Audio begins at Slide 7: First, we were given additional work on the consumer access to clinical information. And so, for example, in 2006, we looked at demographics, medication history. In 2007, we added a variety of things such as allergies, laboratories, advanced directives, more detailed kind of information that would really flush out a complete personal health record, for a transmission from health electronic record to personal electronic health record (PHR). It would also be not only transportable over a network but would also be transportable with physical media, and, as an example, I recently was in New Orleans and I was chatting with some folks who were in the Superdome during Katrina and they told me there was no network connection to the doctors in the Superdome so even if you had a network transmittable personal health record, it wouldn't really help you so being able to carry your personal health record on a thumb drive or a DVD or CD is important so the 2007 use case included all of that for the personal health record.

The emergency first responder electronic health record includes the means by which any ambulance could retrieve information from a hospital that might give information about a patient's history of medications or allergies or problems that would help in their care. Basically a mechanism, especially in a mass casualty incident of gathering information about a patient's history and that certainly, you know, should there have been, should there be networks that are functional, would be extraordinarily useful to these first responders.

Medication management is formalizing a lot of the Medicare Part D medication management e-prescribing types of standards including such things as how do you check eligibility, enforce formulary, how do you provide a medication history of fill status, so all of the aspects that you probably recently saw that were formally announced, as Medicare Part D includes all of these NCPDP and X-12 standards for everything to do with the entire ecosystem, entire domain of e-prescribing.

And then one of the hardest things we worked on in 2007 was quality. And quality is hard because it's so hard to define. One of the challenges you have today is that quality metrics are typically defined by experts based on evidence, not based on the data we actually gather in electronic health records or hospital information systems. And so, today, it a may be that a measure will come up like diabetes care has to be actually looking at hemoglobin A1C but you should in fact exclude all patients who are on comfort care measures only or women who have polycystic ovarian disease or people who don't feel like taking their insulin, well, all of a sudden, you create a perfect measure that is not computable based on the data that we have available electronically. Or even if data is available electronically, its quality is poor.

So, what this means is that so many of our quality metrics today have to be produced by manual chart abstraction that you pay a somebody $20 a chart to go through paper and try to discern the data element, especially around these exclusions that will give us the perfect numerator and denominator.

So what we did with quality is we worked with the health information technology expert panel of the National Quality Forum that was chaired by Paul Tang, we worked with the NCQA and the AMA and AHRQ and together what we figured out was how going forward, are quality measures going to be developed that are computable and here's how the proposal to go forward is as follows:

Yes, we will have the experts create the quality metric. Those quality metrics will be forwarded to the NQF (National Quality Forum). The NQF will then break them down into the necessary data elements required for computing a quality measure. They will hand those off to HITSP. HITSP will then do an analysis of the standards maturity, the availability of the data in electronic health records and the quality of the data so that we can actually make some comment as to if you look at the measure, well, gee, if you just got rid of this exclusion or refine that definition of this particular piece of data, it would be doable. All that information will be fed back from NQF to the quality metric's authors and then the quality metrics will be revised to reflect the nature of the standards of the data as it's captured in electronic systems today.

So as part of this, we took some of the Institute of Medicine's priority disease states and the quality of measures, quality metrics around them that were developed by AQA (Ambulatory Care Quality Alliance) and we developed a set of initial standards so that given a problem with medication lists and allergy lists, these are computable quality metrics and so it's a start and I can guarantee that the high tech, the NQF group, and HITSP will be working together for years to come as new quality metrics are designed to insure that they are truly going to be near real-time computable and we'll get away from manual chart abstraction and paper.

Well, let me go through some of the details of the use cases in 2008 and beyond. And let me say here, I'm just going to do a quick summary of the process and then we'll go through some of those details and I'm just figuring out here how (inaudible).

So, yeah, admittedly it is an eye chart and so the quick comment on the eye chart nature of that particular slide, the fineness of the print is that 2009 and beyond are all the potential use cases that everybody at the American Health Information Community (AHIC) and its stakeholders thought that might be considered for 2009, so obviously those are just a laundry list of fine print and I think that what we'll see in the upcoming weeks is AHIC coming up with a set of suggestions of probably 3 to 6, not the list of 100 that you see there.

So, just to quickly give you some additional background before jumping into some further detail on 2008, is I'm now on the standards harmonization workplan, to understand how we did 2006 and 2007, the details of what happens inside HITSP are that these use cases come from the American Health Information Community and as I mentioned, we do this requirements analysis, we look at the actors, actions, and events. What is the work flow around making this use case real because you need to really make sure you have all of the standards for this thing to work in a live, electronic health records system where payers and providers and patients all may be exchanging data.

We then look at all of the candidate standards that are out there. In our first year in 2006, just for those first 3 use cases, there were 700 candidate standards that we found that could possibly apply to the PHR, EHR and Biosurveillance use cases and you'll see in a moment, the good news is we reduced that to a little over 20. So, the way we do this is that we say, let's look at the harmonization readiness of the standard. Is the standard appropriate for this particular workflow? Is it maintained by an accredited standards development organization that has an open and transparent process? What does it cost? Is it good documentation? These are the kinds of things that we use to help pick the right standards and we, as you could see in this whole work flow,

have multiple opportunities for public comment, HITSP itself is open and transparent, about 500 organizations participating.

We come up with a list of initial standards but we also look at gaps so it may very well be, in some of these use cases, that there are standards needed that don't yet exist. An example, in the biosurveillance use case, they said, well, one of the things we'd really like to know is, what hospital beds are available? Imagine that there's a SARS outbreak in Boston, we want to start triaging people but we don't know what resources are available. And so we actually needed a standard that would be a hospital availability standard, an oasis, one of our international (inaudible) organizations was working on something called "the have standard" and that's a hospital availability standard and so we actually had to incorporate a standard very, very new, and you know, that one was just completed and valid.

So we also identify overlaps in standards. There may be multiple ways because of multiple standards development organizations to do demographics or multiple ways to consider how to transfer patient data summaries from place to place and so again, we use harmonization readiness criteria to pick the most appropriate standard.

And then, once we have done the standard selection, we create an unambiguous cookbook, a guide to how a vendor or a hospital would use these standards and do so in a way that would be nearly plug and play. And then we open all of this up for public comment and review and inspection testing and only after we get a sanity check do we then release these to Secretary Leavitt and the Area Health Education Center (AHEC). And so that whole process that you're seeing takes us internally 6-9 months.

So, to give you in a real-life overall time line is a bit challenging to relay but assume that in 2006, we were given these use cases in March. We had them for 9 months or so, we turned them back to the folks at the American Health Information Community, a year of review took place between acceptance and recognition and then in January of 2008, full recognition occurred. So similarly, you'll see in 2007 through 2010 and then 2008 through 2011, these are the rounds or cycles of interoperability specifications going from idea at AHIC to final federal recognition and final incorporation to CCHIT criteria.

Now, they'll also be used as part of the nationwide health information network because now we know there are 9 cities piloting various types of interoperability activities, all using HITSP standards. And so those guys are very actively engaged at this point with doing testing, annually (inaudible) of our 2006 and 2007 standards.

Okay. Well, we've already covered some of the details of our use cases in Round 1 and 2 so I'll skip these but these have been the labs, the emergency first responder, the medication management, consumer empowerment which I described, and biosurveillance quality. So, regarding security and privacy infrastructure, just again to summarize, in those first 2 years of work, the Round 1 was 700 different standards considered but really only 30 were used. In Round 2, 2007, 200 standards were considered and 20 were used, of which about 80% overlapped with Round 1. So this implies that we aren't getting thousands of standards; we are really trying to refine our standards selection process and our operability specifications so that

we're going to have reusable components across all use cases to identify the patient, securely transmit data, send laboratories, describe a clinical summary.

I expect that as we go forward, you'll actually see acceleration of our ability to harmonize standards because we'll have built such a foundation of reusable components and, therefore, we will be able to, create a clinical summary document for the first time. We're going to take the clinical summary we've already defined, add a few data elements to it, and then it will be very rapidly usable in new use cases.

So, reuse—absolutely trying to keep things as simple as possible, insuring that the vendor community has to make as little change as possible, as new use cases are adjudicated—is definitely what we want to do and I think you'll find the HITSP website, www.hitsp.org to be a very good resource for you. We have reorganized that site and on March 31, went live with a totally new, easy-to-navigate set of constructs where you can now go through these various use cases, all the standards selection, all the documents that you need, see where everything is in terms of acceptance and recognition and it's very, very easy to navigate.

So, let's talk about 2008 and where we're going with our next set of use cases. Now, we just finished [in March] all of the medication management standards and [I have] some final updates with regard to security and privacy constructs on some of our lab standards but here's our new use cases. We have a patient provider secure messaging use case, which is this notion of remote consultation. And so imagine that a patient is at home and wants to communicate securely to their doctor, asking questions in follow-up to a visit or asking their recommendations such as, should I come in for an appointment? It's 3 in the morning, I'm out of nitro, I've had some chest pains, so, doc, what do you think? Click! No! This is meant for standard non-urgent messaging and consultations, second opinions, payer provider communications.

Another aspect is [and I'll just jump out of order] remote monitoring. So, imagine that a patient has a home glucometer, a home blood pressure cuff, a home scale. Imagine the congestive heart failure patient retains water and you want to use the scale to indicate whether that patient gained weight such that maybe they're going to have a decompensation of their congestive heart failure. These are the kinds of things you'd probably want to notify a primary care giver about. So how do you have devices in the home communicate to an electronic health record or personal health record? And the combination of remote monitoring and patient provider secure messaging, in my view, takes us from bench to bedside to sofa with all of our medical technology allowing at home care, in a very patient centric way: I'm going to communicate and share decision making way with my doctor possible.

In 2008, the personalized health care that we're working on is the genome and family history. Now let's drill down for a moment.

So, of course, we think the genome is going to be extraordinarily important for personalized health care. The notion of what disease states you might develop, what medications and therapies might be most helpful to you, , what potential problems you want to ameliorate with wellness care— all these things can be discerned from the genome. But, of course, few patients actually have had their genomes sequenced. Craig Vetner, who was the person involved in the human

genome project, was the first human to be sequenced and his sequence costs about 300 million dollars!

And Jim Watson of the Watson Crick DNA model, was the second human and [his sequence cost] a little over a million dollars. I've been involved in something called the personal genome project run by George Church at Harvard. George was the third human to be sequenced, and I'm the fourth sequenced human. We're looking at costs of maybe 30 thousand dollars, getting to the point where it's actually now going to be, we hope, in another year, down to $1,000 so it would be actually realistic for a patient to have their sequence done. Imagine the wellness care and decision making that could take place if you had some notion of some of the probabilities of disease states you might be developing. And to give you the personal example, my genome indicates that I have twice the normal risk of cardiac disease and obesity. Seven years ago, I became vegan and lost about 70 pounds and so I probably would have changed my lifestyle and changed my whole approach to wellness had I known earlier that I had this propensity to gain weight or cardiovascular risk. So this standard personalized health care around the genome is the way of representing and protecting the genome so that it could be transmitted in electronic health records or personal health records as necessary for the patient to receive this optimized personal care.

And the genome is certainly going to be valuable and hopefully, in the not so distant future, affordable. The best proxy for your genome is what happened to your first degree relatives? What illnesses did your parents and grandparents have? So, if we could have a universally transmissible personal health record of your family history in a standard format, that's a really great start. So, paired with the genome, is a complete family history set of standards.

Next is public health case reporting. I'm an emergency physician and to me, of course, it's important that I report infectious diseases to the local public health department but it would really empower me if I had that done automatically as part of the clinical care I was delivering from electronic systems.

Immunization and response management are really two components. Lifelong immunization history that follows patients wherever they go is important. Certainly if you're a parent and you have children and you're trying to get that camp physical done and you're trying to find the paper-based immunization record, it's a real challenge but imagine there is an outbreak of a serious disease. [What about] notion of who in the population had immunizations and who did not, what stocks of vaccine are available, where are they? The whole mechanism of figuring out the response to a pandemic really depends upon having immunization history and some knowledge of vaccine availability. So all the standards around immunization history are our fourth use case.

And finally, consultation and transfers of care is such that as a patient goes from outpatient to inpatient, from one doctor to another, a primary care doctor to a specialist, how do you ensure that all of the information about their history follows them wherever they go so they have very good continuity of care? And that particular use case also includes images as well as standard text of medical records. We'll be leveraging a lot of the work we've done on the continuity of care documents for that particular use case.

Just to reiterate what I've already given you an overview, in 2006, we worked with ASTM and HL7 to take the continuity of care record, the CCR, and wrap it in the continuity of care document, the CDA, so you have both tabular and narrative data. And that became the basis of the clinical summary for consumer empowerment. So, you'll see, as we go forward in use cases for year 3, consultations and transfers of care are also going to be based on the same document. Immunizations will be incorporated into that document. Personalized health care will be incorporated into that document.

And conceivably, though obviously it's really in the process, but the notion of having the continuity of care document even being used for secondary data uses like public health care reporting may be possible. How cool would this be if you could, as a hospital, have one single-use interface for patients to transfer their entire clinical summary to Google's PHR or "other" PHR or use it for public health reporting or clinical trial enrollment? Leveraging one set of standards would really be empowering for the country so I think moving to this continuity of care document as the single clinical summary for multiple, direct care and secondary use purposes is quite exciting.

One quick comment on the patient provider secure messaging: obviously we're trying to leverage the Web wherever we can and so I think, you know, all joking aside, the standards that you might use for secure communication in Facebook are not necessarily so different than what we would end up with as a country for a patient provider secure messaging, using https and secure websites for patients and providers to communicate without having to require a lot of specialized software.

On remote monitoring, we're working very closely with the Continua Group. There are a lot of vendors, the stakeholders who've come together to start thinking about how to rationally design consumer devices for the home using consistent standards. I think you'll see HITSP and Continua really align on this one.

So here are some additional goals for 2008. It is key, once we harmonize these standards for the country, that all stakeholders adopt them, understand them, leverage them, so we've established a committee for education and communication that will be doing webinars. Our new website will be providing guides to educate technical and nontechnical stakeholders so there will be a huge emphasis on gaining traction for adoption and implementation based on education and communication.

You'll see a number of pilots, for example, the Nationwide Health Information Network Trials. I'm currently engaged in a pilot right now from Beth Israel Deaconess Medical Center to use that same continuity of care record document to transmit information to the social security administration as part of SSA disability processing.

And so the notion of using this for disability processing is that, today, the SSA spends $500 million a year getting paper-based medical records (or physicians, if they can't get patient-based medical records) records to do reexaminations, to validate problem lists, medication lists, and other aspects of the patients' history that are necessary for disability adjudication. We can do that now fully electronically using the same national standards, and we can reduce costs, improve turnaround time and patient satisfaction.

HITSP and CCHIT are very well aligned; we have a joint working group to ensure coordination of everything that HITSP produces with the CCHIT functional criteria but also to be mindful of the impact on vendors because the vendors are now, of course, being compliant with a thousand criteria from CCHIT and at the same time, adopting new standards like Medicare Part D and working with the HITSP standards . So we have to figure out the right piece of change so HITSP and CCHIT don't overwhelm the vendor community but nonetheless get to unified homogenous plug-and-play products.

Recently, we reorganized the technical committees as HITSP so that we would be able to take on increasing amounts of work but also ensure complete consistency across all of our work products. So we have a set of committees called the domain committees that are making sure there's one reusable package for labs or for demographics or for patient care summaries and then prospective committees that are working on the use cases, taking the products, these reusable components and making sure that as we get new use cases, they're all provided in a consistent way.

We're also really working on documenting all of our work in a much easier to use fashion so that those folks who are out writing the code don't have to go through quite so much text, [and it will be] much easier to use in real-world implementations.

And as I said before, reuse is really key. You'll see that we'll even be going back to some of our previous work, cleaning it up, making it so that instead of three or four different flavors, there's one flavor. Therefore, it just becomes quite consistent for all stakeholders to repurpose and, ideally, what you'll start seeing is stakeholders like Microsoft and their Health Vault, like the folks at Google Health, all converging on these national standards and those organizations have promised to do so—so that you won't have every hospital that wants to communicate to personal health records having to rewrite just a single one-off user interface for every single vendor product they talk to.

I don't believe that in the next couple of years we're going to get to such seamless plug-n-play that everything will connect with everything but today, it's $100,000 to write custom interfaces and it takes a long time. If we can get to $1,000 and 3 days instead of $100,000 in 6 months, we'll be getting much, much closer to plug-n-play products.

The medical domain is quite complicated. Vocabulary issues—that is, how to describe a medication or how to describe a lab in a completely consistent way—aren't always integrated into the hospital information systems and EHRs that we have today. So it's going to be a journey but with every passing year, as we get these national standards harmonized, as the vendor products begin to incorporate more structured data and start to use common inoperability standards, you'll find more and more interesting applications that go beyond the four walls of a hospital and start considering the whole community around a patient. As a good example, in Massachusetts, we have the ability to retrieve a statewide medication history so that we can ensure drug-drug interactions or drug-allergy interactions are checked before any prescription is done. We've used the HITSP standards in Massachusetts to exchange clinical summaries so that as a patient is discharged from the hospital or the emergency departments, that summary is sent to the next provider of care. So you're starting to see some real implementations of these

standards that are really making a difference in assuring the continuity of care for a patient, ensuring quality and lower cost.

I just want to summarize that HITSP, over the course of the last 3 years has become a trusted convener of 500 organizations, payers, providers, patients, employers, standards development organizations, and vendors to harmonize standards by consensus. It's been an open and transparent place and we've worked through a lot of tough issues together.

We will have finished the three rounds of harmonization I've described today before Secretary Leavitt leaves office. Secretary Leavitt has been incredibly supportive of all of our efforts; he leaves office on January 20, 2009, and we have assured him all of this work will be done by the 19th so that the recognition and acceptance that I have talked about will be as far along as it can possibly be.

Now, over the course of the next several months, you'll hear about the American Health Information Community's successor. Because AHIC was established by executive order, it will disappear as the Bush administration ends and, therefore, it's important to privatize it before January 20, 2009. That contract has been given to LMI and Brookings, and those folks will be establishing a new set of prioritization of boards, committees and constructs and HITSP will certainly be taken out of its use case priorities from the successor of AHIC as we know it today. It will still be a public/private partnership and priority setting is very, very important. In my conversations with the Brookings folks, my sense is that they're going to base it on business, use cases, business values, excuse me, return on investment, implement ability, impact, so I sense that their prioritization process will be a quite good one.

So with that, let me stop. I am happy to answer any questions that any of you may have on the standards of harmonization process, the work so far or the work ahead. Does anyone have questions? Please go ahead and post them to the chat box. We'd be happy to read them off to all of the participants.

And you can ask me anything, you know, because I wear about five hats. For example, how do you do this in the hospital? How do you do it in a RHIO? Any questions about HITSP specifically?

Okay. Here's a question from Janice. This has to do with the approach to standards and the push to standardize laboratory results. Loinc codes are a standard out there but it's not clear whether that's going to become the gold standard. With lab results coming in from many different labs, is there going to be a push for standardizing laboratory components, referring to requests, and the laboratory results?

Right. And so Loinc has been chosen as the national standard, so yes, Loinc is the gold standard. And so, as you'll see in the ISO1, that's the interoperability specification 01, right on HITSP website, we go through all the details of what was selected as the national lab standards and Loin is definitely the vocabulary that will be used. So, and again, working with our national labs, Quest and LabCorp, agreed that that is what they will adopt. I do think it will take a couple of years before Loinc is baked into every vendor product, an output in every lab result but that is

exactly what Secretary Leavitt has recognized and, therefore, will be required in federal systems and CCHIT will certify against for any vendor product.

Okay. A follow-up question and then (inaudible). Will that mean then that the public health information network or PHIN will be moving or has moved away from using Snomed as the standard for reporting laboratory test results?

Snomed is a very important vocabulary that's used for many things and certainly descriptions of problems, certainly clinical observations of all varieties, nursing observations but I, you know, to be honest, I'm not precisely certain what PHINMS has embraced with regard to a laboratory result report in Snomed to date. I'll have to follow up on that so if the person asking that question can send me an e-mail, I'll get a very crisp result for you. Certainly in our biosurveillance use case, which is IS03, I'll just dive into that in some detail. I'll clarify if it's the crosswalk between Loinc or Snomed or any issue that exists within MS today.

Okay. Great, thank you so much. The next question is from Paul Donoho; the question is will the HITSP be examining the lack of the national health ID?

So one of the things it's important to know about HITSP is it is a technology body, not a policy body. We are not prescriptive of architecture; we are simply describing the standards for interoperability. So, for example, in identifying patient demographics, we have used the IHE PICX PDQ set of standards as a means of doing a query (i.e., is a patient there?). If so, how does one transmit the demographics back about such a patient? So nothing that we have done requires a national health care identifier but nor does it exclude it so if there ever is one, then hey, great! PIX PDQ can be used in the context with the national health identifier. If you wish to build an architecture that has a master patient index, you can. If you want to do a real-time query based on name, gender, date of birth, etc., you can. So, just as I said with the security standards, we had to allow lots of policy variation with the identify management of an individual, we have to support all various slavers, those which include a national identifier and those that don't ,and we certainly haven't addressed that policy question specifically.

Okay, thank you. Okay, one more question here from Susan McClarety. Where did you say the use cases are derived?

The American health information community and its working groups produced these use cases, and they work very closed with HITSP so you'll find these working groups will come up with the priorities and the details. They work with ONC, they flushed these out, we get them at HITSP, we have the opportunity to comment and review. But generally, the American health information community is the use case author and the priority maker, and HITSP takes them and then works with them doing a much more detailed analysis after they've given the initial use cases to us.

Okay, great. Other questions from the participants? Okay, here's a question from Andrew Sigmund. Did you see Microsoft or Google coming to the table with their resources, also, as business motivation as being helpful?

So, let me give you the background on Google and Microsoft. The folks at Microsoft Health have created their health vault product, which is a storage container for all kinds of health

observations, whether you want to upload a photograph or a pdf or a continuity of care document structured xml object. The folks at Microsoft Health already have support for some of these HITSP standards. Beth Israel Deaconess Hospital, where I work, has just finished a set of interfaces of problems, medications, allergies, and labs to Microsoft health vault so that a patient can log into our personal health record and upload to the Microsoft health vault—totally under that patient's control, the data from their lab—the various electronic health records of Beth Israel Deaconess. Now, why is this useful? Well, our personal health record at Beth Israel Deaconess is fabulous if all of your data are at Beth Israel Deaconess. But if there is data in labs and pharmacies, doctors offices, and multiple hospitals, it would be very nice if the patient could be the steward of their own data, gather the data from all of the various places where it lives, create a consolidated record that they can then use for decision support or with other third-party products or carry around with them from doctor to doctor, control their privacy (I don't want the doctor to see this or that, you know, the patient is very much in control of all of that). And so what's good is that Microsoft, in adopting the HITSP standards, has now created a mechanism for hospitals and other stakeholders to empower patients to get their data using one national format.

Google has created its Google health platform, and currently the Cleveland Clinic is their pilot site. Beth Israel Deaconess is a second pilot site to begin shortly and they're using a variation of the continuity of care record called CCRG, which isn't quite the national standard continuity of care document but Google has committed to use this national standard. So, Google and Microsoft can be helpful because, if they are embracing these national standards, there's going to be more motivation for hospitals and doctors who want to empower personal health records for their patients to embrace those national standards. So in a funny sort of way, it's like Metcalf's Law: the network becomes as useful as the number of people connected to it so the more vendors and more providers and data sources that use these national standards, the more utility everyone will get from the whole network. So, in that sense, Microsoft and Google are helping accelerate a national adoption of some of these standards.

Okay, great, thank you very much. Other questions? While maybe someone is thinking of another question for this presenter, I just want to point out that the list of registration information is posted on the screen now. If you haven't already done that, please take a look and feel free to register to receive announcements and information about future webaccess. Paul Donahill asks: What is the role of the IHE?

IHE, like our other standards development organizations, is an implementation guide writer. So we derive all of our standards from HL7, NCPDP, ASTM, X12, and implementation guide writers like IHE because they're doing quite a lot of foundational work that gives us a lot of detail that we can include in our operability specifications. We want to get to an unambiguous cookbook and if IHE has already done work in an area and our 500 members of HITSP feel that the work by consensus helps us get to where we need to be, then we certainly embrace their work products. HITSP itself is not a standards development organization. It does not try to create standards or write implementation guides; it would much rather leverage the work of others who already do that.

Great, thank you very much. We have a question from Susan McClarity. There are use statements used in HL7 and perhaps other standard organizations. How does one know where to submit his or her particular use case to the correct forum?

Well, sure, I mean, obviously HL7, NCPDP, X12 Oasis and other standards development organizations are going to continue working on standards where there are gaps even though the HITSP process will be under the AHIC guidance. There's clearly quite a lot of work that has to be done in the standards development organizations themselves. And so for family history and genomics, HITSP is going to want to look to HL7, for example, to find out what the working groups been doing in these two areas. We'll want to leverage their work because there's not been a mature family history or genomics standard widely used anywhere in the world at this point. So, my answer to this would be certainly working with your SDOs and contributing to their activity is very good and to the extent that you're involved with the office of the national coordinator or AHIC where there are these more global use cases and priority settings, those working groups at the national level tend to be where ultimately the big breakthroughs come.

Other questions?

To you specifically? Barbara?

Yes?

Barbara Mossoudi? Okay, this is Erin Grace from AHRQ and I don't see any other questions on the chat and I don't think that Barbara has some so I know everybody likes to have some extra time put back in their schedule. I would like to thank Dr. Halamka very much for sharing with us your extensive knowledge on standards, and we appreciate the information that you've provided and look forward to having you speak with us again.

I'd like to tell everybody while they're still on the phone that I have a blog about this activity everyday and it's not only standards (my blog on Thursdays is personal stuff such as how to climb mountains in New Hampshire!). If you go to geek doctor, geekdoctor.blogspot.com, you'll find that there are about 200 blog entries on everything from personal health records, standards harmonization,. You'll find my entire personal health record and my entire genome on the Web there.

Oh, you know, what, John, before we go, there was actually another question that was posted.

Yes.

Okay, this is more of a policy question than a technology question: H do you see bringing this technology idea to the hardest-to-reach places; for example, where would it have the most impact—in medically underserved areas which are also the most economically challenged?

Sure. I've done all of my medical work in county hospital settings and I've served the underserved. It's a real continuity of care problem with the underserved. One would hope is that you will be able to deliver a much better quality of care to those who are underserved and those in rural areas if there is sharing of data across all aspects of the patient's care. Whether that's through a personal health record or just the idea of that, as a patient comes to see me, I have a

comprehensive medication list that's derived from every claim, every pharmacy, every other doctor that the patient has ever seen. So often in the emergency department, it's very challenging for me to deliver good care in a vacuum of information and, in some ways, emergency physicians end up being some primary caregivers to those that are economically underserved so this would, I think really empower me to deliver the care they need by having the knowledge of their background of previous care.

Now, I also recognize that putting electronic health records or any kind of data exchange in a rural or economically challenged area is tough. I would hope that there would be appropriate incentives to do so, whether those are private insurers providing performance incentives or CMS providing pay for performance based on the results that are obtained from using electronic health records, family practitioners, primary caregivers. These guys are all struggling today and asking them to pay 40-60 thousand dollars to implement electronic health records on their own is really tough. So, I really hope we do get a lot of incentives for implementation and support and it probably does mean that CMS will want to really differentially reimburse for the use of electronic systems because that will ultimately, I think, once adopted, reduce the total cost of health care or at least control the rate of increase.

That's an excellent question, Andrew, and perhaps something that we may want to consider for a future technical assistance call. Thank you very much for that question. Thank you everybody, for your time today, oh sorry, somebody's trying to ask.

Yes, this is Barbara. I had some interference on my phone line and I apologize. Before I was speaking but evidently you guys couldn't hear me. There is another question that I've received privately.

Okay.

Why did the second President's executive order exclude Medicaid and why has the Office for the National Coordinator and AHIC not focused on ways to bring Medicaid and CMS into the larger health information technology and health information exchange environment, particularly since the MS funds up to 90% for Medicaid systems?

I don't actually know that there was any exclusion of Medicaid.

Yes, there was.

Okay. Yeah, so, unfortunately I have no knowledge of that particular area but one would hope that, given the Office for the National Coordinator has been trying to work quite hard and I work with John Lipscomb and Rob quite closely to incorporate all of the input from all stakeholders, that everyone in CMS would have an opportunity to participate. I will probably see John in another week and I can ask this question of him.

Great, and if you want to – John, get back to Barbara, if you have some interesting information on that and then, you know, we can post that on the website. But we can also get some background on that and potentially provide feedback to folks.

That would be great. I'm an extraordinarily transparent person and very easy to get to, and so if there are outstanding issues like this that I can drill down on, I live by e-mail, I have my Blackberry strapped to my body 21 hours a day.

Okay, Barbara, you want to close this out?

Yes. Thank you very much, Erin. I would like to first thank Dr. Halamka for a very interesting and informative presentation and for answering so many diverse questions. I would also like to thank all of our participants, and we look forward to providing more technical assistance webinars in the near future. Please stay tuned to our listserv and visit the Medicaid-SCHIP site at AHRQ.hhs.gov for more information, recommendations, or comments. Thank you very much and have a wonderful day.

Great! Well, thank you!