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Improving patient care at the grassroots level

By Christopher Guadagnino, Ph.D.

Published July 2001

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Ken Segel is director of the Pittsburgh Regional Healthcare Initiative (PRHI).

PND: What are the goals and activities of the Initiative?

KS: The Initiative started at the very end of 1997 and is a collaborative effort of the region's major stakeholders in health care delivery, including hundreds of physicians, hospitals and other health care institutions, insurers, major purchasers of health care, labor and other community leaders. We're now working with, depending on the specific initiative, between 31 and 36 hospitals in southwestern Pennsylvania, almost entirely within the six counties of the Pittsburgh metropolitan statistical area. Insurers working with us include Highmark, HealthAmerica, U.S. Healthcare and UPMC Health Plan. The Initiative's overall vision is for our region to achieve the world's best patient outcomes, by superior health system performance, through identifying and solving problems at the point of patient care. We have two major groups of activities. The first is patient safety, where we are working collaboratively to eliminate medication errors and hospital-acquired infections. We are also working to improve patient outcomes in five specific clinical areas, selected by a broad committee of physician leaders working with the purchasing community. The areas include invasive cardiac procedures, hip and knee replacement surgery, repeat C-sections for women deemed to be low risk,

inpatient depression care and diabetes.

PND: How do you get such a broad assortment of participants to collaborate successfully?

KS: The first thing we really had to do amidst this very competitive landscape was to create some safe ground for clinicians, administrators and others to begin to work together on these issues of patient care. We have formal compacts saying that we have shared goals in these patient outcome and patient safety areas, and that we are going to work together as institutions and communities, protecting each others' safety, doing this in a pre-competitive way according to certain ground rules. Our charter of hospitals involved and our statement of corporate CEOs supporting us lay out specific expectations and commitments of support, like working together on common outcome data sets. The second thing we had to do was work to create looks at, platforms for measuring, and tools for understanding patient outcomes as well as medical errors that clinicians themselves trusted and found useful. Our process has been one of bringing a broad selection of physicians from many different institutions and areas of practice to the table to, in the first place, work with the raw data at the Pennsylvania Health Care Cost Containment Council, but also to define queries of the data that they find to be relevant and legitimate to their clinical practice to create common outcome data sets that have formed the basis of our first reports. Participating physicians were chosen by open invitation and we have had well over 100 regularly active physicians and probably up to 300 physicians that we've engaged directly in different parts of this process. There are monthly clinical meetings and various sub-group meetings.

The purchaser community said to the physician and hospital community, "If you will participate in this process and help create these looks at outcomes that you find to be clinically relevant and then begin to use that data to actually improve care, we don't need to issue these data as a traditional public report card and a threat to beat people up and cut people out of networks. We will support the process, as long as we see that you are using it to reduce variation that doesn't make sense and improve outcomes over time." So we've tried to create that trusting relationship, and indeed we've seen those sparks take.

PND: Does all of the Initiative's data come from

PHC4 data?

KS: Our first report did. Our cardiac surgeons and cardiologists, and our orthopedics surgeons have said, "This data is interesting. It raises useful questions. But it's not enough." And so, we have had groups of physicians paying their own way to go around the country and ask, "Who has the most sophisticated tools for sharing information about processes of care and outcomes, and how can we recreate those here in Pittsburgh?" For example, we had at least ten physicians who went up to the Northern New England Cardiovascular Disease Study Group to understand how programs in New England work with a very sophisticated data registry that has helped those hospitals and physician teams reduce their morbidity and mortality to the best levels in the country with a patient population that presents the same risk profile as ours. Those physicians, representing the major cardiac surgery groups in the community, are now reaching final agreements on data that they're going to collect, and on the creation of a registry for this region that is going to be modeled on the best in the country. The orthopedic surgeons have started down the same path. They've been consulting with a Maine medical assessment foundation and other places. We're very eager to support the development of those tools that physicians find to be clinically relevant and useful at the point of patient care. The Healthcare Cost Containment Council data is there; we'll look at it repeatedly over the years. It is useful, but it is accountability-level data. What we're trying to support is tools that the surgeons themselves find to be most useful in improving their own care. At this level, we don't think anybody needs to act as the police. The question is, "What do you guys need to improve patient care and can we support you?" It's an inner ring of professional support that we would like to nurture the development of.

PND: How would the collected data be different from that which the PHC4 collects?

KS: In cardiac surgery, for example, they would be collecting data tied to the actual biological condition of the patients at various points in the operation, and actual characteristics of the operation that seem to be correlated with outcomes. PHC4 tracks the condition of the patients at different times during their hospitalization. They get a risk profile at different points. They map what was done to the patient and outcomes for the patient. But what PHC4 data doesn't tell you is that nitty-gritty, moment-

by-moment, what happened and what were the mechanical characteristics of what was happening to the patient, and how the patient's biology was responding at that moment. So it's more detailed and precise. We're going to try and work out the model with cardiology and orthopedics and extend it to others, to the extent that they want to do it.

PND: What are the Initiative's activities related to patient safety?

KS: Once we began to get collaboration and enthusiastic participation by physicians leaders, that is when our hospital leaders, our insurance leaders, our business leaders thought about projects, prior even to the release to the Institute of Medicine report, to agree to work together to eliminate medication errors and hospital-acquired infections. The first step was get everybody to count medication errors and infections in the same way, and in a way that has the greatest credibility among the people doing the work: clinicians. On the infection side, they selected the Centers for Disease Control NNIS database—National Nosocomial Infection Tracking System. Several of the CDC's clinical staff are working with us to create a streamlined way of measuring and using the system for our first target, which is catheter associated bloodstream infections. This voluntary data collection and tracking system has been highly restricted to only several hundred, generally very large hospitals nationally, and the CDC has opened this to all PRHI participating institutions. We are also actively working with some pilot institutions to try to develop community-based approach to controlling two major resistant viruses—MRSA and BRE—and people are already beginning to think about similar efforts on wound site infections.

The second patient safety target is medication errors, which we want to collect in the same way. The first step is getting everybody to use the same web-based system to allow health care personnel to register that an error or near-miss occurred and share that information within their institution, across the region and with folks nationally. We know that these voluntary systems only capture a portion of the errors that actually occur, given the limits of technology and the complexity of health care today. But we think it's very important to have a system where people acknowledge that they had a error, commit to sharing it and are supported for doing that.

PND: Who has access to PRHI's quality data and error data?

KS: There are different levels of access to the data. Each physician in the region, through their hospital staffs or directly, has access to a database that represents all the cases in the region. However, all the physician names are blinded except for that physician's own name. The hospitals have access to all their physician names. Other hospitals or purchasers can see physicians by a code number; they can not see any detail below the hospital itself by name.

PND: What has the Initiative found so far?

KS: Each of the reports so far has shown that, when you pick the goal of zero complications and readmissions despite having very fine medical care, we have a long way to go, and that the complication rates and outcomes are pretty varied across institutions and providers. That suggests that there is a lot of potential good to come from comparing notes systematically based on the most sophisticated tools and learning mechanisms possible.

Our cardiac outcomes data sets showed that we had very high complication rates for cardiac bypass surgery and very high readmission rates that seem to be correlated with those complication rates. Seventeen percent of all cardiac bypass patients in this region during the year of our study were readmitted to the hospital within 30 days, most within three days of discharge. Approximately half of readmissions occurred in hospitals other than where the operation occurred. There did not seem to be any prior recognition of this broad pattern among any one of the stakeholder groups, including insurers. What we've started is a conversation between the insurance companies, the hospitals and the physicians to say, "What is the pattern here? Why might it exist? How can we get a better handle on what's going on here so that we can reduce complications, reduce readmissions and most of all, systematically understand what's happening so that we can address it at the point of actually improving patient outcomes."

We have almost as high readmission rates and significant variation for hip and knee replacement surgery. There is a shock of recognition among physicians that, as good as we are, we could be better. In terms of low risk repeat C-sections, I think we had almost 2,000 in the region in the year that we looked at. Some institutions had very low

rates and some had very high rates, the same pattern discovered by the Dartmouth Atlas nationally, and by the Pennsylvania Dartmouth Atlas, that indicates that there are practice variations that seem to be unexplained and that might be amenable over time to more aggressive collaboration and sharing information about outcomes and processes of care among physicians and their staffs. It's the clinicians themselves who have to figure out what the implications are and if somebody's doing something better that seems in a statistically valid way to improve care.

PND: Have you gotten to the stage in which you've been successful in improving care?

KS: There are certainly places around the community where people have used these data sets to do that kind of work internally. We are still in the process of constructing these outcome registries. We are beginning to see specific gains in care on the patient safety side. The sharing of information about how hospitals are tracking information about medication errors and using them to actually intervene has led several hospitals to implement specific changes that they feel are preventing errors in their own institution. We also have started two experiments using principles of the Toyota production system to try and improve medication delivery. Those experiments have helped create fixes that are sustainable, done by the people actually doing the work, and are preventing specific errors and waste every day that were uncovered by the staff on these learning lines. Fixes include changes in how specific medications are packaged and delivered, how medications are checked and verified before they leave the pharmacy, and how work is divided so that prescriptions are gotten up to the floor in a timely way.

PND: Given the financial stress of western Pa. hospitals, how can they realistically be expected to put together resources to invest in systems to improve patient safety?

KS: We believe that, if people are trying to do the right thing, there are a lot of resources locally and nationally that want to support them. Our efforts have been supported by local foundations and local corporations, and the Robert Wood Johnson Foundation has given us a grant to support the implementation and use of data systems within partner institutions. We collectively have put together a grant application to the federal Agency on

Healthcare Research and Quality (AHRQ) to bring in more people to help work with partner institutions directly on using these systems, and we're hopeful that will come through. The Centers for Disease Control has four or five wonderfully talented physicians who are up here regularly working with our partners. The business community has contributed over $600,000 in two years to our efforts so far, and we want to build that over time. In a fundamental economic sense, pursuing perfect outcomes for your customers is the way to deliver care most efficiently in a way that professionals like and respond to. So, we believe that people can't afford not to do this. Not every institution can install every potential tool and we are not telling everybody to race toward particular technology-based solutions. We are pushing a systems-based approach, making changes at each point where the system is breaking down that seem to improve patient care. If a hospital can't afford a certain technology today, they could still do some powerful things to intercept errors and keep them from happening.

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