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Discussion

DR. JOHN J. FERRARA (New Orleans, Louisiana): Members and Guests, I rise to congratulate the trauma team at Michigan, certainly Paul Taheri in specific, who was able to organize and galvanize his team together, get some nurses involved, get the emergency department, get a bunch of specialists involved in an effort to decrease hospital costs. And as you saw by the data presented, just by working on a few simple things in several cost centers, they were able to dramatically reduce the cost of caring for their trauma patients. And this was not just related to a decline in length of stay. Obviously, if the patients are not in the hospital, they are not going to have a bunch of x-rays obtained.

But if you look at the data very closely, which I had the opportunity to do, the costs were spread out by doing things that we'd all like to do, which is decrease the number of laboratory data that we order, decrease the number of x-rays and try to cut out the liberal use of the newest antibiotic cocktail *du jour*. And I am sure that, as you listened to this talk, you probably came up with a couple of additional areas that would increase the savings—things like decreasing the amount of time spent in the surgical intensive care unit, looking a little closer into the fixed-wing or helicopter transports. How important are they to the true outcome of the patient? Areas like dietary and nutrition services can be looked at. And my guess is that if the authors had that data, they would similarly be able to define further reductions in the cost of the care of their patients.

I think these are all well and good. I would, however, like to see a little bit more of an explanation of their complication rate. We like to give cost-effective care, but patient outcome is, of course, the bottom line. And I actually rather expect that the complication rate in the later group might actually go down because, with less laboratory tests, perhaps we were tracking down less spurious data, bringing most patients to the operating room for operations they didn't need. So I'd like the authors to perhaps comment upon their complication rate a little bit more broadly.

The other comment I have is, you know, that this is a great incentive. You got the whole team together; you worked up this formula; you got a cost reduction, and everybody is all proud of themselves. And then what happened? If you were to look at your data, the cost start to creep up at the end of your 6-month period? You know, resident changes, attendings changed services, nurses changed. And if the enthusiasm was gone, if the mechanism did not stay in place because your hospital didn't support, for example, having a pharmacist on duty throughout the entire future of this program, would your costs start to creep back up?

The other question is, you gave us a formula specific to Michigan. I suspect that you might be able to come up with some sort of guidelines that perhaps other trauma centers could take home. Get some data from their other administrators, plug it into a formula, see what type of cost run-up they're going to have, and see if they can justify hiring the personnel that they need to reduce the costs in a significant way, as you have at your own institution.

And then, finally, Dr. Greenfield mentioned the airline theory of hospital practice in that the hospital is nothing more than an airplane and we fill it with passengers. And I kind of thought that's a pretty good theory, and I thought, well, of course, the surgeons must be the pilots. But after listening to your talk, I'm absolutely convinced that we are the flight attendants. We are the ones that are giving the patient a glass of coke rather than the whole can or one bag of peanuts instead of two. Because we are really talking about the variable costs. The variable costs aren't in the peanuts; the variable costs are in the airplane. Are there data that could be made available from studies such as this so that we can begin to approach the true pilots of this ship which, unfortunately, right now, are accountants?

I would like to thank the authors for the privilege of the floor.

DR. MARTIN ALEXANDER CROCE (Memphis, Tennessee): Thank you, Dr. Nunn, Dr. Copeland, Members, and Guests. The issue of trauma reimbursement is fascinating, yet quite complex. The entire concept is really somewhat of a black box. Fifteen to 20 years ago a number of new trauma centers opened throughout the country as hospitals and hospital administrators thought there was a large amount of money to be made. Ten to 15 years ago, many of these trauma centers closed, citing significant financial losses. I always wondered about the financial stability of our own institution, which is a very busy trauma center in Memphis.

When I was a new faculty member in Memphis, I asked Dr. Fabian, who is our chief of trauma, how we could survive with

60% of patients that were self-pay. He told me we make it up on volume.

This study from the University of Michigan is interesting because it addresses the issue of trauma finances. They identified six cost centers which, according to the authors, account for about 90% of the total cost of care. The fact that costs were reduced in the surgical and pharmacy centers are not particularly surprising. Certainly, purchasing more inexpensive materials for the operating room makes very good sense. We have had residents and attendings rounding in our trauma intensive care unit for quite sometime with excellent results.

However, I'm not so sure about the other cost centers, which leads me to my first question. Did you truly measure costs in other areas or is this a matter of cost shifting? For example, when the nursing assignments were made based on acuity and it was determined that some ICU nurses were not needed, were they sent home or simply moved to another area of the hospital? Sending them home would be cost savings; moving them is cost shifting with no real net change in savings.

Relative to radiology, the same argument may be made. Do you now have fewer CT scanners and CT technicians to run the machines?

Obviously, we all must become more cost conscious without compromising patient care. Indeed, it seems that the patient is sometimes the loser when dealing with third-party payers.

There is little patient information in the paper. Can you tell us how these patient groups were selected and also the payer mix? Were there any missed injuries or delayed diagnoses since patients underwent abdominal ultrasound instead of abdominal CT scanning?

And, finally, were there any readmissions to the trauma center, since these patients were discharged almost 2 days earlier?

I commend the authors on this excellent study of a very complex problem, as hospital finances are, in general uninterpretable. I would also like to thank the Association for the honor of new membership. [Applause]

DR. PAUL TAHERI (Closing Discussion): Dr. Copeland, Dr. Nunn, distinguished Members, and Guests. Let me first begin by answering Dr. Ferrara's questions.

One, regarding the complication rate, we booked our complication rate based on the trauma registry for these 2 periods, and they were essentially unchanged, but I agree that can be clarified and elaborated on a little bit more in the manuscript itself.

In reference to decreasing enthusiasm, as demonstrated by our football team, we maintain full enthusiasm at all times. And I anticipate that, because this is the process that we have initiated has gotten buy-in from all of the attendings as well as many of the other cost center liaisons, if you will, those being in radiology or pharmacy or laboratory, that everybody continues to propagate this as more or less the ongoing philosophy, and this is now the way of our practice pattern at the University. So I am confident that this will actually continue.

In fact, I think we are starting to get more integrated ideas from other people, and we are starting to do some new and innovative things with our ICU in terms of flexing beds and things of that nature that I hope to report on a little bit later.

Is this adaptable to other trauma centers? This is a very good question. And in terms of having the cost, the TSI cost accounting system available to us — that is a real resource at the university — it has been installed at over 500 different locations throughout the country and, actually, internationally. However, I would say that almost every medical center, university based or even smaller hospitals, does have some type of cost accounting. They basically have to; you don't need to have that involved a system to track some of these costs. And I think it's imperative for physicians to take the lead in this role and be interactive with their finance departments and/or accountants, whoever is available at your institution, to address these issues of cost. And once they find somebody that's actually interested, instead of shrugging their shoulders and walking away from them, I think that, in general, they will be very responsive and give you enormous volumes of data.

And, lastly, I would say that I think we probably still are the pilots of the plane, although the plane may be a little older and decrepit. But I think it's somewhat of an important analogy so that we all recognize at least something in common parlance that we use, that hospital beds are sort of a commodity-like product, much like an airline seat. And I think that our plan to address some of the other questions regarding costs would then focus on the fixed costs of the institution and see how physicians might eventually change that structure.

With regard to Dr. Croce's question, are we doing real cost reduction or cost shifting, specifically with nursing, you are right in a certain regard, that our nurses, because they are unionized, as Dr. Greenfield mentioned, they do not go home when we do not fill a bed. They can be reallocated somewhere else. However, as a result of that, we have instituted a process in our ICU which, basically, runs at 100% occupancy, to address the flexing of the nursing shift. So we do believe that overall the ICU actually accounted for about 60% of our nursing cost, and the floor-based care was about 40%. As such, those numbers are still reduced based on length of stay. So I do believe we are reducing the actual costs of the institution.

In regard specifically to radiology costs, do we have less CT technicians or less laboratory technicians as we are ordering less use of these various cost centers, right now I don't have any data either way on that. My suspicion is, as the institution as a whole continues to reduce its costs, we will have lower utilization of all these resources and, ultimately, this will reduce the number of technicians that are required to run the system. However, then we may see adjustments of fixed costs going up for us or getting allocated differently to the percentage of your use of those cost centers. So that remains to be determined at this point in time.

In terms of our payer mix, we are fairly fortunate, being a suburban trauma center, that our payer mix is actually quite good. I don't have the actual data on that, but we have approximately a 5% or even less self-pay, unlike the experience in Tennessee.

In terms of the readmission rates, all of our readmissions are reviewed by myself and our attending group from a quality assurance standpoint. Additionally, we have not seen any significant increase in readmission rates at all in either group.

I'd like to thank the Association for this opportunity.