MEDICARE PAYMENT ADVISORY COMMISSION

PUBLIC MEETING

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

Thursday, October 9, 2003
10:11 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
ALLEN FEEZOR
RALPH W. MULLER
ALAN R. NELSON, M.D.
JOSEPH P. NEWHOUSE, Ph.D.
CAROL RAPHAEL
JOHN W. ROWE, M.D.
DAVID A. SMITH
RAY A. STOWERS, D.O.
MARY K. WAKEFIELD, Ph.D.
NICHOLAS J. WOLTER, M.D.

AGENDA ITEM:

Long-term care hospitals: ongoing research
-- Sally Kaplan

DR. KAPLAN: The purpose of this presentation is to bring you the latest results from our research on long-term care hospitals. In June 2003, we reported that patients in market areas with long-term care hospitals had similar acute hospital lengths of stay whether they used long-term care hospitals or not. Long-term care hospital patients were three to five times less likely to use SNFs, suggesting that long-term care hospitals and SNFs are substitutes. LTCH patients had higher rates of mortality and Medicare paid more for their episode of care. Higher mortality might have indicated unmeasured severity of illness.

Today I'm presenting results from analyses designed to answer the three research questions on the screen and in your handout. The first analysis is to answer the question, what is the effect of certificate of need on long-term care hospital beds? We investigated whether the presence of a certificate of need, or CON program, for hospitals reduce the number of LTCH beds in a state. Twenty-six states and the District of Columbia have a CON requirement. The other 24 states do not.

As you can see from the table on the screen and in your handouts, half of the eight states without any long-term care hospital beds are CON states, half are not. Half of the eight states with 100 or more beds per 100,000 beneficiaries are CON states, half are not. States without a CON requirement have 11 percent more long-term care hospital beds per 100,000 beneficiaries compared for CON states.

We can conclude that having a certificate of need requirement for hospitals has little effect on long-term care hospital beds. Since CON programs can vary in their strength, we plan to look at this issue further by examining the relationship of long-term care hospitals and the strength of the certificate of need.

Now we turn to the question of how long-term care hospitals differ by age, ownership, freestanding versus hospital-within-hospital. To answer these questions we analyzed the same 11 DRGs used for the June report. Old long-term care hospitals were established before October 1983, new hospitals were established in or after October 1993, and middle long-term care hospitals were established in the decade between.

The volume of cases is very different. For example, new long-term care hospitals account for 66 percent of cases in the 11 DRGs, middle long-term care hospitals account for 22 percent, and old LTCHs account for 12 percent. For-profit long-term care hospitals account for 60 percent of cases, non-profits account for 34, and government long-term care hospitals account for 6 percent. There's a lot of overlap between new and for-profit long-term care hospitals.

When we looked at differences in case mix we found mostly similarities with about a 12 percent difference among long-term care hospitals by age group and a 5 percent difference by ownership. When we went inside the 11 DRGs and examined acute hospital length of stay, use of SNFs, mortality, and total episode payment, controlling for DRG and severity level, the only substantial difference was that total episode payments were less for old long-term care hospitals. This appears to reflect the TEFRA payment system that was in effect before PPS. Remember that this data is 2001 and the PPS did not start until October 1 2002. Under TEFRA old long-term care hospitals were paid more than new ones.

To answer the question, what factors predict beneficiary use of long-term care hospitals we used multivariate analyses. The unit of analysis for the multivariate regressions is the beneficiary's episode of care. Beneficiaries discharged from an acute hospital alive in the first six months of 2001 were the universe studied; 5.3 million observations. Episodes began with acute hospital use and ended with death, readmission to an acute hospital, or no post-acute care services for 61 days.

The first regressions were to try to predict first post-acute care setting after discharge from the acute hospital. We used clinical and demographic factors, acute hospital characteristics, and beneficiaries' proximity to a long-term care hospital. We used Dartmouth Atlas hospital referral regions and hospital service areas as proxies for a beneficiary's proximity to an LTCH. An HRR without a long-term care hospital was the furthest away, an HRR with a long-term care hospital is closer, and a hospital service with an LTCH is closer still. Being admitted to an acute hospital that has a hospital-within-hospital is the closest.

Our preliminary results are, a diagnosis of tracheostomy is the strongest predictor of long-term care hospital use. Some other diagnoses predict LTCH use, such as respiratory system diagnoses with ventilator support, acute and subacute endocarditis, amputation, skin graft and wound debridement, and osteomyelitis. Severity level four quadruples the probability of long-term care hospital use regardless of diagnoses.

As proximity to an LTCH increases, the probability of LTCH use increases. For example, a beneficiary living in an HRR with a long-term care hospital has twice the probability of using a long-term care hospital compared with a beneficiary living in an HRR without one of these facilities. A beneficiary living in a hospital service area with an LTCH has four times the probability of using an LTCH compared with a beneficiary living in an HRR without such a facility. Being admitted to an acute hospital with a hospital-within-hospital quadruples the probability that a beneficiary will use a long-term care hospital.

To predict post-acute care setting we divided beneficiaries into four clinical groups using a clinical complexity model that predicted probability of long-term care hospital use. The four clinical groups ranged from very low to very high. We then compared regression coefficients by proximity to an LTCH and clinical complexity group.

First we found that the clinical model we used worked to predict discharge destination. The other results we found are the probability of beneficiaries using LTCHs increases as clinical complexity increases in each geographic group or proximity to LTCH group. The probability of using LTCHs increases as clinical complexity and proximity to LTCH increase. For example, the probability of using LTCHs is 10 times greater for beneficiaries in the very high clinical group if they live in a hospital service area with an LTCH rather than HRR without an LTCH.

Two other findings from putting the beneficiaries into four clinical complexity groups are that, first, the probability of using an inpatient rehabilitation facility increases as clinical complexity increases and proximity to an LTCH increases. Second, the probability of SNF use increases as clinical complexity increases and decreases with proximity to an LTCH. For beneficiaries in the very high clinical complexity group, the greatest probability of SNF use is in areas without long-term care hospitals.

In our continuing research on long-term care hospitals our next step will be to focus the quantitative work on answering the question about where patients clinically similar to those using long-term care hospitals are treated in areas without these facilities. This will be a multivariate regression analysis. On the qualitative side we have two studies. First, we have a contractor conducting structured interviews in market areas with and without long-term care hospitals. Second, we are making site visits to long-term care hospitals.

DR. NEWHOUSE: Sally, thanks for all this analysis. This has been a difficult area for a long time.

On this last step of where are patients treated, what we'd really like to know is something about costs and outcomes. It strikes me that we're going to wind up in the position we're in, that knowing Miami costs more than Minneapolis, but while people are prepared--some people are prepared to make judgments about that, ultimately we don't have a lot--I mean, the recent Fisher stuff helps there. But do you have any plans to do anything on the outcomes side?

DR. KAPLAN: Yes, we do.

DR. NEWHOUSE: Do you want to say anything about that?

DR. KAPLAN: We do plan on looking at outcomes. We are including in outcomes--is that what you want to know, Joe, what kind of outcomes we're looking at?

DR. NEWHOUSE: What kind of outcomes.

DR. KAPLAN: We're looking at total episode cost. We're looking at total episode length of stay. We're looking at mortality at different periods. In other words, mortality at 30 days post-admission to the acute hospital, 60 days post, 90 days post, 120 days post, as well as death in the year 2001. These folks were admitted to the acute hospital in the first half of 2001.

We also are going to be looking at readmissions to the acute care hospitals as well.

DR. REISCHAUER: Sally, I think this is all very interesting

but I'd like to have a little more context. Maybe you provided this context in previous material that you've given us, but I was just wondering, for people with these diagnoses what fraction of them end up in a long-term care hospital? Is it 80 percent of the level four tracheostomies, or 10 percent?

DR. KAPLAN: I actually can give you a general ballpark figure out that. The probability of being admitted to a long-term care hospital never exceeds more than 3 percent.

DR. REISCHAUER: You mean even very high probability?

DR. KAPLAN: I'm sorry, I need to go back and check on this then and get back to you with this, because a tracheostomy is really high up there. So, yes, you're right.

MR. HACKBARTH: When you say never more than 3 percent, you're talking about in an area where there is one.

DR. KAPLAN: Yes, I'm talking about in a hospital service area with a long-term care hospital.

MR. HACKBARTH: So even with tracheostomy it's --

DR. KAPLAN: No, I don't think with--no, that's for the very high clinical group but I'm not specifically talking about any particular diagnosis. I'm talking about very high clinical complexity group, the odds are never greater than 3 percent.

DR. REISCHAUER: So for the threes and fours across this average of DRGs it would really be that low. Then I think the questions that Joe asked are very important.

DR. KAPLAN: Exactly.

DR. ROWE: I think if you try to get the quality of care or outcomes it's going to be very difficult using the measures you suggested, Sally, because these are fatal diseases in many of these cases and everybody is going to die. If these are patients with amyelotropic lateral sclerosis or some other, you know. It doesn't mean it was bad care if the patients don't survive. You're going to have to find some other measures, and lengths of stay is--which is good, short or long? If we're talking about hospice, if this were care at the end of life, long length of stay is good. It's not bad.

So I think it would be nice to try to find some other measures like infection rates or nutritional status or family satisfaction. I don't know enough about what the case mix is here, but I'm just a little concerned that people might jump to conclusions about some of these outcomes that really don't reflect the underlying nature of the clinical situation. Nick used to run ICUs. You populated places like this with some of your patients. Do you have some sense of what kind of outcomes would be worth looking at?

DR. WOLTER: In our part of the world they don't exist so we take care of these patients either in the acute care setting, in a SNF, or in some other way.

DR. NELSON: The people that are there to get six weeks of IV antibiotics for endocarditis or osteomyelitis, they'd have a pretty good outcome, a lot of them.

DR. NEWHOUSE: Also these long-term care hospitals are very heterogeneous on the whole, so who gets cared for where is actually very important here. They're much more heterogeneous than acute care hospitals.

DR. MILLER: I think what we would be trying to do is take a look at these outcomes--and I realize that they're crude. One of the problems is, unlike some of the other post-acute care areas, there's no assessment instrument going on here, so there's something to grab onto. One of the places that we might want to go to as we look at this, because as you think about it these outcomes are very crude. You look across relative areas, SNF, hospital, whatever the case may be, then start asking yourself, are there certain diagnoses and severity levels that do well here? And then, would you want to be thinking about an assessment instrument to try and get inside a little bit to see pre, post, and how patients do here? That's kind of the direction we're trying to push in. Not kind of. That is the direction we're trying to push in.

MR. FEEZOR: Sally, I sent you running after this certificate of need thing and I owe you a piece of document in follow up, but just in talking to a couple of folks in the CON world I don't even think this has hit their Richter scale. It's been just below the radar. And in one other instance I spoke with a lot of the excess beds that have been authorized that have been taken out of service by some of the merger mania in the late-'90s now seem to be being brought back online in this form, so again it is probably is flying just below the radar screen.

MR. DeBUSK: Let me ask you, Sally, how do you define the acuity level here with these sick, sick patients?

DR. KAPLAN: We have 400 APR-DRGs, which are the 400 most frequent, severity level, risk of death, or risk of mortality, ICU use, which basically is ICU or CCC days. We have hospitalization in the 90 days prior to this particular acute hospital admission. That's it.

MR. HACKBARTH: Okay. Thank you, Sally.