

Note: This lecture was given to the students at Dartmouth College in the class, *Virtual Medicine and Cybercare: From Diseases to Disasters: Re-Designing Healthcare*, by Professor Paul Batalden, M.D. on November 3, 2005 in Filene Auditorium in Moore Hall.

Today I would like to give you a lecture. No power points. Only careful words about something I care very deeply about: health professional work in a time like this. I have chosen these words recognizing the context of this course. I'll post the lecture on my website, if you want to review it. But, for now, I'd like to invite your attention to these words.

Let me begin with a poem....

The Way It Is

There's a thread you follow. It goes among
things that change. But it doesn't change.
People wonder about what you are pursuing.
You have to explain about the thread.
But it is hard for others to see.
While you hold it you can't get lost.
Tragedies happen; people get hurt
or die; and you suffer and get old.
Nothing you do can stop time's unfolding.
You don't ever let go of the thread.

--William Stafford

Let me read it one more time. Words in poems invite careful reading. Each of us holds our own thread. For those whose thread takes them into the world of health care and health professional work, these are challenging times. Robert Pirsig, the author of *Zen and the Art of Motorcycle Maintenance*, observed that the ancient Greek sense of time was that the future was being created by forces at our backs—while the categories of the past fill and then slowly recede from our eyes as we look at the world. I think it's a little like that today in medicine and health care.

These forces at our backs creating our future are things like:

- The marvelous and dangerous capacity to create “designer” drugs
- A growing awareness that the variation in health care-giving and outcomes in the population is greater than can be explained biologically
- An expanding empirical, evidence-grounded basis for daily care-giving

- The loss of provider sovereignty as health information becomes more freely available to all
- A profound process and system illiteracy among health professionals who experience a health system growing more complex every day—this means that the actual steps necessary and the interdependencies needed to make health care actually happen are not known in detail by doctors and nurses and the others involved
- The significant mismatch between what society expects and our actual performance
- Truly great scientific curiosity linked to technology development
- Integrated & customized development of communications and information technologies
- Unrelenting cost reduction pressures on care that gets more expensive every day at the same time that many million Americans go without the financial security that comes from some way to pay for this expensive health care

And we could probably add to this list, if we worked at it.

In the context of this future-being-created, let me invite you to consider four specific challenges that will face the people who will be the health professionals living and working in that future—remembering Ralph Waldo Emerson’s observation that wherever we go, we bring our “giant” with us. He was referring to our “self” as our “giant.”

First is the challenge of linking the science of disease biology with the science of clinical practice. Understanding the science of disease biology depends on anatomy, physiology, biochemistry, cellular and molecular biology, genomics, pharmacology and experimental design, among others. The processes of these scientific disciplines involve hypothesis-driven observation, identification, description, experimental investigation and theoretical explanation of the phenomena associated with disease and having the goal of preventing, treating or eliminating the disease.

But the reality of care for patients and populations also involves the science of clinical practice. The science of clinical practice uses epidemiology, systems dynamics, informatics, narrative research, small group behavior study, decision-making and decision-analysis, anthropology, sociology, safety and operations research. The processes of the scientific disciplines of clinical practice include observation, identification, description, experimental investigation and theoretical explanation of the phenomena associated with the relief of the human burden of illness in daily clinical care for patients.

So the science of disease biology is focused on the disease and the science of clinical practice is focused on the burden of illness in the patient, community.

Interweaving the science of disease biology and the science of clinical practice involves learning them and applying them together in the situation of particular patients in particular contexts.

What's so challenging about that?

Let's reflect on how we learn these different ways of knowing and their thought processes? We learn them a course at a time. No one knows this problem better than a college student. When have respected teachers of history, art, science and religion come together to help understand a particular phenomenon? Or in health care, how do you get the respected teachers of biochemistry, cellular biology, genomics, pharmacology, pathology, epidemiology, informatics, safety sciences, ethics and operations research to integrate their respective fields of knowledge in service of what should be done in the treatment of a particular patient with cancer?

It involves more than serial "Googling" of each domain. The challenge is to learn the art of connecting these fields of knowledge as you confront the particular patient and setting. Think about the learning involved when you have been able to integrate and connect fields of knowledge that you have been involved in, have enjoyed and have personally done.

Health care of the future invites the curiosity of connecting fields of knowledge to meet the needs of the patient or community you face. This linking of very different fields of knowledge involves respecting each field's "way" of knowing, but more than each of them alone. This linking invites an awareness that comes from using them together. As Einstein observed, "No problem can be solved from the same level of consciousness that created it. We must learn to see the world anew." Combining knowledge streams creates new ways of knowing.

The second challenge is to be able to learn and change from measurements of performance. We have a set of assumptions in our culture about the use of measurement and learning that most of you have been immersed in for at least 15-20 years. It started with the first smiling face sticker you got in kindergarten or first grade.

We use measurement for judgment in the work of going to school. We even have developed the public policy of "leaving no child untested" as a means of improving the education system. When you take a job, your performance is measured and assessed and you are judged.

What's wrong with this? Maybe nothing. Maybe it's just the way it should be. But what happens to our thinking about the use of measures as they may relate to our own performance? Do we eagerly look forward to the act of being assessed and measured? After we're measured and we do well, we're proud.

But, if we haven't done as well as we could have or as well as is possible, what happens? For many, using measures for judgment clouds their use of measures for learning. Our anxieties about the meaning and consequences of the judgments prevent our openness to the learning that might be possible. Measurement becomes something to avoid or dismiss or rationalize. You may have even overheard comments like that as students and parents were discussing a measurement event—like a test or a course grade.

So what is the challenge in this for health care? We live in a festival of health care performance measurement. Some estimate one new health data company born every day! Mortality rates, immunization rates, patient satisfaction rates. There is good news in all that. We now have the capability of measuring performance in ways we haven't had before. That measurement allows us to understand what is happening in ways we haven't been able to understand in the past—even the recent past. The problem is that we come to this festival of measurement with the prevailing assumptions about the use of measurement for judgment...and all the familiar behaviors that we attach to judging. Skilled in coping with measuring for judging we come prepared to rationalize the measurements that don't make us look good, or we dismiss the measure itself as "not really representative," or "not really accurate" or after all, "don't you know that the reason for my worse scores are that my patients are sicker and older than yours?" When we measure health care giving performance and its associated outcomes, does that rationalizing or dismissing help us make health care better?

Actually, I think it can have the effect of sealing off and preventing learning. If we were to use measures of performance outcomes and the performance of the processes used to achieve those outcomes, we could use measures to foster learning and improving. What would that be like? For a college student it might mean measuring something about how you went about your learning as well as what you have actually learned. For example, how did you review material from the readings, or the class, or the lab and what did you actually learn? What a strange test! For a physician, it may mean measuring the way he/she is reminded in the record about the immunization needs of the patients in the practice and as well, the actual rate of patients immunized. Not so strange, if we really want to continually improve the quality of patient care.

Blending measuring for learning and measuring for judging is tricky. Both will be needed in the future. Learning to do that is a challenge health professionals of the future will engage.

The third challenge is moving from a preoccupation with professional autonomy to a preoccupation with professional reliability and dependability.

This may be some new territory for some of you. I am also aware that words often obscure as much as they reveal. Nevertheless, we use words to think in. So, let me start with a story:

I was in Montreal summer before last. We arrived and went to a jazz quartet. It was like so many other jazz performances: engaging, surprising, and enabling me to get my mind off the drive and into the room. What was different about this particular performance was that after each number or two, the group would stop and the audience would be invited to engage them in questions about how they played.

The leader opened it up by sharing his experience getting a graphic arts consultation from the spouse of a leading Canadian jazz musician. As they were talking about his publication needs, they heard scales being played in another room and he asked her if that was her husband, the renowned jazz musician? She said, "yes." Does he often play the scales? Yes, she said—everyday for an hour or so.

Our musician observed that this jazz great wanted to be sure that he knew how his contribution would sound and how it could dependably and reliably mesh with others, when it was his turn in the improv group.

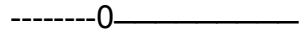
Later, our jazz group was asked how they knew when to take the lead. They said it was all a matter of listening very carefully—knowing what your contribution could be and reliably doing it, and responding to the needs of the moment—at the right moment. I was struck by the similarity with health professional work.

Health professionals need to become skilled in the basics—the scales of health care, they need to be able to think for themselves. They need to go after the information they need without someone telling them where to look. They need to understand what constitutes a good decision for a particular patient and they need to help facilitate that decision with the patient's need being pre-eminent. This important set of requirements has led to an assumption about the need for and preoccupation with autonomy...professional autonomy. Sometimes this notion of autonomy invites images of individual heroes, like those in old John Wayne movies.

Now let's enter the world of what science tells us to do...the world of evidence. We know most care today is given by a small group of interdependent persons—doctors, nurses, clinic assistants, secretaries and so on.. Care-giving today is usually not a matter of an individual working alone. Further, we know empirically that if some elements of care are routinely provided in the care for patients, we will achieve better patient outcomes. Better outcomes mean that patients heal quicker, more completely, and there's less relapse into disease. Shouldn't a

patient’s long-term outcome inform the idea of an “autonomous professional?”
Do evidence-driven patient outcomes constrain a doctor’s autonomy?

Let’s explore the elements of care for a patient with community acquired pneumonia and let’s use three symbols for the categories of professional work:



The dotted line represents the discretionary, decisions involved in the care. The solid line represents the evidence-driven discipline that needs to be faithfully followed in the care. The “0” represents the set point between discretion and discipline. For every situation in patient care, there is a different set point. It can only be found by continual inquiry.

So what might these symbols mean for this patient with community acquired pneumonia? We know that every uncomplicated patient with this type of pneumonia needs to have prompt, correct antibiotics, a blood culture before starting the antibiotics, oxygenation status monitored, immunizations updated, and smoking cessation counseling if the patient smokes. These care elements need to happen every time without fail. Similarly, we know that an individual, discretionary decision is involved in addressing the medication allergies, the language needs, and the social setting for each individual patient. The “set point” is determined by the evidence base for the care and by the fit of the individual patient to that evidence base.

Now let’s explore how this can get “screwed up,” making care less reliable, less dependable, less safe:

		<i>Actions taken</i>	
		Discretion	Discipline
<i>Actions needed</i>	Discretion	HIV Aids pt with CAP (+)	HIV Aids pt with CAP (-)
	Discipline	Normal risk pt (-)	Normal risk pt. (+)

Making health care more dependable and reliable and safer involves building the knowledge and skills that

1. go into making good decisions, that
2. go into faithful adherence to disciplined practices informed by evidence, and that
3. go into good inquiry about the “set” point for each care situation.

Adhering faithfully to evidence-informed discipline involves embedding that knowledge into the usual processes of care, making it easy to do it right. This involves overcoming the process and system illiteracy that currently plagues

health care work. This means understanding the way that the steps important to the care actually happen and what makes them not happen, and not just assuming that after your pen writes the order, the magic happens.

The fourth and final challenge involves connecting your own deep joy with the real human need of another person.

How many of you have volunteered for some activity like Big sister, or Big brother? In those or other volunteer experiences, we often find ourselves connecting to another person and we are aware of their need in a special way.

Frederik Beuchner says that we are called to a vocation that connects our deep gladness with the world's great need. By vocation, I don't mean what job gives you your paycheck. Parker Palmer says that vocation is "what you cannot not do."

What gives you your deep gladness? Writing? Explaining? Building? Working with a child? Laboratory research? Politics? Whatever it may be you need to connect it to real human need. The more aware you are of your own deep gladness, the easier it can be. Real human need presents itself to health professionals every day. Understanding the meaning of the language of illness burden involves understanding patients very well.

A medical student was sitting in the front row of the class when an HIV AIDS patient came to tell the class his story. She paid careful attention. The next year she was on an in-patient rotation where this same patient was about to be discharged after a brief stay in the hospital. The medical student was paged to come to the nursing desk. When she got there a cake had been delivered. The patient wanted to honor the medical student for the way that the patient felt she had listened to him a year earlier.

Focusing diligently on the need of another is not easy. This is particularly so if your own needs keep screaming at you and you have not had the chance to practice the discipline of attending meaningfully to others.

This challenge would be less great if it didn't occur against the backdrop of potentially confounding and competing financial realities accompanying the care decisions you make. Countering these things that make this challenge so daunting is the enormously satisfying gift and joy of helping someone...the recognition that you've been able to make a real difference in the life of another human being. The "news" that you've made such a difference comes in the grateful smile, the heartfelt hug or handshake, a cake, or the respect that another person gives sometimes in his or her own way.

Let me share a fable with you.

There once was a monastery run by an Abbott. These were hard times. Fewer men were interested in joining the religious community and it weighed heavily on the Abbott. The Abbott had a good long-term friend on the other side of the forest, a Rabbi.

He decided to walk through the woods to see him. They had a good afternoon of conversation, tea and some shared reflection. He got up to leave and as he had his hand on the door, the Rabbi said, "Oh, one more thing...I think one of you may actually be the 'promised one'." The Abbott took his hand off the door and sat down again. "Tell me more." "No, there is nothing more." Reluctantly and in a puzzled way, the Abbott took off for home, pondering the afternoon and the startling closing.

When he got back, the brothers were curious. So after dinner he told them what the Rabbi had said. They burst out laughing. Jim looked at Bob and thought—"no way, he's got such a crude sense of humor." Peter looked at John and thought—"he's such a grumpy guy." Mark looked at Jim and thought—"he can be so irritating." But as they left the dining room, they were a little quieter and somewhat puzzled.

They weren't sure, but they began to treat each other differently—just in case the Rabbi was right. Pretty soon others noticed the different spirit about the place. The members from town began to have their picnics on the grounds on weekends again. Some young men from town became interested in the monastery again. Eventually it began to flourish.

Look around this room now, I actually think one of you in this room will show us how to respond to these challenges in the future of medicine that I've been talking about today.

So let me summarize what I've tried to say:

1. Health care for a health professional can be enormously satisfying work.
2. Health care is changing—in ways we sometimes have a hard time discerning.
3. Real learning and existential challenges lie ahead for those seriously interested and they include:
 - a. The challenge of linking the science of disease biology and the science of clinical practice.
 - b. The challenge of learning from measures as well as using measures for judgment and assessment.
 - c. The challenge of moving from a preoccupation with professional autonomy to a preoccupation with professional dependability, reliability and interdependence.

- d. The challenge of linking your deep joy and gladness with the real needs of another human being.

Let me close with another poem by William Stafford:

You Reading This, Be Ready

Starting here, what do you want to remember?
How sunlight creeps along a shining floor?
What scent of old wood hovers, what softened
sound from outside fills the air?

Will you ever bring a better gift for the world
than the breathing respect that you carry
wherever you go right now? Are you waiting
for time to show you some better thoughts?

When you turn around, starting here, lift this
new glimpse that you found; carry into evening
all that you want from this day. The interval you spent
reading or hearing this, keep it for life—

What can anyone give you greater than now,
starting here, right in this room, when you turn around?

--William Stafford

Thank you.