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We've come a long way in the two years since President Bush put health IT on the front burner of health care policy. The goal of electronic health records for all Americans hit a positive note that resounded throughout the country. And the press picked up the issue with thousands of stories about the ways information technology could help us improve health care.

Maybe we should call that a period of "rational exuberance." It helped create awareness and enthusiasm that are, as the ad would say, "priceless."

But today we've passed into a new phase. We still have the same high hopes. But let's just call this new phase: "hard work." And let's be proud and thankful that it's here.

We're making things happen, and we're laying the groundwork. It's complex and challenging. But today we're engaged in the real nuts and bolts that can not only make health IT happen, but make it happen right. It's not just about installing systems – it's about using them to achieve better quality and better efficiency in health care.

It's also not just about the technology – it's about the people who use the technology … and what they need to make it work.

We're here to build infrastructure – infrastructure of two different kinds.

There's the visible infrastructure. In the case of health IT, let's call it pipes and screens. It's the hardware and the software … the technical standards and the common nomenclature … the protocols and the instructions.

To build the visible structure, what we often need is decisions – decisions that create agreement, and let us move ahead. Those decisions can be made through consensus – and they should be. But once they're made, it's time to move on. That's their point.

Today, of course, we're building on decades of work that have gone into creating our information technology industry. Without that work, we could hardly contemplate the kinds of advances we're seeking for health care IT. And to move that effort forward, Secretary Leavitt has created the AHIC – the American Health Information Community – to help achieve some of the most fundamental parts of health IT's visible infrastructure.

But there's also an invisible infrastructure, and that's harder to define. It's the human element -- but it's not just knowledge or expertise. It's the soul of the enterprise – but it's more than just the goals and purposes. It's about the right fit between people and systems. It's about process and relationships. And it's about trust.

If the year was still 1968, maybe we'd call it the Tao of health IT.

Whatever we call it, it's the real gravity that holds an enterprise together. And it's especially important in the early stages of an enterprise.

This invisible infrastructure of process and working relationships is crucial for putting health IT to work, and seeing it work right.

And that is actually one of the strongest early lessons we're learning from our grantees in AHRQ's health IT initiative: that some of the main challenges for health IT adoption are not technical issues, nor even what you'd call "training" issues. Rather, they're issues of inclusion and trust.

When we introduce health IT systems in a clinic, we're creating new ways of doing the clinic's work. Sometimes we're changing working relationships among the staff. We aim to improve care. But we're also displacing a working culture that's grown up there.

Paying attention to this culture, respecting the people and the jobs they want to do, is the opportunity we have when we pay attention to the invisible infrastructure. And the transformation to health IT is actually a rare opportunity to build it up.

One of our grantees, Susan Horn at the Institute for Clinical Outcomes Research in Utah, has shown how important it can be to pay attention to this "people infrastructure" as health IT gets built into the clinic – in her case, 11 long-term care facilities.

As these facilities implement health IT systems, she and her team give frontline workers a full voice and a real opportunity to take part in designing products and processes that will work for them, with a view toward improving care. They introduced IT as a key element of patient care, not an add-on that might just generate work and head-aches.

And they've shown how the entire patient care team – from the certified nursing assistant, to the nutritionist, to the vendors who provide equipment – need to take part and help guide the development of a system that works for them.

This is a true part of infrastructure-building at the facility level – just one that's not so easy to see.

These front-line staff all have a voice as systems are designed: How should products look to be useful? How should they be built into the work flow to improve care? How can the data be fed back to continually improve care?

And this has had results. First, in quality of care – in the 11 facilities, the prevalence of pressure sores has been reduced 33 percent since the IT systems were put in place. Second, in efficiency – the number of forms that need to be filled out to document the care has gone down by as much as half to three-quarters. Third, in the sense of ownership and reward among staff themselves. Finally, and not surprisingly, in the willingness and desire of staff themselves to keep the improvement going – to bring suggestions for change – to feel empowered to help make things better.

Many of our grantees are finding the same story as they approach their communities to create health information exchanges. Electronic exchange of information is a new and more open approach for the health care enterprise. The privacy and security of patient records is at stake, and old ways of getting and keeping business are being fundamentally changed. So building health information exchange is first and foremost about building trust, and about creating new processes that depend on new relationships.

One of our grantees in Iowa, part of the Trinity Health system, has calculated that adopting health IT successfully is really one part technology, and two parts work flow and culture change.

And it really is a new business and clinical culture for health care that we're talking about. The results are better safety and quality, more efficient and thorough documentation, better utilization, less waste, improved performance measurement, and more.

But the path to achieving these results is not just the technology. It's equally the process of incorporating the technology. And that's a culture change.

To paraphrase a well-known title: When it comes to health IT, "It takes a culture to raise a technology."

This is a process that takes time. By definition, it should be carried out in each new clinical setting as IT systems are adopted, and in every community as it establishes health information exchange.

It's a process that recognizes the individuality of each situation, and turns that individuality into a strength. It surely makes all the difference between using health IT to transform a practice for quality and efficiency, and the possibility of merely adding work without adding value.

If we take advantage of it, we can achieve even more than IT systems alone could give. If we fail to take advantage of the opportunity, the systems will not deliver what they could – and should.

I hope this is a message you'll take with you – that no one else can really build this part of the infrastructure for you – not government, not vendors, not even other health IT leaders. Your process, and your people, have to be part of your product.

Can the job be made easier? Can we help identify the right issues and pose the right questions? Yes. And we can provide examples that work, and problems to avoid.

That's certainly what we're aiming to achieve in AHRQ's health IT initiative, where we will draw lessons from more than 100 projects, of all kinds, in more than 40 states across the nation. The lessons that are learned at the ground level in these projects will be shared for the benefit of every provider and community as they more toward adopting health IT.

I think we also saw a good example of this kind of leadership last week by Connecting for Health, and AHRQ is proud to be part of that initiative.

As you know, Connecting for Health released its framework of 16 technical and policy components, especially to protect the privacy and security of electronic health records. These provide options for communities. They provide a vocabulary and a structure of issues that reflect years of thought and consensus.

But these documents are a starting point, not an end point. Decisions on health information exchange belong to communities. Each community needs to make the choices that work for its own circumstances. And in that process, full participation and inclusion are key to enabling the technology to achieve its real potential.

The same is true for the work AHRQ is doing toward building privacy protection. The patchwork of state laws, not to mention differing business practices throughout the health care sector, make the privacy landscape enormously complicated. With the Office of the National Coordinator, AHRQ is carrying out an $11 million effort to fully survey this landscape

Yet our work is not just about finding the laws and the business practices. It's also about supporting a nationwide discussion on privacy and security of information. We want to make the legal landscape clear – but we also want to do more. We want to help inform the process for communities and regions as they look toward information exchange.

It's going to require productive dialogue and partnership between medical and legal professionals, consumer advocates and policy makers, to make progress in this area. Real community-based "dialogue" and decision-making is what AHRQ wants to stimulate.

The same principle applies at the provider level. AHRQ's health IT initiative is about informing, not directing. We want to help give a jump-start to providers as they undertake their own decision processes – and to show how important the decision processes themselves really are. But we do NOT want to prescribe the answers – nor suggest that the important process of preparing and truly integrating these systems can be skipped.

A report that's being released today speaks to both the value of adopting health IT – and the need to help providers with information that's meaningful for their own circumstances.

AHRQ commissioned this report from the RAND Corporation, one of our 13 evidence-based practice centers. Our object was to make a thorough search of the literature and learn what has already been rigorously demonstrated about the costs and benefits of health IT. In a word, what do we really know?

This is different from the many earlier projections that have estimated future benefits from health IT. Those projections have real importance and benefit in showing us the dimensions of the possibilities. But we also wanted to find what we already know -- a review of scientifically valid studies that have reported on results already achieved.

And the news is good. The report finds that rigorous scientific evidence already exists showing that health IT can deliver on key promises for better quality of care. In particular, the evidence points to benefits from computer ordering systems and electronic prescribing … as well as decision support tools that provide reminders about best practices, and warn against potential adverse results … plus improving the delivery of preventive health care services. The report also shows increases in appropriate levels of utilization.

For example, it cites findings from Partners Health Care in Boston, which achieved an 86 percent reduction in serious medication errors from CPOE and e-prescribing. It also found a 34 percent reduction in the use of redundant lab tests, and a 21 percent increase in appropriate test ordering.

From the Regenstrief Institute, the report finds increases of 10 to 20 percent in the use of preventive services.

So the report concludes that the potential of health IT to improve quality has indeed been shown. Significant benefits in quality of care and efficiency have been rigorously demonstrated.

However, the report goes further. It finds that the results so far come from a limited number of larger pioneering entities, like health plans and large hospital systems, which have unusual resources and commitment to health IT. These entities have developed their own health IT systems, and they've committed substantial time and effort

to making the systems work in their particular environments. Almost a quarter of the findings cited in the report come from just four sources: Parterners, Regenstrief, the VA, and Intermountain Health in Utah.

Yet the fact is that most providers have very different circumstances from these pioneer institutions. Most providers are the smaller practices and hospitals that deliver the great majority of Americans' health care. When these providers adopt health IT, they'll be using commercially available systems and drawing on more limited technical expertise. And as they make decisions about adopting, they need information about how they can achieve the best quality and efficiency results, given the resources they possess.

The findings of this report are based on studies published only through 2003. So it's not a surprise that scientific evidence from smaller practices and hospitals was very limited.

But the point is still valid. The providers that deliver care to most Americans need sound information that they can use.

And we can indeed help them.

On the one hand, our providers (and especially smaller practices and hospitals) need the best possible information about the results that have been achieved by others like themselves. On the other hand, they also need to know that careful preparation, and the process of "custom-fitting" systems to their own particular setting, is a key component of success.

AHRQ's own initiative was designed to provide information of just this kind. It's a $166 million effort to support adoption of health IT by typical community health entities like physician practices and hospitals. It's looking at health IT in all kinds of settings, from the teaching hospital to the rural clinic. And it's aimed at generating provider-level results of just the kind the RAND's report calls for.

Some of our grantees are using health IT for the first time. Others are building on years of experience. In some, we're looking at what works best when health IT is first implemented. In others, we're measuring the value-added by various health IT applications.

But in all cases, we're looking at the use of health IT on the clinical ground level, because the goal is to learn what works best in actual clinical settings – and share those lessons, especially through the AHRQ Resource Center on Health IT. The lessons we learn will be available to help all providers in adopting health IT successfully.

Of course, AHRQ's initiative is just one source. Others, like the American Academy of Family Physicians, are also providing leadership and outstanding resources.

Certification and product testing are yet another resource that will be important. The Certification Commission is in the final stages of developing standards that will help ensure that products can perform the basic functions they say they'll perform.

AHRQ is also working with partners on testing mechanisms to measure how well these systems are performing once they're in use. In particular, we've supported the Leapfrog group in developing a test that can measure whether clinics and hospitals are successfully achieving the Leapfrog standard for detecting medication errors. This is a test not merely of a facility's CPOE system itself, but how well the system is performing in that clinic or hospital. This could help providers in measuring their own performance – and it could be used for public reporting as well.

Beyond this, there is yet another "testing" level that could be of great value. I'm talking about a "continuum" of testing that starts with the product alone, but also extends to real interaction with the clinical staff. In other words, could we develop tools not only to ensure the technical capacity of a stand-alone IT product … but also tools to let an IT solution be tried in particular clinical settings, by simulating the results of actual interaction with the clinic's practices and staff? In this way, could we not achieve valuable interaction between the clinic and the IT system BEFORE the clinic puts the system on-line? Or even before the purchase is made?

We know of too many situations where the clinic's practice and the computer's design haven't matched … or where the clinic has not thought through how the applications will play out. Simulation tools might help find those mis-matches, and work them out early in the process.

Let me return to our first thought. We have indeed entered the phase of "hard work" in health IT. And we need to make that work count for all it can.

What do we know today, and what more do we need to know, to get the results we want?

We know that health IT indeed has the potential to improve health care dramatically. And we know we have an entire infrastructure to build in order to bring that potential to reality.

We know most Americans get their health care from smaller medical practices and hospitals. And we know these providers need information that applies to their own circumstances as they make their decisions on adopting IT systems.

We also know that the smaller practices and hospitals are lagging in IT adoption. And we're working on many fronts to help make available the information and the tools they need.

But I hope that we, and providers themselves, will realize something else as well:

That achieving health IT is not ONLY about reaching common standards and protocols. It's also about the individuality of each provider, and each community, and the need to make IT systems work for each of them.

At AHRQ and elsewhere, we can help. We can develop and share the information that providers and communities need.

But the decisions are yours, not ours. They need to fit your situation, not a one-size-fits-all.

Adopting health IT at the provider level has to be your decision, your ownership, your process.

And that process is crucial. It can create a custom fit between your IT and your practice. It can deliver better results for patients and staff alike. It can even help draw out the knowledge and creative energy in your staffs that may be waiting to be used.

That's the ideal. It's the "invisible infrastructure," and it's not easy to describe. But it's an important part of getting what we want and need out of health IT.

I called it a new culture of health IT. So let me just close with this thought:

If it truly "takes a culture to raise a technology," then what does it take to create a culture?

<u>And</u> do it on deadline?

Well, for starters: energy and staying power … vision and inclusion … straight talk and good will.

So that's what I wish for you as you take forward the lessons from this conference.

The invisible infrastructure … <u>is you.</u>

Good luck.