THE BROOKINGS INSTITUTION
FALK AUDITORIUM

MAKING "ENHANCED USE" OF HEALTH INFORMATION

Washington, D.C.
Friday, May 14, 2010

PARTICIPANTS:

PANEL TWO: IMPLICATIONS FOR POLICY

ANDREW McLAUGHLIN
Deputy Chief Technology Officer
Executive Office of the President
Office of Science & Technology Policy

LANDEN BAIN
Director, Clinical Data Interchange Studies
Consortium Healthlink Program

CAROL DIAMOND
Managing Director, Health Program
Markle Foundation

ANDREW WEBBER
President and Chief Executive Officer
National Business Coalition on Health

Summary and Closing Remarks:

MARK McCLELLAN
Director, Engelberg Center for Health Care Reform
The Brookings Institution

* * * * *

P R O C E E D I N G S

MR. McCLELLAN: And now I'd like to ask our final panel to come up. We're turning now to a discussion of taking a step back and thinking about the policy implications of all of these steps towards making enhanced use of health information, and we're doing it from a number of different perspectives. So while people are getting up here and getting their microphones on, I'll introduce them.

Andrew McLaughlin is the deputy chief technology officer at the White House Office of Science and Technology Policy. Carol Diamond is the managing director of the Health Program at the Markle Foundation, where she coordinates and oversees a broad range of activities related to practical uses of electronic health information and the challenges in getting there. Landen Bain is the director of the Clinical Data Interchange Standards Consortium Healthlink Program. And Andy Webber is the president and chief executive officer of the National Business Coalition on Health.

We've got everybody up to the table. We're going to start out with some opening comments from each of our panelists based on what they've heard today and some of their thoughts and views on policy set forth for how to promote making these enhanced uses and quality improvement and health care system improvement happen as quickly and effectively as possible. And then, again, we're going to open it up for discussion.

So let me start with Andrew McLaughlin.

MR. McLAUGHLIN: Thanks, Mark. So let me suggest a way to structure thinking about the policy issues in health IT. So when I came to the White House last summer, I didn't know anything about health IT, what I knew about was Internet systems, Internet standards and architecture, that's where I had spent the last sort of decade working. And the parallels actually are both impressive and important, and what I mean are the parallels between the ways that we've built the Internet and the way that it runs and the kind of system that we're trying to build around health IT.

So in the Internet, the genius of the network is that it has this extremely simple standard, it's called TCPIP, it's basically just a way to address an arbitrary packet of data. It's got a format for data, to address, from address, tells you if you've got an e-mail, for example, that chops it

up into a whole bunch of little pieces, basically sticks a number on each piece, and then sends them on into the network where they can take many different paths to reach their destination, get reassembled in the right order, and then turned into whatever the thing you were sending was, so it could be a picture, a text, video, whatever it might be.

So anyway, the genius of the Internet model is that it's built in a layered stack, and the layers are very distinct and very different, and that is the critical insight that makes the Internet as flexible and powerful and rapidly innovating as it has been.

So the Internet supports a vast range of physical ways of transporting data, copper wires, coax cables, microwave signals over the airwaves, satellite connections, anyway, those are all different physical means that you can use to transmit some data from point A to point B.

On the other side, the Internet supports an incredibly vast and rich explosion of applications. You know, as I said, everything from, you know, video to pictures to text, all the many services that are born and grow and in some cases thrive year to year. What they all have in common, though, is that it's this very simple standard common layer at the middle that makes it all possible, that's the key standard. So anyway, the health IT problem is a very similar problem in one sense, which is that you have many, many different legacy systems, many vendors of different kinds of hardware, lots of operating systems, and then on the other side, a vast number of uses and applications of data that we want to be able to take advantage of.

We want to be able to give it to patients, use it for comparative effectiveness research; we want to use it for billing purposes. And so the approach that the Congress set in motion and that the Office of the National Coordinator has been driving has been basically a health Internet approach, which is to say focus on the bare minimum set of things that you have to standardize in common and then take a very hands-off common law, somebody I think earlier -- I think Farzad described it or alluded to kind of common law approach where lots and lots of people using lots of different things, but unified around this minimum set of standards that are essential.

So anyway, so for me, that kind of layered model is super useful in trying to figure out where from the policy side you need to intervene and where you don't need to intervene, where you need to push the community to reach some kind of consensus on a standard and where you

should just step back and see what emerges and where people settle. It's also a market system that we are dealing with. So market forces can be brought to bear in ways that minimize the need for the government to be involved.

Anyway, so belaboring the point, there's your layers model, the three things that I've been really focused on recently. So without making grand pronouncements, let me just talk about what I've been doing, have been privacy security and the sort of coordination of data problems, and these are all areas where policy really does matter.

So from the patient side, from the physician side, from the researcher side, being able to trust the system is incredibly important, and that means that at the transport layer, in other words, at the layer of data moving, you have to have extraordinarily good security.

On the application layer, you need to have very good privacy, which is a little bit technical and a lot social, and I'd like to talk a little bit about those. And then finally on the coordination of information, we've heard all morning long about the different kinds of standards activities that are underway to standardize the terminology that gets used, the taxonomies that have been developed, the range of variables that can be used to describe values in different fields and so forth. So on the security side, the Internet has done a lot of the hard work for us in that there are a number of available security standards and protocols that can be used to make sure that the data going from point A to point B is not going to be interfered or tampered with.

The really hard security problem rather is authentication, knowing that who you are communicating with is who you are supposed to be communicating with. And we have never ever in this country built a single nation-wide authentication system. We don't have national ID cards. We have a national allergy to being surveilled and tracked, for very good reasons, by the government, by the health care system, by anybody else, and so as a result, what we are going to see in this area is a range of authentication methodologies and systems that will support authentication of transactions depending on the kind of transaction, the kind of network that you're authenticating over and so forth.

On the privacy side, let me just say that there are -- the privacy issues raised by health IT are shared by many of the other initiatives that the administration is pursuing. For example, in the energy sector, we're pursuing a smart grid where energy data is flowing back and forth. We

are looking at the privacy issues around cell phone time and space data or location data. In other words, your cell phones are every, you know, a couple times every minute pinging a local tower, your cell phone company knows where you are. And you can do extraordinary things to optimize and manage the network in very socially valuable and investment supportive ways, but it means that you have to collect the data set that is inherently identifying.

So if you can strip off my name, my phone number, my address, all my identifiers, but you will still know that this particular phone spends 12 hours a day over in Georgetown and 8 hours a day at the White House, or actually it's more like the other way around, but, you know, that is inherently identifying.

And I think one of the most thorny difficult problems that we face is around anonymization and de-identification. There are bits of data that are inherently identifying in the health care system. There are combinations of symptoms and treatments and so forth that will absolutely be unique to a given individual within a given region or a given health care system. And this is a big area for research. A combination of technological techniques, plus social, procedural, management techniques for the holders of that data is certainly going to get us to be in a good enough position, but we've got to do our best to evangelize those techniques and make sure that they're implemented.

Finally, we've talked a lot about the different standards that are under development by various organizations for different parts of the problem, but I think on the policy side, the really difficult trick, as I said earlier, is figuring out where some kind of top-down coordination is necessary, where bottom-up common law type development in standards and procedures is the right thing, and we're really only developing, on the federal side anyway, really sort of slowly developing the muscles to do it.

Let me make my one final note, which is, the one thing that scares me about all of this is that we're attempting to do what the Internet did over the course of about three decades in an extraordinarily compressed period of time, and that is a matter of some concern, and it means that modesty and humility and a tolerance for trial and error and some failure is going to be necessary. The problem is that failures in the area of health IT are potentially lethal, they are potentially scary,

they are potentially trust eroding, and that's why I think today's conference is important, that's why I think the level of attention that's being brought to the problem is critical and should only, if anything, be intensified.

MR. McCLELLAN: Andrew, thanks. Carol, do you want to raise our trust level?

MS. DIAMOND: Maybe. I think -- I want to thank, Mark, you and your team, and Brookings for putting this together, because I have a lot of takeaways from listening to the discussion this morning, and it is amazing to me how even with this -- at this early stage of these public investments in health IT, just listening to the panelists prior, you can really start to see that there's going to be a major paradigm shift, and I want to talk a little bit about what I mean by paradigm shift.

But first, for those of you in the audience, you know, I spent some time reflecting today on the way we traditionally have addressed quality, quality measurement, quality improvement, research. For those of you who, you know, this may not be something you spend your entire lives on; I mean this has been a very difficult issue for U.S. health care. When information was based in paper, or is based in paper I guess still today for the most part, it is really hard to do the kinds of things that you heard about today. A typical physician in a practice, 2,000, 3,000 patients maybe, it's all on paper and paper files on the wall somewhere. And you can't walk in and say, how many of your diabetics had their eyes checked this year? Imagine doing that. Even finding the diabetics is a challenge in paper records. And I just want everybody to really appreciate that that is still the way things are done today.

When Amanda mentioned HETUS, when quality reporting is necessary at the health plan level, literally arms of people go out to physician offices, knock on the door, select a random number of those paper charts, is it still 487 or whatever the number is, and literally sit there and abstract the information and record it on paper and then bring it back and aggregate it.

The same for research, you know; and by the way, the complexity and the difficulty and the cost of doing that I think has really gotten us away from quality improvement, because we spend all our time on quality measurement and reporting. Similarly on the research side, it takes forever to do one of these, you know, big research studies, where you have to go abstract lots of records. And typically it's disconnected from clinical care, so maybe the statistic is the same still,

which is, take 17 years between the time something is published in the medical literature, advancing the way medicine should be practiced, and the time it gets implemented in the physician's office.

And I start there because, you know, listening to the panel today, you can really start to feel that we're on the heels of a big paradigm shift. One of the things that I think was necessary for that paradigm shift is to look at the big goal here, and Farzad started with this, and I would say the big goal for both research and quality, and public health, if you will, is to allow better decisions to be made.

It is not the publication of the paper; it is not the reporting of the quality measure, it is to allow better decisions to be made to improve health and health care. And without information systems, we have only been able to do the first step or the second step in that full cycle of information that needs to move back and forth.

And I do think that what we're seeing now is getting closer and closer to having that capacity change the way we've traditionally done quality and research. It's interesting to me to listen today even the interim stage we're at, where maybe we're using some electronic data because it's available from administrative sources, and even that has been, I would argue, still suboptimal. Administrative data sources aren't necessarily tools, they don't have decision support capability, it is merely an abstraction from a transactional system and we're trying to use that to glean something about information, and traditionally to do that, we've had to bring some of those administrative data sources together.

The importance and the reflection I had today was that what the electronic health record or the personal health record or whatever your term of art can do to change the way we look at quality and research is that it takes the computing power, if you will, the knowledge creation power all the way out to the user, as opposed to what we traditionally have had to do, which is to collect all that data from out there, bring it in somewhere centrally that had the capacity to crunch it and figure out what was in it.

It really puts the computing power out at the edges. And I think because of that, we're starting to see research methodologies that are really changing. The HMO research network is a good example. We're very sophisticated holders of information, we no longer have to go get all

the information and bring it in one place. We are very capable today of saying instead of bringing all the data to the question all the time, let's push the question to the data, it's faster, it's cheaper, and I get the results a lot, you know, in a lot more real time, and maybe most importantly and most importantly for quality improvement is that the person who can actually make a decision to use that information has it.

Traditionally in quality reporting and research, somebody comes, you report some data, you have no idea sort of what the results are, the study takes a long time, maybe you get something back a year later, a year and a half later, it happens once a year, if we're talking about HETUS, you don't have the capacity to generate that knowledge within your own practice as a physician, and what these tools provide is the capability to do that.

I'm also going to say that I think it will profoundly change the role of patients. And I love listening to Jim about sort of moving the patient's activities from the waiting room to the living room. You don't need to sit in the waiting room to fill out the clipboard. Using the patient as a source of information literally for quality, for research, all this stuff is capable. You know, the intermediate step, just as there was an intermediate step of administrative data, you know, trying to use that on its own, the intermediate step is, you know, I remember there was a big push to try to get kiosks out in the waiting room, maybe the patient could use a kiosk to, you know, enter this information, and the capacity did not need that anymore, and to really look at the patient as an integral part of generating this information I think is going to profoundly change things.

I will tell you that four or five years ago at Markle we started developing a view about information networks and distributed models and built, you know, based on Internet principals, just as, you know, you well described. We really laid out a set of principals based on fair information practices and distributed data sources. We called it distributed, but queriable; that all the information didn't have to be in one place, but you could ask questions.

We sort of laid out that vision, but we were so far from being able to really see large numbers of entities participate in that way that it seemed like a very far off thing, at least for population health, and over the years, I mean some of the things you heard today, the HMO research network, the distribute effort that we helped to support that was being worked on by the

New York City Health Department, many of the examples that you heard today are increasingly figuring out ways to take these distributed information sources, not collect the data, not expose identifying information, but use the computing power that's now available at the edges and really start to shift the way we think about these things.

The other thing I wanted to just mention was that for a long time we really emphasized the importance of the network and the connectivity and not the EHR, and the reason for that was, in order to really improve quality or to give the patient what they want or to support what you heard earlier, which is, you know, everybody has different needs for information.

You know, I desperately want immunization records for my daughter's school camp forms. If anybody can get me that electronically, I'll take it. But other people have different needs, and the only way to support that and also support the kind of information I might need to make, you know, health decisions, is to leverage a network and to not rely on one source to give you all the information you need. And I think, you know, that's what you're starting to see at the systems level, as well, where they are not relying on the physician to remember to give out the reminders for flu, but the systems infrastructure is able to say to the patient, time for a flu shot, you're due, and getting better results, which has been something we've known for a very long time, that when you send reminders to the physician to tell their patient something versus sending it directly to the patient, you get a much more -- much higher blip in the results.

So I'm excited about what this all means. And I guess the big shift for me today is, while we were trying to promote the idea that we had to leverage networks and distributed models and that you didn't need to collect all the data centrally, there's an inevitability that will happen, because so much power will happen, computer power literally will happen as these tools get rolled out to physicians. It bridges the gap between physician and researcher. It sort of makes, you know, makes that -- makes those rules even closer, and it involves them in the results, which has been the holy grail for quality improvement, so all good.

MR. McCLELLAN: A positive outlook on all that, thank you, Carol. Andy.

MR. WEBBER: Well, thank you, Mark, and thanks for the invite today. My daddy always used to say you sort of are where you sit, so let me tell you my perspective first. I'm here

representing the business community. And thank you, Robert, for talking about employers, I appreciate that very much.

We're a national association of about 57 employer based coalitions around the country, and we are trying to help the employer community get to two end goals. One is improving the health and productivity of their work force, because that's a competitive advantage. And number two, we are trying to deal with rising employer costs associated with the burden of illness, and are reflected not just by health care claims, but, as Robert talked about, lost productivity, absenteeism, all the things that, again, go into making a business enterprise successful, so just a little bit of a perspective.

And, of course, the employer community nor myself are experts on health information technology, but certainly the business community understands because they see it in their own industries, how information technology can transform business enterprises and are actually shocked by the fact when they learn that the largest sector of the American economy has not sort of entered this new world, and you know, sort of what's wrong with that as a picture.

So anyway, that is just a sort of framing perspective. But let me just sort of respond to what I've heard. And I think this was supposed to be a response panel, and talk about some of the principals, and maybe, as you're suggesting, Mark, some of the policy implications.

You know, it's almost a cliché. I start with health information technology not being an end in itself, but as an enabler. And that as the first speaker said this morning, we really do need to start with the aims of what we're trying to accomplish here.

And, Robert, I do think it's a triple aim. I think it's population health improvement, I think it's transformation of the health care delivery system towards higher quality, towards being more patient centered, being more efficient, and if we do those two things well, and including the health care delivery system being more focused on population health, thank you, George, for your comment on prevention, because part of this transformation health care delivery is to move us away from acute care focus to prevention focus. If we do those two things well, and I guess I'm a boy scout here, I believe we can get the cost containment as an end goal. And I believe all those things are key to our economic competitiveness as a society, our economic security, and we've got to start

there.

And in terms of policy implications, and I think health care reform legislation really talked to this, we need to set some goals in those arenas. And, you know, in terms of explicit goals for cost containment, for population health improvement, for transformation of health care delivery, and then work back from there.

And by the way, that happens not just, as I'll say in a second, at a federal level, perhaps with aligned incentives along that way, but these are all the goals that we need to set in local communities, as well.

Principal number two is, I still get a flavor, even though I love the conversation in the most recent panel, that health information technology is not just to service the health care delivery system, and providers in -- and it's not just about an electronic health record. It is -- as Carol just said, we've got to -- as we talked about a patient-centered health care, we need a consumer-centered health information technology system that really services the individual at the end of the day. And we need to recognize that it is individual behaviors that have more of an influence on health status than anything the health care delivery system can do, you know.

It is the issues, George, thank you again, of diet, and exercise, and drinking responsibly, and self-management, and being compliant with a treatment regiment. How many times have I heard the doctor come to the microphone and say I did everything right with my patient? I told him -- put him on the right meds, I sent him out the door after my seven-minute visit, and it's on the individual -- and it's the individual that is screwing up here in terms of not getting to the outcomes that we need.

So we need health information technology I think to be consumer-centric and to support the decision-making that not just providers are making, but the decisions that individuals have to make.

I just, in that regard, saw a very exciting presentation by Mayo Clinic about their new system of e-mail visits. And I really -- you talk about transformation of health care, I don't think if we go 20 years in the future, even 10 years in the future, we're going to have a health care delivery system focused on a 7-minute visit. I think it will be connected in that way, and that will lead to more

continuous care, integrated care, patient activation as we've seen it.

Two other points, you know, I do want to emphasize the principal of leadership engagement at a local community level. And it's not leadership engagement around HIE, it's -- again, Robert, you were describing getting all the key stakeholders, demand side and supply side, together at a leadership level, talking about the end goals, and then talking, yes, about information systems to support it. That's sort of a governance infrastructure that I think we'll need to progress. And I think those solutions from communities are going to be a little different.

And this gets to the policy side. The fragile balance between federal regulation and standardization and the need to give the marketplace and local communities some flexibility, and I think that's going to be a policy struggle as we go along.

And I know I'm over my time, it says end right there, but, you know, I'm here representing the folks paying the bills, and you know, at the end of the day, it is about getting what you pay for, and that theme has come true today. We've got to get to economic alignment. We've got to reward providers and fundamentally change the payment system, away from fee for service, towards bundled payments, towards more capitated arrangements that will really, in terms of payment, encourage the more integrated patient-centered delivery system that we need.

And by the way, shame on us, the employer community, for not taking greater ownership of that issue. In terms of policy implications, I think, you know, payment reform and alignment of incentives for consumers, as well, through particularly value-based benefit design concepts has got to be a big part of the solution.

And I worry in terms of policy development here, particularly that, you know, the payers will move in different directions, and we've got to have harmonization between where Medicare and Medicaid is doing and what private sector payers are doing in terms of not moving towards unintended consequences. So, again, economic alignment, I think -- the best way to sustain and move towards adoption of HIT and meaningful use of HIT is if we get the incentives aligned. Thank you.

MR. McCLELLAN: Thanks, Andy. Landen.

MR. BAIN: So I'm Landen Bain. I work with CDISC, which is a global standards

development organization for medical research, and I'm focused on the secondary use of EHR data for clinical research, which Carol mentioned several times. And I work in the integrated systems engineering capacity, so most of the time I'm thinking about much more technical and standards based sort of nitty-gritty kinds of problems.

So when I was invited to speak to a policy question, I was like, oh, no -- or something. But interestingly enough, in the work that I'm doing right now, I would say that policy is lagging behind technology.

I will tell you, and if you don't believe me, please give me a chance to convince you otherwise, that we have adequate standards, good, straightforward technology, we have a roster of commercial EHRs who are avid to participate, we have a roster of research systems, electronic data capture systems and so forth that are avid to participate.

The thing that is holding us back is actually policy issues. We have approaches that have been tested here in the states and in Europe and in Japan, we have approaches that have been demonstrated all around the world, we have pilot programs that have been successful. And when I say policy, I don't -- I'm not even sure I know what that word means, but what really inhibits EHRs from submitting data directly into the research world is fear.

The FDA casts a much darker shadow than what they know they do. I actually demonstrated some of these approaches to some folk at the FDA last spring, and they were saying, well, why, you know, why aren't more people doing this, and I said, well, it's because people out there are afraid of you, they're afraid of getting clobbered, they're afraid that if they're the first pharma to submit data that have been pulled out of an EHR, that somebody is going to invoke the ultimate boogeyman, 21 CFR 11, and say these data were not sourced properly, therefore, you have to go flush them away and start over again.

The pharma are horribly afraid of being the first to adopt something new. I actually had a conversation with a research institute that -- they called me and said can you help us convince this sponsor, a pharma sponsor. I won't say its name, but the initials are GSK, that brought a bunch of monitors in and said, you know, we can't take data from you guys because you're deriving it out of the EHR, and the EHR is not 21 CFR compliant. So they asked me to help with that as your friendly

standards guy, and I said I really can't do that, I wish I could, I desperately wish I could. But if I can convey a message to the policy community, and particularly to the FDA, it's that when I hear the FDA, and many, many times the bright lights at the executive level doing their PowerPoint say very, very encouraging things, and they say, you know, let's go forward with this, let's make it happen, that's not who we're afraid of. It's the monitor that somehow didn't get the word, right, who comes to the site and squelches some creative work just by being, you know, a conscientious, cautious regulator.

So I would ask that the FDA speak with one voice, that they find some modest ways to ameliorate the risk of people who could adopt these existing standards and existing technologies, clarify some basic issues about what constitutes a source document and when do we have to have something under 21 CFR 11 or not, and then back to Andrew's point earlier about privacy and security, what constitutes an adequate privacy layer, which is a project that I'm actually working on right now, where we could actually have an identified research database that we could search, and then contact those patients about engaging in clinical research. What constitutes proper privacy preference and policy reflection? And there's standards that are being developed along those lines, as well.

My last comment is that I've got an opportunity later this month to go to Singapore, and in July to go to Japan. In both of those settings, the equivalent of FDA is engaged in a project to look at a research network that's drawing data directly out of an EHR.

We could do that here, we could do it here this summer, right, but everybody is afraid. So Singapore or Japan or both are going to do this first, and it's a pity because all of the approaches to doing this were developed here.

And I really wish that we could have not a major policy move, just some clarity and some encouragement that if you try something new and you're the first to do it, you're not the first to get clobbered.

MR. McCLELLAN: Thanks, Landen. I think you illustrated why the technical standard emphasis does fit right into this policy discussion. You know, all of you in your comments, whether it's applications related to research, or to prevention, or to quality improvement, or to public

health types of issues, all of you have emphasized in one way or another that technically it's possible to do these things now, that we really are on the edge of the transformation, as Carol said, but that to actually get there from here is going to take flexibility on the one hand, but also some consistency and guidance on the other. And I see heads nodding, I wonder if you all might push this a little bit further.

I mean, if we are going to make this transformation happen sooner rather than later, you've got to take those -- and turn them into practical applications to get down that road.

MS. DIAMOND: Yeah, I was thinking, reflecting on your question and also listening to the others, that we could miss the opportunity if we make one of three mistakes. And I think those mistakes are imposing old paradigms toward, you know, the information and sort of the world we are coming from, which is data silos and things that are walled off and sealed off to what is potentially a more connected network environment. If we fail to develop the policies and the policy framework that basically established the, you know, fair information practices, the rules of that road, for how to take advantage of this potential. And similarly, on the technical side, if we apply sort of old enterprise paradigms toward technology and standards instead of, you know, Internet-based network approaches that really do separate very important things from a technological perspective that would create the kind of flexibility that I think we need.

SPEAKER: Or we can make all three of those mistakes.

MS. DIAMOND: It has happened.

MR. McCLELLAN: Andy, Andrew, any comments on how to avoid the mistakes and get down this road to transformation?

MR. BAIN: So actually one of the things that this morning's panel really brought out was that in particular regions, particular geographies, the multilayered integrated approach is underway. So what Dr. Halamka has been doing, what Mr. Walker's been doing, you know, in South Carolina, in a four-state area, Pennsylvania and so forth, anyway, so you've got -- was Pennsylvania one of them?

SPEAKER: Ohio.

MR. BAIN: Ohio, Indiana, Cincinnati. So anyway, so you can -- so the interesting

thing is, you can draw, you know, sort of a circle on a map and you can say that a variety of health care institutions within that circle are making it work. And I think actually I really liked what Mr. Walker said about, you know, trust the intelligence of the teams --

MS. DIAMOND: Yes.

MR. BAIN: -- and be very skeptical of the systems designers and software writers to figure this all out ahead of time, that's exactly right.

MS. DIAMOND: Exactly.

MR. BAIN: So that's awesome. What I notice, though, to the extent that I'm able to kind of dig into the details, is that we've got a bunch of customized systems being built. Now, they're better than a single institution because they're crossing institutions and bringing in, you know, clinical practices and sole practitioners and academic practitioners, a building system that they can all talk to, but the -- so this looks to me, by the way, a lot like the early days of the Internet, too, when you had BITNET and ARPANET and NYSERnet, anyway, these different networks that were all independently humming along, and then the grand project of the kind of late '80s, early '90s was to thread them all together into a single Internet. So the good news is that that project seems eminently doable to me, in part because of the fact that we've got this sort of high/low approach of, you know, like the health IT standards committee and formerly HITSBE, which is, you know, a very high-level attempt to get this right at a broad level generality and then lots of implementations down in the weeds, and then, you know, lots of people that are doing both, like Dr. Halamka, actually trying to build it and trying to do the standards which allows you to run back and forth.

Anyway, what -- so that's kind of the world that we live in. I think the interesting challenge for policy, again, is to figure out where the barriers lie, like where are the -- you know, what are the things where people are just not doing it because they are unclear about what the rules are, so you can set a rule. They're unclear about what standards should apply, you set the standard.

And, you know, one thing I just wanted to set on the table which is just super important is that the cost of computing power continues to plummet. The cost of band width continues to plummet. The information technology sector in that sense is a declining cost business thanks to Moore's law, and you know, and so forth. We can pack more computing power into the

same ship for the same amount of money and the same size every year. So the advantage is that you can start to use that law of economics to do a lot of stuff that otherwise would have been a painful systems engineering project out in the given institutions or even the given geographies, and that I think is what's going to get us sort of over the next couple of years.

In one sense, you know, we are now absolutely eminently able to run large cloud-based systems that can take a WordPerfect file on an FTP server, grab it, make some intelligent guesses about what's inside, structure the data, add data to it, and pull it into the repository that you want, or make it available in a federated system to the people who are querying it. Anyway, that's now possible.

So the old problem, which is get the standard, get it absolutely set, get it right is not really the problem, instead we've got each of the different systems here today capable at low cost and with relatively small amounts of software engineering to link their systems together, understand what the differences in the meta data are, and so forth. So that's the kind of like optimistic answer to how I think we can get there, how we are getting there.

SPEAKER: And, you know, the only thing that I would add is, Landen, maybe we can learn from other countries in terms of how they do it. And, you know, you expressed a concern about being the first one in. Maybe it's a good thing that some international countries are going first and we can see how they resolve these barriers.

I also think that there, you know, we need some public education here, that there are cultural issues related to particularly how the public perceives, and the immediate threats in their mind of rapid, you know, dissemination of information that might relate to their own.

And I do think we need more of a national and public conversation and really a public education campaign to explain how this can transform individual health. This is, you know, can be a good thing. We need security and privacy protections, and I agree that needs to be standardized.

But I don't think, you know, Joe Public understands the power of what we're talking about in terms of really engaging them and moving us towards greater health status, so I think that's part of the solution.

MR. McCLELLAN: Thanks. Any final questions or comments from those of you who are here? Yeah, here.

MR. SQUIRES: Hi, Mike Squires from BluePrint Healthcare IT.

My question this morning is there's been a discussion about consumers and large IDNs and institutions. Since most practice in this country occurs among small physician practices, very small physician practices, and even with regional extension centers moving to bring people into the loop, what's going to help change the way physicians individually practice themselves? Besides just collecting data and sharing data, what do we need to do on the policy end to help physicians think differently and treat -- work with their patients differently?

MS. DIAMOND: So I think we've learned a lot already, and I think, you know, Amanda and John, they have experience, and Jim, in sort of seeing how this paradigm shift happens. The key from my perspective in terms of giving them the capacity to use these tools in a way that provides value to them is to not make quality and research a compliance exercise, but to make it part of the way care is delivered. And the only way I know how to do that is to give them the tools at the point of care while they're with the patient and give them the flexibility to use those tools towards common goals. I mean, Jim started to describe some of that in terms of how they're starting to shift now in terms of giving the capacity of care teams to use the tools the way that they see fit, and I do think those are the kinds of changes that are necessary.

Quality really up until this point, quality reporting, it's been a compliance thing, right, you have to do it, somebody comes in, they abstract the chart, but it's not really integrally related to the way care is practiced.

And we heard a lot about practice flow and not disrupting that. There's also a need to redesign that flow and redesign those care processes. And I think only with some of these -- with some of the learnings from these systems can you begin to understand how to do that. So I don't think it's going to be an easy road, I just don't know another way to get there.

MR. McCLELLAN: Wait for the mic.

SPEAKER: Sorry. Following on what was said - part of this really is about processes. And if you think about how are we going to reimburse people for participating in an end

to end process, that to the patient looks seamless, but is actually the result of five or six or seven different owned entities participating in the appropriate way, at the appropriate time, with knowledge of what everybody else has done and what's going to be done next, it seems to me that we're going to have to get to where we can characterize those care processes specifically enough, particularly the interfaces, how soon does the mammogram have to go from the place where it's taken to the person who's going to read it, and how fast do they have to report a normal back to the patient electronically.

If we could characterize those processes and then decide what each sub process is reimbursable for, then you would have a natural mechanism to do what we're talking about, which is to encourage everybody to take their part, know that it's the core of their work, it isn't something extraneous now, and be clear on what it's going to mean.

SPEAKER: Well, as Andy said, we're not paying for that now, and we really need to move to doing it. And, Landen, I assume the standards can help us get there.

MR. BAIN: The standards are going to help us get there. But what I wanted to also respond to, it's been very encouraging to me today that there's been a lot of discussion about work flow and business process. I think there was a time not too long ago when only the data mattered. And data -- it was as if data -- Clay McDonald talks about the spontaneous generation of data. It doesn't come out of no where, it comes from business processes. And it's a very, very rich source of exploration for us to come up with standardization of business process and integration of business process across sites. So that -- I really am encouraged that we've moved off of what I call data blindness, where all you can think about is just data and this abstract quality that you want to get a hold of.

MR. McCLELLAN: And I think, Amanda, since you're dealing with a lot of these community-based providers, I'll give you the last word on this.

MS. PARSONS: Actually I was going to ask a question to Andrew. I'm happy to address the question around how -- what kind of policy change would need to be in place to effect small -- in particular small practices. Frankly, it just has to be an alignment of health reform and reimbursement rate. As the patients -- you've got to start giving a primary care provider a reason to

take an e-mail and defray a face to face visit. You've got to figure out how to put them -- how you can protect them from the legal liabilities of accessing potentially hundreds of pages of information through a health information exchange that they don't even have the time to sift through.

MR. McCLELLAN: Really supporting that whole end to end processing that Jim was talking about.

MS. PARSONS: Right. My question, though, was for Andrew. As you think about the way the federal government as a payer has stepped up to provide incentives for electronic medical record adoption through the meaningful use incentives, where do you see the role of the commercial payers, the employers, to step up and cover their part, as well?

MR. McLAUGHLIN: No, a very good question. I get that question asked a lot, and we do think we need to make a contribution. But let me start with a principal first, and that is, I think a lot of people in the private sector believe that, you know, if we got the payment system right, and we really created incentives for better outcomes, chronic care management, that would create the platform and the business model and the economic incentive for the delivery system to be investing in its own technology to begin with. I mean it's not the normal sort of business model that you would sort of subsidize for a care delivery system the infrastructure that they should own. But it's all because we screwed up the incentives and now we've got stimulus bill and lots of support, and that's a good thing. So let me start with that principal, that I believe that if we got the payment system right, it would create its own energy towards greater technology. And we -- how many times have we said that this morning? Let's get the payment incentive right.

Having said that, I think that we have a responsibility. At NBCH, for example, we have a common RFI called the evaluate tool that measures the performance of health care plans, and we're asking our coalitions and their employers to be saying to their carriers, their payers, Aetna, United, all the big ones, what are you doing to create the right incentives? What are you doing to subsidize and help support? What percentage of your provider network are wired? And sort of set some expectations from the ultimate purchaser.

Remember, the fiscal intermediary is simply that, a fiscal intermediary. It's someone else's dollars that they're spending. So we have to set those sorts of expectations. So we're building that

into our evaluate tool to sort of send the message that the payer should become more involved.

MR. McCLELLAN: I think that's a good note to end on. Now, I'd like to ask you all and you all to stay where you are for just a couple more minutes, but I'd very much like to thank our panel for leading a great discussion to end us up on today. Thank you all very much.

We've covered a lot of ground. We do a lot of these events. The ones on health IT are always very challenging because there's so many issues that come to bear. Everyone has said, this is not an end in itself, it's a way to get to where we really want our health care system to go, but that, of course, opens up the discussions to covering just about every single major issue in the health care system. And I think our panelists all day did a terrific job of bringing that all together in a way that not only lays out the challenges and the problems, but also suggests some important ways forward.

And I tend to be a little bit optimistic by nature and I'm going to leave this event with a big of optimism that we are at the edge of a major paradigm shift, as Carol said, that it really is not only about to happen, but you can see it starting to happen now. To paraphrase Vice President Biden, this is a big deal, and it is, at the same time, it is very much a work in progress. We're not just going to get here to there easily, it's not -- there's not a magic bullet simple solution. As Farzad emphasized this morning in how they are approaching policy issues, and I think this came out in some of Andrew's comments, as well, you've got to make it simple, stupid, but not stupid, and that's hard to do right. But there sure are a lot of clear, meaningful, feasible opportunities to do it now, whether it's around changing the processes for certain kinds of preventative care, consumer oriented care, whether it's around some common disease problems and quality improvement for those, whether it's around some public health issues, or possible research questions.

We're at the point where we're not only identifying these clear, definite, important incremental, but important steps forward, but we're actually at a point where we can do it, where the standards are there. Technically, it's possible to do and it's starting to happen because of both the steps like the broad-based stakeholder involvement that many of our panelists have emphasized today and the simultaneous alignment of incentives. Andy kept coming back to this, as many others did appropriately, and it really has been sort of a chicken-and-an-egg problem in the past. We have

these siloed ways of delivering care without much coordination in place, so that's naturally the way that you pay, but if that's the way that you pay, that tends to be what you get. Well, by making these changes in processes and by having feedback, recognizing we're not going to do it perfectly, that standards may not be applied in a comprehensive way, but there is a way to do it that can move forward, and bringing incentives along with it, we really have an opportunity to move forward.

As Jim said, I think your term was the cumulative effect of a range of HHS actions, a range of new legislation really are at the point now where it's kind of approaching crucial mass and the ability to really support these kinds of specific meaningful changes that add up.

And similarly, as Andy emphasized, it's getting increasingly clear to employers, to the purchasers, to the private sector that they can and, in fact, must take some of these steps at the same time. So it's no longer a chicken- and-egg problem, but it's a simultaneous alignment of sort of a feedback process for making real steps and real progress on changing the way that care is delivered using health IT with changing incentives at the same time, and that's incentives across the board, not just payment for services, but for public health and for quality improvement and for better evidence and the like. So there are some reasons that we can move forward, and I really want to thank all of you for getting us to this point in the discussion and in the process here today.

That thanks goes to all of you in the audience, as well. Some terrific questions and comments, and I particularly appreciated your efforts to make sure that this discussion got back to the real bottom line focus on patients, on consumers, on getting the best possible care to people.

Also a special thanks to the Markle Foundation for supporting this event, and the Brookings team who made it possible, Ed Walters, Meagan Carey, Bren Barnett, Erin Wiredter , Beth Rafferty, Josh Benner, and especially our new team member who hopefully isn't going to run away after all the work from putting this together, Karen Masloco , who did a terrific job. So thanks to all of them and all of you.

Look more from us; this is not going to be the last word, obviously. We're in the midst of a very important process of transformational change. One next step from us is going to be a whitepaper that's going to reflect the themes and principals that we discussed today, and you should expect that's going to highlight a number of the practical, sort of keep it simple opportunities to bring

together both changes in care delivery and changes in the financial and other support and key regulatory obstacles, as well, so look for that to come.

And thanks again for all of your efforts to help us move down this road. It's not easy to transform health care, and health IT isn't going to do it by itself, but there's some very good opportunity, some very good building blocks in place, and we look forward to continuing to work with all of you in the weeks and months ahead as we make this vision a reality.

Thank you all again and have a great weekend. Thank you.

* * * * *

CERTIFICATE OF NOTARY PUBLIC

I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

/s/Carleton J. Anderson, III

Notary Public in and for the Commonwealth of Virginia

Commission No. 351998

Expires: November 30, 2012