Richard Hector:
Good afternoon. Thank you for being here. My name is Richard Hector, and I'm with Health
Services Advisory Group. I'm the Health Care Researcher, and what that means is I get to look
at the data – is this too loud? Okay, I get to look at the data a little more closely, and I can, we
can elaborate on that more at the end if anyone asks questions about it or in the Meet the Experts
later on.

I'm here to talk to you this evening about methods and advantages of combining your health
outcome survey data and your organizations data to improve quality and performance.

So the goal is to demonstrate the advantages of linking HOS and Medicare advantage data to
identify quality and performance results that support improvements in health related quality of
life.

So before I enter into this next slide where I'm saying this can happen to you, the perspective of
this presentation is from the point of view of an analyst, but many of the people here are
managers and directors so what I'll be talking about next, it could be from, instead of it's
happening to you, it's what you might direct your staff to do.

So on a great Monday morning after a wonderful weekend as an analyst you're at your desk, and
you start a project that you had on the back burner. Your boss returns from a conference and is
very excited about some results that were presented. Well I see you identify with that part.

[laughter]

And your boss wants to replicate the results with your in-house data. And here is the chart that
your boss saw by Wang Itow [spelled phonetically] who presented at a conference, and its BMI,
Physical Activity and Health Care Utilization Costs among Medicare Retirees. I want to take a
moment to explain this slide because it's a very complicated slide to present in this setting, and
I'll describe it also for the people who will be listening to this recorded presentation later on.

This slide has on the horizontal axis, three categories of BMI, and they're normal on the left with
overweight in the middle and obese and greater on the far right. This slide depicts – so that's
BMI on the bottom, on the vertical axis it's cost, total annual cost and activity is captured with in
each category of BMI by three bars. A light bar for the least active; zero times per week. Dark
bar on the most active; four or more times per week. And in the middle, one to three time per
week with the in-between bar.

And what we see is you go from the least active people, their annual costs are the highest, to the
most active people, their annual costs are the lowest. And the people who are one to three times
per week, their costs are in the middle. And it's a significant amount of money. From $13,000 if
you're looking at the normal weight bar on the left to $9,000 for the most active people and
$11,000 for those in between.

And what you see is for every category of BMI. The more active the retirees are is the lower the
annual costs. The – so you want to look at this with you in-house data. And this is what your in-

house data might look like as an analyst, or this is what your analyst would have, would see. You have your, on the upper table that you might see in an excel spread sheet, is the data from your in house data and we have the HIC number, we have the social security number and patient id for William Shakespeare, who lives in Baltimore here, and for Ernest Hemingway, who also lives here in Baltimore. And their costs are $8,000 just about and $12,000. But when you look at their HOS data that you could link on their HIC number you see that you have on the purple column on the far right, you have their PCS that you met earlier on in one of the presentations where Sonya was saying that this is the outcomes cause for the health outcome survey. PCS here standing for, stands for the Physical Component Summary Score.

[laughter]

And, from now on I'll call it PCS. And it's a general health, physical health measure. It goes from zero on the low end to 100. And I want to emphasize that this data is simulated. So any William Shakespeare or Ernest Hemingway that happen to live in Brooklyn or Baltimore is by coincidence.

So I have simulated here a health plan called Cardinal Health. And these are the costs for the health plan. It has 633 patients, and this is a typical histogram which you would see when you begin looking at data about a health plan. Where on the left the histogram is the highest percentage where most of the people have low costs. And as you move out to the right a fewer people have higher and higher costs. Where the cost goes from $8,000 at the average with a minimum of $10 and a maximum of $70,000. And these are simulated costs as I said.

You may also want to look at the BMI that you can get from the HOS data. And you see that looking at our patients, these BMI, most people have a BMI of about 27, and most of them then are between normal weight and over weight with a few people going out to the obese side.

This is a very normal bell-shaped chart that's taken from the actual data from the HOS, and it's almost text book classical bell shaped chart.

So after looking at the data you decide, "Well now I want to try to replicate the results," and we see in this chart where what I did here is, is on the horizontal axis, now we take BMI from less than 18.5 to, which would be considered sort of unde weight to a normal weight, 18.5 to 25 to overweight, 25 to 30 and obese, 30 and greater. And on the vertical axis again is the annual cost. It's simulated.

When you look at the categories of BMI across the chart again, the bright chart are the least active people. The bright bar, beg you pardon, are the least active people. The darkest bar are the most active people. In quartiles of principal components summary score.

What you see here also is there's no discernable pattern in cost and PCS, which is unlike what was found by the Wang group. And this is unlikely you would find this in your data, and here are the reasons.

Now I'm doing another analysis, but what I'm looking for are measures that you will get in the HOS. You see on the horizontal axis, self-related health -- self-rated health, beg your pardon. Going from poor to excellent and on the vertical axis PCS with the colors of the bar again depicting levels of physical activity.

And what you see in the chart, the overall picture as you go from poor self-rated health to excellent self-rated health, the PCS score increases. Then within categories -- starting from good, very good and excellent -- within category, as you increase BMI, the PCS score decreases. So overall as the self-rated health gets better, people report, the PCS scores reflects it, but by BMI people have lower PCS scores, lower general physical health.

Here I take another look at the data, and now I'm looking at core morbidity. Again by PCS score and self-rated health. Now what we're seeing is going differently. Core morbidities decrease as people rate their – as self-rated health increases from poor to excellent. But when you look within category again, you're seeing, as you go from the low BMI to high BMI, core morbidity increases, which it makes clinical sense.

So you're seeing as you're looking at these charts a relationship between core morbidity and the PCS. So here I'm taking the same two charts again and putting them on one slide. And you see they're moving in opposite directions, and the over all structure and within each category again, you see the increase and the decrease depending on whether you're looking at core morbidity or PCS.

You can go one step further and say, "Let's pull out the relationship between core morbidity and PCs," and here's what we do in this chart, where we're looking at the quartiles of PCS with core morbidity on the vertical axis and BMI on the horizontal axis. And just as it was suggested in the previous two slides, now it's made explicit that as you go from low activity to high activity the number of core morbidities decreases -- is associated with fewer core morbidities, and it's a consistent result across levels of BMI.

I want to come back to talk -- and an overview of this slide later on but let's continue.

So now let's talk about how -- you can do this with your HOS data, and here are the advantages of using an HOS data. Your HOS data has a unique identifier by which you can link your in-house date, your HIC number. Your outcomes are calculated -- the PCS and the MCS are already calculated for you. The well being items in the chart like the two we just mentioned, they are validated, and here are some others that I mentioned ,and it was mentioned in the earlier presentation. You can look at the PCS, the MCS, healthy days, general health, chronic diseases and the HEDIS measures like the urinary incontinence and so on.

More advantages. The survey used trained interviewers. We have an established sampling protocol. It can be generalized to the population of your plan. This goes for your plan. You can check results against other states. For instance, using the public use files, and in collaboration with persons outside of your organization you can talk about issues with the HOS data without jeopardizing confidentiality or business practices within your plan because people can learn about it, it's publicly available, the knowledge, on the HOS data.

And it has a large sample size, so you can cut and slice your data in many, many ways when you're comparing it with the public use files.

So I want to just quickly reiterate the HOS timeline that Sonya Bowen did earlier, and it's an annual base line sample with a two year follow up of the base line. In year one, January through March, this survey's prepared and the interviewers and the staff they selected. In April through July, the survey is fielded and for the base line follow up cohorts. In August through December, the data is cleaned, validated and scored.

In year two, in January we do data management and analysis. In April through August we prepare and disseminate data files and reports and the data user's guides. And April and August are in different colors to emphasize that from fielding the data to preparing and disseminating the data is just 17 months inclusive.

So I want to stop now and we – Dr. Clancy this morning spent a lot of time talking about why people do not want to do quality improvement, and this is – so what I want to talk about is taken from the general literature on the hindrances to quality improvement.

Boat [spelled phonetically] et al produced in *February Journal* [spelled phonetically], reasons they found that people did not want to participate in quality improvement. They found some of the things they heard were people were to busy to do anything more. They couldn't afford it. They had a different approach already in place. You are already in the top quartile or top ten percent. That would be unlike the people that Jennifer would come see.

[laughter]

They need more and better people. And they do not get paid for quality, and Dr. Clancy would beg to differ with that.

Other reasons that they found were quality improvement ideas cannot be applied to medicine because patients are heterogeneous.

[laughter]

Medical care is relational work requiring reflective professional practice. There's a lack of knowledge about how to make system -- changes in the system. The medical center is a teaching hospital. The medical center is not a teaching hospital.

[laughter]

And the reasons we have been hearing is that when we work at all partners is that the data are outdated, and we must counter that without a change in the process your beneficiaries would experience similar outcomes at the same place when they enter your plan.

Also the period from interview to dissemination is just, it's too long. That's why it's being outdated. Well, this long period encourages you to focus on the process rather than variation due to special causes like something that came up in the newspaper or a call from a Senator. And you're – if you did these surveys in-house you would have a similar duration, but you won't have the advantages of using the HOS data.

What else have we heard? You say that your beneficiaries are sicker or different than the patients in the survey. So we would say, if you link it to your in-house data than you would be customizing it to your beneficiaries, you can easily link it.

There are issues that we also have to consider with providers. Providers witness the bad effect of processes. So – but on the other hand, beneficial effects of processes become part of the background of the practice, and providers are scientifically trained so data-driven processes will have credibility with the providers so you can get the changes you want enacted more easily.

I want to summarize quickly. The HOS is a rich data set that can be used to show how quality and performance of care affect health related quality of life of patients enrolled in your organization. The HOS data files are available to any researcher through de-identified public use files. However when you link it to your in-house data they can be a valuable resource, and you can imagine it only the affect of quality and performance on quality of life, but you can also use it to determine the affect on your expenditures as the very first paper by Wein [spelled phonetically] showed.

And since the patients interviewed, a representative sample, the policies that you use to improve quality and performance, they can be evaluated knowing that an effect all the patients in your plan. S

o I want to mention that we are—the Health Services Advisory Group – we are available for technical queries at the information here. And if you have queries about this presentation or other ways that you may want ideas of how you may use your data, you can contact me at this number here.

So thank you very much.

[applause]

[end of transcript]