payments, and some of the special payment provisions for rural hospitals.

Hospital characteristics include factors that have no effect on PPS payments, but they do affect hospitals' operating costs and are generally considered to be at least partially within the hospitals' control. There's two sets here. One is environmental factors in the hospital's local market environment that are probably beyond their control, and then there are factors that represent hospital behavior and presumably are within their control. The environmental factors include variables that may reflect the supply of substitute or complementary services, physician supply, supply of other hospitals in the area, whether there are skilled nursing facilities nearby, and that sort of thing. The characteristics of the population living in the area, and things like income, and the age structure of the population,

and so forth.

For the other hospital characteristics we have factors that may affect their costs like the scope and the scale of their operations, their occupancy rates, their length of stay patterns, and their relative pay scale. That is, are they paying wage rates that are above or below the local market rates.

At the last meeting we present some preliminary findings, and I'm just going to hit the grand highlights here. One was that after including the PPS payment factors and the factors that are partially within management control, we were able to account for less than half of the total variation. In fact it was about 42 percent. The payment factors accounted for about one-quarter of the total variation. A part of that was related to problems with the case mix and the wage index adjusters, but the bulk of it was related to policy adjustments that Congress has included in the system.

Including the factors under hospitals' control, occupancy rates, wage policies, scale and scope of services and so forth accounted for about 8 additional percentage points of explained variation, bringing us up to around 35. Then adding the length of stay patterns, the ratio of actual to expected length of stay added another 7 percentage points bringing us up to 42. At that point we had not included local market factors.

One other thing that I think it's important to note it is three-fifths of the variation here is not accounted for in the analysis. If you look only at the PPS payment factors, three-quarters of the variation is not accounted for or not associated with the payment system. It's associated with something else.

At the end of that discussion we said we would add a few things or try to do a few things in the interim between March and April. These included adding the external environmental variables to the model, covering demand, supply, competition, HMO penetration and that sort of thing. We would also try to examine the stability of the findings over time by looking at data for other years, and we said we would like to follow up on the length of stay findings because they're fairly powerful. What we wanted to know was what seemed to account for these differences between the actual and expected length of stay? Was it something about other factors in the local market or what?

Then a number of you made suggestions about additional variables that we should include. One of those was to examine the overall Medicare margin rather than the inpatient margin. The point of doing that was, recall that we found that hospitals that had other services like hospital-based SNF or a home health agency had lower costs and higher margins. The question arose whether that was the result of economies of scope or perhaps simply the way they allocated costs. Looking at the overall margins was offered as a way to distinguish between the two.

Bob suggested added hospitals -- pretty much in the same vein I think, adding hospitals' outpatient share. And David Smith suggested adding hospitals' Medicare share to the model, presumably on the argument that hospitals might be less sensitive to the PPS payment factors if Medicare was a small part of their business. And Nick suggested looking at the case mix

specialization of the hospitals.

Now we weren't able to do the third item; that is looking further at the length of stay ratio. The real effective analytic time between March and April is two weeks, so we didn't feel that we could do that justice. Similarly, with the overall Medicare margin, we have the data. We could have estimated it, but we felt what you're really lacking is the time to think carefully about what you see and try to interpret it. We just didn't have enough time to do that and all the other things as well. But for the others, we tried to do something on each one of them and that's what I'll talk about now.

First off, we added the external environmental variables to the model, quite a few of them, and they do add some explanatory power, about three percentage points. Some of them have interesting effects, but they didn't really change anything. The major findings still hold. The payment system accounts for about 27 percent of the variation, and case mix and wage problems account for a small part of that. But the bulk of it is still the policy variables, IME and DSH and the rural payment provisions. This is pretty much what we would have expected I think.

We also added the variables that people were interested in. The outpatient share is associated with higher -- hospitals that have a higher outpatient share tend to have higher inpatient costs, which is not what you would expect. If what's going on is they're allocating their overhead costs to the outpatient setting you would expect the opposite. I don't know why that is. I think it's because it's picking up something else. It turns out that the outpatient share is highly negatively correlated with case mix, with the wage index, and with teaching, and with DSH, and some other things. So I think what's happening here is we're identifying a set of hospitals, mostly located in rural areas, that happen to have high outpatient shares and lower margins. So I'm not sure that it's a particularly meaningful finding.

Higher Medicare shares are associated costs and higher inpatient margins, which is, I think a little bit the opposite of what David was expecting. But I think it might actually be a fairly simple phenomenon in the sense that if you have a high Medicare share you really have to pay attention to what the payment system is doing, and you have to control your costs because there isn't anyone around to pick up the slack. And you may have less flexibility in what you can do. I don't know that that's the explanation. It's just my speculation.

On the case mix specialization, we focused on cardiac surgery and orthopedic surgery and we identified the share in the MEDPAR data, the share of a hospital's cases that are cardiac surgery DRGs or orthopedic surgery DRGs. Then we tried to put that in the model. But what we discovered immediately is that they're both extremely highly correlated with case mix, overall case mix, which is no surprise.

So what we did is we created a couple of dummy variables and a single dummy variable that says that you are a niche hospital if you have cardiac or orthopedic shares in excess of the 95th percentile of the distribution of either one. We put that in the

model and it's negatively related to margins. If you have a high share you tend to have a lower margins. If you're a niche hospital you have a lower margin. It's close to significant but not quite there. So it's the opposite of what you would expect.

Now remember two things. The 95th percentile for cardiac surgery is something like 14.6 percent of your cases. The 95th percentile of orthopedics is a little higher. It's like 18 percent. So being a niche hospital by this definition is not all that exciting. It doesn't mean that you're really all that concentrated.

Second, we're talking about 1998 data, and 1998 data may just simply precede most of the niche hospital business in this country. So it doesn't mean that there isn't anything there. It just means maybe we can't see it.

You get a hint of that if you look at these little diagrams I gave you. This is the relationship, such as it is, between the share that is cardiac surgery and the payment to cost ratio for the hospital. It's all over the map. And the picture for orthopedic surgery is very similar. We broke it down by bed size, just to show that -- if you're talking about small hospitals that first picture has actually a couple surprises in it. I'm not sure I'd want to be in any one of them. Most of them are doing zero cardiac surgery, which is perfectly appropriate. But even when you get to the large hospitals, they're all over the map. So there just isn't anything here to show you.

Now the last thing we looked at was whether the findings held up over time looking at alternative years. We looked at 1992 and 1999 and the results were highly similar in both cases.

That's it.

DR. MILLER: I just want to ask this. In terms of the cardiac surgery and the questions that we've been getting on hospital specialization, this is talking about its relationship with the inpatient margin for the hospital in general. There's still a question outstanding below that of whether the DRG itself can be a profitable DRG. Just to the point that Nick has raised several times.

MR. PETTENGILL: That's absolutely right, there is that question.

DR. MILLER: To your question of the profitability of those procedures and the hospital specialization phenomenon I think there's still other questions and work to be done here. This is more the overall relationship to the inpatient margin.

MR. PETTENGILL: You can go at it both ways. One is at the level Nick was talking about where you're looking at the individual DRGs and trying to figure out whether they're profitable and to what extent, or not profitable as the case may be. Then the other way you can look at it is to look at the specialty hospitals and see what they're doing and then try to figure out, given all the possible motivations for forming a specialty hospital, which are quite numerous, which of them seem to be actually operating. I think you have to do a little of both.

DR. WOLTER: Just a question on those graphs. It is all

over the map obviously but it looks like there's a tendency to higher payment to cost ratios for the larger hospitals, or am just not looking at that right?

MR. PETTENGILL: No, you're correct, there is a tendency. But you have to remember that this is by variate, not multivariate so it doesn't control for the extent to which these hospitals are teaching hospitals, or they get DSH payments, or they're affected by any of the other things in the payment system that we know affect their margins. In that sense, I don't think it's surprising.

DR. REISCHAUER: But the graphs in the chapter, the charts with the lines, they do control for other things, don't they?

MR. PETTENGILL: If you're talking about the individual graphs where we're looking at variables one at a time, yes, they do.

DR. STOWERS: This may be an incredibly naive statement but I have watched over the last few years, especially recently, some hospital consultants at the community level or maybe even smaller hospital level that have come in created dramatic turnarounds from very negative margins to very positive margins in these institutions. I'm just wondering if that would not be an interesting conversation to consult with some of them, like Stroudwater, that do a lot of this just to see where they saw the difference in management and other things that payment -- how was it weighted, how would they weight this as to payment versus management versus days in accounts receivable versus --

I just think it might give us a little bit more insight this other big chunk out here that we're not able to get our hands on. But I think chapter and all this is very interesting as to why some are having trouble and some aren't.

MR. PETTENGILL: Thanks. One of the things we tried to point out in the chapter is that there are parts of the dynamics of this that you can't pick up in a cross-sectional model that appear in the residual, the part you can't explain, because they have to do with changes in volume from year to year, for example. That's just one thing. You can have lots of other things go on in a market; a physician leaves town or retires, the management changes, the hospital is bought or sold. There are lots of things that can go on dynamically that would affect margins as well, and we're not addressing them. But that's an interesting further item, I think, to pursue on our agenda is what's happening dynamically.

DR. STOWERS: I know some of them have very strong feelings about the differences in Medicare hospitals that are going well and those that aren't. There just might be some --

MR. HACKBARTH: Julian, how would you respond to somebody who looks at this and the percentage of the variation that's explained by these variables and concludes from that that the system is broken? That this is too random. There's just too much that we don't understand about who wins and who loses and we need a different mechanism, or we need a mechanism that at least reduces the profits and losses. Some people have said, there ought to be some sharing of the profits and losses so as to reduce the impact on both ends of the distribution.

MR. PETTENGILL: I guess I would say they're drawing what I believe is an incorrect conclusion from what they're seeing. Having controlled for all the factors in the payment system, and having controlled for differences in behavior as best we can, and market differences, there are still hospitals that are doing extremely well, suggests to me that a lot of what's happening here really is about how well you manage in the circumstances you're in.

That's consistent with the case studies that we did in the ProPAC analysis going on 10 years ago, where following up on similar kinds of analytic efforts we sent a contractor -- Lewin in fact -- out it to look at hospitals in a couple of markets. That's the major finding they came back with, is that the hospitals that did well were managed by people who understood the market
they were in, and they had a good relationship with their physician staff, and they were doing a good job. The ones who were doing badly were managed by people who really -- they may have been very smart people but they had a bad relationship with their medical staff and they didn't understand the circumstances they were facing.

MR. HACKBARTH: I wonder whether it would be good to maybe carry a little of that, in a very summary way, into this chapter. I have had people who have listened to this or looked at the graphs that we've produced in our reports that show the wide distribution of margins and perhaps leaped to the incorrect conclusion that this is data that shows the system is broken. I'm worried that if they just see the graphs and the percent of variation explained that this will add to that. Let's try to anticipate and explain qualitatively some of the other stuff.

DR. REISCHAUER: What strikes me as somebody who probably more than most of you, maybe not David, looks at cross-section analysis in various forms, I in a way objected to the use of the time we can only explain this amount. The explanatory power of this equation for what we're looking at I think is pretty darn good, especially when you think we're going across animals as opposed to lions. We're talking about little teeny hospitals in rural areas and Mount Sinai.

Sure, you throw in a few variables but this isn't like looking at gas stations across the country or anything like that. It's a very heterogeneous group of entities and what we're talking about in a sense is profit margins on a piece of your business and anybody would expect your cost structure not be driven, dominated by what's 30 percent or 35 percent of your total business, but maybe the other 60 percent by and large. So I'm really amazed that we've come up with as much explanation as we have.

If you had a group of economists looking at this stuff, no one would raise the question of, this looks like a random walk.

MR. HACKBARTH: The problem is the people who make the policy are not economists.

DR. REISCHAUER: I've noticed that problem too.

MR. HACKBARTH: Thank God.

[Laughter.]

MR. HACKBARTH: So I think we need to pay attention to the presentation in that sense and make sure that the context is well set.

MS. ROSENBLATT: Just on that point. I know when we were talking about risk adjustment, Joe Newhouse had done some work on what is a good amount and I think he had come up with, if we can explain 20 percent of the variation that's good. If there's a way to come out with a similar statement and say, 40 percent is good, I think that would be terrific.

One of my questions, and we may have discussed this last time but I don't remember, is given all of the attention on outliers recently did this analysis control for outliers? And if it didn't, do we need to come up with some statement about outliers? Because we're using 1998 data and a lot of stuff has hit in 2002 and 2003, and I don't want us to look like we're looking at the rear window.

MR. PETTENGILL: We're not looking out the rear window. We're looking both front and back. We did control for outlier payments as a percent of DRG payments. That was one of the variables. It's not relevant or particularly relevant to the outlier situation at the moment, because it is 1998 data. A lot of the acceleration of charges that led to the extra outlier payments recently is a recent phenomenon. Some hospitals may have started that back as far as 1996 or 1997, but not very many did. So the bulk of the hospitals that are involved are not extraordinary in this analysis.

Kathleen did address it at the last meeting. She did take out the hospitals that had extraordinarily high outlier shares and it did change the results slightly making them, I believe, more negative. That is, the more outlier payments you have, the more negative the impact on your margins. That became more negative when she took out the outliers. I think for our purpose here that's all we really need to do.

MS. ROSENBLATT: I guess my point, do we need to put something in that takes this conversation and points out what's going on so that we look like, hey, we know what's going on?

DR. WAKEFIELD: Julian, two comments. Reading the narrative that we were provided before we arrived, findings on wage index, a couple of comments there. First, you indicated that you're going to be studying that area further, that this wasn't the final piece on that issue. But if I understood, and I only did one quick read -- if I understood your findings correctly, you were suggesting that the labor share might be just about right for smaller hospitals but probably overstated and maybe quite overstated -- maybe I'm overstating that. You can tell me -- but quite overstated for everyone else. So about right on one hand and overstated on the other.

First of all, you didn't much comment beyond that so I guess one thing I'm asking you is are you intending to, are you holding your fire there because you're intending to do more analysis and then come back with some recommendations? Short of that I was thinking, what might be some of the things that one would do if we started to think about correction in that area, as realistic as that may or may not be to accomplish? But would one potential

correction be that you recover those overpayments, if you will, plow them back into the base rate, or look at other options as well?

So I was just wondering, did you give any of that any thought yet or are you still too much, too early on the front end to do that because there's still some outstanding information that you're looking for?

Then the second area that I wanted to ask you about is, last time when Kathleen Dalton was here we talked about the part of all of this that's random and it seemed that, at least again for small hospitals, there was greater volatility, so less predictability, higher risk then to those small hospitals. In order to once again curry Bob Reischauer's favor, while we would never want to -- let me restate that. This is an ongoing project for me actually.

While one might not want to say, hypothetically, provide payment increases to somehow offset whatever problems exist for those small hospitals because of the volatility year to year, would it be reasonable to think about other types of provisions? For example, thinking about minimizing risk by not just moving to cost-based reimbursement but rather allowing for paying a mix of cost versus PPS to help to address some of that part of the equation, or is that all too premature to think about as well?

MR. PETTENGILL: I think you must be warming Joe Newhouse's heart at a distance. I'm sure he would be delighted with that suggestion. But I think you would have to consider a number of possibilities. If the problem is volatility and risk that is associated with that, then one possible way to deal with it is to have a mixed system in which you are partly paid on the main system and then you're partly paid on a different alternative that takes the risk into account. Exactly how you would build something like that isn't so clear.

DR. WAKEFIELD: I say that because cost-based reimbursement makes it pretty darn tough to generate profit for those facilities that they can turn around and use.

MR. HACKBARTH: On the first issue, the labor share, we've proposed that it be examined and our hunch is that if you look at as a national average that the average labor share is too high at 71 percent. That, by definition, is a redistributive policy. So you had suggested, could we look at a mechanism that takes the excess payments from the ones that are being overpaid according to this analysis at the high end and give it to the low. If you change the labor share variable, it is by definition going to redistribute money from the high end to the low end.

DR. WAKEFIELD: Is that adequate to accommodate that?

MR. PETTENGILL: The implication of the analysis is -- there's several possibilities here, but one of them certainly is that the labor share is too high for some and too low for others. Now it's not urban-rural. It's according to the level of the wages in the market. So it's okay. It's in the right ballpark, apparently, for hospitals located in relatively low-wage markets. That is, below one on the wage index. It's too high for hospitals that are located in high wage markets.

Now exactly what that means though is not entirely clear,

because it could well be that it's not the level of the wage rate in the market, it's the size of the hospital. It just may be that it's too high for large hospitals that happen to be located primarily in high wage markets. We plan to do some further work beginning next month to try to sort that out. So absent any ability to say, this is definitely it, we don't want to do anything yet.

MR. MULLER: The go back to the broad point of how much of the variation is explained by the policy variables, I agree with Bob that getting 25 percent is quite good, especially given the 3,500 hospitals or so that we're looking across. But also from the point of view of MedPAC and other people with policy responsibilities, the fact that only 25 percent in that sense gets directly affected by policy considerations we make, it's something to note that there's a lot of things that are outside of control that affect the margins. So I think it's both important to note, as Bob indicated in a preface, that in this is quite good by the standards of cross-sectional analysis. It's also probably a little frustrating from the point of view of how you push policy levers on a national program and that goes to the whole design. Both things are true. They're not mutually exclusive, and I think it's important to note that.

I have some factual things that I just wanted to check on. One is, Nick raised earlier in the comment on the data topic a few minutes ago, the outpatient question, and you referred to it as well. We've said in the past when we rationalize those high negative margins in outpatients, that's probably the result of more overhead being spread over there. I think in light of the findings here we may want to just reserve the comments for a while until we know that more clearly, because we have said that pretty consistently in the past. That it's okay to have those high negative margins there and not give the full update, or not give -- not the update, but to deal with the adequacy issue there. We basically always say the inadequate payments are overstated because the overhead is being spread over there. Since the findings here are not consistent with that I think we should at least temper that comment for a while.

Secondly, to go to the outlier question that Alice raised, it does indicate here that the outlier payments are negatively correlated with margin. Since there's a suspicion -- I like Bob's phrase that some people, the outlier, in some places they've gone on steroids and used it in a way that's inappropriate. Since there's a suspicion that the '02, '03 data would be different than '98, I would at least, understanding the limitations we've discussed all day today about dealing with old data, on the outlier question I think it's probably particularly relevant given the recent analysis of it and some major changes in it. So we may want to note that that may not be true there. Not that the '98 data is not accurate, but that it may have changed. Just a footnote that this may be one place in which things have changed. Not to pick one out of 100 areas, but given the fact that it's getting a lot of note and change.

I would also point out, given the discussion about niche markets and payments and margins on certain DRGs and so forth,

there's a little inconsistency on page 5 and 6. It's minor, but where you say whether case mix and service mix are in or outside of management control. In a sense service mix, doing more cardiac, doing more neuro, doing more ortho is a choice that people can make and some people think that's why people go into niche markets and specialty hospitals, et cetera. So I think in that sense case mix is also under management control. It's not something outside of management control. So I just think we should be consistent on that.

As you can imagine I was just shocked to see that we overcompensate teaching hospitals for IME. Now I don't want Mary to feel all alone so we should probably say we overcompensate critical access hospitals as well. You wouldn't want to be the only one that is not undercompensated.

MR. PETTENGILL: Actually, Mary is not at any risk because we excluded the critical access hospitals.

MR. HACKBARTH: You need a footnote that says, if we had included them, then --

[Laughter.].

MS. BURKE: Actually to a certain extent consistent with Ralph's comments, I was struck as well by the text discussing the presence of outpatient departments and home health services and its impact, and the suggestion in the text that that's an issue that you're going to look at more carefully and at greater depth I think makes absolute sense because it is counterintuitive to everything else that we have thought. So I wanted to underscore that I agree with Ralph but I think we ought to be cautious about what we say in that broad context, and that we ought to look very carefully at that so we understand its implications, not only in the context of payment rates for hospitals, but as we look at these update factors for these other services.

The other point is really more of a longer term point and perhaps something we might think about this summer, or I would certainly benefit from a longer conversation about. That is the whole implication of these niche hospitals, and what ultimately that's going to do to us, and what that causes us to do in terms of looking long term at payment as we structure it. I think the fact that we're working off of '98 data underscores the fact that there has been a radical increase in the number and presence of these kinds of facilities in communities.

I'm not sure I fully appreciate nor understand the impact on community hospitals or on hospitals generally of having these pieces break off where people specialize in cardiac particularly or ortho. I think the data we have is certainly not adequate because I do think it's changed radically since '98. It does make me pause and wonder, thinking back to the old days and what brought us to PPS and away from 223 limits and all those other systems is, does this call into question fundamentally how we've structured these payment rates over time? What the presumption was in building of DRGs and the associated assumption about how one on average did well because you were doing across a relatively broad range of services that would have goods and bads but on average that you would manage. That was the concept behind what we did.

That concept, to me, seems to be somewhat challenged when essentially you break off and do one thing. That is a fairly fundamental shift. Now we've broken it out when we did rehab. We've broken it out when we did other kinds of hospitals in the past. But the development of these kinds of units over time has caused us to new look at other ways of payment. But I would at least benefit from a conversation that is more in-depth about what the long-term implications are of these pieces that tend to break off, and what is that doing to our underlying presumption about the structure of a DRG system that assumes averages to a certain extent.

I don't get it, and I don't think the '98 data can really tell us even here, as good as -- I found the report, the chapter, Julian, to be terrific in raising these issues and moving our knowledge along. But I must say in that area in particular I am quite confused as to what long term we ought to be doing and what we really know about what those implications are.

MR. PETTENGILL: I think it's a set of issues that we plan to pursue and we will be discussing it, I think, at the July retreat. It's clearly important for a lot of people for a lot of reasons. Whether it turns out to be practically important, who knows yet? I'm not sure we know enough to know that. But that some further work needs to be done on it I think is pretty clear.

MS. BURKE: You certainly hear anecdotally that there is an enormous impact in those markets where these units have been created. Again, I don't want to assume that the anecdotes that I hear from administrators who run those hospitals who suddenly had all their cardiologists move down the street to Cardiac Care For You, or whatever the unit happens to be, but there is enough of a stir that it has begun to concern me that I'm not sure that I really do appreciate what the implications are.

MR. HACKBARTH: Julian, yesterday after the meeting I had somebody ask me a question about this analysis. The analysis shows that margins increase with case mix, so that hospitals that have higher case mix indexes tend to have somewhat higher margins. I was asked how that's reconciled, or whether it can be reconciled with the position that MedPAC took a few years ago saying that a case could be made that there needed to be some severity adjustment in the DRG system because we're underpaying the institutions that care for very sick patients. Could you just connect those two things?

MR. PETTENGILL: I'll attempt to reconcile. A couple of years ago we looked at adding severity distinctions to the DRGS and what impact that would have. The motivation for doing it was as part of the GME study where people thought that if you captured the differences in severity in teaching hospitals you would be able to fold IME and GME directly into the payment rates and solve the problem. It didn't work out that way, and the reason that it didn't work out that way is because if you break the DRGs down into severity subclasses what you find is that within any group you can name, within any region you can name, some hospitals treat patients who are more severely ill, fall into the higher severity categories, and some treat cases that are less severely ill than the current system captures.

So among rural hospitals we had some whose cases turned out to be, as measured by the APR-DRGs, more severely ill than the current system shows. Similarly, we had others who were less severely ill. And the same was true of teaching hospitals, and large urban hospitals, and medium-sized hospitals, and you name it.

So what does that mean about the findings here? It's not clear. Because what we're seeing is that if you have a high case mix index it appears that that's making a contribution to margins that you wouldn't expect or want.

What that means at the individual DRG level, I don't know. It may not have anything to do with severity. If we had the same APR-DRG results now in the '98 data as we had back then when we used, I think it was '97 actually, there wouldn't be any relationship. There's something else going on. I'm not sure what it is.

MR. MULLER: Part of the conventional wisdom for many years was that the surgical DRGs, in a sense with higher case mix, and the medical DRGs had lower case mix, and there were a lot of comorbidities in the medical DRGs, and therefore there's more severity there that the DRGs didn't capture, and that would be a partial answer to Glenn's question.

MR. PETTENGILL: It's possible, but you can't know unless you do the analysis.

I guess I want to say one other thing. If I'm remembering it correctly, that analysis also showed that there were systematic differences on average. So even though among teaching hospitals I could find some that were higher and some that were lower, it's still true that the severity level at the margin for teaching hospitals was systematically a little bit higher than the severity level for other categories. So maybe that's what we're picking up. I don't know. When we estimated the IME coefficient in a cost function analysis using the APR-DRG data, so controlling for severity, we got a different coefficient. It was lower than the coefficient that we get with the DRGs, and that says essentially the same thing.

So it may be that these results are completely consistent with that, but I wouldn't know it unless I broke it down.

DR. MILLER: I didn't see them as necessarily inconsistent, that you could still be an issue of severity. Then also, Ralph's comment triggered this thought. It's not just surgical and medical and what's going on there. It's also how the hospitals choose to charge for those two different types of cases. Couldn't that also be reflected in this result?

MR. PETTENGILL: The relative weights are affected by hospital's charge structure. There's no question about that. I don't think it breaks out -- maybe on balance it breaks out between medical and surgical, but it's really based on the way hospitals mark up specific kinds of services. Even within a category like imaging, the markup on one kind of imaging is very different from the markup on another. That ultimately finds its way into the DRG weights because we use charges. One of the things we explored in that big GME study a couple of years ago was different ways to try take some of that out. I think we have

some ways you could do that, but they're not completely successful because we can't get below -- you can't get all the charge structure differences out. There's just no way to do it, short of telling people, you have to charge within 10 percent of what it costs. Then you might get it out. But short of doing that, you can't.

DR. WOLTER: I think this is really a good point. We were talking about this the other day at my place and how we look at charges. If you have a high percentage in a given set of DRGs of Medicare patients you tend to be less likely to increase your charges at the same rate in areas where you might have a higher private commercial payer mix just because you won't see a result from that. So as the years unfold, market conditions, other than just looking at your cost relative to Medicare payment, affect your decisions about charges. But that of course, then flows back into charge to cost ratios that weight DRGs, and that's's why this is so complicated in terms of how we look at where people make strategic decisions.

MR. PETTENGILL: Yes, I think that's right. I think the individual decisions that hospitals make are colored by the market circumstances they're in. There's no question about that. But remember that the charges we're using are the gross charges. They're not adjusted by the cost to charge ratio. We did that once. That was the original set of weights.

DR. WOLTER: I understand that.

MR. HACKBARTH: Okay, thank you, Julian.

Okay, public comment period. We'll have a brief public comment period.

Okay, thank you very much. I want to thank everybody, all the commissioners, and all the staff for the really outstanding work done the past year, and we'll see you in September.