

# HIT Standards Committee Final Transcript September 19, 2012

## Presentation

### Operator

All lines are now bridged.

### MacKenzie Robertson – Office of the National Coordinator

Thank you. Good morning everyone. This is MacKenzie Robertson in the Office of the National Coordinator. This is the 40<sup>th</sup> meeting, believe it or not, of the HIT Standards Committee. This is a public meeting and there will be time for public comment on the agenda. We've actually built in two sessions for public comment, one before the lunch break and one at the end of the agenda. The meeting is also being transcribed, so please make sure to identify yourself when speaking into the microphone. I will now take roll call. Jonathan Perlin?

### Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America

Present.

### MacKenzie Robertson – Office of the National Coordinator

Thanks Jonathan. John Halamka?

### John Halamka, MD, MS – Harvard Medical School

Here.

### MacKenzie Robertson – Office of the National Coordinator

Thanks John. Dixie Baker?

### Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences

Here.

### MacKenzie Robertson – Office of the National Coordinator

Thanks Dixie. Anne Castro?

### Anne Castro – BlueCross BlueShield of South Carolina – Chief Design Architect

I'm here.

### MacKenzie Robertson – Office of the National Coordinator

Thanks Anne. Chris Chute?

### Christopher Chute, MD, Dr.PH – Mayo Foundation for Medical Education and Research

Present.

### MacKenzie Robertson – Office of the National Coordinator

Thanks Chris. Tim Cromwell? John Derr?

### John Derr – Golden Living, LLC

Here.

### MacKenzie Robertson – Office of the National Coordinator

Thanks John. Lorraine Doo?

**Lorraine Doo – Senior Advisor – Centers for Medicare & Medicaid Services**

Here, present.

**MacKenzie Robertson – Office of the National Coordinator**

Thanks Lorraine. Floyd Eisenberg?

**Floyd Eisenberg, MD, MPH, FACP – Independent Contractor**

Present.

**MacKenzie Robertson – Office of the National Coordinator**

Thanks Floyd. Jamie Ferguson?

**Jamie Ferguson - Kaiser Permanente – Executive Director HIT Strategy & Policy**

I'm here.

**MacKenzie Robertson – Office of the National Coordinator**

Thanks Jaime. Leslie Kelly Hall?

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

Here.

**MacKenzie Robertson – Office of the National Coordinator**

Thanks Leslie. Martin Harris? Stanley Huff?

**Stanley M. Huff, MD – Intermountain Healthcare**

Present.

**MacKenzie Robertson – Office of the National Coordinator**

Thanks Stanley. Kevin Hutchinson? Liz Johnson?

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

I'm here.

**MacKenzie Robertson – Office of the National Coordinator**

Thanks Liz. Rebecca Kush?

**Rebecca Kush – Founding President and CEO of the Clinical Data Interchange Standards Consortium**

Here.

**MacKenzie Robertson – Office of the National Coordinator**

Thanks Rebecca. Arien Malec?

**Arien Malec – RelayHealth Clinical Solutions**

Good morning.

**MacKenzie Robertson – Office of the National Coordinator**

Thanks Arien. David McCallie?

**David McCallie, Jr. – Cerner Corporation – Vice President of Medical Informatics**

Here.

**MacKenzie Robertson – Office of the National Coordinator**

Thanks David. Nancy Orvis? Marc Overhage?

**Marc Overhage – Siemens Healthcare**

Here.

**MacKenzie Robertson – Office of the National Coordinator**

Thanks Marc. Wes Rishel? Charles Romine? Cris Ross?

**Cris Ross – Chief Information Officer, Mayo Clinic**

Present.

**MacKenzie Robertson – Office of the National Coordinator**

Thanks Cris. Walter Suarez?

**Walter Suarez, MD, MPH – Kaiser Permanente**

I'm here.

**MacKenzie Robertson – Office of the National Coordinator**

Thanks Walter. Sharon Terry? And Jim Walker? Are there any other members on the phone that I may have missed? Okay, with that, I'll turn it over to Dr. Mostashari for some opening comments.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Thank you so much. Is this...MacKenzie, are we also approaching 40?

**MacKenzie Robertson – Office of the National Coordinator**

This is the 40th.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

This is the happy 40<sup>th</sup> birthday.

**MacKenzie Robertson – Office of the National Coordinator**

We are over the hill.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

We're middle aged.

**David McCallie, Jr. – Cerner Corporation – Vice President of Medical Informatics**

We don't feel a day over 25.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

It's been quite a journey in the past 3 years, it's been such a wonder to be part of this process and despite what the Wall Street Journal, should I go there? Despite what some may have read, there actually has been incredible progress, as we will hear today on the unified standards. And I think it's really important for people who have been part of the process, or who have been following the process, or are actually knowledgeable about what's happening on the standard setting side, to make sure that their voices too are heard and the knowledge is shared more broadly. Because even though these are obviously public meetings, as are every one of our workgroup meetings and the incredibly hard work that's being done, there is transparency. It's really still we are within a relatively small group of those who know, and those who follow with interest. And it is important to communicate, you can never communicate enough, but it is important to communicate more broadly, in terms of the progress that's been made. Some may see that as cheerleading, I don't think so, but I think it is actually remarkable, and also to give credit, I think, to the industry as well.

There I think is still a perception that is outdated at best, that vendors are resisting interoperability, that they see an advantage in proprietary approaches. And I just don't think that's true. If it was, it's certainly not true now and what I see is that they realize that their customers are now in a place where interoperability is a requirement, where if they want to survive, they have to be able to coordinate care. It's no longer okay if you're outpatient provider just does their thing billing and your hospital does their thing billing, right. Those pieces need to be connected to each other, they need to be evermore well integrated and we don't live in a world where every ever-widening group of providers who are needing to coordinate care with each other, are all going to be on the same systems. So, vendors, just like everybody else, just like the market is supposed to work, are saying, "Gosh, we need to be interoperable and we need to be able to show that we can actually talk to each other."

So, I think that we are setting the stage, the business drivers are there to a greater and greater degree, which is incredibly positive. And we've done our job, I think, in making sure that the best standards that we can possibly come up with through an open and inclusive process, are there and that we actually have means for assuring that level playing field. So, there's much to celebrate and maybe we should do a little bit more cheerleading, not less. Thank you.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Well thank you Dr. Mostashari and good morning everybody. It is great to see you here, hard to believe the 40<sup>th</sup> meeting, but indeed, and just that number gives some context, the amount of work that's been created. And the work that not only provides standards, but has really changed the environment, the ecosystem. John Halamka and I had the opportunity to join with Claudia Williams from ONC and others at a meeting up in Boston this past week, SMARt (Substitute Medical Applications, reusable technologies). In fact, the phrase that I opened my comments with was the ecosystem of possibility that now exists by virtue of standards. And there has been huge progress as Farzad mentioned, in terms of the capacity for interoperability and where that capacity doesn't exist. According to Clay Christensen, really one of the premier thinkers, the new technologies will actually take advantage of other's lack of providing the handles to create that interoperability and they will have the architectures that, in his projections, would dominate over the longer haul.

It's really interesting because when we think about what is possible now versus four years ago when we started this activity, and not to diminish any of the great work that proceeded, there was this organizing capacity that has created this ecosystem of possibility. We've had discussions about big data and the ability to bring very heterogeneous sorts of data together to uncover new understanding of basic science questions, the pathology of disease, natural history of disease, the effect of drugs. All of that are possibilities that didn't exist previously. Similarly, I believe John and I both reported and a number of members of the ONC team were at the learning health system collaboration that the Kanter Foundation sponsored. It really built a dialogue based on that ecosystem of possibility that I think, in addition to creating the standards, supporting the standards, supporting the policy intent. I think really there is an opportunity for us to help in our implementation guidance and in our conversations about what the work of the committee is, to really help people understand the practical applications of the standards and how that changes, has changed, and will change practice care, the experience not only for providers, but as I look at Leslie Kelly-Hall, really engages and offers the possibility to engage the patient in so many different ways. It suggests that we have work ahead to do. As an internist, patients with heart failure are one of the challenging categories of patients. What a shame when you learn that a patient is deteriorating by when they show up at the emergency department. Well because the standards that we've promulgated, the opportunity to track certain devices that allow remote monitoring of a patient's weight at home, really can change the dynamics; the patient doesn't present the emergency department in extremis, needing rescue therapy, but in fact can receive intervention because they or the equipment with which they are working makes that information available. Without identifying certain brands, I know there are a number of us in this room who wear devices on our body that calculate our activity. And I can't think of a better device that's increasingly ubiquitous to help support that relationship. I see a number of people demonstrating that device.

**John Halamka, MD, MS – Harvard Medical School**

And some have them implanted.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

So, however proximate the device is to your person, this really is the nexus. And so if you sense some passion, it really is an expression of, I know the passion that unites us. And at our 40<sup>th</sup> meeting, just sort of acknowledgment of the capabilities that your work has contributed to, along with the Policy Committee, along with really our leadership of the Office of the National Coordinator, and really the opportunity to tap into that ecosystem. I know for those of us who are in our various spaces as providers, our worlds are changing and I believe strongly for the better.

With that I will, in a moment, as John said, to walk through more technical aspects of today's agenda. But this is really a fascinating meeting because we're going to go through in some detail, Stage 2 of meaningful use, and appreciate Steve Posnack and Travis Broome being here to provide for the ONC and CMS perspectives respectively. But, before we get that, as always, MacKenzie and the ONC team have done yeoman's work in really capturing the nuances of our conversation. I would ask you to please look at your meeting summary, and if you feel comfortable that it's captured our discussion, I'll ask for your agreement, your consensus. What we will in effect do with that, is that the workgroup responses to the Policy Committee's activity have been added to the minutes and would be then recorded as part of the record. So, any amendments, amplifications or corrections to the minutes?

**John Halamka, MD, MS – Harvard Medical School**

Just so everyone around the room understands the process, there were a couple of phone calls, we had quality workgroup, we had the vocabulary task force, clinical operations folks, all come together and go through exhaustively line by line by line of every one of those Policy Committee Workgroup questions and respond, not with definitive guidance, but just this is state-of-the-art, this is what we believe exists today in the standards world, what might exist in a year, what might exist in two years. And tomorrow, from 2:00 to 4:00, I'll be presenting the summary that everyone around this table who participated and prepared, to the Meaningful Use Workgroup of the Policy Committee. So, there's really nothing to debate in there, because it isn't specifically saying, we're going to go with this standard or that standard, we're just saying, "Oh, well here is what's in HL7 ballot this week." It's more of a statement of fact.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

That is very helpful John, I appreciate that. Comments, clarifications? Hearing none, we will proceed apace and assume consensus on that. A couple of things. I want to take a moment to recognize and thank in absentia this morning, Mary Jo for her great service to this committee as the acting program lead. Formally and again, I'll welcome MacKenzie Robertson, transitioning into the program lead role. I don't know Farzad, if you want to...

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

No, no, please go.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

MacKenzie follows in a great tradition of terrific organization and will keep us all in sync, and is really working with Farzad and the entire ONC team to make sure our activities are synced up even more effectively with the policy committee and the day-to-day functioning of workgroups, etcetera is smooth, coordinated, anticipates needs. So many thanks. There are so many people Farzad, in your shop that just do terrific work and please know we appreciate how much they help us do our work. MacKenzie also brings a passion for the principles of the Federal advisory approach to government activity. As you recall, this committee is chartered as a Federal Advisory Committee, specifically to assure that deliberations such as these are public, transparent and to the extent practical and possible, engage public dialogue.

Toward that end, you do note a change in this agenda, and that is, that we will have two periods for public comment, and we encourage and welcome public comment. Really do appreciate those people who sometimes offer comments, but more frequently, really are here and serve to communicate to constituencies, individuals who have interest and are passionate about the deliberations and the effects and the way to improve that ecosystem. Not only of information, but of improved health and care. And so

many thanks to all of the public participants, please do take advantage of expanded public comment period.

Towards that end, our schedule is a little bit tighter in some ways around lunch and I know that some people find it easy enough to go outside and grab something. Sometimes that's not the timeliest option. You will note, at your place, is a menu from the hotel. Recognize that the choices are somewhat constrained and perhaps somewhat expensive for some of the things, but, if there is something on there that appeals to you, MacKenzie will get all to Bridgette, all of the forms and if you'd attach your payment for that. I know not everyone may have exact change and they'll try to sort that out as best they can, but, I think MacKenzie 10:30 is the cutoff for that or we want to try to get them in by...

**MacKenzie Robertson – Office of the National Coordinator**

Ten-thirty.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Great. Because you know, depending on the amount of public comment, which I hope is robust, may have a little bit less time at lunch. With that, let me turn to Dr. Halamka for introductory remarks, and again, thanks to all.

**John Halamka, MD, MS – Harvard Medical School**

Certainly. Well again, time to celebrate, it's the 40<sup>th</sup> anniversary, great opportunity for us to have a description from Dr. Posnack and Travis Broome about the final rules. And why is Steve Posnack's presentation today so timely? Well, remember we've met 40 times and before we met 40 times, oh HITSP met 100 times and the reason that this article in the Wall Street Journal frustrates all of those around the room who read it is this paragraph. "Instead of demanding unified standards, the government has largely left it to the vendors who decline to cooperate, ensuring years of non-communication and non-coordination." So I just want to make sure that the last 40 times you were in this room making standards, was actually a figment of your imagination. It was...and so Jon Perlin and I will be writing a letter to the editor in response. Yesterday, I actually called both authors and they have both agreed to meet with me next week, and we are going to go through Stage 2 rule, content, vocabulary and transport standards and I will ask them exactly how did you write such a conclusion based on 474 pages of final rule, which delineates every interoperable standard you could possibly want. And I will let you know how it goes.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Hey John, after you do that, maybe they should write the letter to the editor.

**John Halamka, MD, MS – Harvard Medical School**

And one is a Harvard professor, you'd think they'd be credible. I know, but, he's one of these ScD guys, not an MD, so...anyway. So, what today's meeting is really all about is getting the deep dive into the work that the folks at ONC and CMS have done, so we all can go out and evangelize as to how good really it is. And, as many of use worked on the Stage 3 aspirational meaningful use workgroup questions, you recognize, as you said, the work isn't done. So by no means do we declare every standard for every purpose as complete, but we have together laid such a wonderful foundation that I think you will find the descriptions we'll hear today take us so far from where we were five years ago. We now have, I hope, in the certification process, a true requirement to demonstrate vendor neutral interoperability systems that are going to have to either speak to the CMS test system or demonstrate vendor to different vendor interactions. This isn't one test, this isn't e-mailing a CCD to your buddy. This is truly your EHR inoperably sending data to another EHR.

Next month, Massachusetts goes live with its Staged Health Care Information Exchange, connecting about 5000 providers, and it is all based on the Stage 2 standards. So, we are transporting via direct, we're using consolidated CDA, we're using the vocabularies and code sets that so many people here have worked hard to bring to the NLM, and the nation's secure rated vocabulary and code set repository. This is doable. I mean it's not costing a vast amount. It is going to, I hope, create as you put it, an ecosystem by which innovative companies will now be able to create third-party products, especially

those that are patient and family engaging, that are going to use the new day liquidity to take us to yet another stage of quality, safety and efficiency. So everything that we're all so excited about, we're going to hear that deep dive briefing on for the first part of the meeting.

And then in the last part of the meeting, the most important thing is to take the certification criteria and then turn them into test scripts that are executable and are a fair assessment of their true functionality and usability of the application. I wrote several blogs when Stage 1 had some certification criteria, not authored by anybody in this room that clearly could have been better, should they be tested in real-world environments. Like writing for medications that hadn't actually been legal to write for from an FDA ban 15 years ago seemed like kind of a strange certification criteria. And so what we'll hear from the Implementation Workgroup is their dive into what criteria we would use to test and evaluate the functionality of these systems.

And I volunteered, if you want Beth Israel Deaconess to be a pilot, we're more than happy to work with you, or any of the certification entities, because we have that self-certified challenge of we build, we buy, its modular, it's all the sort of the things that will test your criteria reasonably well. Because if we find things that are nonsensical or challenging or really don't get to the point of its criteria, we'd like to identify that quite early. And we will hear, of course, about some of the policy activities at ONC and the S&I framework update. So, look forward to the meeting. Again, I think after today's meeting, we will all go forward and evangelize, because we will have a full understanding of everything the regulations contain.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Thanks John. And Farzad, I think you had a comment on engaging public dialogue.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Yes. We do actually have, some of us here monitor the...the Twitter stream as it's happening, as a way to...nods, I see some of the people in the room saying, what? Focus on the meeting, folks. But no, there is actually an opportunity to provide another flavor of dialogue and commentary, running commentary, for those on the phones, which is through the hashtag that was sent out, which is #HITStandards. So if folks on the outside, want to provide a running commentary and people could follow along what others think as the conversation's happening, as Travis takes the stage, wild hashtagging of his fans, that is by all means encouraged and who knows, maybe some of the folks on the committee will also take a look at a provocative comment or question and bring it into the dialogue as well. So #HITStandards, one word.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Thank you Farzad. And let us begin then. I know as we move to briefing on Meaningful Use Stage 2 final rules from Travis Broome from CMS and from Steve Posnack, we can expect the TPS, tweets per second, to escalate substantially. So gentlemen.

**Travis Broome, MPH, MBA – Centers for Medicare and Medicaid Services**

So while they're switching the slides, thanks for having me. And thanks to all of my Baltimore colleagues who decided to take like vacation all at the same time, which allowed me to come here from Dallas and be with you, gave me an excuse. You mentioned Twitter, Farzad, I loved that because trying to explain to my friends and family what I do, I just don't normally try, but when the Stage 2 rule came out, Meaningful Use was trending for several hours as the number one hashtag on Twitter, and they all understood that. All right, so I've given this for those of you who have been following the webinar CMS has been giving many, many of these over time and first I was like, how am I going to do an hour. Now I've gotten it down to about 45 minutes and this is my first attempt at half an hour, so we'll see how it goes.

So in the rule, we basically...we lazily refer to it as the Stage 2 rule, obviously it is much more than that. It is certainly the Stage 2 of Meaningful Use; however, we do have changes to Stage 1, new clinical quality measurements, payment adjustments and hardships, some slight Medicare advantage program changes and Medicaid program changes. Today, I'm really going to focus on Stage 2 and the clinical quality measure reporting mechanism. We'll go over the payment adjustments briefly, I've gotten that part down to about 5 minutes, so we should be good there. I know all of you have seen this arrow slide before, I did

want to present it real quick, just to kind of give you an idea of when we...when CMS and we go to talk at ACP or we go to talk at State HIMS or we go to talk wherever basically they'll have us, how we present it to the public.

Basically the Stage 1 is our foundational element, where we are now, all that data storage. Now we're actually in Stage 2, hence the big red circle. And we used to just say, it's the processes that use the data, now we can say we're focused on clinical decision support, care coordination, patient engagement and public health reporting. And then the Stage 3, which is kind of our future and the improved outcomes. I typically when I get to this stage, I always tell people, did we find out the processes we designed to use the data work? Did it matter? Did it improve outcomes? Certainly, it's going to be our hardest stage to design, because the outcomes really need to be tightly linked to use or the number one question will be, how does that outcome relate to my EHR? In addition, certainly you all are aware there are still some functionalities and capabilities that are advocated, that haven't quite made it into meaningful use yet. So balancing those things as we move forward to Stage 3 will certainly be important.

So this is kind of the meaningful use path. What I tell people that by far the most important thing on this slide is that the meaningful use path is personal to the physician, personal to the other eligible professional, personal to the hospital. It's not government dictated, it's not year dictated. You start when you start. Whether it's in 2017 or back in 2011, you always get two years of each stage and the other important thing to remember, that you really can't tell from the slide, is that once you start your ball rolling, it continues to roll. So if you first attest to meaningful use Stage 1 in 2014, for some reason you aren't able to attest in 2015, you are still looking at doing Stage 2 come 2016. So you decide when the ball starts rolling, but once it starts, it's off and running. Same thing for hospitals. Our Medicaid EPs, it's pretty much the same thing with them, with the exception of they get that adopt, implement and upgrade gift from Congress, and therefore, they can take as much time as they want from adopt, implement and upgrade to when they start meaningful use.

All right, changes to the menu. Obviously we kept the total number of objectives the same. The shift that you all are aware of from the menu to the core is probably the most pronounced thing here on this slide. So the next three slides really don't talk about the specifics but overall policies of meaningful use that we addressed in the rule, again kind of it was more than the Stage 2 rule part. No changes to how we treat outpatient encounters for our physicians and other eligible professionals who work in multiple locations. For whatever reason, this has become a very hot topic in the last couple of weeks and lots of people are asking about this one; it's 50%, this is an eligibility criteria. The way to think about this is that you're eligible and then once you pass this threshold, then your meaningful use universe is just those locations equipped with certified EHR technology. If you don't cross the threshold, then you're not eligible, so we don't need to talk about meaningful use.

Measure compliance always equaling objective compliance. We did keep the denominator split for our simple denominators, all encounters and for those more complicated ones, for patients whose records are proposed and CEHRT, we proposed to get rid of this, basically by saying we didn't think it mattered anymore, that by the time you got to Stage 2, all your records would be in the EHR anyway. The public rightly pointed out that if we were right, then there was no harm in keeping it, if we were wrong then we needed...then it was good to have it. So that was pretty good logic, and so we kept that as it was.

The change was our menu objectives, the way we treat exclusions. In 2011, 2012, and 2013, if you are in Stage 1, you have to do 5 out of 10. To meet the exclusion from one of those 10, in 2011, 2012, and 2013, then you're looking...that could count as one of your five, so you're potentially looking for the rest of it doing 4 out of 9. Starting in 2015, that exclusion will no longer count towards one of the 5. So in 2014, if you meet the exclusions for one of your 10 menu objectives, you're looking at 5 out of 9. If you meet two, 5 out of 8 and so on and so forth. It is technically possible, although looking at the exclusions, you would be hard pressed...we haven't actually found anybody who has a scope of practice this strange that they could do it, but it is possible to technically have 4 criteria from the menu that you meet and meeting 6 exclusions from the rest of them.

The bullet...I really won't steal Steve's thunder by any means, but bullet one leads to bullet two. So because everyone needs to upgrade in 2014, there were a lot of timing concerns about what to do in 2014. We shortened the reporting periods to three months during reporting period in 2014. We went with the three months instead of the any 90 days, because as we'll talk about in CQMs, we're trying to do some alignment. And if you have an any 90-day reporting period, and you're looking for someone else who uses that reporting period, you probably won't find them. We haven't found anyone. So it's tough to align when you're the only guy doing it on the block, so we kind of got on the bandwagon and put quarters like everyone else, for alignment purposes. But it does give you more time and then it also phases out that rollout for the industry, rather than all docs having to be up on January 1 and all hospitals on October 1, now there are four separate dates for everyone.

The other overall policy is batch reporting. This is still individual level performance, so what Dr. Smith did, not what Group Practice, Inc. did. But we will allow for groups of any size, one or more, 200, 250, 500 to put all of their individual performance on one file and upload it to our system, as opposed to walking through the online portal 200 times or 20 times or whatever it happens to be. This will be available at least by 2014 and we'll essentially make it available as fast as we can build it.

All right, so that's going to bring me to Stage 2. I certainly won't read these slides to you, they're in your packet. Most of Stage 2, as you all are aware, is a very logical progression from Stage 1. So we expanded the number of orders from CPOE, we went from 50% to 80%. We moved the menu items to core items, all those kind of expected things and then kind of focused on a few things that didn't make the slides that I think are important and then we have separate slides to talk about the two big pushes in care coordination and patient engagement. So CPOE, what you don't see on the slide there is we did expand the who can do CPOE. It used to be licensed healthcare professionals only, now it will include certified medical assistants as well, primarily because this is to help out the physicians who might operate without any licensed healthcare professional in their office except them. We heard from a lot of physicians who basically operate with them and certified MA's, so that's why we did expand the who slightly to include those folks.

E-Prescribing. The two things we did there, we did add an exclusion for providers who don't have a pharmacy within 10 miles that accepts electronic prescriptions. This is extremely rare. We're trying to keep a list of states, where this is possible. That this does currently Montana, North Dakota and Alaska, and that's it. It is kind of an open challenge, we want to expand the list, we want to know wherever this is possible, but those are the only places we've found so far. The other thing we did for e-Prescribing is that if you want to include controlled substances, you can include controlled substances but you do not...in your denominator and therefore in your numerator, but you do not have to.

Demographics, nothing real new to talk about there. Vital signs. The things you cannot see on the slide, we did split the exclusion, tons of feedback from the physician that I want to collect height and weight, or I do collect height and weight, but I don't do blood pressure. Much less common, but still occasionally heard. I do blood pressure but I don't want to do height and weight. So we do allow the exclusion to be split now, so if you don't do blood pressure, you can report a new variance numerator and denominator of height and weight, and vice versa. It will be interesting to see how many blood pressures without height and weights we get, but that is now possible. The other thing we did with vital signs is basically I call it fixing the age limitation. So we changed the blood pressure to the clinical recommendation of three, and then we got rid of the height and weight age limitation, because frankly it never made sense.

Then smoking status. The real change there was on Steve's side with the standards, that you all are aware of. Clinical decision support interventions. What you don't see on the slide is we ask that at least four of those be linked to quality clinical measures. You can link multiple ones to one measure, you can link one to multiple measures all that's fine, but we ask that those be linked. If you have a scope of practice that you feel like you can't do four clinical decision support interventions linked to CQMs, then we do allow you to focus on high-priority clinical priorities, which basically you define. And then we encourage the fifth want to be based on efficiency. Again, all of these aspects are encouragement, they aren't part of the measure.

Lab results, really nothing new that you don't see on the slide there. Same thing with patient list, same with preventative reminders. One of the things we do say with preventative reminders when we're talking to folks who are learning about the program is the first part is the important part, to use EHR to identify the candidate and driving home the point that they do not have to use the education resource that is in their EHR. I am going to do patient access and care coordination separately, as I mentioned, so I'll skip that. Visit summary. Not much new there, we did shorten the time period a little bit. Obviously it went to core. We do have a list of items in the rule. One of the things we hear a lot is that we did not intend for this list to dictate the design of the office of clinical summaries. Please, please, for vendors and others who are designing these things, providers, do not consider the order that the items are listed in the rule, because that would be silly because we didn't consider the order that they were listed in the rule. There was no serious thought put into the order in the rule, we concentrated on what was in the list of what was not. So certainly, the design is open to all; if you want to put the information that was updated on the first page and then the stuff that wasn't updated on the visit on the back, by all means. And certainly we'll be talking about that one more in the future.

The immunizations. I want to use immunizations as kind of like what changed in public health example for all of the public health rules, and that's the move to successful ongoing transmission. We list that being a reg that has to deal with the real world. Successful ongoing transmission, of course, means two different things. It means the obvious, a provider gives immunization, immunization is electronically transmitted using HL7 2.5, to the public health agency. It also can mean, and we also give credit for meeting the measure for providers who are actively engaged in the on-boarding process with their public health agency. And then the exclusion still applies, so if you give adult immunizations and your public health agency only wants child immunizations, you meet in exclusion. If you don't give immunizations at all, you meet an exclusion. If your public health agency doesn't accept the standard. If they accept the standard but they have a two-year waiting list to onboard people, then you get the exclusion until your time on the waiting list comes up.

Security analysis. Really the most important thing that we always drive home with our privacy and security rules of meaningful use is, meaningful use creates zero, zilch, no privacy and security new requirements. We adopt the ones that were adopted, that are in the HIPAA Privacy and Security Rules and other federal regulations. All we ask is that we know that we're incentivizing you to put something into your world, namely certified EHR technology that has privacy and security implementations. So did you update your risk management process from when you acquired the HER, implemented the HER as kind of the first possible time to the last possible time of your end of your EHR reporting period. If the focus or an area was addressable under the privacy and security rules and not required to be fixed under the privacy and security rules, it is not required to be fixed by meaningful use. As again, we did not create new requirements.

So that brings us to the menu. Obviously, you'll see a lot more new things in the menu, imaging results, the accessible through is really the point we drive home there. It is not a requirement that every image become native to every EHR, but rather it can be accessible through. Family health history is an excellent example of what we mean by measure compliance always equals objective compliance. Read that as it's there on the slide and one would instantly think to meet the measure, you have to have a full family health history in your EHR, but the measure is simpler than that. It is simply one structure data element for one first-degree relative. Syndromic surveillance did stay in the menu, primarily because so few public health agencies even ask for this information from physicians and other eligible professionals. The things to remember about cancer and specialized registry are the purpose of these objectives is to give credit where credit is due. In other words, if you are successfully doing this, choose them, we want to give you meaningful use credit for it. The exclusions for it, obviously if you don't diagnose and treat cancer, you're going to meet an exclusion for number four.

Our specialized registry, we limit the registries that you consider for this objective to those that are sponsored by national medical societies or public health agencies. So you don't have to troll every registry that's available to everyone to determine whether you meet the exclusion for specialized registry.

And then finally, we did add progress notes. CMS kind of resisted adding progress notes for a while, considering public comment of which there were thousands, were nearly universal in saying it needed to be in there, then we said, okay, we'll capitulate to that and put it in there.

So I'm certainly not going to repeat everything for hospitals, I'm just going to highlight the differences, of which there are only a few. On the first page, electronic medication administration record. One of the things that's not on the slide that we always remind people when we talk about it, especially to those who are trying to learn about it, is that electronic medication administration record is really a process. For certification, you add in the assistive technology, and that's really where we're talking about using technology for it. That begs the question of, well what's an assistive technology. and then we point over to the certification role. And I'm happy to say, everyone who I've pointed to the certification rule for a definition of assistive technology, has not come back to me, so presumably it is a good description of it in that rule.

So here, the only thing to note that's different is, note that all of the public health measures from Stage 1 did move to core for hospitals. Progress notes, we talked about. We did add electronic prescribing for discharge medications that was finalized. Imaging results, we talked about. Family health history, we talked about. Advanced directives. It stayed in the menu for the same reason that it really was in the menu for Stage 1. There are still some lingering states out there where there are concerns about whether the advanced directive is actionable, legally actionable if it's in electronic. And then that raises the big policy question of, well if it's not actionable, do we want it in the EHR for an emergent situation or not. Our policy in Stage 1 was to leave that decision to the hospitals, and we continue that decision for Stage 2. And then finally, this is one of these that we discussed, but did not propose, but we did finalize, and that's the labs to ambulatory providers, structured electronic lab results to ambulatory providers. More than 20% the denominator for that is electronic lab orders received. So basically, your denominator is those for which you at least have a one-way interface. And then 20% of the time, you need to make that interface two ways and have the results be structured where possible. If you're curious about which ones are where possible, again, I'd point you over to the standards.

So these are the two, see how I'm doing on time; pretty good. So these are the two we really kind of pushed on and really moved forward, patient engagement and care coordination. So both of these, you'll see a tiered structure in both of these. You can't really see it on these slide, you'll see it more on the next one. But we took what was the Stage 1 menu objective or the Stage 1, and made the logical progression first. So for this one, it is 50% of their patients...of your patients, have the ability to view online, download and transmit their health information. So since they have the capability, the information is there, waiting for them. That is, you know what I would say is the logical progression, whether you do it through a relationship with a personal health record vendor, whether you do it through your own portal, whether you do it through some other means, that's all driven by certification things, but it needs to be up there online 50% the time.

And then we really kind of moved on...all right, so that's kind of what I call patient accessibility, so that's like accessibility, it's not really kind of engagement. So what would engagement look like? And the second measure is really where we say, engagement comes in. And that is the provider using their position and working with their patient, influencing their patients or their caregivers or other authorized representatives, to actually access that information. So that...so there were really two camps right, so there was the camp who just completely disagreed that there should be any measurement. On principle, providers shouldn't be held responsible for this action. Obviously, we were maintaining the principle, as you can see, there's a threshold there. Then there was the other concern of, well, my patient population is more difficult than someone else's, so how do you set the threshold? And this is a real serious concern.

I use the example a lot of times and I will for both of these of my own situation. I have a 20-month-old, he has a pediatrician, he's got a place...I don't live in this town, but his pediatrician is in Southlake, where if you go on the Census Bureau, the number one occupation is top executive. I'm sure everybody has got four of these in the house and three laptops, 5% is a joke, he makes it available and everybody eats it up, you know, 20%, 30%, who knows what would be hard for him? So do we focus on those folks and then

come up with all these exceptions and these differences for everyone else or instead do we focus on those who have difficult populations and set the threshold there, under the assumption of, those for whom it's easy, just making them do it will do it. And for simplicity sake, we obviously went with the latter, as you can see there on the 5%. We basically went with the lowest threshold we could that maintained the principle, just because it would have been an absolute nightmare, as you can imagine, if you start to think about it for more than 30 seconds, to try and come up with all of the variations of patient populations that would come up. So we maintained the principle, but with a very low threshold. Even with the low threshold, we do have an exclusion for those providers who are in counties with less than 50% of households having broadband availability. That information is available from the FCC through their website, broadband.gov, you just log on, stick in your county and it will give you a little report, one of those metrics on that report will tell you.

All right, so care coordination. So, I'm going to stick with my example before. The first measure again is just the logical one, so this is the movement from menu to core of the 50%. And this is the any way. So, my 20-month-old, he went to the pediatrician not too long ago, had the magic number of ear infections that earned him an ear, nose and throat doctor referral. And when the pediatrician decided to make that referral, he printed out a summary of care document, handed it to me and said, give this to the ENT. That meets the 50%. It does not meet the next step, and that is, the 10%. So this is 10% of transition of care and referrals sent electronically using the standards of certification, and a certified EHR technology. So it's not just sent electronically, that's probably been a confusion point early on, it's electronically using the standard. So everyone will have direct, some of them will have SOAP, right, yeah, so you have at least one or two options there. So back to my situation, if instead of printing it out, if he pushed it out to the ENT and he had...using direct say, then that would count as part of the 10%. If he participated in a health information exchange that uses the standard and the ENT pulled it down, and he could see that they pulled it down, that would also count as the 10%.

Then there's the third measure, and this is really kind of the vendor boundary concern. The way I kind of pitch this a lot of times is when things are getting certified and you have the latest and greatest version, and the chief programmer from the vendor working directly with ACB, yeah, all these things tend to work out pretty great. When it actually gets implemented out in practices across the country, some of those aspects might get a little lost, so this is to ensure that the actual implementation still has the capability. We expect most people will do the first one. So, back to my example, that one thing that met 10%, if the pediatrician knows that the ENT doctor uses a vendor Y and he knows that he uses vendor X, that one meets the third measure. If it gets more complicated for him than that, he feels like everybody he knows uses his same vendor, or he has no earthly idea what anybody he works with uses the same vendor, then there is the other option and that's to successfully test with the CMS attest EHR. No, it is not available today, it will certainly be available in time for 2014, when people actually have to do all this stuff.

All right, so that was Stage 2. So now I'm going to talk about clinical quality measurements. I am not an expert on the measures themselves, so I'm really going to focus on the reporting of them. And the most important thing to remember about reporting in 2013 is that there is nothing to remember, it remains the same. That first bullet, will remain the same through 2013. the rest of the bullets on this somewhat crowded slide basically just prove that by restating the current way it's done. Specifications. Again, won't be updated in 2013, they remain the same. There are FAQs out there about what happens if my specification is already updated? Can I still report? Yes, but the process for what's required stays the same in 2013.

So how we selected the measures, basically, there were three primary criteria that are discussed in the rule for how measures were selected. The first was trying to cover the scope of all of the eligible professionals and hospitals that are covered. So can we actually create a set that at least a couple of them or one of them at least, speaks to all of those...that wide diverse group that's eligible for the incentive. A second piece was alignment with the national quality strategy and to that end, when providers select their CQMs, they need to select three of the six national quality strategy domain. This is not something anybody has to figure out, there is a table in the rule and there will be tables in the educational materials that say, measure A goes with domain patient safety, measure B goes with care

coronation. So, you don't have to figure this out, we tell you which goes with which. Some of them do go with multiple ones. And then the third one was alignment. And I'll talk more about alignment and how that works in practicality in a second.

So this is what you're actually changing from. So for EPs, they're going to go to 9 out of 64. Again, like I mentioned, 3 out of the 6 domains. We do have recommended core CQMs for adult and pediatric populations, these are recommendations, so, if they apply to your scope of practice, we really want you to report on these 9, if they don't, they don't; it is just the recommendation. Hospitals, 16 out of 29 from 15 out of 15, selecting at least 3 out of 6. We did adopt the extremely low denominator allowances that are available in the inpatient quality reporting system, have been adopted for this program as well, our first example of a limit.

So this slide is a little tough to read through, but this is definitely one of those ones bookmark, print out, whatever you do to keep things as reference, this would be the one to do it. This is basically how...all of the reporting options that are available. For EPs in their first year, because they have that 90 days, no one else uses, they're going to continue to do attestation. Starting in 2014, everyone past their first year will do electronic submission in one of the last four ways there on the screen. Option one, I kind of call it the EHR incentive program only option, you can see there it is aggregate information, all payer, electronically submitted. Option two, patient level. Medicare only, electronic, submit it using certified EHR technology. So that's important to note, when you do the PQRS EHR reporting option, you have to be using certified EHR technology. But assuming you use certified EHR technology and you go through the PQRS EHR reporting option, you'll get credit for both programs.

Group reporting. There are two group reporting multiple credit options if you will. One is the Medicare shared savings program of pioneer ACOs. Again, must use certified EHR technology, but assuming you do that, and you participate in that reporting, you'll get credit for both that program and EHR. Same thing with the PQRS group reporting options using cert. So this is kind of the baby step, if you will, towards the alignment day when this slide just has option...doesn't have options, just has the one thing that works. Hospitals, it's a little simpler. They just have the two options. Obviously, there aren't groups of hospitals that report, so you don't have group reporting option.

Timelines. I kind of already mentioned these, but these slides just give you the reference. Obviously are 90 days, folks they'll do their attestation immediately following. The folks that are doing the full year, the electronic submission window is basically going to be open from October to November for hospitals, January to February of each year for eligible professionals for Medicare. I'm sorry, I should have said that at the beginning, right. So this is all for Medicare folks or Medicaid folks in our dually eligible hospitals. Our Medicaid folks will report to the states, electronically, but to the states. For our special year in 2014, again, you can pick any quarter, but the submission window is the same.

Payment adjustments and hardship exceptions. The nice thing about this is that there are really five questions that anybody has got to worry about and Congress answered three of them for us. So, there kind of, Who's affected? How much are they? When do the kick in? What do I need to do to avoid them? And are there any exceptions? Like I said, Congress has got to answer the first three for us. So the HITECH Act stipulates the who, and that is a Medicare eligible professional, subsection D or CAH. So if you're eligible for the incentive, you're potentially...you are subject to the payment adjustments, unless you avoid them. If you're not eligible for the incentive, you are not subject to the payment adjustments. We had a lot of questions about this from the eligible professionals side, people who may be eligible for the incentives, but don't feel like they're eligible for the incentives. So, I only have an extremely small amount of Medicare billing, so I don't really consider myself eligible. Well, you're technically eligible. But, the good news is your payment adjustment would also be very, very small because it's based on those very, very small number of billings. Or if you have an eligible professional who is in a strange billing situation because they work with a critical access hospital or an FQHC and they don't bill the part B physician fee schedule, well yes, they're eligible, but it would be an incentive of zero. So what happens when the payment adjustment comes on? Well the payment adjustments are based on the part B physician fee schedule, too, so you would have a payment adjustment of zero. So, everyone

who is eligible is subject, but if you add that strange situation, keep in mind that it is the same fee schedule for the incentive as for the payment adjustment.

How much is it? One percent in the part B physician fee schedule is the lowest, potentially rising to 5%. If you go to our website, which is on a last slide, you can see actual charts that walk you through all the years. Subsection D hospitals, they get an annual update, you could lose a quarter of it in 2014 rising to three quarters of it. Critical access hospitals, they get reimbursed 101% of reasonable cost. They could potentially lose that 1% over time. And they do start in 2014 with an annual determination. So you have attest to meaningful use each year and it is an annual determination for both the payment adjustments, just like it is for the incentive.

So this is the what you need to do and when you need to do it by. The most important thing to remember about what you need to do is that it is the same definition of meaningful use, the same timeline. There isn't an incentive program definition of meaningful use or payment adjustment definition of meaningful use. One definition, whether you're talking incentives or payment adjustments, one-stage progression, same everything. When you need to do it? For eligible professionals, it is a prospective determination. The reason for that is two words, claims reprocessing. If you think about it, basically the way it would work is, if I submit a \$100 claim to the part B physician fee schedule, and you are one, and I'm subject to a 1% payment adjustment, I would pay you \$99. If I don't know whether I should pay you \$99 or \$100, I have to guess. And if that guess is wrong, then I have got to reprocess the claim, and then I've got to kick the money...then you've got to update your accounting systems, possibly you have to resubmit the claim.

You know, it gets really messy really fast, and just as important, real expensive for everyone real fast when we're talking about a 1%, 2% or 3% payment adjustment. So we did go for the prospective determination. We tried to be as generous as we could with that. For those folks who are onboard already, you'll basically do a two-year rolling thing, so 2013 equals 15, 2014 - 16, 2015 -17, etcetera, etcetera, etcetera. If 2012 is your first year, you do the same thing, but you get the 90 days.

So this is the drop-dead date. So there has to be a last date, there has to be a deadline, you've got to cut it off somewhere. That date is October 1, 2014, which means they have to begin their EHR reporting period no later than July 1<sup>st</sup>. I always tell people when I present this, do not do this, no one do this, please, please, please no one ever do this. Because if there is something strange that goes wrong on October 1, it's the deadline. So do it a month ahead of time, do it two months ahead of time, so that if something funky comes up, you don't get hit with a payment adjustment for something that if you just had a few more days or a few more weeks, was avoidable. But there is a last day, and that is the date. If you notice, usually procrastination doesn't get rewarded, there is a slight reward in here for procrastination. When you do do it in 2014, you cover 2015 and 2016 and then you get on the same two-year rolling thing as everyone else.

Subsection D Hospitals, this will look very familiar, so I certainly won't walk through it again. The same two-year situation, just on fiscal year. And then their dates again, just on fiscal year moved up to July from October, July to April. Again, please, please don't do this. Critical access hospitals. You heard me mention that the whole reason we are doing prospective determination is claims reprocessing, critical access hospitals don't have that problem. They do reasonable cost reimbursements, so we are able to base their payment adjustments on the EHR reporting period in the year itself, so they get 2015 2015, 2016 2015, etcetera, etcetera.

Finally, I close on the hardship exemptions. So this is the fifth question. The three on the right are kind of the classics, if you will, so you know, Internet access, they're all applications, so if you are in an area and you don't have sufficient Internet access to be a meaningful EHR user, you can apply for an exception. We're fully aware that just because you can send an e-mail doesn't mean you have sufficient Internet access to be a EHR user. It is an application process. New EPs, since we're doing a prospective determination, we have to give new guys a chance. Unsurprisingly, since we're doing a two-year prospective determination, that grace period is two years. And then our unforeseen circumstances. So this is...we have several examples in the rule, they're not all encompassing but they're the obvious, you know, hurricane Isaac flooded out my facility; my EHR vendor went out of business; I went bankrupt. I

had somebody ask a question earlier, it's not on the example list in our rule, but it would certainly be something I would encourage you to apply for, the physician was diagnosed with cancer and stopped practicing for a long time to deal with that. So these are the uncontrollable, unforeseen circumstances that are going to be unique to your situation, apply for them, and we will consider those applications.

The two on the right are meaningful use driven as opposed to externally driven. EPs who do not have face-to-face and telemedicine interaction and don't have traditional follow-up need for patients, they can meet meaningful use, they have met meaningful use. Pretty much almost every specialty code we have has met...we have at least one meaningful user from them. The ones that are an exception, there are like 30 of them in the whole country. So it is possible, however, it is undoubtedly harder to meet meaningful use when you're reliant on others to provide you information and you don't have that fallback of getting that information directly from the patient. So we looked at, given the current state of health information exchange, we said that that difference, that differential, does rise to the statutory level of significant hardship. As HIE improves, hopefully because it's driven by our requirements we talked about earlier in Stage 2 meaningful use, we certainly will reevaluate whether that differential continues to be a significant hardship. But certainly for now and for the current rulemaking cycle, it does.

The other is one is for EPs who practice at multiple locations and might not have control of the CEHRT. So in meaningful use itself, if you have certified EHR at more than 50% of your locations, we've already taken care of you, we let you make you eligible for the incentive and therefore, you're part of the payment adjustment. If you are less than 50%, you're not eligible for the incentive and then we have a payment adjustment problem. There are two things that are important to remember here, multiple locations only and lack of control. So we expect most of these folks will be folks who work in facilities that aren't part of the incentive program. Surgeons working in ambulatory surgery centers, internal medicine who work in the nursing home all the time, nephrologists working in ESRD facilities. And many times they do not have control over whether EHR is at those facilities. However, just working at that facility is not enough, you do have to demonstrate control, so if the group of surgeons owns the ASC, unlikely they'll be able to demonstrate lack of control. But if they just work there, contract there and things like that, then they might be able to do that. For hospitals, they don't have four and five, but one, two, and three are basically the same.

And there's our resource slides. We have lots of tip sheets and things up now. Spec sheets, both the traditional ones you're used to seeing and then we're working on developing some very technical ones for those who actually have to program how the measurements are done, should be coming out in probably the very near future, like the next two weeks or so, for the general spec sheets that you're used to seeing. And probably a little bit longer, but not too much longer for the technical spec sheets. And then we already have lots of materials available. Six minutes, oh well, 36 minutes, I'll get it to 30 minutes next time.

#### **John Halamka, MD, MS – Harvard Medical School**

So, two questions for you, I thought, I'm sure the committee has questions, but I thought two items of interest. One, you mentioned for the electronic laboratory reporting, your denominator was the number of electronic orders received. Now I'm curious if others had the same reaction that I did that is, 90% of the time I deliver electronic orders to people who send in paper requisitions, e-mails, web forms, so at least in the Boston area, very, very few orders come in electronically, but a whole lot of orders are delivered electronically, so that seems like a funky denominator to use.

#### **Travis Broome, MPH, MBA – Centers for Medicare and Medicaid Services**

Yes, basically we use that one to...our purpose of using that denominator, right, was to cover the folks who aren't in your situation, who might be in the opposite situation of their not used to pushing that out. And again, kind of as I portrayed it, the idea was that to take care of some of the instances we might talk about where...that might come up like the huge practice next door refuses to do it electronically or what not, you know, that kind of provided a good universe to address a lot of the concerns we saw in public comment. And your situation sounds like it kind of went the opposite way on that. But that being said, then it would also make it rather easy to meet the threshold of the measure.

And the other thing, we didn't want to do, and you know, 20% wasn't the original recommended threshold either. One of the things we considered is, it is in the menu. So we didn't want to...we wanted to make it attractive for selection for hospitals, we didn't want to set it so high that basically those folks who were doing it already would pick it and everyone else would basically give us the deferral, take a hike move.

**John Halamka, MD, MS – Harvard Medical School**

Right. And the reason from a standards perspective, I think is important is that, Doug isn't here yet, but I think he would agree that we have very robust HL7 2.X standards for result reporting, and not so robust standards for complete ordering electronically. I mean, they're common, but they are less mature. So just as...recognizes the final rule already, but certainly it just seems that, as a notion of we want to get results out electronically from hospitals to outpatient EHR's, and the requirement for ordering in the denominator may result in somewhat quizzical behavior, because we may have to report a denominator of zero. Because the EHR's aren't sending us electronic orders that we can receive.

Second point. One of the things I've blogged about and thanks to folks at CMS who have been extraordinarily helpful, the number of radiologists, pathologists and anesthesiologists that call me, well they call me with two questions. They radiologists say, how can I get my share of these Obama dollars. And I say, well, all you have to do is just document smoking status on every film that you see and you are good. No, I mean, it seems to me that the radiologist, although extraordinarily contributor as part of the care team, isn't often seeing patients in follow-up, and so the spirit of the meaningful use requirements for coordinating care and that sort of thing may not apply so well. So for those, I say, here are the criteria, go talk to Travis, he'll tell you if you can meet them, good. But for most of them, they are asking, how do I avoid the 3% penalty because I, as a radiologist in all fairness, can't document smoking status on every film I see. So what do I do? And so the notion of being very articulate as you have, on here's a hardship exemption and for radiologists, pathologists and anesthesiologists, it is unlikely you are to see these patients in follow-up, and therefore, we will not give you a 3% decrement to your Medicare fees. And telegraphing that widely is going to certainly give a lot of reassurance to a lot of these kinds of quasi-hospital-based folk.

**Travis Broome, MPH, MBA – Centers for Medicare and Medicaid Services**

Yes, certainly, and you mentioned the...when we looked at the data, because I think the intention was the hospital-based definition would take care of that. It works pretty well for anesthesiologists, about half of them got taken care of hospital-based. It didn't work at all for pathologists and radiologists, almost 90% of both are not hospital-based under inpatient department things. So, that would certainly be something...and as you mentioned, for those groups, I took that slide out, but they do get the exemption based on specialty code as opposed to having to apply. That's really kind of both a simplicity thing for them and for us, processing 35,000 applications for that exemption probably wasn't the best use of our limited funding coming in 2014.

**John Halamka, MD, MS – Harvard Medical School**

Other questions folks have on the CMS...

**Arien Malec – RelayHealth Clinical Solutions**

I have a follow up on your question on lab reporting, which is if, and many of the hospitals that we support are in exactly the same boat as Beth Israel Deaconess, which is they report a lot more labs than they get electronic orders for electronically. In that case, if I send 100 results electronically and receive zero orders electronically, do I have a numerator of 100 and a denominator of zero, or do I have a numerator of zero and the denominator of zero?

**Travis Broome, MPH, MBA – Centers for Medicare and Medicaid Services**

Right, so in that case you, and sorry, this is the first time this has been proposed to me this way, so I'm kind of thinking on the fly, but, as it's written, I think you would have a zero and a zero. One of the things that when Steve leaned over, he mentioned to me that we also were considering about trying to figure out how the balance is. There are about 22% these days of EPs that have met Stage 1 and you rate about half of physicians have certified EHR technology. So that was another consideration for the denominator,

too, of if only half of the potential, trying to ensure that the folks we're counting are folks who actually even have the ability to receive an electronic order, have a system to even send it to. But yeah, so that's obvious...I think those are both very good points, both of you, who will obviously have to FAQ on at least to give guidance on that. But thinking through the measure and it's the right text, I think it would be zero over zero. The other thing that we haven't...well, like I said, I think we'll have to push more guidance out on that one.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Travis, in the clarification that I think would be helpful, we should also discuss whether if you don't get any, if you have a zero denominator, it's a menu item.

**Travis Broome, MPH, MBA – Centers for Medicare and Medicaid Services**

Right. So it wouldn't count towards one of your three anyway.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Yes. So only those hospitals that are engaging in electronic order receiving and messaging would be able to choose this menu item, is my understanding.

**John Halamka, MD, MS – Harvard Medical School**

So back in the days when I took advanced calculus, 100 over zero was infinity, and therefore...

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

There you go. Amazing.

**Travis Broome, MPH, MBA – Centers for Medicare and Medicaid Services**

Zero over zero wasn't any better.

**Elizabeth Johnson – Tenet Healthcare – Vice President Applied Clinical Informatics**

This is Liz Johnson. Travis one of the...as we get into patient engagement, which I think there is enthusiasm about, we are questioning where we do that sort of access point. So some of the questions that have been asked in recent places where we've spoken about it, people have asked, for example, can I put a kiosk in my hospital and at the point of discharge, can they go, we can teach them how to access their data and so on, but they're no longer a patient. Is that the kind of strategy that we might employ that would be acceptable or are you looking for something different? I see that smile on your face.

**Travis Broome, MPH, MBA – Centers for Medicare and Medicaid Services**

Oh well, yeah, all the above? I mean, I think our intention right, is to spur the types of interactions you're talking about. I think we might be getting a little beyond kind of the level where the government plays, as it were, if we start one's better than the other. But that's certainly the type of thing we would hope for, is to encourage all your patients to try and get to that 5% or obviously for much higher. A few things like that, enabling things, the surgery. anything you can do that's more than just telling them that the website's there, would certainly be beneficial, especially if have a more difficult population. The measure itself, is the view, transmit or access of merely trading an account doesn't count for the 5%, they need to actually view the information. Now, there's no magic timeframe in the thing of how long they spend or anything like that, or transmit or download it. They need to do one of those three things, one of those three triggers. But beyond that, I think that's kind of, we're hoping that the innovation of the wider world will show us where we need to go.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Excellent, thank you.

**John Halamka, MD, MS – Harvard Medical School**

Other comments?

**James Walker, MD, FACP – Chief Information Officer – Geisinger Health System**

Jim Walker. The requirement for electronic transmission of discharge prescriptions, prescriptions at discharge, is there any requirement that pharmacies be able to receive cancellations as well as prescription orders? Or what is the workflow that's envisioned around making that a safe transaction?

**Travis Broome, MPH, MBA – Centers for Medicare and Medicaid Services**

Well, so the part...you get to part of the heart of the problem, there's no meaningful use requirements on pharmacies at all, because they're just not included. What the capabilities are of the electronic transmission and probably be...I probably wouldn't be the best person to speak to that. I think ONC folks and others in the room are probably more knowledgeable about that, on how common cancellations are supported by various groups.

**James Walker, MD, FACP – Chief Information Officer – Geisinger Health System**

Well, our problem is that our organization did a safety analysis three or four years ago, and would have started transmitting discharge...prescriptions at discharge then, but concluded that it was not safe because it wouldn't take very many cancellations. And there are certainly enough cancellations of meds in the hour or two before final discharge, and it wouldn't be safe to be transmitting the prescriptions if we couldn't transmit the cancellations. And so, just to put on the record again, this requirement puts care delivery organizations in a safety, a legal vise that apparently neither ONC nor CMS is prepared to help them address.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Jim, is this unique to this setting or are there broader issues around cancellation for...

**James Walker, MD, FACP – Chief Information Officer – Geisinger Health System**

I have never been in an inpatient setting where this didn't happen.

**Farzad Mostashari MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

No, my question is, e-Prescribing is something that's happening quite...

**James Walker, MD, FACP – Chief Information Officer – Geisinger Health System**

Right. And in the outpatient setting, we send 3 million a year, or whatever it is. You don't have this cancellation situation where, everyone...you're supposed to start preparing a patient for discharge 24 hours before...well really, as soon as they're admitted. And so, if a high-performance inpatient team will have a plan for discharge medications, and then a lab result comes in that maybe it wasn't certain it would come in before discharge, but it does. And that changes things or the attending just meets with the team and when the team really goes through everything all over again, they decide, not this med but this med. And so anyone who has worked in a hospital knows that what happened routinely was you had brilliant human nurses who would just tear up the wrong prescriptions that had already been printed. There's no way to do that now if those things are sent, that equivalent of saying, "Oh, not that one, " becomes calling the pharmacy, telling the patient a whole lot of work arounds, none of which anyone would regard as safe.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Jim, I don't recall if you raised this during the earlier...

**James Walker, MD, FACP – Chief Information Officer – Geisinger Health System**

Yeah, I did.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

...discussions, but have there been follow-ups with Surescripts in terms of the...

**James Walker, MD, FACP – Chief Information Officer – Geisinger Health System**

As I understand it, the problem is that the NCDP 6.2 or whatever it is, the latest version...

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

...6.1...10.6.

**James Walker, MD, FACP – Chief Information Officer – Geisinger Health System**

Yeah, 10.6, thank you, does enable pharmacies to receive cancellations, but not all pharmacies use that version, because there's, I guess, mainly a cost issue with upgrading.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

So upgrading to 10.6...

**James Walker, MD, FACP – Chief Information Officer – Geisinger Health System**

...would solve the problem.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

I think we did that...

**John Halamka, MD, MS – Harvard Medical School**

I can concur with this issue that we have workflows where the multidisciplinary care team preparing a patient for discharge, and they will say, "Oh, we're going to discharge you on this medication...oh no, sorry, wrong, gotta change it." And there's no way for us to change it, because in the workflow those prescriptions would go out electronically and there would be nothing you could alter. So it isn't a sending problem, it's not an EHR problem, it's a receiving problem.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

So Steve, in terms of 10.6, do you want to comment on that?

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

That is what's required for certification now, at least on the EHR technology side. You know, the recipient, we don't have certification requirements for.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Jim, does that...

**James Walker, MD, FACP – Chief Information Officer – Geisinger Health System**

That's the problem. The pharmacies are under no obligation to go to 10.6, so the provider...I guess what the hospital would have to do is keep track of all the pharmacies who were and weren't on 10...there's no safe way to do it.

**John Halamka, MD, MS – Harvard Medical School**

Maybe the thing to do is, oops, sorry.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Go ahead.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

CMS put out a proposed rule, Part D e-Prescribing, which is proposed to retire 8.1 and will push everyone to 10.6, in terms of compliance. So, I think the comment period may have expired, not at this point, but, I think it was October 1, 2013 is when they...

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Yes, when...two takes

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

...publishes the deadline, so...

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Jim, I...

**James Walker, MD, FACP – Chief Information Officer – Geisinger Health System**

So then the answer is, it is taken care of. Great.

**John Halamka, MD, MS – Harvard Medical School**

That is actually an important question to follow-up on, just like electronic prescribing of controlled substances. The Surescripts network can send all of the necessary transactions for electronic prescribing of controlled substances, but very few pharmacies can actually receive it. You know, that's...I mean, there are some. And so this is a, I guess maybe this is a Wes Rishel rule of impedance mismatch, that you have senders and receivers that are at various stages of maturity.

**James M. Walker, MD, FACP – Chief Information Officer – Geisinger Health System**

And you know, this is Jim again, if it's been fixed, that's spectacular and I think it would just be great to sort of let everybody know when exactly they can count on that. So that this isn't something people obsess on.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

Another counter-argument to the Wall Street Journal Article, John.

**John Halamka, MD, MS – Harvard Medical School**

Yes, absolutely. I'm going to go with John Derr then Arien Malec.

**John Derr – Golden Living, LLC**

John Derr. I have not seen anything about receiving, everything seems to be transmitting, maybe I've missed something. But in nursing homes and home care, we send things back to hospitals. Is there any meaningful use things in that say they have to receive something? I mean, a lot of our people now are electronic and can do it, so is there any meaningful use or have I missed it that says they have to be able to receive things?

**Travis Broome, MPH, MBA – Centers for Medicare and Medicaid Services**

Yes. So this is...they closed the loop piece and no, there isn't anything in Stage 2 requiring receipt. The HIT Policy Committee has really been spending a lot of time about viewing, closing the loop as it were, on transitions and referrals is kind of the outcome for care coordination for Stage 3. I would say probably more of the work on the ensuring people can receive, is kind of somewhat more on the standard side and the certified side. So that, I know that if someone has certified EHR technology, they can receive documents in this form sent this way. But there isn't a meaningful use requirement for receipts right now.

**Arien Malec – RelayHealth Clinical Solutions**

Arien Malec. So, I just wanted to follow-up on the 10.6 discussion and just point out that although the standard may have cancellations, it's not given that EHR's will support them or that pharmacies will support them, so, I think it might be useful to follow-up on: A) Look at our certification requirements for EH's. And B) Ask Surescripts, the status of the ability of pharmacies to process cancellations and their certification requirements associated with that.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

I think those are good points. MacKenzie, I appreciate you're capturing those as items to close as we go forward. I never cease to be amazed, I learn more in each discussion. I say this because, Travis you, the CMS team, the ONC team have been just terrific about hosting any number of webinars and events to inform on the new Stage 2 rules, that's very much appreciated. That was a terrific presentation. We'll now switch over to the ONC counterpart discussion and appreciate Steve Posnack being here. Before we do, let me turn back to Dr. Mostashari.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Thank you. I just want to make sure that I acknowledge and thank the incredible work that Travis and Steve have done and have done together, as really the point people for teams of folks at CMS and ONC. And coordinating with the rest of the department in making sure that we do stay on track and that we really do consider every comment. There was a blog recently that took issue with one decision, it was around imaging. One decision, one of literally hundreds, and this person who disagreed with our decision went back and they pulled every comment that dealt with that issue, and it was a long list. And they were complicated issues that were brought up on multiple sides. And at the end of the day, you can say that, you know, the person could say that they didn't agree with the decisions we'd made, but they couldn't say that we hadn't really done an incredible amount of due diligence and considering and responding to all of the points that were made. And so it's just...and then one of the commenters on the blog then said, "Imagine what it must have been like for them to go through, not just your one issue, but all of the issues that are there."

And I think that we have to...sometimes its easy when looking at a rule like this to say, like, "Oh, this thing would have been...I would have done it differently." First of all, you weren't sitting there in Steve and Travis' shoes looking at the comments and knowing you have to respond to them. And second of all, we also have to keep in the big picture, our eye on, even if we...sometimes there's tough policy calls and we make the wrong decision, that's just the way it is. Sometimes, we're not going to be perfect, no one's going to be perfect. But 99% of the time, I think, the team has done the correct analysis, reached the correct conclusions and we have to really recognize them for that.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

Thank you, thank you. I have notes here, the same script here, stealing thunder. So this is the specially titled, special edition presentation for you, compared to the Policy Committee. So I just wanted to acknowledge that, using an onion type metaphor wouldn't be the correct way to do it. But, I'll dive a little bit deeper with probably two different views of certain things, and you'll see in my slides that there...in some cases, may be for the two different types of learning, words on a page, images on a page. So, going to cover many concepts in different ways so that it will help ground folks in the changes to our reg and the kind of regulatory architecture that we're working under.

So to echo a lot of what Farzad just said, thanks for all of your engagement both in the committee and in your roles, your day jobs in commenting. The caliber, I think I mentioned this at the Policy Committee, the caliber of the comments that we received this time around, even though from an ONC perspective, we probably received roughly the same, "N" equals number, in the 400's range. They were an order of magnitude better and more specific and more detailed and raised a lot of different points that we didn't see the first time around. So, I don't want to say it made our job easier, in some cases it helped tease out the policy issue a lot faster. In other cases, it required significantly more policy discussion to figure out what the best approach and what the trade-offs would be in the decision that we were making. So, we

definitely listened, which I think is an important thing that we tried to emphasize when we put out the proposals. We said, "Comment on what you like, comments on what you don't like, comment on those things that you think are most important to make progress on." And I think we saw a lot of that as the industry, I think matured in its comment processes as well.

So as Farzad mentioned as well, some folks may say that they didn't agree with all of the policy in the rule, they may not agree with specific policy decisions that we made in the rule. But, I don't think anyone can argue with how thorough we were on both sides going forward this time around. I may be, in terms of the page numbers that are referenced in the public inspection version, it may be 474 pages wide. This is my caveat here in terms of the discussion, not necessarily 474 pages deep on everything. So I'll do my best, as I think Travis has, to respond in real time to any questions that folks may have, but there are things that in going through the whole continuum of the rule. And again, as Farzad pointed out, we have roughly I think 50 certification criteria. That's not to say that there are just 50 separate policy issues, many have nested within them, many smaller policy issues that remained within them as well. And so some of the more comprehensive certification criteria that we had, including like view, download, transmit to a third party, we got numerous different comments in various different angles that required many different policy discussions for us to have that affected many different types of policy decisions that we made. And so, it's more of a 50 times some other number times some other number, that will cube that will give you the number of policy decisions that we had to go through.

So, regulatory actions are always a balance, there are trade-offs, there are places that we have to make hard decisions and, I think you know, in large part and on balance, we were ambitious where we needed to be and we dialed things back where we heard concerns from stakeholders that we were really pushing too far. And so I think you'll see some of that in the presentation. You'll also see, in terms of the major themes here, good segue to my next slide, we did try to enhance standards-based exchange, so that's one of those themes that you'll see throughout the regulation promoting EHR technology, safety and security, enabling greater patient engagement. So that's why I like Travis or my other partner in crime, Rob, to go first, so that we can backup in terms of the EHR technology capacities that need to exist to support many of these new meaningful use objectives and measures, introducing greater transparency. And so the other thing, as Travis mentioned, in terms of our lazily referring to our rules, we also made changes to the certification program and that was part of this rulemaking action. And so I have some other slides that address those other changes as well. And then overall, as we presented as part of the NPRM, our efforts to reduce regulatory burden both on the provider side and on the EHR technology developer side.

So, since you just heard from Travis, the one thing that I would note that there are the two rules, and we do largely the three-legged race, ONC and CMS together in order to get these two rules published. Our rule, ONC's rule, focuses on the technical aspects and specifies capabilities that EHR technology must include and how EHR technology must perform in order to be certified. It doesn't specify how it needs to be used, and that's really what the CMS rule does, which focuses on provider behavior, how the EHR technology needs to be used in order for providers to receive incentives. And so the one word of caution that I try to provide is that, try to...don't interpret ONC's rule as a lens through meaningful use, and how the EHR technology needs to be used. Because in some cases, we've gone further to specify certain capabilities that we believe need to be part of the EHR technology in order to meet the certification criterion, that aren't necessarily explicitly required for meaningful use, or we provided certain different technological options. So, patient education would be an example where we've required both a native capability to identify patient education resources, and an info button enabled way as well. Either would count for the purposes of meaningful use. And so it's not necessarily that one is required versus another, and that's where you could start making different interpretations or misinterpretations based on one rule versus another. You really need to kind of read them together.

So, a lot of my slides will also do a compare and contrast in terms of some of the slides that I had for the NPRM. This just goes to show at a high level, pretty much stayed the course with the number of certification criteria that we included. A little bit hard to see the color adjustments that I have there. In large part, we kept the same framework categorization of our certification criterion, either added one or subtracted one, based on public comments and made two of them optional. So, we have three

categories of certification criteria, these hopefully won't be new to you, based on my presentation with respect to the proposed rule. Pretty intuitive, new, revised and unchanged; so the new ones are largely reflective of those new objectives and measures that are included a meaningful use Stage 2, and some of the changes also permeate through Stage 1. We did include two new certification criteria that we had solicited proposals on and in terms of those certification criteria, they are the quality management system one and the data portability, that we actually have adopted formal regulatory text for, based on the proposals that we included in the proposed rule.

The revised certification criteria, this list actually grew. So these are revised based on the 2011 edition certification criteria that we previously adopted, we made changes to them, and those are now categorized as revised certification criteria. It will actually make more sense when I go to this next slide in terms of unchanged. The ones there in this kind of yellowy-orange strike-through were proposed as unchanged and we solicited public comment on these certification criteria. And in cases...and for these cases for the certification criteria, we made changes to them such that we determined that they needed to be categorized as revised certification criteria in the final rule. Smoking status being one of those where we modified the standard in response to public comment. The most important thing with respect to this slide is that for the ones that are black and bold, those are eligible for what we call gap certification, meaning that the previously issued test results can be used and carried forward as part of the 2014 edition certification processes. So, over time, hopefully as we go forward with the next edition of certification criteria, say 2016, it'll be a sliding scale where there will be more certification criteria that won't change, and will be in this unchanged category. And thus the gap certification process under the permanent certification program will have more of an effect and will make certifications going forward a lot more expeditious.

So, there is one other thing in terms of notification, a lot of context setting here at this point, how the certification criteria all relate to each other. How the standards are embodied in the certification criteria. This is a specific definition that we adopted in the final rules reg text, so it's the common MU data set. We did a comparative analysis across the certification criteria. Largely all of those that include the summary care record standard, the consolidated CDA, and this goes across the view, download, transmit to a third party, after visit summary, the clinical summary, transitions of care, data portability. So all of those certification criteria reference the same data across the board horizontally. And so we consolidated them all into this one definition. And so you'll see elsewhere, in some of my slides, in the certification criteria themselves, it kind of consolidated down the language that we had to use. Otherwise, we would have had to have repeated all 16 of this data, in each of certification criteria.

So, we got a lot of good comments. This is an example of the public comment and public participation process working. We got a few comments that suggested this, we said this is a great idea and made actually writing the certification criteria a lot easier. So props to all those people who suggested it, and very much appreciate it. Also I got rid of the regulatory-ese here and actually put in the specific standards that are associated with them, for your reference, to see how they go across. So, these are going to be some of the notable slides, based on the categorization that I showed at the high-level, just calling out some specific changes that we made in these categories that we have.

So, paragraph A is the bucket for the clinically focused certification criteria. For demographics, we clarified as the suggestions by the standards community and others echoed that the vocabulary for preferred language was the ISO 639-2, constrained to those in 639-1. We got a lot of comments, with respect to preliminary cause of death, which is only on the inpatient setting side with respect to ICD-10. We removed that, so this is an instance where we were being ambitious and comments pushed back and said, you know, our workflow, the way we do it, it's still free text, a lot of people use free text and we think it's the best way to go at this point. And so, in terms of trade-offs that we made, we agreed with public comment in that part.

For problem list, as we proposed, we have required for the certification criteria and the EHR technology be able to record problems in SNOMED CT. We also, per recommendations from I think the Standards Committee as well as others, included the US extension to SNOMED CT so that's all wrapped in a nice

little bundle in standard that we've adopted. In clinical decision support, for the linked referential decision support capability, so this is, I believe, one of the five specific capabilities within the clinical decision support certification criterion. We allow for the option of using an info button enabled way to do this, but also just a regular native way to do this as well. Also dialed back some of the configuration variations in the clinical decision support certification criterion.

For smoking status, probably...hopefully a small round of applause in this case, previously we had just an enumerated list. In the 2011 edition certification criterion itself, in the proposed rule, we moved that into its own standard. In the final rule, we actually adopted an eight-code list of SNOMED CT codes that align with those previously adopted CDC smoking status codes. We think this is going to help tilt people in the right direction, specifically to use SNOMED and as we advance. This is a lot of effort to recognize my federal colleagues with the smoking experts at CDC, as well as the folks at NLM to get this all mapped together and worked out. We're going to continue conversations with them, focusing on our next edition of certification criteria for potential and for meaningful use alignment with respect to tobacco use in general, and other types of directions that people have routinely suggested over time and where we may be able to include additional capabilities in EHR technology, as well as for the clinical quality measure perspective, too. I believe we also noted in the rule that we aligned the SNOMED CT codes with NQF, I think it's 0028, to also have that alignment, because I know that was one of those areas where in the 2011 edition, in the clinical quality measures that were adopted previously, there was a misalignment there. So that was additional effort behind the scenes that we did among all the parties that are engaged in the clinical quality measurement perspective.

For family health history, and this is one we can kind of tease out a little bit more. So, we adopted as alternatives, and this came out through the public comment process, we had solicited public comment on whether the SNOMED CT would be an appropriate standard. We also solicited public comment on the HL7 pedigree standards readiness. And in the end, we adopted both as alternatives, so EHR technology can be certified to one or the other, it could be certified to both, if the EHR developer really wants to go forward in that direction. From a meaningful use perspective, as the general rule goes, the providers to meet this objective and measure, are expected to use EHR technology to record data in a structured format, being one of these two standards. And so that's where it is in the menu, if folks have a particular difficulty in meeting this requirement, then they would be able to choose something else.

For patient specific education resources, as I mentioned, we did go forward with our proposal. We adopted the HL7 info button standard as one of the specific capabilities, in addition to a native capability to identify patient specific education resources. In response to public comment, we did adopt the implementation guides for the URL and for the SOAP base, there are two different implementation guides there. We leave some flexibility to use either one of those implementation guides. The comments that we got indicated that readiness was available, I believe for the URL more than the SOAP base but, both could potentially be used for the purposes of certification.

Under the care coordination category, this is paragraph B, we have the transitions of care first one, so we split this, in the proposed rule finalized it as a split. This is one where we made a significant amount of changes in response to public comment, and many of the discussions that you recognize having here. The first one relates to being able to receive, display and incorporate a transition to care/referral summaries. The other side being the transmission, being able to create them and transmit them. So, for the purposes of the transitions of care, the first one being receive, display and incorporate; we got a lot of public comments indicating that we didn't have the transport standards assigned also to the receipt. So we included them to mirror basically the creation and transmission. Per a lot of the discussion that we had here, which was also echoed in public comments, some form of backwards compatibility, largely expressed in the public comment, with respect to the asynchronous upgrade that would be taking place. And the continued ability for EHR technology in order to be able to receive and at least display the 2011 edition formatted summary care record standards, either being in the CCD or C32, or the CCR, whereby EHR technology will still be certified in order to be able to display those two, in addition to being able to display the consolidated CDA format.

We also clarified incorporation, in terms of the ability to set process and subsequently use data, being specifically limited to at a minimum problems, medications and medication allergy data, and we indicate that in the certification criterion. This flows through into the clinical information reconciliation certification criterion, which also requires EHR technology to be able to reconcile these three different types of data. So, this is one where we expect there to be kind of a flow with respect to how those capabilities interact. There is a generic patient matching capability with respect to the receipt of the transitions of care, summary care record expressed in the preamble, that we were leaving this open at the present time. Many commenters indicated that in response to our questions, that that should be open. And the one other thing that we did include in response to public comments, recognizing that we were only at a minimum requiring incorporation of those three specific data, would be to have EHR technology be able to individually display each of the other section templates that weren't required to be incorporated. And so that would provide in terms of an outcome from EHR technology capability, the ability for providers to navigate in a more expeditious manner, specific sections of the consolidated CDA.

I kept things simple, so if some of these concepts that are in one of the rows are not in the other, but they're applicable to both, this being the case for the create and transmit. We revised this, based on a lot of discussions that occurred here, in terms of the right pairings, the right applicability of the transport standards, so the requirement for certification is the primary direct project specification. The secure applicability, I guess it's the applicability statement for secure health transport, sorry I got that mixed up there. And then we have two optional certification options, the first being the applicability statement for secure health transport, plus the XDR/XDM for direct messaging as one option that can be certified in addition to the primary direct project specification, as well as the SOAP RTM under the NwHIN exchange module specifications plus the XDR/XDM for direct messaging. Again, I'd only touched on the e-Prescribing. As we mentioned, we adopted NCPDP SCRIPT 10.6 and RxNorm as the vocabulary standard.

**John Halamka, MD, MS – Harvard Medical School**

Could you clarify that, because when I read it in the rule, I just didn't understand at all that you require the secure app statement, but as an option you can have a secure app statement plus XDR/XDM. But wait a minute, secure app is already required so why is it an option to have more? That seemed a little odd.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

We looked at the XDR/XDM as the ability to translate between the two and the metadata that would be packaged with the direct specification for the SMTP message. So, for both, that was the intent that we included the XDR/XDM on both sides of those additional types of transactions, so that if you knew you were going to speak to a SOAP party, you would be able to include that metadata with the SMTP message.

**John Halamka, MD, MS – Harvard Medical School**

To put it in simpler terms, every EHR must do SMTP/SMIME, and if you really want to be at the head of the class, you can show that you can do the XDR/XDM step-up step-down, but as an option.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

Yes, and per the linkage with meaningful use, this is an area where CMS has explicitly required that you use a transport standards that certified EHR technology includes in order for those transactions to be counted in the numerator. And so in this case we also, as we indicated in our rule, we adopted the optional SOAP transport to provide additional flexibility for providers who would have EHR technology that could support those options.

**John Halamka, MD, MS – Harvard Medical School**

And we do need to interrupt your cadence, because we've got the questions at the end, but David do you have this related to this whole...

**David McCallie, Jr. – Cerner Corporation – Vice President of Medical Informatics**

Yes, this is David McCallie. It's a question on that XDR/XDM thing. I think the ambiguity that I trip my toe on is the if you are sending just direct, straight SMTP all the way across, you have the option of wrapping the structured CCDA in an XDM wrapper to send the metadata along in the wrapper. Is that optional? Is that something that the vendors will have to be able to receive it with, XDM and without XDM wrappers, even if there is no XDR involved?

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

I don't have a specific answer, that's more detailed than I'm prepared to answer in real-time, and some of it may also come out through the testing procedures that are available.

**David McCallie, Jr. – Cerner Corporation – Vice President of Medical Informatics**

Yeah, I think the testing will have to pick one or the other, I just wanted to make sure I wasn't...

**John Halamka, MD, MS – Harvard Medical School**

Although, we absolutely enjoy the intent of every EHR being able to send to any other EHR, the language around this one is sufficiently muddy, because of the fact that XDM is actually part of the SMTP package. It probably is going to have to be clarified.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

Yeah, and as part of the testing processes, there's only so much that can be performed during testing as well. And so, you know, there's a best effort to test as much as possible that gives us a good sense of the EHR technologies capability.

**John Halamka, MD, MS – Harvard Medical School**

And Dixie also related to this point.

**Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences**

Not to keep this going on and on, but I think that the fact that these are documents makes it a little easier. You either comply to the direct secur...application statement, whatever that long...you know, the basic thing or, you comply to the basics, and there's a separate document called the XV. But, I think that what's confusing is the use of the term, in addition, because, if it's in addition then you've implemented direct and then plus direct. So, I think that that's where this confusion arises.

**John Halamka, MD, MS – Harvard Medical School**

And this is exactly where I was confused. If it was restated as, everybody must implement the direct project specification and, if you want extra credit, you can do XDR on top of that, something like that. And as David pointed out, the XDM may actually be part of the direct application specifications. So, we'll get clarification on this, okay. And last one on this, Wes, go ahead.

**Wes Rishel – Gartner, Incorporated**

Just to give full credit to XDR, there may be situations where in order to get the job done in a given community, it's necessary to use XDR. So, beyond extra credit, it also says it's allowed. That is, if it wasn't allowed, then they wouldn't be able to use XDR. So it's...I just want to be fair and unbiased in my reporting here, like all TV networks.

**John Halamka, MD, MS – Harvard Medical School**

As Wes wisely reminds us that it was in fact the Posnack doctrine that allowed us to specifically include XDR as an enumerated option that we wouldn't exclude those that felt in their community that SOAP was actually a better approach, but minimally require SMTP.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

I'm gonna stick with you John, because I have an honorary doctorate and a doctrine now. So, I need a theme song next I think.

**John Halamka, MD, MS – Harvard Medical School**

We're going to get Ross Martin working on that for you.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

So Ross, if you're listening, we're looking for that hashtag right now.

**John Halamka, MD, MS – Harvard Medical School**

...and the catch phrase,...fair and balanced.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

I've got another slide for you Wes, and the catch phrases too. So, on the incorporated laboratory test results, this is one that we had split with respect to ambulatory and inpatient setting specific. Because there was the S&I framework LRI specification for receipt of laboratory test results, we had adopted that and required it for EHR technologies as presented for an ambulatory certification. On the inpatient setting side, it's still basically the same with respect to the 2011 edition. For paragraph B6, this is the transmission of electronic lab test results from the hospital setting to ambulatory providers. And this is where we had adopted, again, the corollary requirement for the S&I framework LRI specification guide to be used, for the purposes of certification and through the meaningful use requirements for that type of message to be sent, as part of that meaningful use objective and measure.

On the data portability certification criterion, basically cribbed from the transitions of care certification criterion, no transport necessarily specified there, because it's more of a transition type of certification criterion. But to allay the first marker or stepping stone here, as we expressed in the final rule, as a way to make data more available and to make the process of transitioning from one EHR technology to another more expeditious and reduce the amount of additional manual reentry that could potentially exist.

So, for clinical quality measures we did, as in the proposed rule, keep the breakout that we had proposed in terms of three specific certification criteria, focused on kind of the continuum of clinical quality measures. So, focusing on capture and export, the import and calculate, and then the electronic submission. So, for the first at C1, the capture and export, we have revised this. Originally we proposed, and solicited a comment on whether we should require capture to the entire kind of data concepts that are included in the quality data model. We pushed that back to basically certify on a per CQM basis and based on the clinical quality measures presented for certification. Those would implicate the particular data that would need to be captured by the EHR technology. We also have published, in cooperation and coordination with NLM, that the data element catalog, that's available with a URL, I think it's a footnote in the final rule, so don't miss it, that will have all of the value set information for all of the clinical quality measures. So this is hopefully a service that we are providing the industry, so that we can make this information available. And for the second capability, the import and calculate, this really separated out and potentially could modularize, for lack of a better word, or make components that could perform different clinical quality measure functions. For the export of the raw data from the first capability, we had required the QRDA category 1, and then for the input, the QRDA category 1 as well, in order to be able to create a link between those two capabilities. And calculation again is going to be on a per CQM basis, but you could see that that calculation capability could be farmed out to any different type of EHR technology that could be certified to calculate numerous different CQMs, provided that it's supplied the proper data. And then on the third capability, with respect to electronic submission, to support the options provided in CMS' rule, we adopted both the QRDA category 1 as a patient level submission option, as well as category 3 as the aggregate submission option.

For privacy and security, many of these actually we made some clarifying modifications to the language in some of the certification criteria, but out of the eight that are mandatory for the purposes of certification, many of them remained unchanged, as far as we categorize them. For the audible events, tamper resistance and audit report certification criterion, we did adopt, per the recommendation of the Standards Committee and others, moving towards and pointing to the ASTM standard for audit logging. And then for the end-user device encryption certification criteria, this is one that came out of the recommendations of the HIT Standards Committee that we had proposed in the proposed rule. modified this to have two different components. If EHR technology is designed such that an end-user device stores, locally stores, the PHI when its use on that end-user device is stopped, then the expectation is that it would be able to encrypt the data. But we also wanted to reward those implementations where it doesn't permit information to be stored on those end-user devices after use has stopped. And so that would be another way to meet that certification criterion as well.

From the patient engagement standpoint, this is our category paragraph E. For view, download and transmit to a third-party, numerous changes here based on public comments. The first being that online access must be done through a secure channel, and so we adopt the, I didn't reference the standard here, but we referenced the FIPS 140-2 NSA encryption and hashing algorithms. For transmit, it is the applicability statement for secure health transport, that's the minimum required there. CMS actually permits other transport standards to be used. For meeting meaningful use with respect to this, certification and EHR technology capabilities, so that would be another getting back to my original slide about not interpreting CMS' rule through ONC's rule. If you just did it through ONC's rule, you could interpret that only the secure applicability statement could be used, when in fact that is not the case for this certification criterion.

Some of the vocabulary standards that I've already identified are part of the common MU data set, so I'm not going to cover them right here. We also had included for this one, because it is patient-facing, that the web content access guidelines level AA be used from an accessibility standpoint. A lot of public comments expressed that that would be too far. too ambitious to push going forward and instead recommended more of a predictable trajectory, saying that we should include level A, given it's the first time it would be required in our certification requirements, and then indicate that we would move to the AA in our next edition of certification criteria. We did remove the requirement to enable imaging and images to be downloaded and transmitted to a third-party. Again, lots of trade-offs to be weighed there in terms of maturity and other factors that are addressed in the rule. And as the common MU data set referenced, we did adopt for medication allergies, RxNorm as a vocabulary. And that permeates through a number of other areas where RxNorm was adapted for medication allergies.

For public health, not too much changed, so to speak, with respect to the public health capabilities that are expressed. We did adopt through a lot of intense efforts, so, hats off to the folks in the public health community, to work to update the implementation guides on an ongoing basis, as well to prepare clarification documents as well, that enabled more consistent certification. And so we adopted many of these in the certification rule, in order to provide additional implementation guidance. One other thing that I note here, as mentioned earlier, for the cancer case reporting and transmission to cancer registries, there are two certification criteria; one necessarily the information capture and then the other, the actual transmission in accordance with the standards that we adopted. This was more of a kind of policy wonky type point. We have two different certifications that can be issued to EHR technology, the complete EHR certification and an EHR module certification. The comments that we got, and this get to my point earlier about thanking people for detailed comments, was the fact that EHR technology developers that may seek a complete EHR certification don't necessarily market to folks that deal with cancer patients in all circumstances. And they said it would be an undue burden for us to require, as part of the complete EHR certification, that EHR technology developers get certified to these capabilities as well. And so, we designated them as optional, for the purposes primarily of meeting the complete EHR definition and getting that certification. If an EP seeks to meet this meaningful use objective and measure, they certainly need to have EHR technology that's been certified to these certification criteria as you'll see when I talk about the more dynamic definition of certified EHR technology, but just wanted to note here that this one

is optional. But, it is essentially required for meaningful use if you want to demonstrate meaningful use of certified EHR technology for that objective and measure.

We also have things that are more specific to the EHR technology certification that also apply through our certification programs, and those are four what we call utilization certification criteria. I want to mention we proposed the safety enhanced design certification criterion, which requires user-centered design to have been applied to the eight medication, related certification criteria that we adopted. And, we essentially adopted this certification criterion without any changes. We also adopted, in response to public comment, out of the three proposals that we included relevant to safety, quality management systems certification criterion, which focuses on the use and application of the quality management system in the design of the capabilities for certification is sought. And there is a bit of flexibility here, in terms of the trajectory that it could be met for the purposes of meeting the certification criteria.

So here's a different view of all of those things in words in terms of, vocabul...as we break things down into vocabulary/code sets, content exchange/utilization and transport, have the purpose column specified across there. And again this is at a high level, so it really doesn't capture everything. Many of these are for your reference, but one thing that you see is a trend, which wasn't necessarily a surprise as we were going forward, SNOMED CT has started to permeate its way in a number of different areas in terms of its utility and use in many different certification criteria, as we go through. This next slide here in terms of transition of care, e-Prescribing, others that I specified as well. Again at a high level, just a breakdown of how things play out.

So, that's all of the kind of certification criteria in a nutshell that have a relationship with standards, in many cases. But there's a whole lot more with respect to our rule, and the overall kind of programmatic support and regulatory architecture that we have for the purposes of meaningful use. And, that really gets to a large part, the heart of our rule in large part and how all of the certification criteria come to life is in the definition of certified EHR technology. And so the next few slides that I will go through are really compare and contrast where we were from a policy perspective and the tension and burden that the regulatory policy that we had included in our first rule, had affected the community. And what we did to change the definition for certified EHR technology and how we hope that it will have a corresponding burden reduction on both sides, from a provider perspective, and from an EHR technology developer perspective.

So the one thing from a context setting perspective that's important to keep in mind, ONC in its rule defines certified EHR technology, CMS cross-references it, in terms of what needs to be used to meet meaningful use. And so ONC is at an interesting standpoint where this definition really speaks to two different audiences. I think I may have a slide that covers this, right. So the new regulatory framework, bottom line, provides more flexibility. It really focuses on the potential number of 2014 edition certification criteria, to which EHR technology needs to be certified and is really limited...that number of certification criteria is limited to the MU Stage that needs of an EHR technology developers customers. So, there's really an interdependence here and there are the two views of certified EHR technology and its definitions. For eligible providers going forward, it's about having at a minimum, EHR technologies that have been certified to meet the base EHR definition, which is a concept that I'm going to cover in a couple of slides. And just enough 2014 edition certification criteria that the EHR technology has been certified to, to support their achievement of the MU stage that they seek to meet.

And so to play this out, from meeting the certified EHR technology definition perspective, as the bull's-eye you saw from my prior slide, and I have another slide that allocates this as well. But to give you kind of a real world example in terms of burden and flexibility differences here in our new policy, if an eligible hospital determines that it for Stage 2, isn't going to try to do the lab reporting, they wouldn't need to adopt EHR technology that's been certified to that certification criterion. Nor would an EHR technology developer necessarily need to get certified to the criteria, in order to have EHR technology that they would be able to provide to their customer. Under the prior policy, we had a static definition that was rooted in the number of certification criteria that we had adopted. And so in that case, if that definition had carried forward, regardless of whether that hospital was going to choose to meet that menu objective or not, they would have had to have possessed EHR technology that had been certified to the criterion.

And so really, there is this kind of corresponding interdependence and burden shift with respect to the certified EHR technology definition.

As it stands and how it mirrors, is that anytime you're going to try to achieve a meaningful use objective and measure, you need to have EHR technology that's been certified to a 2014 edition certification criterion to support that objective and measure. You can't meet a meaningful use objective and measure without it, but it does create this new dynamic in the market, and I'll hopefully have an animated slide in terms of innovative approaches that will help show this tension and how we've tried to relieve this regulatory facility. And so, as I've been trying to call it, for lack of a better word, this will allow EHR technology developers, based on the stage of meaningful use that their customers will need to meet, as well as the different scopes of practice, especially on the ambulatory setting, that they know their customers will need to have EHR technology. Dealers seek what I call right-sized certifications. If you take dentists or chiropractors, they're in situations where from a meaningful use perspective, there are ample, maybe ample is too strong of a word, but objective measures for which there are exclusions that they can legitimately meet. And under the old policy for certified EHR technology, we required that they still have EHR technology certified to those certification criteria, regardless of whether that provider was ever going to use them to meet meaningful use.

And so a dentist that doesn't provide immunization, under the old policy they would need to possess EHR technology that had been certified to that certification criterion. Under our new policy and this new dynamic definition of certified EHR technology, that is no more. And so, if you have a particular EHR technology developer that knows that they have dental customers, the EHR technology developer wouldn't need to get certified to that criterion. The dentist would be able to adopt EHR technology, in this case, it would be an EHR module of sufficient size that wasn't certified to that certification criterion, and they would still meet the certified EHR technology definition. And so that's just to play out a couple of examples of how...so again, another context setting slide before I get into some of the more detailed explanation here.

There are two types of certifications that can be issued, the complete EHR certification, which is tied to our certification criteria as a regulatory construct. So, it's EHR technology that has been certified to all of the mandatory certification criteria. Now that you know the cancer case reporting ones are optional, it gives you a little bit of a sense of the scope of a complete EHR certification. And then an EHR module certification is issued to essentially any other EHR technology that seeks certification, that meets less than any of the...you know, all of the mandatory certification criteria. The scope of a certification that's issued represents only those capabilities for which certification granted, and EHR technology developers get to choose the type of certification sought, and the scope of those capabilities.

So, what's to be excited about here? Again, with respect this new definition, again, from a complete EHR certification that gets issued, this would be generally provides overall assurance, except for that unique case where you have that EP that seeks to meet the cancer registry reporting option. In that case, the EHR technology developer would go ahead and also go above and beyond and get certified to that optional certification criterion. But in any of the majority of cases, this will support either Stage 1 or Stage 2 provider attempt to meet meaningful use.

With respect to EHR modules, in terms of a compare and contrast with our prior definition, in the 2011 world, from our prior final rule. Again with a static aspect for certified EHR technology, you needed to have EHR technology that had been certified to all of the certification criteria, whether it be issued through a complete EHR certification or an equivalent combination of certified EHR modules. Now, under this new dynamic regulatory framework that we have, the combination of certified EHR modules could be limited to those capabilities that you need to meet the meaningful use of stage that you seek to achieve.

And the other new thing that is important to call out, and I like to call these mega-modules, where you have that EHR module that is certified to a certain number of certification criteria that would support either a provider's attempt to meet meaningful use of Stage 1, or at a larger scale to meet meaningful use of Stage 2. But doesn't include some of those other additional capabilities that would be necessary to hit that complete EHR threshold. And so you can see a balance and I have a spectrum slide that probably

could be in 3-D, if I really got my act together. But it will help illustrate this concept as well. So again, the bottom line here is, in the case of EHR models it's now possible for an eligible provider to have just enough that they need to meet meaningful use stage that they seek to achieve and no more.

So this is again for your reference, the 2014 certified EHR technology definition. It's really as easy as one, two, three plus C, and that's the clinical quality measures component. So, the center of the bull's-eye here, which is really where everything is anchored, every EP, eligible hospital, critical access hospital, regardless of the stage of meaningful use that they seek to achieve must have EHR technology certified to the certification criteria to meet the base EHR definition. And there are 20 certification criteria, if I got my math right the other day that are assigned to the base EHR definition. And then there are also, just as due notice here, other clinical quality measure minimums required for the purposes of certification, that altogether encompass the base EHR definition.

Here is a table comparing and contrasting the base EHR definition as we had included in the proposed rule. We did remove some of the certification criteria here because they will be driven by meaningful use, and driven by the stage of meaningful use that a provider seeks to achieve. And so we sought to keep this again to a minimum set of certification criteria that would be the foundation upon which every provider could kind of choose their pathway, using EHR technology that they could have to meet meaningful use. The one other thing not to get caught in this trap, which we ourselves admittedly got into a little bit in terms of clarity in the preamble of the proposed rule, as well as many comments that we saw is not to refer to this concept as a quote unquote a base EHR, as a specific type, a single type of EHR technology. It is meant to be...it is a regulatory term of art, it's a definition, it's a conceptual construct. It's meant to be really treated as a checklist so at the end of the day, if you have EHR technology that's been certified to these certification criteria, you satisfy the base EHR definition, and that is really meant to be the construct under which folks should approach this concept in our regulation. It doesn't mean to say that EHR technology developers couldn't go forward in using this as a guide to get an EHR module certified that covers all of these certification criteria. But in some cases it may be to their benefit to pursue different types of certifications. And so in this case, and I have other slides that kind of illustrate this concept, you could have two EHR modules that cover the certification criteria that are referenced in the base EHR definition, and that would be another way. It doesn't necessarily again need to be satisfied through one single EHR technology that's provided by one EHR technology developer.

Here's my little show and tell. In terms of the compare and contrast with respect to the certified EHR technology definition. So under our previously issued final rule policy, again the static certified EHR technology definition that's rooted in the specific number of certification criteria. We had this construct where in order to have EHR technology that met the certified EHR technology definition, it had to have been certified to thirty-two certification criteria. With a hypothetical example here of an EP that was seeking to achieve meaningful use Stage 1, having no MU core exclusions and deferring five menu, they would essentially use EHR technology that had been certified for the 27 certification criteria. And so you have this mismatch where we were requiring, by virtue of the regulatory framework, more EHR technology to be in their possession than would minimally be necessary to meet meaningful use. The same would be true for the equivalent combination of certified EHR modules. Again you have this kind of tension and mismatch where there's more required for the purposes of meeting the certified EHR technology definition than would be necessary for providing meaningful use.

So going forward with our new definition, and as it's included in the 2012 final rule policy, again taking EPs as an example, the minimum is really variable based on the stage of meaningful use that the EP seeks to meet as well as the exclusions that they can meet as well. And again the corollary burden reduction for the EHR technology developers, knowing what their customer needs can influence the type of certification and the scope of certification that an EHR technology developer seeks. So, in this case, in a perfect world, you absolutely know what your customer wants, and you can get certified to get an EHR module certification to exactly those capabilities and those certification criteria, and that's where we really have this right-sized certification concept being possible. The same being true with a combination of EHR modules. Again, you can have a right-sized certification. Now, is that going to be the case always, probably not and EHR technology developers are going to need to make choices based on the different types of customers that they serve. And you may wind up with what may be called a reality-sized

certification, where someone will get an EHR module certified with a scope that provides more capabilities than any particular EP will need to meet, but it won't necessarily be as large of a distance in a delta as we had previously in the other final rule.

Same would be true of a combination of EHR modules where you may have EHR modules that have been certified to an additional certification criterion, but at the end of the day, an EP decides that they're going to pursue a different way to meet meaningful use. And they have that capability, it's been certified, if they want to use it, they are very much able to do so and use it to meet meaningful use if they choose to do so. So, how this really translates in terms of the linkage between meaningful use and all the effective dates and timing shifts and 2014 edition certifications. The most important thing to emphasize here is that between now and the EHR reporting period that concludes through fiscal year/calendar year 2013, there are really three options to meet the certified EHR technology definition now.

And the first option being, use what you've got. If you've got the 2011 edition EHR technology that met our prior regulatory policy, given the special EHR reporting period that CMS has for the 2014 edition, EHR reporting period, there's additional nine months potentially, of transition whereby you can use what you've got all the way through your fiscal year/calendar year 2013 EHR reporting option. And then make the transition and use that buffer period to get yourself up and running on the more dynamic, hopefully reduced size, certified EHR technology that you would then be using to meet either meaningful use Stage 1, or meaningful use of Stage 2, starting with your EHR reporting period in 2014. The second option, which we included in the proposed rule, was recognition that there will be transitions over time, throughout 2013 and permitting and acknowledging explicitly that if you do combine and start to replace and upgrade incrementally, that you can combine equivalent 2014 edition certified EHR technology. And we have a table that crosswalks all of the equivalencies in the preamble of our proposed rule. That is also an acceptable approach for meeting the certified EHR technology definition. The first two options though are still rooted in the past, so to speak, for lack of a better word. So still need to satisfy that static quantity of certification criteria as referenced for the 2011 addition certification.

The new thing that we included in response to public comments, is actually taking the new dynamic definition that we had originally proposed starting for fiscal year/calendar year 2014, in that EHR reporting period and pushing it in advance to be an option for the 2013 EHR reporting period. And so, this is mostly going to affect providers that may be attempting to achieve meaningful use Stage 1 for the first time in 2013. I think that's probably the most applicable cohort, although it would be available to anyone. As soon as 2014 edition EHR technology is available, they would be able to jump ahead and adopt EHR technology that just meets their needs to meet meaningful use of Stage I in 2013.

There are some corresponding linkages, recognizing that there are essentially, again for lack of a better word, 2014 edition clinical quality measures that are applicable, that are agnostic to stage, starting in 2014. And that's an area where working with CMS, we coordinated an approach that providers who go ahead and jump to this advanced option and that new flexibility early would be able to report on those new clinical quality measures as well. So that really, hopefully, helps to show how things play out, the timing, the additional flexibility, and then going forward, everyone's on 2014 edition EHR technology. It's meant to support any stage of meaningful use. Again, as we go forward and some of the rationale that was provided in the preamble of the rule, as you look to Stage 3, it's really important for everyone to have the same technological foundation. And then the difference here again is going to be how much EHR technology certified to those criteria that you need to meet meaningful use stage that you seek to achieve.

So again, envisioning if Stage 3 exists a couple of years from now, someone that's meeting Stage 1 will have EHR technology certified to fewer certification criteria than someone meeting Stage 3, who needs to meet more objectives and measures and needs to have more EHR technology certified. Again, all of these would be minimums. So this is meant to illustrate all of the rambling that I've been doing from a talking head perspective and to really show the difference scopes of the certification. Keeping in mind that certification does not address all...the universe of capabilities that EHR technology will include, and so that's really that gray zone on the outside. Certification, again tied to meaningful use in some of our

other policy priorities, really focuses on those things that are essential to supporting meaningful use and those aspects that we feel necessary to include...to continue to push the industry forward.

And so these bubbles on the left that are numbered are really meant to just illustrate the size. So, bubble 2, which would be indicative of a complete EHR certification that's been issued to EHR technology would again be able to support either meaningful use Stage 1 or Stage 2 achievement, based on the number of certification criteria that have been certified. And going down further, anything below that blue square is essentially an EHR module of various different scopes, in terms of the certification criteria that it included. You know, bubble number five being an EHR module that has been certified to meet the base EHR definition, which doesn't necessarily get you all the way there. But everyone would need to have those capabilities again. And also to show at bubble six, you can have an EHR module certified to less than something that meets the base EHR definition and then you would partner that up with other EHR modules of different sizes as well. So, there is a lot of detail on that, feel free to take a look at it later. Again, most of these are for your reference.

Another one, which I will attribute the inspiration to Micky Tripathi, who did an excellent presentation to the certification adoption workgroup way back when the proposal came out, and really showed the kind of quantity difference, more as a bar chart style. So, from the basic EHR standpoint, those certification criteria that are required, everyone's got that as their foundation. And then based on the number of certification criteria, which is really the Y-axis here, that's where there starts to be some kind of difference between the number of certification criteria that need to be at a minimum certified to those. And so you can see from a complete EHR perspective, the number of certification criteria that are included would address either meaningful use Stage 1 or Stage 2. And then you get into certain circumstances, like with bubble four, which could be either chiropractor or the dentist or some other EP in a different scope of practice where their EHR technology developer or multiple ones, know that they do not necessarily need to meet all of the meaningful use core, because they can meet certain exclusions. Then they don't have to get certified to them and they would, in essence, have on the Y-axis again, EHR technology that's been certified to lesser number of certification criteria. All again, still all different variations of meeting the certified EHR technology definition.

So, one of the things that came up at the Policy Committee, which is a fair point to a knowledge, this all sounds very complex. We've introduced complexity and in some cases, that may be true from a regulatory standpoint and kind of the learning curve of understanding the differences between our prior policy and the policy going forward. But we really feel that we've landed, based on all the feedback that we got post final rule from the last time around, a regulatory framework that will support and be extensible over time, as opposed to one that is more rigid, which is really what it turned out to be on our first rulemaking go around. So we learned, we listened and hopefully as folks adjust and better understand and as the market adjusts to this new regulatory framework, folks will see that it does provide some room for innovation, it does provide some additional flexibility and it reduces burden really on both sides of the fence.

So, as I mentioned and alluded to earlier, there is the ONC HIT certification program, final changes. And so we changed the name, we introduced some more efficient requirements for the purposes of EHR module certification. There are the application of new certification criteria that are through the testing and certification process. And then from a transparency perspective, there are two requirements that are now imposed on the ONC ACBs as they issue certifications. The first being that they are required to ensure the EHR technology developers notify the eligible providers. This is part of some other information that they are already required to disclose, in terms of certification criteria that the EHR technology has been certified, the version, some of the other nutrition facts, as you may call it, about the EHR technology. The type of cost that could affect the complete EHR, certified EHR module's total cost of ownership.

And so, this isn't required a specific dollar disclosure, but it is to be a smart disclosure to the provider to indicate that simply adopting EHR technology that has received a complete EHR certification or an EHR module certification may not be the end of your journey. And so, if it comes to like the view, download, transmit to a third party option, that may be an instance, I believe we included this example in the preamble, where there could be an ongoing monthly subscription cost to have that EHR technology

available and for that to be up and running. That would be the type of cost that would be identified as an ongoing cost associated with that capability. So you can kind of go through some of the certification criteria, through your head and not every one of them is going to be subject to this. And it's really kind of on a case-by-case basis if there is a type of ongoing cost or one-time cost that would be indicative of where this requirement would need to be met from the ONC ACB standpoint.

The other has to do with the test result transparency aspect where, if you recall when I presented the permanent certification program, now the ONC HIT Certification Program, the testing is really split into two components. So an EHR technology developer will first go and get tested. They will get what I am just generically referring to as a test report card. That test report card will be submitted to the ONC ACB with other additional information. The test report card and the basis upon which the ONC ACB issues its certification will need to be part of what's submitted for publication on the CHPL and that will be a hyperlink to those test results. So in cases where stakeholders would like to delve deeper into how the EHR technology was configured in a particular way, how the test process went with respect to the EHR technology, they will be able to review the same materials that were produced by the testing laboratory for the certification body to review in determining what differences they may have from an implementation perspective.

So, anticipated timeline. Some of this is already happening, as we speak. Right, so the final rule was issued, it was public. It's going to become effective October 4, so rapidly approaching. The weekly waves of test procedures have already started to come in; test procedures are available for public comment. There will be other electronic testing tools that are available for public comment. There will be a testing workshop that is going to be planned in the November time period. At the end of the day, the National Coordinator approves all the 2014 edition test procedures, and then testing and certification is expected to be available shortly thereafter. And so, as I would encourage for folks, this is a very participatory process, you will get as much out of it as you put into it. So, I very much encourage everybody to participate in the test procedure comment period. Indicate some of these concerns again, to the scope of what testing can rightfully look at, and very much encourage you to participate in that process.

This, you can't really see so well on the diagram here, but it's an example of a resource where for that bull's-eye the base EHR meaningful use core, we have four of these that are available for the purposes of the certification criteria that are assigned to the base EHR definition. And then those certification criteria that belong to meaningful use core for Stage 1 or Stage 2, and then for meaningful use menu for Stage 1 or Stage 2 as well. This is a new info-graphic that we put together to help folks, more like a decision model, to better understand if you've met the new certified EHR technology definition. And as catch phrases go, Wes joked that I should call this "Got Certified EHR technology," as a play on the "Got Milk" slogan. So, I've been promoting that new message.

And this is really...this is a high-level flow. Again, these resources are available on our website. We also break them down if you communicate with a specific provider population, simplify it a little bit more where you go through that decision model again for EPs or eligible hospitals, critical access hospitals. And then there's our website here. One other thing that we're feverishly trying to get finished, haven't been out of the office, coming back today, we will be making available in very short order a webpage that has all of the standards that are included in the 2014 edition certification criteria and hyperlinks to where you can find them. So this is going to be a resource that we hope will be very much appreciated and expedite folks who may be hunting for all of the documents that we've referenced in our certification rule. And expect that in the very near future. So, I don't know if I did a good job with time, but I guess we can deal with the agenda as necessary.

### **John Halamka, MD, MS – Harvard Medical School**

And I'm sure there are going to be many questions to you, many cards up. So let me just start to make this real, with actually giving you a case example that exercises everything you've just told us about. So Beth Israel Deaconess is one of those self-certifying organizations. We get the joy of building and buying, and it's a little modular this and a little stuff that we create ourselves. So imagine that we as a

hospital decided, you know, to Arien's point, oh, this lab thing. We love sending labs, but if you're going to compute it based on a denominator of those that sent us electronic orders, we're not going to choose that as a menu set item. And you know, advanced directives, well we can do it electronically, but it's hard to have the conversation. I'm making this up. So, we're not going to do that one. And, oh well, it turns out progress notes on an inpatient ward, well doctors don't really like doing those electronically, because handwritten SOAP notes work fine. So, we have chosen not to do those three items. So in the past with meaningful use of Stage 1, we actually had to create, acquire and certify all kinds of things that we never even planned to use, including department of health transactions that no one could receive.

And so now imagine it's 2014, and we're going to be first on the block for attesting to meaningful use Stage 2. We begin our reporting period as a hospital, October 1 of 2013, through December 31 of 2013. And we go through some certifying appropriate testing organization and have said, "We don't want to do these menu sets items." I think what you've said is that in effect, we can tailor the acquisition of technology to just those items, which we plan to attest, and not have to implement technologies or transactions that aren't necessarily required, because they're menu sets.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

And for you because you really drive the bus that you have, it makes...you can right-size your certification and your approach. For those that are dependent on the EHR technology developer, that's where I've been stomping and encouraging, take a look at the rules. First rule, kind of know your customer, know your customer's needs, and use the regulatory framework and this new flexibility to take a second look at the types of certifications that you may be seeking.

**John Halamka, MD, MS – Harvard Medical School**

And here, let me make up another example while we've got Arien's card up. So it turns out, you know, download, view access, I can do that, but transmit, I just don't know how that's going to happen. So, but RelayHealth, they've got a great module out there that does patient family engagement transmission. So I say, "You know what I am going to do, is that I'm going to build a consolidated CDA document transfer to RelayHealth, I'm going to hand it off to them and magic will happen." So then, as I go into my shopping cart for certification, I say, "Oh, it's the combination of the stuff I build, plus the stuff I bought and together, that now achieves the stuff that we need for a base EHR, or the criteria in general that we are going to attest to as a hospital."

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

Yeah, so having those capabilities in combination would be the approach.

**John Halamka, MD, MS – Harvard Medical School**

Okay, that made it real. So Arien,

**Arien Malec – RelayHealth Clinical Solutions**

Thank you, and that would be a lot of fun to do that again. So, I've got one policy question, and then two standards geek questions. The policy question...

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

I'm glad Doug's here now.

**Arien Malec – RelayHealth Clinical Solutions**

Yeah, yeah, good. The policy question, and this may be more of a question to Jodi or Farzad but, one thing...I think we know two things. First of all, that you guys did a pretty amazing job of reconciling comments and putting together clear, legible, readable regulatory text. And the second thing that we know is that this is a really complex process. You've got a set of interactions between the CMS rule, the ONC role, the certification process, and a number of standards that are under ballot or may require

some additional clarification. And if you put all of that together, I think one thing is guaranteed, which is that something is going to be messed up, and it's going to require correction. It may be an unintended consequence that shows up in the certification testing process. I think we've mentioned a couple of these, even during this process. It may be a standard that just doesn't plain work and needs a revision. And so the question is, what's the plan to deal with, particularly post-certification Beth Israel Deaconess being the painful early adopter. What's the process for responding to learnings from the field and providing regulatory updates, either in the form of an IFR or some other mechanism to respond to learnings?

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

Well, I guess I can take this first. So, I'll give you the lawyerly answer first, right, even though I am not a lawyer. It's going to depend on the type of issue or correction or...I've tried to kind of work through these hypothetically. There is an option to go to an interim final rule making with comment type of approach if it's something that we need. That would be the closest equivalent of a regulatory hot fix, even though it's not necessarily as hot as the normal kind of rollout hot fix that you all may be accustomed to. You know, that would be something that is in our toolbox. There could be other instances where we could provide enough clarification or further interpret the rule to provide an FAQ that would help provide the clarity that's necessary. I'm trying to think of other...there could be things that are...everyone just generally agrees to that it's best practice to do through, you know, to go through testing if there's an ambiguity and the industry comes together and says, "This is the way we're going to do it." That would be my first option and suggestion.

And other things, we'd have to talk with our general counsel about the best way to pursue. You know, they would advise us on the legal risk that may be present to the department. So I think we are open to, based on the need, the timing, any other types of kind of case-by-case analysis that would need to be involved. But some of it, just by virtue of the fact that we're dealing with regs, makes it a little bit cumbersome.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

So we talk about the why as well as the what and how. The reason for that is so that there's an adequate opportunity for the public to be aware of and to comment on anything that might impose new requirements or changes on them. So that's the balance between the nimbleness and agility that, I think, is desirable and the need to have a more formal process of...that has comment periods and so forth, so that changes don't happen in a way that people don't have the opportunity to...

**Arien Malec – RelayHealth Clinical Solutions**

That makes perfect sense. It's just that, I do know that there are...so for example, we've got consolidated CDA, we've got LRI, we've direct. All of those went through a pretty good process, hopefully, but there's always the case that we're going to learn something in the field and need to make adjustments and it would be good to make sure that we've got that mechanism in the back pocket.

The standards B questions; the encounter diagnosis vocabulary, if you follow through all of the pointers, ends up at one of the CMS regs...

**Travis Broome, MPH, MBA – Centers for Medicare and Medicaid Services**

ICD-9, I mean ICD-10 CM.

**Arien Malec – RelayHealth Clinical Solutions**

ICD-10 CM, and I believe it's something, something, something, subsection C, subsection 2. And C says on or after October 1, 2014, I think if once amended by the amendment for the ICD-10 delay. So once you follow all of that, does the...is the intent, I think the intent is to say ignore that on or after date and just go to the standard.

**Travis Broome, MPH, MBA – Centers for Medicare and Medicaid Services**

Correct.

**Arien Malec – RelayHealth Clinical Solutions**

I did note a couple of people who e-mailed me with confusion on that point, that the on or after does not apply to that particular...

**Travis Broome, MPH, MBA – Centers for Medicare and Medicaid Services**

Yeah, you don't read that. We just cross-referenced to the standard, so it's a pointer to the standard, not to the entire set of regulatory text that surround the standard.

**Arien Malec – RelayHealth Clinical Solutions**

Right. So the other question, and this is again a hypothetical. Let's imagine that we have EHR technology that sends out labs, I'm going back to my lab results example. We have an EHR technology that sends out laboratory results. Because it didn't get certified to the edition 2014 criteria, it sends out lab reports in 2.3 with a custom vocabulary, it doesn't use LOINC. And we'll say somebody wants to come along and build an adapter to that that will receive orders electronically, and then translate that to the LRI specification and LOINC. Would that translator unit be an EHR module or would you need to certify the entire combination as a component? Sorry for putting you on the spot there.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

Yeah, on that I'm not sure I'm going to be able to tease this one out in real time.

**Arien Malec – RelayHealth Clinical Solutions**

Because I think that's going to be a realistic example of the kinds of capabilities people are going to need to want to deploy.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

So from a certification perspective, it would need to, you know, I'll go at it the other way. Whatever gets presented for certification would need to be able to satisfy that capability. And so, if that gets presented for certification and can satisfy the certification criterion, then the answer would be yes, it could be certified as an EHR module. In other cases, if it doesn't perform what's required by the certification criterion, then it would just be an adapter that would need to be part of whatever else is presented for certification.

**John Halamka, MD, MS – Harvard Medical School**

We are unfortunately running a little bit behind on time, and of course we're going to try a little bit of a lightning round, just clear off some comments. And then we can push to some after, because Farzad I know you do want to talk about the update on policy activities and we do want to have public comment and we do want to have lunch. But, we may be able to squeeze in some additional discussion in Liz's or Doug's presentation in the afternoon. So quick, I see that Doug, you have your card up and so is this something in comment? And I know Wes has a comment to this and Leslie, you've been patiently waiting. So why don't we go, Doug, Wes and then Leslie.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

I just wanted to respond to Arien's question in more than just a regulatory framework, regulations is a blunt instrument that takes a long time to actually operationalize. If you take a look at the electrical industry and how they certify wires and circuit boards or, you know, the circuit breakers and all of that other stuff. There's a very limited set of regulations that the industry comes together and figures out what the testing criteria should be and how they are going to achieve safety across the various components. We're not there just yet, but that certainly is where you'd like to go, where interoperability becomes something that the industry sort of provides forward leaning on that, and that the regulations kind of cleans up as we go. To that end, I think if there is a problem, we have to identify where the problem is. Is

it because our implementation...our testing infrastructure did not test the right thing? Is it because our implementation guide had too much optionality and we didn't get to the goal the we had? Or is it because our standard lacks an element that we need to add into the standard as well? Or is it because our regulation that ties all of the pieces together missed some component of that?

So I think what's important is that as we identify problems, we need to be able to flow that to the right place to solve the problem, so that we don't just go to the standards to fix it or the implementation guide or the testing. Because we have to find the right place to kind of correct whatever it is that we find. And then ultimately, what you'd like to do is you'd like to get out ahead of the game, where the participants in the industry are actually working on ways that they can test things appropriately and achieve interoperability. That then would be to the standards that would need to fill in the blanks that then would lead to the regulatory environments that would be able to bolster that. We're not there yet, but we're in the process of, I think, trying to flip that around. And I think over the course of the next year or so, we're going to try to continue to get ahead of the curve a little bit as we do this.

**John Halamka, MD, MS – Harvard Medical School**

Now Wes, I know you had a related comment.

**Wes Rishel – Gartner, Incorporated**

Yes. Just building on the first part of Arien's comments and trying to stay away from the regulatory implications in my comment. I think that ONC has, in addition to its regulatory power, it has a bully pulpit. And I see, among the vendors, more enthusiasm about working together all the way to implementation, rather than just to give the demonstration of success, that has been the benchmark of prior valuable work that the vendors have done. So, let's look at the kind of things that we can discover in the field in doing this, and compare it to debugging a program. You debug a program, you find an error and you accumulate them and you put out a release and you maybe fix 10 errors and statistically, there is a pretty good chance you introduced one in that process. So the next time, you know you should be 90% closer, because you're only 1 in 100 now.

The process in this difference about this is to figure out is the problem an error in the standard, a mis-appreciation of the requirements or an ambiguity in the standard? And the best people to do that are a combination of the people who wrote the standard and the people who are implementing it. And if we can create a forum for those people, completely transparent, viewable by the public, where the issues are discussed, it becomes a kind of like the support forum that we associate with vendor products. But with attendance from the key implementers and the key thing, a lot of times they'll come to a consensus or most of them will come to a consensus, and there will be one outlier who has more time to type than time required to get the system running. And what we need is to enable that to happen, to not punish people for following that consensus and to find the most rapid way to get those consensus backfilled through standards and regulatory channels.

And I think that with the experience of the S&I framework, with the experience and the great attention ONC has paid to using the Internet the way business uses the Internet, in order to get things done. I think we have an opportunity here to take a specific situation, which I think is the most important example of this process we have. And that's the C-CDA, the new approach that looks at the bugs of the previous...sorry, I am losing the name of the CCD, looks at the bugs of the previous CCD, fixes them based on experience that people who have worked to implement it, and produces something that's not a whole radical new thing, but a tuned up version. So, let's say they fixed the 100 bugs, we've got 10 in there we've still got to work on, all right. And we have everybody poised now, I think, to do it. We need that rallying place in order to make it happen.

**John Halamka, MD, MS – Harvard Medical School**

So in the interest of time, I know that Leslie Kelly-Hall has been waiting for a very long time. Let's just do your quick comment and then let's turn it over to Farzad and then we'll go to public comment and then we'll pick up the rest before lunch, hopefully time will permit.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

Okay, I have two questions, one on sort of the modular approach. If a vendor has been certified as a module under MU1, and now the security requirements have been lessened in MU2, we still have people attesting to MU1 in the same time period as MU2. Are they using the certified, is it grandfathered in. If I have a module that's now certified under MU2, is that grandfathered backwards, there's whatever that word might be, to an MU1 new certifier?

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

I follow you, I think the answer is no, because all the EHR technology would need to be certified to the new 2014 edition requirements.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

For a module?

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

Regardless.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

Okay.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

And everyone will need to have EHR technology that meets the base EHR definition, which includes the privacy and security capabilities.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

Okay, then I misread that the security was somewhat lessened by the module...for a module in MU2 certification.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

Yeah, from a certification perspective, under the prior rule and certification program, if an EHR module spontaneously arrived at a certification body, we require that it needed to be certified to the privacy and security certification criteria that we adopted. Unless the EHR technology developer showed that it was...any of those certification criteria were inapplicable or technically infeasible to implement for that EHR module. What we heard was that for folks that adopt multiple EHR modules, this was just one example, they then got a mishmash of security capabilities are duplicative security capabilities and so, we said this is an instance where we're going to let the industry best determine the right way to put these together. And it reduces some regulatory burden on the EHR technology developers that were seeking EHR module certification that had to do additional work to get certified to the certification criteria, just to get the EHR module certification.

So, what we did with this new dynamic definition was to require that in order to meet the base EHR definition, which is that kind of center of the bull's-eye, however you meet it, however you get there, you need to have EHR technology that's been certified to those eight mandatory privacy and security criteria. That also doesn't preclude an EHR module developer from getting certified to privacy and security certification criteria as well. It's just not that express up front requirement that they do so.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

Right, so as a module, you may not choose to do security in MU2 or certification.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

As part of the 2014 edition.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

It's part of the 2014 edition; however, you have already certified previously. It was redundant or unnecessary when you did so initially. Do you have to maintain that initial certification under security for meaningful use 1 users?

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

I think the...I was going to say not necessarily, but I think the most direct answer would be no. And that's just the scope of the certification when they go back through the process, would be to the 2014 certification criteria.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

Great. Okay.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

The one other thing I'd point out though is that some of them, the certification criteria have built into them security requirements as part of them. So for like view, download and transmit to a third-party, we have secure online access and other components that are built in.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

So could you just also explain what you mean by secure channel under VDT?

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

Sure, it's the same requirement essentially as part of secure messaging.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

Okay, great. Thank you.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

That was quick.

**John Halamka, MD, MS – Harvard Medical School**

Okay. Well, we're going to give Farzad the floor to tell us about the policy update, and then as I said we'll do public comment and then circle back to Dixie, Jim and Cris had their cards up.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

I already discussed, I think, the broad outlines of this at the Policy Committee meeting on September 6, 7. But, just an update, in terms of the feedback we got on the governance RFI. And from many of you in the room here, thank you. The take away really from the 140 odd comments that we got was that if we are to actually move forward quickly this year, on establishing trusted exchange, paradoxically perhaps, the best approach may be not to move forward with regulations and to...which might freeze kind of emerging and positive activities that are happening, in terms of development of trusted exchange networks. So what we've done is to say, "Listen, our goal is to get trusted exchange." There are various tools that we have to get there and some of the tools, as people asked about were, let's work with existing groups that are doing it, and kind of engage more deeply with those. And have essentially, the equivalent of voluntary codes of conduct or voluntary approaches to governance that they come up with and participate and provide our input to those.

Let's work on very specific problems that people are having with interoperability. So there's some very nuts and bolts stuff around how to do you do certificate management and ID proofing and directories and so forth. And we don't maybe need to do a governance rule to get that done, we can just convene, which

we're pretty good at, and get to some consensus, at least rough consensus. And let's get some running code out there, in terms of approaches to solving the real-life interoperability problems. So we have, I think, more we have a blog on this and there's transcripts from the Policy Committee and so forth. But I just thought I'd bring that back to you and to again, ask for your help and your participation as you have all along, in terms of at least on the interoperability side. You know, figuring out what are the nits and nats and problems that we do need to take care of so that when someone is purchasing information exchange services, they can have confidence that those exchange services work, and minimize the amount of variability, unnecessary variability between approaches. And that when two different information exchange enabling organizations want to communicate with each other similarly, we reduce the cost and risk of those exchanges. So, that's all I had, and can take a couple of questions about.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

If I could just say also, the slide deck from the Policy Committee is in your materials. It does outline the approach that we are planning to take, which follows four approaches; leading through action, leading through guidance, engaging, listening and learning and monitoring. And we really do hope both to set out a framework with principles, as well as addressing some of the operational challenges that Farzad mentioned, while doing a better job of really understanding what's going on in the field,. How we can help facilitate good exchange activities and help others who are trying to engage in health information exchange, to learn from those practices, as well as to learn from the mistakes that others have made who've come before them and then to monitor to see if there is some other action we need to take in the future.

**John Halamka, MD, MS – Harvard Medical School**

So, thanks very much, I think it's a very thoughtful approach. And I mentioned in Massachusetts going live with its state health information exchange and Arien and Dixie will like this. We invented sort of RESTful standards to make provider directory and certificate retrieval trivial. We have no idea if they're going to actually work well or not, but in 30 days, we'll tell you. And so making regulation today, to answer questions that haven't been widely socialized in real-world environments, it would probably be a bit presumptuous. So, but there will be coming a time for regulation, in the meantime, experiments and convening is wonderful.

**Jodi Daniel – Office of the National Coordinator – Director of Policy & Research**

If there aren't specific comments on this, I just have a few very quick updates, just some more administrative matters.

**John Halamka, MD, MS – Harvard Medical School**

Other comments? Then I think we all agree? So please Jodi.

**Jodi Daniel – Office of the National Coordinator – Director of Policy & Research**

So first, I just want to let folks know that do have...we mentioned this at our Policy Committee meeting, we do have a new member of the Health IT Policy Committee, Chris Boone from the American Heart Association. He'll be joining us hopefully at our next Health IT Policy Committee meeting. We are still working through the nominations process for the Health IT Standards Committee members and will hopefully get those confirmed later this fall. So, we're still on target with that. We also, I wanted to let folks know that we mentioned this at the last Policy Committee meeting as well, that we're hoping to start two new consumer engagement workgroups, one for the Policy Committee and one for the Standards Committee. Leslie Kelly-Hall has headed up our Consumer Tiger Team when we're looking at the rules, and we thought that there was some real value to be added there, both on the policy side and the standards side. And we'll be working to make sure that those two workgroups have clear tasks ahead of them, and that the work is coordinated from both committees.

The way that we will be selecting the Consumer Workgroup or finding out about folks who are interested, we are going to be setting up a new process on our website for folks who are interested in participating in any of our workgroups, testifying, etc., to be able to submit their name and their interests to us. We don't have that up yet, but we are hoping that that will help us get a broader representation of folks from across the country with varied expertise for all of our workgroups, as well as for our hearings. So since we will

be starting up these workgroups, we hope that we'll be able to use that process to get a broader set of folks to raise their interests to us about participating in those. So, stay tuned

**John Halamka, MD, MS – Harvard Medical School**

Well, right on time for public comment. Jon Perlin.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Let me just again thank Farzad and Jodi Daniel. Really appreciate the hard work and the thoughtful approach, and also your thoughtfulness and communicating. Let me just turn, before we go to public comment, for final mentions from Dr. Mostashari.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Well at the beginning of the day, some of you may have missed it, we said to use the hashtag HITStandards if you want to participate in the dialogue. The good news is that Arien, Leslie, Wes, myself, Jodi have been tweeting. And we also have Jim Hansen, who's in the audience here today with us, who's also tweeting. We don't have anybody from the outside who's in tweeting any questions. So tweeps out there get your twitters on. Do we have...I guess we can turn now to the more traditional form of public input.

**MacKenzie Robertson – Office of the National Coordinator**

Operator, can you please open the lines for public comment and if there is anyone in the room who would like to make a public comment, if you could please come up to the table.

**Alan Merritt – Altarum Institute**

If you'd like to make a comment, and you're listening via your computer speakers, please dial 1-877-705-6006 and press \*1. Or if you're listening via your telephone, you may press \*1 at this time to be entered into the queue.

**MacKenzie Robertson – Office of the National Coordinator**

And while we're waiting for the phone to queue up, if you could just identify yourself please.

**Shelly Spiro – Executive Director, Pharmacy e-HIT Collaborative**

Certainly. My name is Shelly Spiro, I'm the Executive Director of the Pharmacy e-HIT Collaborative, a collaborative representing over 250,000 members of the Majority National Pharmacy Associations and other pharmacy organizations involved in health information technology. Pharmacists play an integral role in the Interprofessional healthcare team, providing medication related services outside and in conjunction with the prescription dispensing process. Pharmacists are in a unique position to engage patients and caregivers, more often than others receiving meaningful use incentives. Providing patients with accurate and meaningful active medication list is a high priority for pharmacists. Pharmacists are highly trained as medication management experts.

Over several years, the Collaborative and its members have been working with NCPDP and HL-7 on standards that will assist pharmacists in standard documentation of these patient care services. Examples of these are medication therapy management that is required by the Medicare part D program, Medicaid and other private insurers. One such of the standards is a direct project that NCPDP and HL-7 have been working on for a structured document, using a consolidated CDA implementation guide to meet the CMS required Medicare part D take away document after an annual comprehensive med review. This structured document contains the pharmacist-provided medication...a reconciled active med list, an allergy list, indications for the active medications and special instructions for the patients in an easy, understandable language.

The implementation guide supports RxNorm and SNOMED CT. The CMS regulatory requirements goes into effect January 1, 2013, just a few months away. The Collaborative is a committed member of the S&I framework blue button workgroup in hopes of driving industry adoption of this MTM Consolidated CDA

implementation guide containing a pharmacist's reconciled medication...an active med list. Without adoption of the electronic form, millions of Medicare part D beneficiaries and care coordinators will be forced to use a manual form. The pharmacist industry, without receiving incentives for the meaningful use, is working to ensure our patients have the ability to electronically receive pharmacist provided reconciled med list in an easy, understandable instruction.

As a start, the Collaborative is interested in the HIT Standards Committee recommending CMS recognize a standard electronic version of this Medicare part D patient take away document, as a result of the January 1, 2013, Medicare part D annual comprehensive med review requirement. We applaud ONC's patient engagement initiatives and speaking on behalf of the nation's pharmacists, we have developed a valid medication reconciliation solution for meaningful users in all practice settings. Thank you.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Thank you very much.

**MacKenzie Robertson – Office of the National Coordinator**

Are there any more public comments on the phone?

**Alan Merritt – Altarum Institute**

We have no comments at this time.

**MacKenzie Robertson – Office of the National Coordinator**

All right, thank you. Any more public comments in the room? Okay.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Thank you very much for the comments. We appreciate the public participation, that's really so much a part of this. And Dr. Mostashari and John and I are really trying to encourage the input, which is why we've been stressing that. Appreciate your doing that. Let me turn back for Dr. Mostashari, speaking of public comment, I think this is the ultimate public comment.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

We do have party gifts here for members of the Standards Committee, I hope we have enough, which is a letter from President Barack Obama celebrating Health IT week and lauding the importance of the work that you're doing. Thank you.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Thank you, it's quite a statement. Appreciate the support.

**John Halamka, MD, MS – Harvard Medical School**

Suitable for framing in all of your offices. So, we do have a couple of minutes before our lunch break, as the letters for the President are circulated. So I know Dixie and Jim and Cris, you have comments.

**Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences**

Yes. Thank you very much. You...Leslie kind of provided the intro to my comment. But where is Steve now, that's who my comment...

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Right next to...

**Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences**

Good. Okay. You recall that during...for Stage 1 certification, the requirement, as you pointed out Steve, was for every module to meet all of the security criteria and standards. And that the Privacy and Security Workgroup said that's really not a good idea because in an enterprise, what you really want is uniform

privacy and security policy and centralized, or at least consistent, enforcement across the enterprise. You don't want each module doing its own thing. Well, initially it looked to me like the only thing that had to do...and so what we recommended was that each module be required either to implement security or to show, preferable, to show how it used the security mechanisms that were in the base EHR, how it used an external security capability. It sounds to me like now, that no module is required, they're neither required to meet all of the security criteria nor are they required to show how they use some external security function to enforce the policy. That's what I heard. And then when you answered Leslie's comment, you reinforced that observation. So, Dixie Baker is certainly concerned and I suspect the Privacy and Security Workgroup will be as well.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

So this is one of those things where there are numerous trade-offs that we had to weigh as part of the regulatory framework. And what we were requiring the first time around, and how it affected the work and the burden associated with getting a EHR module certified. And also recognizing that there are other regulatory frameworks in place, like the HIPAA security rule and the HIPAA privacy rule and state law that will inform and affect the technology implementation that healthcare providers take. So, for the purposes of certification, we dialed back this EHR module prerequisite, for the purposes of certification, to make it possible for more EHR modules to be certified in keeping with this more dynamic definition for certified EHR technology. As well as to express an outcome that they have...the provider at the end of the day has EHR technology that has the privacy capabilities that have met those privacy and security certification criteria. In many cases, I think, you know, have an estimate that that will be part of EHR technology that's been certified to meet the base EHR definition. But, we've always had a policy that if you choose to combine multiple EHR technologies, and that have received EHR module certification, you bear the responsibility for making sure that they work together. And that again though, it's not like there's no other regulatory backstop there, they have to comply with the HIPAA security rule...

**Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences**  
No they don't, not products, organizations...

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

Right.

**Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences**  
...must comply with the security rule. So your choice on this really provides no assurance that the technology that an organization acquires will provide the security capabilities they will need as an organization to meet HIPPA. So, I'm disappointed with your decision on this one.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**  
Okay. Jim.

**James Walker, MD, FACP - Chief Information Officer – Geisinger Health System**  
So Steve, great work. I think there's necessary...

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

You're not playing good cop, bad cop, are you?

**James Walker, MD, FACP - Chief Information Officer – Geisinger Health System**

No, no, no, no. This is an extension, not a correction. So there's necessary complexity. The question that I have is, we need to simplify it considerably for small practices, small hospitals, for many of the consumers of health HIT. And you can imagine that ONC might do some of that translation. You can imagine that we'd leave it to the mark and you can imagine that the Implementation Workgroup would make suggestions on that translation. And I was just wondering how we're going to try to help the

market, many of whom are small, for whom this is no part of their core competency, have a simple enough environment that they can tell, pretty confidently, what's going on.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

Sure. So, and I don't want to speak for Travis. I mean, we've been trying to do a lot more outreach and making ourselves more available also as part of the...some of the slide's that I showed in terms of the resources that we provided now, the illustrations and the flows. I know that the certified, the redefined certified EHR technology definition was really a year in the making. We worked on that several months before, in formulating what it would be before the proposal even came out. So, that one was a long trajectory where I've been living in it for the last 18 months and everyone gets dropped off a 474 page rule that has 80 or 90 pages worth of description about that revision. And explaining it succinctly is a challenge, but I think some of the illustrative slides that we've put together is helping. I've made myself available for what I call office hours through the National e-Health Collaborative, that are free for anyone to come and you know, I don't want to say stump the chump, but that is essentially what it comes out to be sometimes.

And in terms of understanding some of these fundamental concepts, and that's really where any time, I don't think I've turned down an opportunity to speak to any group that's invited us to speak to, giving the same type of slide deck and presentation. And it does require...I think it's a shared responsibility might be the wrong word, but maybe a shared investment on our part, on the EHR technology developers that have a kind of first-degree relationship with their customers to understand the new regulatory framework and make sure that everyone keeps going along with the changes that are happening. We could have a...it's a balance, I guess, of both worlds where we could have a regulatory framework that doesn't change at all and people can understand it and come to grips with it. Or we can try to keep innovating, would be a wrong choice of terms, but, working with the community to better fit the reg framework and the architecture that we have to help make things easier. So, I'm not sure that gives you a lot of comfort, but, we're doing our best.

**James Walker, MD, FACP - Chief Information Officer – Geisinger Health System**

No it doesn't. I'm talking more about a communication issue. I mean, if you think about regulations, whether electronic stability control is required in cars or isn't, obviously we want change and obviously there's complexity. And in this setting, what you presented was at an appropriate level of complexity. What I'm concerned about is, can a dentist tell that these 12 products actually meet all of the things that might reasonably be needed by a dentist? And that's it. You know, I'm a dentist, there's 12 products or 15 products or 20. Some kind of very simple...

**John Halamka, MD, MS – Harvard Medical School**

To your point. So last evening, I bought a Prius C, you know, a very green car, it comes with three manuals. This is a manual of how the radio works. This is the Spark Notes version and this is a laminated card. And basically the laminated card is what I used to get home last night. And so you sort of wonder ONC, CMS, Robin Raeford with her posters coming together, can we achieve the equivalent of the a laminated card. So Cris Ross, between you and lunch.

**Cris Ross – Chief Information Officer, Mayo Clinic**

Okay, so I'm going to go superfast. So, really related to what Jim was just saying. I would say, just from sitting on the Implementation Workgroup, we heard so many comments related to the right-size certification, I would give high praise for ONC, as far as I can tell, really getting this right. The question I had is around the test result transparency, which I think supports what Jim is going to. The question in my mind is, everything you just said about your availability is great, but that doesn't help the small doc who's trying to figure out what they want to do. By test result transparency, do you mean, and I'm hoping you mean, that for attestation purposes, a provider hospital can check off the boxes of things they do, and then compare that to this Lego set of, this is what my vendor does or my combination of vendors do, and those two match in a way to make it easy. So are you expecting that the certification groups, for example, will provide that information in a Consumer Reports kind of mode, on behalf of vendors? Or are you expecting that vendors will do that themselves?

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

Umm, and I think the test result transparency requirement may be getting fused with that communication effort part. So, for the test result transparency perspective, it's simply the information that is submitted by the EHR technology developer to the certification body. And then that information would need to be available.

**James Walker, MD, FACP - Chief Information Officer – Geisinger Health System**

Right.

**Steve Posnack, MHS, MS, CISSP – Office of the National Coordinator for Health Information Technology - Policy Analyst**

And this, we believe, would be more...there may be in the spectrum of users, the power users that may be most interested in saying like, I just can't get my implementation to work the same way, how did this get certified? They would be able, perhaps based on the test result report information that's available, to do a little bit of additional digging. On the additional kind of communicative materials, in terms of making things easier, which I accept the challenge, I'm not quite sure if we can get down the laminated card version, but we do have other grids that we put together for Stage 1, mapping the certification criteria to the meaningful use objective and measures. We're in the process of kind of putting those together as well again.

It is going, I think the simple rule and maybe we can come up with these types of simple rule sayings is, make sure you have EHR technology that's certified to the objective and measure that you choose to meet. And that's kind of a rule of thumb generally, that I would advise anyone to keep in mind. And then there are a couple things, I think, in terms of just meeting the certified EHR technology definition. So, I think we could boil some of the concepts down a little bit more, to distill like the real crystal...you know, hard facts about the things you need to keep in mind. It's going to be hard based on scopes of practice, really to determine. I wouldn't know if I'd be able to say like, for a dentist you need these things.

**Cris Ross – Chief Information Officer, Mayo Clinic**

Well, I think we heard from the field before that there was a simple clear rule, but because it was simple, clear and blunt, people were over-buying technology. And vendors, in some ways, were producing tools that sometimes were actually running versions that might not be the exact version that was certified, and there was some cynicism around that. We just heard a lot of feedback from the market, it seems like you guys got it right. At this point, it gets to be a complex buying challenge, potentially, and a complex attestation challenge. So, I would just suggest that anything you can do to make that clearer for the buyer, I think we will hear good things about that.

**John Halamka, MD, MS – Harvard Medical School**

And Jim Walker has one sentence he's going to add to this.

**James Walker, MD, FACP - Chief Information Officer – Geisinger Health System**

I don't mean to imply that this is ONC's job at all. I just think a clear signal. I mean, there's KLAS, there's Gartner, there's EHR partners, there's Learned Societies. It's just a clear signal, I think...

**Cris Ross – Chief Information Officer, Mayo Clinic**

...certification...

**James Walker, MD, FACP - Chief Information Officer – Geisinger Health System**

...say, this is something, and maybe a set of tools that go to those kinds of groups that would sort of intermediate between the market and the regulatory. So, I just think it's a matter of clarity and signals.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

And one other thing Jim, it's a matter of being open, and I characterize open as being, letting other people help. And one of the things that we've committed to, and I think it's going to happen soon, is releasing downloadable access to the entire CHPL database.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Let me thank everybody for a really terrific discussion. It was interesting, we joked about the article this morning, but those three slides Steve, that really so nicely demonstrated the alignment of standards. That is the laminated card, it is a synthesis and it is really a map. So, for those who are listening or otherwise engaging virtually with our conversation, the heads are all nodding here. Really, there's so much opportunity within that. Are there areas that need additional reflection? Are there things that the interactivity needs to be more understood?

I thought Wes Rishel's metaphor of debugging software, one obviously Dr. Mostashari was resonant with, is exactly that. Dixie raised an issue about the synergy of multiple modules and how they might come together. And some things we'll need to put our heads together with. But, on the whole, what an extraordinary set of accomplishments that really so deftly handled, Cris Ross, I thought your framing of the modularity and its utility was right on and I think all of us echoed those kudos. Let's break, on that note. We'll reconvene sharply at 1:00 p.m. Eastern. And I think we have equally robust conversation this afternoon. One note for members of the Committee, the document that we distributed, there will be more copies. If you didn't get a hardcopy, it will be mailed to you and appreciate MacKenzie. MacKenzie, any lunch pragmatics you want to mention?

**MacKenzie Robertson – Office of the National Coordinator**

The lunch will be brought up shortly.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Okay.

**MacKenzie Robertson – Office of the National Coordinator**

Uh, it's already in the room.

(indiscernible)

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Thank you very, very much for that. Appreciate all of your support. And for others who aren't partaking of that, feel free to join Logan Ballroom, with bring your own, or there are a few places nearby, but we'll start at 1:00 sharp. Thanks.

**MacKenzie Robertson – Office of the National Coordinator**

If everyone could please take their seats, we'll get started. If the lines are open, I'll turn the agenda back over to Jonathan.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Good afternoon everybody. Thank you for reconvening so promptly. During the break, there was some discussion over the logistics of the next couple of meetings, and appreciate MacKenzie's clarification. In October, we'll be in person, in November, we'll be in person. In December, it will be a virtual meeting. So for your calendars, you can write lock those down. Appreciate MacKenzie, your work on that. Okay, let us...I think we were having some difficulty getting the slides initiated, are they? We're there. Okay, terrific. So it is my pleasure then to turn over to Liz Johnson and Cris Ross for the Implementation Workgroup update on the testing methods. And appreciate all of your work and I know you have some additional colleagues to introduce and appreciate everyone's help on this important area.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Thank you, Jon. This is Liz Johnson. Today we're really going to talk about the work that we've been doing over the last few months and the work that we have coming. As we all are clearly aware, with the introduction of the 2014 edition, there was work that we could do this summer in preparation, developing methodologies and developing some scenarios. But with the release of the testing that are coming out now, we really want to talk about that and where we're going to go. And John Halamka volunteered earlier, so, we wanted to certainly acknowledge that we certainly intend to take advantage of him and his organization, so that we have real-live testing partners, even before we go public with this. I think that will significantly improve where we've been. We've done such a good job over the last couple getting this better and better.

So first and foremost is, we actually should be on the PowerPoint, not on the Adobe file, but on the PowerPoint itself. We'll make this switch in slides in just a moment. As always, we want to acknowledge the member list and you have that in front of you and those who are joining us virtually, you'll have it in just a moment. But our members have been meeting, we've been meeting every week or two for several hours to work together and so this has been a continuing effort. So we always want to say thank you. Their input has been genuinely helpful and very proficient in terms of getting lots of work covered. And, so I suspect we're asking for a bit of empathy. Carol, and Cris and I have decided now that we will simply meet weekly for an hour and a half. So, here we come, whatever we may want to call that, certainly we'll be glad when Christmas gets here because then we'll be done. So, we'll move from there.

What we're really going to talk about today is first an overview of how we developed the test scenarios. And Scott Purnell will be joining us by phone to do that. So we really will talk about, how did you do this? What methodology did you follow, and so on? And then we'll be talking about, with Chris Brancato and myself, the actual one of our scenarios, there are several, but we've chosen just to go through one, so that you'll be able to understand how does that actually translate then into some actual test scenarios. And we want to talk about testing methods and our timeline, and Carol Bean will be joining us to take us through that process. And then Cris Ross will be wrapping up for us to kind of talk about the work that's coming and how we will proceed. And then certainly we'll open then to the Standards Committee for their questions related to the process that we've gone through. So with that, we will move to Scott, and I think you do, all of those that are in the room, and again I apologize to those who are virtual. You do have a PowerPoint presentation and Scott will open up with a slide entitled, Development Methodology.

**MacKenzie Robertson – Office of the National Coordinator**

Just to let you know, the people on the webinar can actually see the slides, we're just trying to project them in the room.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Great. Okay, so Scott.

**Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services**

Yes ma'am. Thank you, Liz, I appreciate the introduction. So if you're looking at the slide deck, we're actually on slide four. So Development Methodology basically looks at how testing was done in the certification program to date. We essentially call this unit-based testing where tests are done in a vacuum. Tests are completed individually and data and information is not passed between one test and another. We were given the challenge to try to more modernize the testing policy so that information could be passed from one method to another, to allow better end-to-end testing and better simulation of how things actually work in the real world.

Now if you move to slide five, this basically introduces the idea of scenario-based testing. At the bottom of the slide, I'll introduce the picture first. You'll notice that the order has changed from the first slide. The first slide had items in order one, two, three and four. The second one does in more of randomized order of three, one, four and then two. This is to simulate that, in the scenario-based testing, you would define a scenario as best works in the real world, and the data that happens in one particular test passes from

one to another and then so forth and so on. But it simulates what actually happens in a real clinical setting. The order is not prescribed such that it can happen in the order one, two, three and four, three, one, four two or any number of combination of that, and the numbers at the bottom simulate that as well.

If you move to slide six, the idea with the scenario-based testing is that there would be interchangeable, I'll credit back to Dr. Bean here, she likes to call them Lego blocks that can be popped in and popped out as seems fit, between certain modules if need be. But again you recognize that the testing can be passed from one test to another test, but can also be removed for products that don't actually fit that particular criterion or have that particular support. The idea being, the first scenario, first example shows the three, one, four, two scenario we've seen earlier, and the second one shows one, four, two, where step three has been removed, so that one scenario can be used for multiple products, in multiple settings, to simulate the same sort of testing and work that we've been trying to accomplish.

So if we go to slide seven. So our development approach, as we said, reflects a typical clinical workflow in multiple care settings. The biggest thing here is it allows the persistence of data elements and provides a model for data threading between different certification criterion and various destinations within an EHR. Those two points are paramount and that's going to try to simulate as best we can, a real world scenario so when we start developing our testing scenario, that actually we'll go through in a minute, you'll see that they try to represent what actually happens in various clinical settings. For the types that we described here, we've chosen four different ones; medication management, which is the one that we will actually go through today, Emergency Department, and outpatient and then an inpatient scenario. You'll notice...as we've gone through, we've noticed that there has been some repetition in criterion testing between them. So there is some interchangeability between the various settings, but the idea was to, as the last bullet point shows, maintain testing flexibility so that if a product would not fit one particular, or all the particular pieces of a scenario, it could still be tested in a thorough and effective manner.

Let's go to slide...thank you. So the process was to basically develop a clinically plausible workflow in that it made sense to clinicians first and foremost. So I wanted to applaud the workgroup members for their support and help with this throughout the summer. We have had a lot of meetings on the schedule and some off, but they've provided a lot of time and effort in assisting us in developing some scenarios that make a lot of sense and work. And currently, just want to point out, the testing scenarios are based on the 2011 certification criterion. We haven't had a lot of time since the final rule came out. We are in the process of updating that and we'll reevaluate all these criteria against the 2014 certification, as we move forward. So Chris, I'll pass the microphone to you.

**Chris Brancato – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Thanks, Scott. For the benefit of everybody at the table, I'm Chris Brancato from Deloitte. I've had the pleasure of serving almost exclusively the Office of the National Coordinator for the last six years. What I'd like to do is start the conversation about the medication management test scenario that we've done and hammered on and refined. This is a draft and it is based on the 2011 edition certification criteria. The plan will be to reevaluate that test case against the 2014 certification criterion. In general, the best way to describe this overall is, this medication management test script is actually a derivative of the two encompassing use cases or test scripts, one for inpatient, one for outpatient. So this is a derivative of those and tests very specific...or proposes to test very specific certification criteria related to the actions of medication management. As you can see in front of you, this is meant to be a plausible and typical case. We've spent a lot of time and anxiety going over the use case to make sure that we are able to answer the question to some degree from people responding to this is, "Well, this is not how my practice operates." We duly note that in the verbiage in the test script, but it really is centered around making sure that we can thread these certification criteria together, using common data elements to do so. So an input matches an output, or an expected output, if that makes sense to you.

As we developed the test data for the test cases for 2014, we have laid the foundation for that to possibly happen when we start the test against these threaded or scenario-based test scripts. So if you could scroll down a little bit and go beyond the methodology, I'd appreciate that. Each test script has...it's very similar to what you would consider a standard engineering test script. It has some preconditions, it sets

the context for how the scenario is to be used. It gives the vendor, the testee and the tester a lens for which they should approach the actual testing of the EHR. So as you can see there, we've listed out in the grid, the various certification criteria that would be tested as you go along and use this test script. So if you could scroll down a little bit, up a little bit more. There you go.

So, we make some assumptions in medication management. We elaborate a specific site of service, in this case, it's a critical access hospital. We elaborate specific actors, users, if you will. In this case, there are licensed eligible providers as defined by the CMS EHR incentive rule. And we have and we will continue to make sure that the language in the test scenarios match other points of reference as they're incorporated into the test scenario. So if you could scroll down a little bit. Again, considering this is an adult patient who is admitted to a general medicine floor list and we're going to provide care in a general medicine unit, and we will go through the individual steps of how a medication will be ordered, dispensed and managed through an administration process.

So if you could scroll down a little bit more, there you go. This Chevron diagram basically tells us...tells the vendor and the tester where each one of those criterion fit in each one of those specific actions. So the ordering action would test those five specific criteria. The dispensing action would test those three specific criteria and administration would be, in this case, it's just eMAR. But as you will see, if you were to look at the inpatient or the outpatient test scenarios, each one of those Chevron's is full with individuals' criterion, because it was meant to attempt to create a wider universe of what an inpatient system should be tested against, or what an outpatient system should be tested against. So if you could scroll down, please. Now it's important to reinforce something that Scott brought up and that one of the logical questions that we often get, and certainly Cris and Liz asked us often about is, can a vendor drop out if they don't need to test a certain criterion? And the answer is clearly, yes. And I'll point you back to what Scott...the diagram that Scott provided for you before.

If you could just scroll down. The intent is not to go through this in gory detail, but to give you some model of what we're thinking and how it might serve as a foundation for us to be testing these scenarios.

#### **Cris Ross – Chief Information Officer, Mayo Clinic**

That was really helpful. I just want to make sure that everybody has got a grounding on sort of why we're doing this. I mean, the thing that the EHR is testing against is the specific test cases themselves, that's the only thing that's testable. We're doing this work in response to a critique, based on certification related to meaningful use 1, that there were places where there was a data error of some type in the script. John Halamka gave the example of a drug that just didn't make sense. The other thing we were trying to accomplish was to put scripts in context, just to be clear. So these scenarios are not something that you can test against, we can test only against the test cases. This is really intended to help the certification bodies, vendors and others understand the context as they move through this process. So, we're not thinking about this specifically as a super-test script or a subtest script, this is not intended to be a testing use case specifically. This is intended to be guidance to people who are interpreting a set of test cases that they string together as appropriate, right. So, it was an attempt to get to a more rational, sensible, real-world form of certification as opposed to something that was maybe a little bit too choppy, a little bit too robotic, I guess.

#### **Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

I think in terms of describing further on the case, what we actually did. As you read it, at your leisure, again, not to go through it word by word, but I think what we wanted to do is, we took clinicians and we actually walked through each of these scenarios within a context of a hospital or a clinic or an emergency room, to say what would actually be occurring in what order. Because what we heard, whether it was folks like John, who did their own certification process, or vendors, was that we were retesting for the same criteria repeatedly. That is unnecessary. By using a use-case scenario, such as these, you would be able to test for a certification criteria one time and meet the obligation across the board. And you'd be able to do it in a way that made sense, so that even if we look at test results after-the-fact, we can string those numbers together in the right order.

So when you read the test scenario and we will spend just a minute more or so on it, when you think about ordering what we really did was say, what would happen when someone orders? They would do a safety check, they would actually enter the data, they would look for test results, they would do drug-drug. They would do all those kinds of things and they would do it in this order. When they looked at a patient to check the five rights, what would those rights be, how would you actually demonstrate that. So again, we could move to a real world, yet be able to carve out for a modular certification, if somebody only wanted to do their EMR, and that was all they were going to certify, you could pull those steps out. And I think if you saw, and we had quite the fun as they got into trying to match, well this is minor, well this is in a critical access hospital, well this involves a pediatrician, well this involves, it was free-flowing conversation, we'll just leave it at that.

It took several hours for every scenario, because that's who we are. But I think it was really...brought us to realization around where test scenarios may not have worked as easily as they could have in the past, as easily as they will in the future. And I think that really leads us into a Carol wants to talk about. You know, having gone through this exercise, we have become very compelled to say, "This makes a difference." I mean, I think John brought it up last year and we thought in our early hearings at the end of 2010, when we heard, "If you could make this so it feels more like a real-life." And with the work of the ONC who said, "We want you only to test on things that make sense. We want you to only own the things that make sense." All of this now finally ties together. So Carol's going to talk about the work we have in front of us with the testing scenarios and then again, our job will continue to be to ensure that whether it's from a clinical perspective and they're relevant or for security or privacy or whatever, that we're bringing the right parties in to weigh on those test scripts. Carol.

**Carol Bean – Office of the National Coordinator for Health Information Technology – Director, Certification and Testing**

Can you go back to the slide deck please. There was a finding slide, did you want to discuss that?

**Cris Ross – Chief Information Officer, Mayo Clinic**

Let's go to that findings slide.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

That's fine.

**Carol Bean – Office of the National Coordinator for Health Information Technology – Director, Certification and Testing**

Slide 10. Did you have anything else? I think you discussed a lot of that.

**Cris Ross – Chief Information Officer, Mayo Clinic**

I think we've talked about this already Carol, do you have anything you want to add to that?

**Carol Bean – Office of the National Coordinator for Health Information Technology – Director, Certification and Testing**

No but, other than, again, just humbled by the amount of work and the quality of work that is being given to this nation through processes sort of like this by this group, by the workgroup and by others. And just, the more the merrier and our work is not over yet. So that's what I'm going to talk a little bit about now. Going into the next slide. This is...we're now talking about, get this a little closer to me, and I apologize, allergens are in the air. We're now talking about the 2014 edition testing and the timeline that we have for this, you will note, as we've said all along, we're going to release the test procedures as we have them completed in waves, similar to the way we did before when NIST was driving the ship. NIST is still very much involved in this, this is still joined at the hip kind of collaboration. But what we see here is more waves and a lot more detail.

And you see sort of the sausage as it is being made. Where we...in order to retain the fidelity to the principle of being able to test modules, to have people be innovative as developers, to bring forward pretty much whatever they wanted to be certified, tested and certified. We did need to retain, we do need

to retain, the capacity to do what I refer to and what we've been talking about, is a unit-based testing. And the scenario...how that links to the scenario is, the scenario that's where the LEGO metaphor comes in. The scenarios are a way to join together the units that are composed, that could be seen as modules. So we want to retain the modular capacity, retain the invitation to innovators and other people who think that we can...still have a long way to go to, or maybe have the next best idea that we haven't even thought of yet.

So where the scenarios come in is to reduce duplication, to make it more clinically relevant, put it in an...particularly in an order that makes a lot of sense, being able to drop in and drop out, test to have the data flow from one to another. And you can imagine since this still has to be unit...we still have to retain the capacity to test the individual criteria one at a time, there's a lot of coordination that has to go on between these. And so that's one reason why we have more waves and more detail there in the waves. Waves one and two, you will note through September, we have weekly releases of waves. And beginning in October, we go through a biweekly schedule. Waves one and two have already been posted, one on the 7<sup>th</sup> of September, the other last Friday. We have another set that's going to go out...go up on this Friday.

Each wave has associated with it a two week public comment period where we're basically guaranteeing to consider/incorporate those comments. But because of the volume of work and the hard and fast deadline that we must have this up and running, the certification process, in January, the ability to receive comments will go until the end. But we can really only promise, at least for the first iteration, the ones that come within this two weeks phase. And so while all of them will be considered and going forward, that's not to say that they won't be, but just want to really focus on what we can do. You'll notice looking this as well, that we've got a couple of workshops listed, the first one is in the 1st week of October. This is going to be hosted by NIST, it's going to focus on test labs and the certifying bodies and the accrediting bodies who need to be able to have some level of confidence that the test labs and certifying bodies are proficient and competent in these new procedures to be able, to be able to start the program in January.

This will be followed up a couple of months later by the full bore, on-site, you know, full-scale accreditation evaluations. But in the meantime, this enables us to begin to move forward with it. So the technical workshop that's in November, is open to the public. We imagine that there may be some vendors or some developers who want to come. It will be limited only by the capacity of the room. We intend to have it on the webinar, so, people can join in that way as well. Not intended to exclude anybody.

There will be a period, as before, just reminding you, where the National Coordinator...we compile, after the final test procedures are compiled, presented to the National Coordinator, submitted for approval. Review and approval, then an actual the scope expansion for the test labs and the certifying bodies, based on those approved test procedures that will be listed in the...or published in the Federal Register notification. So we anticipate then, at that point, once those test procedures are nailed down, and Chris is going to talk a little bit, if I finish soon enough, about the job, the next half that we are asking for the Implementation Workgroup to do. But, circling back around, the test scenarios that we've been working on for the past few months, will also be reviewed in the context of the unit-based test procedures and test data to ensure that we have coordination of the data flow as Chris Brancato was just describing.

So if you want to move to the next slide or do I have control now? Just for your information, this is what has been posted in wave 1. These are the test procedures, test data and test tools that were posted for wave 1. There are 14 test procedures, nine of which have test data with them and a single test tool. Next. In wave 2, there are 7 test procedures, four of which have data that we're supplying and one test tool. Wave 3, we anticipate will be approximately 5 to 7...stay where we are...procedures, tools, some more data. Now, we are separating the...previously it was all clumped together, the procedure, the tool, the data and test method itself. We're separating out the test procedure, test data so that we can continue to add the test data, we can refine it. That seems to be the biggest place where we need to have changes and where we want to have more, or we may have different issues needing to do so, we separated that out so that, in particular, we can get test data from any number of sources. And we can improve the amount of test data that's available for testing. And so the test procedures and the test data are intended to do dual duty with respect to the scenarios and the unit based testing. And they're also

coming from multiple sources and that, of course, increases the complexity of operationalizing this, but with your help we are certainly up to this task.

**Cris Ross – Chief Information Officer, Mayo Clinic**

So I want to just wrap up by talking to next steps and then we'll go to questions. There's really three things we're focused on, two which are on this page. One is to finish the test scenarios themselves. So we began to assemble scenarios before the 2014 rule was out and the test procedures are available. So our work is to somewhat retrofit. We've done a med management, one inpatient scenario, one outpatient scenario to kind of get our feet wet. Pardon?

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

And emergency room.

**Cris Ross – Chief Information Officer, Mayo Clinic**

And emergency room. Thank you, so we've done four. Our intent was to figure out what's our process for actually assembling these scenarios, does it make sense? Has the group figured out how to make it work? We now want to go back against the certification criteria for 2014 and then also review against the 2014 test procedures as they roll out. If we could go back maybe to slide 11 that's got the timeline view on it. So, as you see those waves roll out, our intent is to have workgroup meetings happen through the whole period into October and November, in which we're trying to develop appropriate scenarios against each of those. Clearly we're not going to develop a scenario per test case or even a scenario for a cluster of test cases. It's going to be somewhere in the range of a dozen kind of scenario, as opposed to fifty kind of scenarios; just to give people a sense of where we're at.

If we can go back to the next steps. Then the second thing that we want to do is to get input on those test procedures. Test procedures meaning scenarios, meaning test case, meaning any other issues that vendors and others are having as they go through the certification process. The Implementation Workgroup I think is singular on the Health IT Standards Committee in that we're rarely speaking about the way things should be, we're responding to how's it going, given the decisions that have been made about how things should be. That's our intent to stay focused on that. So the item that's not on this slide, just looking way ahead over the horizon, as if we can even imagine a world after December, is to have hearings like we had about two years ago to get robust, real-world field-based feedback on what has the process been like to go through certification? What's been the experience of vendors and practices, as they move from meaningful use 1 to the 2014 edition, so that we can help influence what might happen in meaningful use 3. And I would suggest humbly, that I think the Implementation Workgroup work has been I believe, and hopefully has been helpful to ONC. You know specifically we talked earlier around, and the comments I made around Steve and Travis' presentation, that hearing from the community that there was a mismatch in certification requirements and meaningful use requirements really got them to this right-size certification.

And then the second piece, I guess, Dr. Mostashari talked about how with respect to the RFI on networks, that ONC doesn't need to be silent in between rule making events, and that this can provide some opportunities for ONC to provide some real feedback to the industry. And that's our intent as we look forward, I think through maybe through the first quarter of 2014. Liz, do you want to add anything else to that?

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

No, I think the only thing, I would like to have the Standards Committee really recognize the work of Chris and Scott in particular, who really did a yeoman's job, and Carol, your leadership is terrific. But while we fought through the details and the clinical relevance of the conversations and so on, they did a remarkable job of documenting and capturing every comment and revising on a weekly basis, so thank you, because the work is much better because of you.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Let me just add thanks for all those efforts and terrific conversation. It's really striking, you know back to that metaphor of debugging, how far we have come in this regard. I remember the discussion at the first set of test scenarios where it was really elemental and after getting the transitive property, but you had element A, element B which are necessary to get to C, but if you could certify for A and certify for B but not get to C. Test scenario Liz, I believe that was really a thread that you offered early on, and this seems really strikingly effective in addressing the intent behind the standards. We have about ten minutes for discussion and I see a couple of cards up. We'll go Wes, then Walter, then Dixie and Arien. And if there's anyone online who wants to weigh-in, do speak up. So Wes.

**Wes Rishel – Gartner, Incorporated**

So a quick just orientation question. The discussion has been primarily about functional testing of features of the EHR, what are the plans around testing for interoperability?

**Cris Ross – Chief Information Officer, Mayo Clinic**

Great question. It's one that we need to add to the list. I know that Carol was anticipating that people would be very eager to try to poke into which one of those waves, where those tests would exist. But when that arrives I think we're going have some of the...I mean it's the things that weren't test cases in meaningful use 1. So, we're going to have to do some anticipation.

**Wes Rishel – Gartner, Incorporated**

I think that folks doing the test cases for meaningful use 1 did the best they could under an extraordinary time pressure. But my own experience developing interfaces, and I'm sure everyone shares it in the room, is that the majority of the hard to fix problems are not about what occurs when it goes right, but what occurs when things go wrong.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Right.

**Wes Rishel – Gartner, Incorporated**

And that the things that go wrong fall into some very common patterns and that it should be very easy to develop not a days and days of testing, but a battery of tests that go over some very common issues like that very quickly. And I'd like to see us head down that path.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Well, you know Wes, too, and I just want to comment too back to you, as we've developed the scenarios, we did do things about transition of care and CCDs and so on. But you're right, the challenge becomes in translating that into real life, because often we heard from some of our vendor partners on the call that they're asked to show that they have the functionality, but they're not actually asked to ever do it. And what we heard in our hearings two years ago was. "You all are missing interoperability totally."

**Wes Rishel – Gartner, Incorporated**

Right, and I think...my own...I have had the good fortunate to be involved in developing systems that relied on interoperability since 1984. And we had an experience that I would call, interface design by debugging. At that time, both vendor had to go to the hospital to test, and we would show up and this was our business and we had developed the code well ahead of time and some other vendor would show up and we'd say okay, we'll send you a transaction. They'd say, we didn't get it. Well, we've got this way to put a monitor on the line. You see, you need to see this special character here and then you get it. Oh, okay, then we go through a series of things, always the very next thing we test wouldn't work, "I'll go fix that." Well where is he going, he's going to write the code to do it. We were effectively giving a training lesson. And we can, with just a few really well selected tests, get all of the vendors, many of whom are very competent, many of whom are newer; we can get all of them over the basic set of humps and spend the real time in the field on...not on 101, but on really getting it to work.

**John Halamka, MD, MS – Harvard Medical School**

Just a real quick comment in follow-up to that. And that is when, I volunteered on my blog to be the recipient to any hospital in America who wanted to demonstrate that a CCD could be sent to another organization, I personally probably received 2 or 300 hospital CCDs which demonstrate the capacity to e-mail XML from one place to another, but have absolutely no clinical relevance whatsoever. And so what you could say, in credit to those who did Stage 1, they did the best they could and in fact the industry was at a point where you couldn't move it as fast to Stage 2 as you would have liked. So now, let's make sure that these tests are actually my EHR can negotiate with a trading partner, those transport protocols necessary to meaningfully transfer clinical data.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Great. Thanks. Walter, you're next.

**Walter Suarez, MD, MPH – Kaiser Permanente**

Thank you, yeah, I have a couple of quick questions. The first one is about security. I'm glad to see some of the security elements already in the first two waves. Will you be expecting the Security Workgroup to be engaged? Back in the Spring, we developed a number of recommendations related to...

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Right. And I think what we'll need to do, this is a great question Walter. Carol, what we're going to need to do is obviously we can look at the ways and with Cris and I, we can determine Walter and Dixie, how to bring the right person in, because that would not be something we would be managing independently of you.

**Cris Ross – Chief Information Officer, Mayo Clinic**

Yeah, we really did try to work well together before, as you remember. But I think this is a case where a security scenario is particularly powerful and would be really useful.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Yeah.

**Cris Ross – Chief Information Officer, Mayo Clinic**

You know, I'm sitting here thinking about how can we develop scenarios for interop and develop scenarios for security and I think those are going to be complicated frankly. They're doable, but they're not going to be trivial.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Or the other side of it is, can we add a scenario component to the scenarios that are in current existence? And is that reality. We need to take it offline, but I think it's...

(indiscernible)

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Right, that's what I'm saying. Can we add a scenario to the current.

**Walter Suarez, MD, MPH – Kaiser Permanente**

Well, some of the current ones I can...in fact, the one that his being provided as an example presumes some of the security elements. You know, for example it says, that the authentication or the, yeah, the person would be authenticated...

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Yeah.

**Walter Suarez, MD, MPH – Kaiser Permanente**

...it's already an assumption. But there's a number of other features. Exactly. So that's great, that's great to know. The second question I have is about, just like we're looking at, and Wes mentioned, the need to test for interoperability, The other big dimension, of course, is the capability of the EHRs now to be able to produce in the format and transmit in the method that is prescribed, quality measures. And so, I didn't see in this first wave any quality measure, but I expect that there will be some in the future.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Yeah, we did not do quality measures in the first wave. We did not, you are correct. When they're available, they'll be tested.

**Walter Suarez, MD, MPH – Kaiser Permanente**

Thank you.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Thanks Walter. I think what we'll do is actually we've got four cards up and we're at time, but let's just go down this side starting with Dixie and try to be succinct in our questions and answers and terrific topic. Dixie?

**Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences**

Good. I have an easy question...I mean a straightforward question, let me say. But I would also point out I was talking with Steve during our break about you know, that our Workgroup might be able to help him identify the properties that a module might have to exhibit when it...and I think that doing scenarios would really bring out what those properties that are between modules need to be, so. But my question is, Cris you mentioned that this scenario approach would allow a criterion to be tested once and then not again, and I missed how it does that. I mean...

**Cris Ross – Chief Information Officer, Mayo Clinic**

Liz, can you take that?

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Yeah, that was me. So Dixie what we're saying is in the previous testing, if something was called for in a test criteria, they tested it over and over and over. And what the ONC has said and so, Carol correct me, but what we understood is if you tested it once in the scenario, you would not have to go back and test that component again in the unit testing.

**Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences**

Oh, okay. But if you had two scenarios that used that same component...

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

You'd run it through anyway, you're right so...

**Dixie Baker – Science Applications International Corporation – CTO, Health & Life Sciences**

I see, okay, I see what...

**John Halamka, MD, MS – Harvard Medical School**

Dixie, let me give you a quick example. So when I did the certification, which was exactly per the NIST scripts that were very, very clear, it would say, "Enter three problems in the problem list." Okay, great. Well wait a minute, but didn't I just do that to show you how the problem list worked. "Well, I'm sorry the

script says, "Enter three problems in the problem list." Okay, I'll do it again. And this now streamlines that whole process, making it nicely threaded.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Okay.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Nancy...

**Nancy J. Orvis – Director, Health Standards Participation – Department of Defense**

This is Nancy. I just wanted to double check. Is there a next space where you're going to continue to work some on new scenarios, because it's good.

**Carol Bean – Office of the National Coordinator for Health Information Technology – Director, Certification and Testing**

Yes.

**Nancy J. Orvis – Director, Health Standards Participation – Department of Defense**

Because I would definitely ask that...some really cool things on interoperability. It is, as DOD, as a provider and as doing some systems integration, it would be really, really powerful that we have this. It is the time to look at really holding vendors to say you've got to be able...you know, the example, we still have lab techs that are still hand entering the lab data from commercial labs into their EHR, what a time sink that is. You know, it's just we've got to do some key areas, you know, and they're faxing the results to the providers in their individual offices. Those kind of things would be a huge time-saving if we could get a couple of key interoperability scenarios like that.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Great, thanks.

**Nancy J. Orvis – Director, Health Standards Participation – Department of Defense**

Okay, thanks.

**Cris Ross – Chief Information Officer, Mayo Clinic**

So I know both you and Wes are on the committee...

**Nancy J. Orvis – Director, Health Standards Participation – Department of Defense**

Yeah, yeah, I think...

**Cris Ross – Chief Information Officer, Mayo Clinic**

...so we'll make absolutely sure...

**Nancy J. Orvis – Director, Health Standards Participation – Department of Defense**

It's of high interest to those of us in the federal agencies, working with EHRs.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

I was thinking the same thing Cris. All right...

**Cris Ross – Chief Information Officer, Mayo Clinic**

I think we have volunteers.

**M**

Thank you for volunteering.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**  
Floyd?

**Floyd Eisenberg, MD, MPH, FACP – Independent Contractor**

So I want to say I think this is very nicely done. One thing that I did pick out is your preconditions, problem list, med list, allergy list. And while its use of those for your scenario makes sense, and it's not part of your current effort, but it would be really nice to understand how those are actually used and not just that I entered problems on 20% of patients or whatever number comes up, but how are they actually used to manage problems? Is it the list or how does one manage problems in a clinical setting, so they can be used for real scenarios not just the scenario tests? I know National Quality Forum actually has a collaborative, e-Measure Learning Collaborative discussion about this on Friday, but I think it needs to go beyond that as well.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

Thank you, Floyd. I think the challenge that we have and we will continue to have is, as users of the system and clinicians and others, we've tried to hold our scenarios to what needed to be certified. It's very difficult, more difficult than you can possibly imagine, because when you start writing the scenario you realize there are many other things that you would do in the normal course of practice, that really are not required for certification. So, we have to balance all the time. But I think it's a great suggestion.

**Cris Ross – Chief Information Officer, Mayo Clinic**

It's also the case that if there are clinicians who are interested in serving on this Workgroup for this purpose, we would love to have them. We have depended heavily on, you know, Liz is a clinician, we've relied on Joe Heyman...we've invoked the Joe Heyman rule I don't know how many times. But if we could get three or four more people who could really be...because Joe will say, "I don't do that, nobody does that," and it's incredibly useful. And if we could get some more clinician presence, that would be fantastic. John Derr is a former pharmacist, we could use more.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**  
So if there are folks who are interested, to express your interest to MacKenzie please.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C – Tenet Healthcare – Vice President Applied Clinical Informatics**

We meet weekly, you have plenty of time to get with us.

**MacKenzie Robertson – Office of the National Coordinator**

Four more days.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**  
And Arien, final...

**Arien Malec – RelayHealth Clinical Solutions**

Thank you. So this is Arien. And I know that you're focused on edition 2014 certification, but I point out that it's not too early to think about the timeline for Stage 3. And when I calculate the timeline in my head, it looks very scary. So I think realistically, we require two years from the NPRM publication date to the start of the meaningful use attestation period. And if you back that up for hospitals, we're into early fall of next year. So I think having awareness of that calendar in particular, as the Policy Committee is debating its timeline for meaningful use. The intersection with what you can do on the standard's world and how you get things through may be disappointing, but it's better to be realistic now than try to rush it and get in the same place that we did this cycle.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C - Tenet Healthcare – Vice President Applied Clinical Informatics**

Yeah, I think you're right Arien, and we've already talked about that once we got through this wave of testing, which would be December timeframe, that January of next year we should start working with Paul

Tang's group in really talking about what for the implementation. I know that John and Jon will be working on it for the standard's perspective. But start now, so we can make recommendations early.

**Arien Malec – RelayHealth Clinical Solutions**

I think that's great. It might even be...it's not too late to do it now, or not too early to do it now, in the sense that by that time the wants from the Policy Committee will be already expressed and will be in the...

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C - Tenet Healthcare – Vice President Applied Clinical Informatics**

Oh, I see...

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

It's already...we already...

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C - Tenet Healthcare – Vice President Applied Clinical Informatics**

It's already there.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

...for the Meaningful Use sub-team have already been put forward, and although it's not a crystal ball, it's certainly something that could indicate intent.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C - Tenet Healthcare – Vice President Applied Clinical Informatics**

They generally have been vetted at the Policy Committee and they're out there and clearly even forcing into stage 4. So, I think you're absolutely right. That could certainly be a conversation Cris, I think, for our committee.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

Especially, this is Leslie, especially where we've indicated that standards are not yet formed or they're not mature. For instance, I think of shared care planning, care planning, care team members and so forth, when we start including nonprofessionals in that.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C - Tenet Healthcare – Vice President Applied Clinical Informatics**

Yeah.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

Because we need to start now.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

I think Doug, you wanted to comment on this? Appreciate that.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

So I'm going to steal shamelessly from Steve. Steve tells me that there's a ship leaving for meaningful use 2016, and that there are cargo waiting on the dock not ready to be loaded, it doesn't get on the ship. He also likes to remind me that we're probably six months behind already in terms of the activities that we need to do. And so, we are going to have to think about how we can...so I don't know, have you guys been talking?

**John Halamka, MD, MS – Harvard Medical School**

On that, you could be National Coordinator.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

Yeah.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C - Tenet Healthcare – Vice President Applied Clinical Informatics**

I was thinking we would start meeting twice a week, no problem.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

So the thing is, I think that this is going to require sort of ongoing work and it's going to require sort of that iterative, incremental approach that we all talk about. Which is to say, we have to make sure that our standards implementation guides and testing strategy are all tied together, because given the complexity of what we're trying to accomplish it is too easy for us to let a little thing slip. And then we've got an inconsistency in say the vocabularies we regarding the standards for transitions of care or something like that. So we do have to kind of tie those pieces together.

**Cris Ross – Chief Information Officer, Mayo Clinic**

So noted. I guess hearing that we were talking about trying to accomplish, I think I'm hearing a couple of extra themes that we should add, that relate to the issue about practicality and timeline issues, for example and other pieces. I think our hope was to get some feedback from the 2014 cycle as we head into 2016, but it sounds like there's some things we can and should be looking at prior to that.

**Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-C - Tenet Healthcare – Vice President Applied Clinical Informatics**

We'll be there.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI – Hospital Corporation of America**

Jim, you want to make a quick comment on this topic.

**James Walker, MD, FACP - Chief Information Officer – Geisinger Health System**

I'm wondering if we know the comparative cost-effectiveness of having a set of questions agreed on and one or two skilled interviewers going out and interviewing the informants rather than having a hearing. I think you could probably interview more people, have a more disciplined question design, make sure that all the people that you think are informants answer all the questions. It seems to me it's worth thinking about, not just because of the lack of money but I just wonder if other ways if it wouldn't be more useful.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI - Hospital Corporation of America**

Why don't we link that to recommendations from the Implementation Workgroup to see what they think, but I think your point is really well taken in terms of other ways to elicit information efficiently and effectively. Along which lines, great discussion. Two things to note, I think Wes your comment on the interoperability and the point that was made also Walter about the quality, those pieces. What really strikes me outside of the transitive property that has been addressed moving from elemental to scenario, John?

**John Halamka, MD, MS – Harvard Medical School**

What a much more parsimonious approach to invoke your favorite word.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI - Hospital Corporation of America**

It really represents terrific work and I want to thank Scott, Chris Brancato, Carol Bean and our co-chairs of the Workgroup, Cris Ross and Liz Johnson. Just terrific and obviously ongoing dialogue. Interesting framing, Cris, of the relative vantage you initiated with the look at the world as it's not going to be, but as it is, what the implications are. But I think we also got a good reminder of the anticipatory aspect. So, I guess you get the full monty of the...since we seem to waxing eloquent with metaphors today, thanks to Mr. Posnack. Okay, ba dump bump. Okay, with that, bringing it into the home stretch. Doug Fridsma, I really appreciate your coordination and leadership here.

**John Halamka, MD, MS – Harvard Medical School**

As Doug prepares his presentation, I've recognized that this whole group expressed great interest in looking at S&I framework activities and priorities, tracking project process. Because Doug has rumored that the budget for standards related activities over the next year may be somewhat reduced, as the end of ARRA occurs. And so hence making sure that we are addressing the key questions is so important to us. So with that, Doug, tell us where we are on existence scenarios and tell us about the two new ones.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

Great. Wow, I think we all have to...we have to frame this in terms of an opportunity for efficiency as opposed to a negative effect here, so. Let's go to the next slide here. The first thing I wanted to do is queue up a couple of asks and hope that we can kind of get them on the schedule for some of the things. One thing I think that we probably want to queue up in the course of the next session or the like is, to make sure that we've got...we have an opportunity to review the current adopted standards and over time,

to Arien's point, we're going to find things that we need to correct or that we need to fix or that we need to sort of change or that we need to just recognize. You know, there are the preferred language differences in what is adopted in the final rule and what is in the balloted transitions of care document, for example.

We will find other instances of that, and I think it's important for this group to be aware of those and to make sure that we're collectively making appropriate decisions that will help us reach our policy goals, and at the same time, ease the burden for those folks who are trying to be compliant with the final rule recommendation. We do need to queue up some discussion around dental vocabularies, right MacKenzie? So we are...it's sort of an ask to say, if you were going to choose a dental vocabulary. and there's SNODENT and some other things that are out there, it would be nice to have the vocabulary working group of the task force investigate what would be appropriate dental vocabularies to recommend. So, I just want to queue that up, that's a question that we have to the committee, to help us make some decisions on.

I think the other thing is that we will be, over the course of the next month or so, probably presenting to this group some of our plans to follow on from the standards and interoperability framework activities to begin looking at implementation and what we are calling precertification testing. So the notion there is that we, just like with the standards and interoperability framework, our goal there was to support the community in accelerating consensus and identification of standards. We need to be able to get feedback from the communities that are implementing when we got it right and when we got it wrong, to try to figure out if we need to update our standards or implementation guide, perhaps provide additional guidance, so that we can all share and accelerate the process of implementation. And again, when it comes to things like certification testing, we need to be able to collectively engage the community to try to figure out what's the best ways to test. Maybe there are people who have internal tools, maybe there are other approaches that we can use that will all help the communities agree on an approach. And I think I said before in one of my comments that there are other industries in which the government plays a very, very light hand in a regulatory framework when it comes to kind of regulations and testing for making sure all the components fit together. And that we may have an opportunity to do the same within health care, we just have to figure out how to do that. And we're hoping to see if there's a way that we can accelerate it from ONC and get that kind of community engagement. Leslie, do you have a question on that, because then I'll go on to the next, which is just an introduction to some of the....

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

I just, maybe at the end. We've had such an advantage with the funded S&I framework, that not only the work that's been done, but a reporting mechanism where you can provide clarity and update around that work to this group. With budget cut and the diversification of this work effort, what are your hopes and goals to be able to consolidate reporting from disparate, disenfranchised groups that might be working on common and sometimes competing goals? It's a loaded question, you can take it later if you want.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

I think what I can say is that our commitment to accelerating the process of developing those standards or reaching consensus nationally is unchanged, that remains. I think, you know, when the HITECH Act was passed, Congress gave us authority to develop...or to identify the standards, implementation guides and certification criteria. That was a responsibility given to ONC, not tied to ARRA dollars. So that is something that continues.

Now we all have to be responsible with the dollars that are entrusted to us from the taxpayers. We need to figure out ways that we can create efficiencies in what we do. I think it is going to require us to have collective conversations about where the priorities are and where we want to go. And I think we're also exploring novel ways of kind of partnering with other organizations that really are trying to solve those problems. So for example, CHCF is really interested in completing the loop of both laboratory results reporting and laboratory ordering. We can partner with them, they can provide some resources that would help fund pilots. We then can provide a national platform for input into that process that accelerates their ability to take their pilots and address national concerns.

So I think there are some opportunities for us, as we think about that going forward. But I think it's important to recognize that the work that we have done, again I think, Farzad talks about being a convener of authority. I think ONC has the ability to bring people together, focus their attentions on what the goal looks like, not maybe giving them a solution but providing the policy guardrails and what success looks like and that's the way that we can, I think, accelerate the process in the community.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

And endorsements.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

Exactly.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

Okay, thank you Doug.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI - Hospital Corporation of America**

Doug, do you want to take a question at....

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

Yeah, I do. What I want to do is we'll take some of the questions kind of generally and then what I'd like to do is give an update on two of the initiatives, not all of them, but two of the initiatives that are in play.

**Wes Rishel – Gartner, Incorporated**

I just have to use my...microphone here to correct what was probably an accidental misimpression about the CHCF work. The name is unfortunate, the California Health Care Foundation and in fact, the charter of CHCF is primarily around California, but the stuff they've done around lab has really been national in scope and participation. I don't disagree with the process you're describing, I think it's important but there have been situations where the work of CHCF has not been taken seriously because it was seen as being a

California effort, and I just wanted to have the opportunity to correct that.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

Okay. Yeah no, you're absolutely right. But I guess what I was trying to say is that that work, as they sort of progress, as part of the S&I framework activities, I can bring it to this group, and it provides an opportunity.

**Wes Rishel – Gartner, Incorporated**

I agree completely, I just wanted to do that for the record.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

Okay, thank you. Thank you, keeping me honest. Okay. So the thing I'd like to do is I'd like to give you an update on the newest S&I framework initiatives that are currently under way. One is called Health eDecisions, the other is about this Automate Blue Button Initiative or what we like to colloquially call ABBI, makes it friendly, but we can talk a little bit about those. And I just want to kind of give you a snapshot of where we are. So, go to the next slide, oh, wait a minute, should we go to the next slide? There, I guess I have the control here. I guess...

So this is a graph that I think you guys have seen before that talks about many of the portfolios that are in there. The thing that I think that's important to recognize is the top 3 initiatives, the direct project, the transitions of care and the laboratory results interface, all led to regulatory action in the meaningful use Stage 2. So my congratulations to the community and their ability to really accelerate on timeframes. Now, to Steve's point, you know meaningful use Stage 2 was an easy one. For meaningful use Stage 3, what have we got, like two weeks...no 14 months, I guess is what we've got to try to do this. So, we're going to continue at the pace and we will continue to respond to criticisms that government is moving too fast. A lot of the initiatives that we've got, we've got Query Health, Provider Directory and Data Segmentation. Those are ongoing. I think one of our challenges are going to be, as we think about these initiatives that are beginning to sort of sunset or kind of get into that maintenance phase, we need to think about what's the ongoing maintenance. And I think one of the reasons we like to work with SDOs is that they provide an ongoing way of maintaining and supporting the standards that get balloted through that.

The Data Segmentation for Privacy Group just recently gave a demonstration at HL7 last week, and really demonstrated how an electronic health record could, using the policies that were imposed, be able to segment out that data and to be able to send a consolidated CDA that didn't include that protected information. So that work is on right now, into the pilot and demonstration phase, which I think is really exciting. I'm not going to say a lot about all of these initiatives. I want to also clarify with the longitudinal care coordination. This has been a community that has been inspirational to me in the sense that these are folks that are not meaningful use eligible providers in many cases, but the community is passionate about being engaged in the process and to being able to be a contributing member of the health information exchange. I think we all recognize that as the United States population ages, it becomes increasingly important to include long-term care in where we go. This has been an initiative that we've provided some limited support for, it hasn't been the full-court press that we've done for some of our other initiatives. But our commitment to the work of the long-term care community remains unchanged.

We are continuing to support coordination across that. We are working with our state's challenge grants that are working in Massachusetts and the impact grant. They're going to be doing some pilots on long-term care coordination and plans of care. Our goal is to follow that work, to make sure that we incorporate in our standards and our harmonization activities the results of that and then to feed that back into the work that's going on. So there's a bit of a pause in some of our use case work, but it's really in an effect to increase the quality and the work that's occurring within that group. And so, I just want to thank the long-term care community for their efforts here.

The last two are the ones that I want to sort of focus attention on. The first is Health eDecisions, which is really developing two use cases to provide artifact sharing and guidance services around clinical decision support. And then the last one is this Automate Blue Button Initiative or ABBI. So, if we go to the next slide. So just a brief history about the Healthy eDecisions. You know, there have been people who have been working on clinical decision support for years, both within HL7 and within the research community. And many of the people that have implemented those locally have found tremendous benefit to having that clinical decision support, both in terms of the effectiveness and improving quality and safety. The problem, of course, is that every time you do it, it's a one off, everybody has to do it of their own volition. And what would be really nice is if we could have widely accepted, implementable standards for importing

best practice, somebody develops a clinical decision support and you can import that and save yourself some time. And try to do kind of proven interventions, reminders, order sets, document templates.

There's been a whole variety of different investments that have been made both within ONC and AHRQ, to advance clinical decision support implementation, sharing and adoption. We had a project within ONC, AHRQ has been a longstanding supporter and contributor so that. And so in April, there was a face-to-face meeting in which we gathered stakeholders together across vendors, academicians, health care communities to discuss what is that next incremental step that we can take that will help us get better shareability across the CDS interventions, and try to build on the research that's out there. And that's really where this project came from. If you think about the kind of scope statement and what they're trying to do, is they're really trying to take a look at two different use cases. The first use case is a...are there standards that we can use to structure medical knowledge that makes it shareable in sort of an executable format within CDS.

So the idea in use case one is, is there a place I could go to that I could download a clinical decision support logic frame work or a standard that would share that knowledge, that would then allow me to ingest it in my EHR and to use it effectively within that. The second use case defines kind of a different approach. And that is, is there a way that you could provide a service that would allow you to send information to that service and get back actionable things that you could do. So not so much incorporating that logic into your system, but to say, "Listen, I've got a patient, you know, this woman is of X age, she's got this history, these are the characteristics." You send that information and you get back, "Yes, this is someone who should probably have a mammogram or this is someone who can go on a three year cycle with Pap smears," or whatever the best practice might be at that time. But to define the question and to be able to get guidance back from a service. So in order to facilitate the integration, the scope includes standards to refer to data in the electronic health records and standards to map that into local implementation. And the use case, one will be the primary focus and then they're going to, after January 2013, begin looking at use case two, which is that more complex service approach.

So the targeted outcome is that we hope that there will be able to...we may be able to facilitate the emergence of repositories or catalogs that can supply content. So if an organization came up with some good stuff, in this format they could share it with others. And to realize that we should not, I'll just say this again, we should not compete on our ability to have clinical decision support out there. I think we should compete on our ability to provide good patient care and this is something that everybody should share. It would be, I think, very...I would have difficulty if somebody had a better way of doing things and they didn't share it with everybody else. And we should figure out ways that people can share that kind of information for patients.

So we want to have the ability for clinical decision support services to interact with EHRs as well. And we're trying to align this with things that are happening across the S&I framework. So for example, Query Health, which is about issuing a query and getting a result back. This is kind of a modification or a specialized case where let's create a query, or a series of different elements, send that in and then get back a response. Philosophically, of course, we're following all the things that we like to do within the standards and interoperability framework and really across ONC.

We want to be pragmatic. We want to make sure that we focused on a proposed standard that's readily implementable and that can be incrementally improved, but is going to solve what we need to do now. We want portability of artifacts, not execution. So we want to be able to make sure that we've got sharing of those artifacts but not dictating how it gets implemented or executed within a system. It needs to be extensible, you know, again this is part of our iterative and incremental approach for things. The initial focus is on event conditioned action rules, order sets and document templates. And they're trying to target a common approach for elements that are common across different artifacts, trying to focus on those kinds of artifacts that are the event condition action rules, order sets and documentation. And by focusing only on those three commonly used, it's possible that we think that we can identify things that are shared across those various components and would help us with kind of the standardization approach.

Again, I've said it before, but the wonderful thing about health care standards is there are so many to choose from. This is a list of some of the relevant standards and models that are out there: Arden, Arden Syntax, AHRQ. There's GELLO, GEM, HITSP work, and the HL7 consolidated CDA. We've also got the virtual medical record activities that are happening within HL7 as well. So there's a whole host of different standards, there's implementation guides and profiles from IHE that can be helpful. But the idea is out of all of these standards and models, what is the parsimonious set that we can look at, that will address those three artifacts, identify what's sharing across those and be able get some in an iterative fashion, some of those artifacts out there.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

It seems to me this work could also very much inform what kind of standards would be needed for research. So the same sort of kind of query mechanism and response mechanism that identifies and asks for clinical decision support could also say, "I have a patient, they have a potential to be in a cohort for this research,"

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

Yeah.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

So there could be some great opportunities there.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

You're absolutely right that what we're doing is we're asking to subset out a patient population, that's sort of the "if" statement and then the "then" is the action, what do you do after that? And maybe it's clinical trial eligibility, maybe it's a rule that gets fired or a template that gets presented to the physician. Or maybe it's the result of kind of aggregation across multiple areas. So you're absolutely right that that's true. Art, did you want to get in here real quick?

**Arthur Davidson, MD, MSPH – Denver Public Health Department – Director**

No, I'll wait until the end.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

Okay. So, the progress to date has been good. They have been meeting on a regular basis, they've got some use cases, functional and data element requirements have been defined and they're reaching consensus on that. In fact, I think they've already, at this point, reached consensus. Leslie, are you involved?

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

They voted on use cases last week.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

Yeah, I think that they did get consensus on that. So, you guys are moving far faster than I can actually update my slides. But there's a lot of good work that they are doing, and that they're moving into kind of identifying what those standard elements are, based on the analysis. They're trying to figure out what the formats are going to be and try to figure out what's the best way to operationalize this and make sure that it interoperates or it leverages much of other work that's going on within the standard development organization.

They've got, as are true of all of the initiatives, an aggressive time frame. Alicia Morton is the one who is leading this and I think under her leadership, they really are focusing on these activities and trying to hit these milestones. As you can see, the Notice of Intent to Ballot is in October and by May, they hope to have all of this stuff submitted to one of the SDOs, so that they can have it approved as a potential

standard. So, these are aggressive time frames, but it's all about trying to maintain the scope and the focus on what it is that they're trying to do and create something that can incrementally be improved over time, as we go forward. Any questions about that? I'll go on to Automate Blue Button.

**John Halamka, MD, MS – Harvard Medical School**

Just a comment, and that is, as you look at what the Meaningful Use Workgroup had asked us to take a peek at, a lot of their aspirational issues were, "How do I get decision support and drug-drug interactions and other things incorporated from external places into the EHR?" So it seems like this work naturally will empower whatever Stage 3 will be in two weeks...14 months, sorry.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

Yes, you're absolutely right. You're absolutely right. Jim, did you have a quick question?

**James Walker, MD, FACP - Chief Information Officer – Geisinger Health System**

Comment, Jim Walker. I think most clinical decision support development has been about knowledge representation, which is clearly critical. When you try to implement clinical decision support or high reliability care processes, it starts to look like it's as much a challenge of business process management as of knowledge representation, and almost sometimes more. And so, if you imagine something that could really be dropped into an information system and run, it might have much of the character of a business process management set of specifications. Is that any part of...is that out of scope of this?

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

I think for the purposes of this first generation, it probably is, but having been one of the principal authors on a paper called, "Making Protocol Site Specific," which is really about taking guidelines and clinical decision support and trying to figure out how to integrate them in the work process. It's clearly something that we have to keep on our horizon.

**James Walker, MD, FACP - Chief Information Officer – Geisinger Health System**

Okay.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

Wes? Or do we...Marc, did you want to get in on this?

**Wes Rishel – Gartner, Incorporated**

Marc's in line ahead of me.

**Marc Overhage – Siemens Healthcare**

Pausing here...

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

I'm pausing here.

**Marc Overhage – Siemens Healthcare**

Marc Overhage. There's a long list, so I'll try to pick the cherries from the top. I think one of the fundamental challenges, I think Jim named one of them, is workflow and not just knowledge representation. The other has, and I don't necessarily hear how this group is tackling the data finding problem. The curly braces problem is still out there and with us, even with all the standardization work, because we haven't yet and may never, try to standardize the underlying logical data model. And without that, it can be a real challenge to normalize that. So that was one question is, "How is the group approaching the problem of how do I find the data that I need to drive this?" Because that's at least a big a sticking point as anything else.

The second thing, I think, is the problems that...I guess I'm stuck a little bit on the, you know, this is like so many other things, "Is this premature to try to do this?" It's like so many other things, we've got problems that we try to solve, and we have a lot on our list, I'm not sure this one's mature enough to be taking us down a road. So I'm a little worried about premature closure, given that we don't have a lot of experience out there. I mean, you take Intermountain Health Care and their efforts to share things, you know, the things that Partners has done. You can point at many and then certainly the vendors experience in trying to get decision support and workflow shared. So I'm wondering a little bit, are we getting too far ahead of ourselves and going to close off the right way to do it because we just don't know enough yet.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

I think it's a fascinating discussion and there's probably underlying it, something that we could study a little bit, in terms of the kinds of problems that are low regret and the kinds of problems that are high regret, in terms of making progress on that. And thinking about, what are the characteristic of the kinds of problems for which making incremental progress is incremental progress. And okay, if we can assemble some of the knowledge pieces, well that's good and it doesn't bar our way from adding on later approaches to make it more contextual or get to that task interoperability. And there may be other issues where going prematurely down a path forecloses our ability to standardize on the right things later on. So it's, I think, an interesting issue for this committee to come to an understanding around. In this particular case, Marc, my sense is that I haven't seen anything that would mean that this is foreclosing possibilities, that if we can standardize what we can standardize today, it seems low regret. But again, getting to a little bit of a more scientific understanding of these assumptions we're making would be helpful.

**John Halamka, MD, MS – Harvard Medical School**

Just a quick comment. To your point Marc, I think of some of the decision support stuff we've done, where did we try to boil the ocean, did we try to represent all knowledge? No, we took a point problem. How do you order radiology tests in a way that payers will authorize them based on clinical rules? And we decided oh well, you probably need to know let's say age, body mass index, creatinine, allergy to shellfish and claustrophobia. I mean right, you know, there may be some small number of things you need for a radiology test. So you find a cloud-based provider who you can throw five bites of data, it comes back and says, "Oh, worst headache of life, claustrophobic, of great size, creatinine of 7, you know, non-contrast head CT, that's what you get.

And so it isn't that we solved every standards problem, but we scoped this so narrowly that we figured out ways to do something practical. And so I think you're right, which is how do we avoid getting so specific that we close ourselves off before we know the scope of all the problems to solve?

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

Great. So let's just take two more questions and then I'll go on to the rest of the presentation.

**Wes Rishel – Gartner, Incorporated**

...said, "In order to achieve something great, it's necessary to aim for something greater." And, the converse of that is, that you can lose credibility on an effort by presenting the full, long-term vision. If you look at pragmatic problems today, simply the informatician time needed to take content acquired from third parties and build it into a system and build it into a process, is a gating factor on how fast EHRs roll-out and how fast new releases roll-out and things like that. I think there are plenty of opportunities to look at specific increments along the path towards fully general-shared clinical decision support and achieve something in the kind of life cycle that's associated with a stage of meaningful use.

That doesn't mean that we want to create the impression that that series of increments represents the final task. It may be that a whole different path developed by this learned group of people that met and talked, is the ultimate way, but I think all of those experiences we gained doing a little bit at a time ultimately contribute to the knowledge base and the understanding of the problems that leads to a more innovative solution.

### **Rebecca Kush – Founding President and CEO of the Clinical Data Interchange Standards Consortium**

So I agree with what everybody has said, and I'd just like to point out on the laundry list of standards that you put up Doug, to address what Kelly and Marc talked about, two of them were specifically developed with CDISC for research use cases. And they actually had their names changed in the course of developing them through IHE because they were applicable to additional work. And so the retrieve procedure for execution started off being a retrieve of protocol from clinic research for execution and the retrieve form for data capture has now been used for safety surveillance for reporting H1N1 for CDC and number of other use cases. So, I think these are widely applicable and that we should leverage some of that in going forward.

### **Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

Thank you, I think that's important to recognize. So, to talk a little bit about ABBI. ABBI is the latest child to join the standards and interoperability family. It's a new initiative that was launched on August 15th. We are delighted to, as part of the S&I framework initiative and ABBI project, to have two presidential innovation fellows who are deeply engaged in this work, and in fact, there's a large number of the innovation fellows that are working specifically on blue button. The scope or the goal of this particular project is to consider standards and specifications that will begin to facilitate the consumer mediated exchange of patient health information.

I think one of the things that we've recognized is that blue button isn't really a standard, blue button is an initiative, it's a goal, it is a bloody happening. I don't know, it's out there because people care about getting access to their data. But to make that increasingly useful, we need to begin thinking about how we can take that information and create standards around that that allow machines to engage in some of that. And to be able to have an ecosystem develop of applications that support patients in their ability to look at and to view and do interesting thing with their health care data. So the idea is to move from ASCII text files, which are incredibly important for patients just to get access to it, to things that are more standardized structures, so that we can have the ability to share between systems and move from one time downloads to where we can automate this as part of the process of care. Either through making sure that you can push it in a way that makes sense, or figure out ways we can pull it into it a personal health record or the like.

So they've been actively working over the course of the last three or four weeks now and that this week there are three workgroups that are kicking off. There's a group that's working...called the push approach. The use case here is that I go to my doctor, I have a direct address, I give it to my doctor and I say, "Anytime you send information to someone else about me, CC this e-mail address, and make that part of your automatic process that I always just get a copy of it." And so the push use case is really about leveraging existing standards that are out there and creating an ecosystem that provides that kind of functionality. So we can use direct, we can use Consolidated CDA, we can use security mechanisms that are sort of built into that to facilitate that kind of exchange.

The second one is about what we call pull. And this allows a third party application to access personal health record on demand. And the use case I like to say is like you go to I-tunes and you subscribe to a podcast and you enter a URL. And every time there's an update of that podcast, you get a new thing into you're I-tunes that you can then sink sync with your I-phone or whatever. Wouldn't it be great if you could, in your personal health record, subscribe to your fitness clinic or your FitLink or your NikePlus or your personal health record that you might have as a portal, or to your primary care doctor and others, so that every time there's an update, that information gets pulled into your PHR?

And then the third is to look at content to see, can we create a file that is both machine readable and human readable that doesn't require a lot of extra work to parse out an XML Consolidated CDA structure. And if there's a way to do that simply. So I've kind of gone through some of these use cases, the notion of this automatic transmission. You know we assume that the user is going to be authenticated in the data holder system that you know the person sitting in front of you and you've sort of identified that as the

person that's there. Transport needs to be secure, the data needs to be sent in both human readable and machine readable, and we want to try to leverage existing transport standards, services and specifications as much as we can with that as well. There's a bunch of stuff that's considered to be out of scope, that we don't want to try to do and that's some of the policy concerns. But these are simplifying assumptions that we hope will get us out of the gate and then we can evaluate what some implications might be or whether we need to sort of tighten things up a bit as well.

The workgroup has sort of decided that push is a viable goal, the use case could be defined as transmission to a third party specified to the meaningful use Stage 2 requirement for view, download and transmit. So, this may be something that could help support people trying to meet that particular requirement. And so they're right now going through all of the different actors, how to handle the timing, how do we make sure that the patient is digitally identifiable and trusted. And really, this is a group that is just getting started, these are the questions that we hope that they will help us to answer. But the idea here is that we want to have this ability to in an automatic way, push information to patients and have them part of that health care information sharing ecosystem.

The pull workgroup, and I know what you're going to say Marc, but they're going to talk about it and you just need to get into that work group and make sure that they understand it. But, let me finish this and then we'll come back to you, because I know what you're going to say. When it comes to pull, this is to allow a third party application to access personal health record on demand. And so this notion really is going to try to leverage, I think, some of the work that's gone on in the RHEX project, which was a pilot to try to look at OAuth and OpenID, RESTful approaches to security, and see if we can't leverage some of that work. Because in this circumstance, if you were to click on a URL and access that you'd want to authenticate, to make sure that you've got the user ID and password and things. And so, this is a way for us to kind of dip our toe in the water of RESTful exchange and make sure we address the privacy and security issues, which is one of the primary things that we really have to address when it comes to REST.

And so data has to be securely transmitted, it needs to be machine readable and human readable. We have to make sure that we've identified what the data stakeholder requirements are and again, they are just getting started with this and trying to figure out the best approach to handle this. So it's felt that pull is viable, they think that they can get this done in the course of the next 6 to 9 months. Trying to figure out whether there are APIs, which would be the right way to do this, whether there are other things that would need to be considered as part of a third party developer or services that could access that. There is concern about privacy and security risks certainly with the data holders and the EHR vendor's willingness to share that information. I think that is something that we are going to have to address with this. But we've got to look at digital identification, protocols for setting and revoking access, consent issues. There's a whole host of issues that need to be addressed with this. And I don't have any answers for you just yet. I just have a bunch of things being T'd up. But I think it's encouraging for this group to begin figuring out are there RESTful approaches that have sufficient privacy and security in them, that allows this kind of exchange to occur. And I think that's one of the questions that they are going to have to wrestle with.

We're also working on a subgroup around content. They're trying to figure out ways that we can leverage work by HL7 in a Consolidated CDA. The transitions of care S&I Initiative, one of things that I think is very interesting is we've tried to focus on making our standards simple for implementation. But sometimes if it's simple for implementation, it may be difficult for patients to necessarily be able to view that; if they've got to install a new viewer or if they've got to figure out some way to parse the XML or whatever. But is there a way that you could create something that looks like an HTML file, that has in it a style sheet plus the XML, that allows you to just open up in a regular web browser, but still have that computability behind it. There's also work that you could consider with a protocol called Jason, which is a simplified version of describing some of this as well. So there's this idea that maybe this content subgroup needs to create something that may be more complicated to parse, but easier for a patient to engage in and read. And to see whether you can have a single file that does that or whether you're going to need multiple files, but again, this is something that we want to have this group address and take a look at with regard to the content.

So again, machine readable and human readable, lots of different options are being described and I went through a couple of the different options, one is to have two files, ASCII plus a Consolidated CDA. To put a Consolidated CDA with Jason and human readable file sheets, to be able to have it as a Consolidated CDA and something else that can parse and read it. And so right now, they are just getting started to think through some of those issues about how can we make it simple for patients to engage, even if the standard itself might be a series of elements that might be difficult to look at and to compose. I mean, I don't know if any of you have gone to a website and tried to say view source of that website, and how complicated that HTML text is, but the user experience is very simple. And so we have to think about things in terms of, even if the underlying framework might be something a patient may not want to parse, if their experience is something that's simple, we have to figure out what to do with that. And that's what this group is sort of struggling with.

**Leslie Kelly Hall – Senior Vice President for Policy for Healthwise**

Then again, it might also allow them to link out to explanations and so forth.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

Exactly. So a lot of interesting discussions that are going on there and I think it's going to be really, really interesting to see what this group comes up with, because a lot of folks are trying to really think outside the box in terms of what it is that they might be able to accomplish.

So that just gives you a whirlwind tour of these two initiatives that are ongoing. I will promise to report back, or maybe not me, I'll maybe bring Ryan onboard or Henry one of our presidential innovation fellows, get them out in front so that they can have an opportunity to present. But I encourage people to participate to be able to track what's going on, because I think these again are going to add to our portfolio of standards that people can draw from. Some of them are going to use the portfolio to so see if they can solve new use cases and so I think we're going to learn a lot from through the activities that these groups are engaged in. Thank you.

**John Halamka, MD, MS – Harvard Medical School**

Just a very quick comment and that is, there are many blue button competitions and initiatives and innovations and I've been a judge in many of these. And each of them have the same problem of blue button being a text file and essentially unparseable. And so whatever you can do to turn blue button into, just as we have for all our other standards, its content, its vocabulary, it's transport, it's just patient control.

**Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology**

Absolutely. If I may, John, add to that. I think one of the principals of blue button is that it's always also human readable. And so one of the things that we've recognized is, if we can make it smart data that can be parsed and machine interpretable and do all that kind of that stuff, but have like the equivalent of an Adobe reader, that can take it and put it into beautiful human readable format, then you've solved really both problems.

**Doug Fridsma, MD, PhD, FACMI – Office of the National Coordinator – Director Office of Standards & Interoperability**

So Rebecca I guess first and then Wes.

**Rebecca Kush – Founding President and CEO of the Clinical Data Interchange Standards Consortium**

Oh, I didn't put mine down from last time.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI - Hospital Corporation of America**

I think Wes, this is probably the last comment and we're into the public comment period. And I appreciate the good discussion throughout Doug's comments.

**Wes Rishel – Gartner, Incorporated**

At the risk of orally re-tweeting myself, I...blue button's very interesting because it got such good usage statistics when from the point of view of IT folks it didn't do anything. And it did, in fact, send data to a patient in a standard format that the patient could read, text. It did eliminate many issues about consent. It's very hard for a provider to say, "Well I won't send that data," when it's clear from electronic context that it's a patient requesting the data to their own concepts. And therefore it represents not only a rallying cry, but a rallying point around using the...I want to say inertia, that shows I'm a...what's the opposite of...momentum. That's it, you know, for an engineer inertia and momentum are the same thing, right...using the momentum to begin to add the ability to structure data to it, using the personal health record as a systematic place for the advocacy of the patient. So it's an interesting role use set out on here.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI - Hospital Corporation of America**

Well, those are terrific comments. And Doug, a great presentation. I think we heard from Farzad that incremental progress is really low regret. And Wes, at the risk of reprising what you said, I learned a new word, and that retweet. And so what I heard in your comment is that he encourages your progress, not retweet. (laughter) All right, on that note... sorry, on that pun, we really have had a very robust discussion today and indeed, lots of progress. Let's be sure that we honor our commitment to encouraging public comment. MacKenzie, let me turn it to you to invite anyone online or in person.

**MacKenzie Robertson – Office of the National Coordinator**

Operator, can you please open the lines for public comment on the phone. And again, if there's anyone in the room that would like to take advantage of our second public comment period, please come up to the table.

**Alan Merritt – Altarum Institute**

If you'd like to make a comment, and you're listening via your computer speakers, please dial 1-877-705-6006 and press \*1. Or if you're listening via your telephone, you may press \*1 at this time to be entered into the queue.

**MacKenzie Robertson – Office of the National Coordinator**

Seeing no public comment in the room, is there any public comment on the phone?

**Alan Merritt – Altarum Institute**

There are no comments at this time.

**MacKenzie Robertson – Office of the National Coordinator**

All right.

**Jonathan Perlin, MD, PhD, MSHA, FACP, FACMI - Hospital Corporation of America**

John...Farzad, anything you'd like to? Okay, well on the bad pun of the day, we will retweet. Thank you very much for all the hard work. I don't want the hour to close without two last comments. One, Doug there was in addition to the great progress report and great discussion, mentioned dental vocabulary and a vocabulary task force. We'll have to, I think, tack that on as an assignment. Second, Mary Jo, you weren't here earlier, but wanted to really ask the group to recognize Mary Jo Deering for her hard work as...Thank you for all you have been doing and MacKenzie, thank you for all that you'll continue to do. We stand adjourned.