

HIT Standards Committee Transcript June 19, 2013

ATTENDANCE

The following members attended the meeting:

- Jonathan Perlin
- John Halamka
- Dixie Baker
- Jeremy Delinsky
- John Derr
- Floyd Eisenberg
- Jamie Ferguson
- Keith Figlioli
- Lisa Gallagher
- Leslie Kelly Hall
- Stanley Huff
- Elizabeth Johnson
- Rebecca Kush
- Anne LeMaistre
- Arien Malec
- David McCallie, Jr.
- Wes Rishel
- Eric Rose
- Sharon Terry
- Andrew Wiesenthal
- Tim Cromwell
- Nancy Orvis
- Kamie Roberts for Charles Romine

The following members were absent:

- Anne Castro
- Lorraine Doo
- C. Martin Harris
- Kim Nolen
- Christopher Ross

Presentation

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thank you; good afternoon everybody, this is MacKenzie Robertson in the Office of the National Coordinator for Health IT, welcome to the 48th public meeting of the Health IT Standards Committee. This is a public meeting and there is one public comment session included in the agenda since it's a condensed agenda. The public comments will be limited to 3 minutes each. The meeting is being transcribed and an audio recording is being made so please make sure you identify yourself for the record. Also for anyone on Twitter, the hashtag for the meeting is #hitstandards. So, I will now take the roll call. Jonathan Perlin?

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Good morning.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Jon and just since this is a virtual call just make the friendly reminder if you're not actively speaking if you could please mute your lines so we don't get the echo of the computer speakers coming through. I believe there is a bit of an echo right now.

Judy Murphy, RN, FACMI, FHIMSS, FAAN – Deputy National Coordinator for Programs & Policy – Office of the National Coordinator

There is actually I think some background noise, if everybody could go on mute please.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks everybody. John Halamka?

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

I'm here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, John. Dixie Baker?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Dixie. Anne Castro? Jeremy Delinsky?

Jeremy Delinsky, MBA - Senior Vice President, Chief Technical Officer – Athenahealth, Inc.

Present.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Jeremy. John Derr?

John F. Derr, RPh – Health Information Technology Strategy Consultant – Golden Living, LLC

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, John. Floyd Eisenberg?

Floyd Eisenberg, MD, MPH, FACP – Independent Consultant

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Floyd. Jamie Ferguson?

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Jamie. Keith Figlioli? Lisa Gallagher?

Lisa Gallagher, BSEE, CISM, CPHIMS – Senior Director of Privacy & Security – Healthcare Information & Management Systems Society

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Lisa. Leslie Kelly Hall?

Leslie Kelly Hall – Senior Vice President of Policy – Healthwise

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Leslie. Martin Harris? Stan Huff?

Stanley M. Huff, MD, FACMI – Chief Medical Informatics Officer – Intermountain Healthcare

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Stan. Liz Johnson?

Elizabeth Johnson, MS, FHIMS, CPHIMS, RN-BC – Vice President, Applied Clinical Informatics – Tenet Healthcare Corporation

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Liz. Becky Kush? Anne LeMaistre? Arien Malec?

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

I'm here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Arien. David McCallie?

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

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, David. Kim Nolen? Wes Rishel?

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Wes. Eric Rose?

Eric Rose, MD, FAAFP – Director of Clinical Terminology - Intelligent Medical Objects

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Eric. Cris Ross? Sharon Terry?

Sharon F. Terry, MA - President & Chief Executive Officer - Genetic Alliance

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Sharon. Andy Wiesenthal?

Andrew M. Wiesenthal, MD, SM – Director – Deloitte Consulting, LLP

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Andy. Tim Cromwell?

Tim Cromwell, RN, PhD – Director, Standards & Interoperability – Veterans Health Administration

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Tim. Lorraine Doo? Nancy Orvis? And Kamie Roberts for Charles Romine?

Kamie Roberts – Associate Director – National Institute of Standards and Technology

Here.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks, Kamie. Were there any other committee members that joined whose name I missed?

Keith Figlioli, MBA – Senior Vice President, Healthcare Informatics – Premier, Inc.

Sure, Keith Figlioli.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Great, thanks, Keith. And with that I will turn the agenda over to Judy Murphy for some opening remarks.

Judy Murphy, RN, FACMI, FHIMSS, FAAN – Deputy National Coordinator for Programs & Policy – Office of the National Coordinator

Yes, good morning or good afternoon everybody depending on what time zone you're in. I'm doing the opening remarks today because Farzad is off on a well-deserved vacation. He's actually taking his family to China, so quite exciting.

I think that what I'd like to say today to everybody is, you know, we're living in interesting times and that's a comment that I'm sure many of you have made. We're at this, you know, critical juncture in our programs, we're at this critical juncture in terms of the industry and where we're going with implementation. We've got a lot of stuff behind us but we have a lot of stuff ahead of us as well.

So you probably have been following the statistics and know that, you know, we passed the 50% mark in the payments to providers for either the Medicare or the Medicaid incentives. We're over 75% for the hospitals, you know, so we're doing really good on getting those electronic health records in.

But when we step back and say is it about getting the health records in, I think that we all know that the answer to that is no that this is really about healthcare transformation and as we've been saying at ONC changing the habits of healthcare. Changing the way we think about our clinical work flows and the way we deliver our care. Changing the way we pay for our care.

And, so that's the challenge that lays ahead of us now is actually taking the tools and using them as the platform or using them to enable the changes that we know we need to make in both clinical and financial aspects of our healthcare ecosystem here.

And I think when we think about that that's the hard part. And I know it feels like getting the electronic health record in and doing CPOE and doing maybe the documentation of smoking cessation or creating that post visit summary and printing it out and giving it to the patient felt hard, but I don't think it's hard in comparison to what lays ahead of us. So, I'm kind of, you know, optimistic in terms of we've got that done now we just have to start refocusing on the other things that we know we need to do.

That being said in addition to making great strides in Meaningful Use, you know, the Health IT Safety Plan, we have the comment period and that's going to be coming out this summer. We've got the health information exchange acceleration RFI correlating those comments. We should be seeing a summary of that this summer.

So, there's lots of things that are going on and keeping our attention and I think we just have to just sort of keep our eye on that prize, if you will, of that future facing and, you know, getting the health information exchange moving between our organizations and between different venues in the communities and always thinking about what can we individually do and what can we do as the Standards Committee to drive that agenda. So with that, I will turn it over for comments and reviewing the agenda, I guess, from Jon Perlin.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Well, thank you so much Judy and many thanks to you and the entire ONC team, Farzad, really just amazing leadership. What tremendous statistics that 50% of providers and over 75% of hospitals have now really joined in the first stage of Meaningful Use.

To your comment, which I thought was just so apropos, changing the habits of healthcare, you described the opportunities in the ecosystem of healthcare and an ecosystem which increasingly is wired to include the patient as a consumer and other consumers. What a tremendous moment of possibility this is. I think some of us might be a little further along really seeing the manifestations of this transformed environment and others really I think are just excited by the possibility. I certainly am and I think that is reflected in our agenda.

And for those of you who are new to the Standards Committee you have my welcome and appreciation for those who have been part of this for longer, really I think this agenda is so exciting, because it really reflects threads throughout that ecosystem that extend not only beyond what we even envisioned as possible, you know, a decade ago, but that really creates the opportunity for an engagement well beyond providers.

As we look down the agenda and the order of the day, I'm so appreciative of Dixie Baker and the NwHIN Workgroup who will be presenting to us recommendations for our consideration and approval really in the broader sense transport standards to support consumer exchange for Stage 3.

And then when you think of this ecosystems the threat continues through the work of the Consumer Technology Workgroup and appreciate Leslie Kelly Hall's leadership of that group on really strengthening consumer's ability to manage care particularly around patient engagement. But to this linkage of the possibility extended further afield to really encompass and embrace patient generated health data.

And then of course John Halamka and all will be talking more and appreciate John's leadership with the Clinical Operations Workgroup and really see a sophistication and maturing of ePrescribing in the context of formulary and benefit management, something as well that we've all known we needed to embrace. I'm so please to see the initial discussions on image sharing.

Then of course the terrific work of ONC, we'll get an update today on not only the policy development activities, but understand that Jodi Daniel also will be out and appreciate Seth Pazinski being here to present as well as Doug Fridsma's continuing discussion on the S&I Framework.

Let me just move to our first-order of business and we will move rather swiftly today in the interest of one making sure we all keep focused in the context of a virtual meeting. I really appreciate your attention, in some ways it's harder to be purely focused on virtual and so I appreciate in advance your focus and we'll attend to our first order of business which is the approval of the minutes. So let me ask now if there is anybody who has any recommendations for amendments, corrections to the minutes? Hearing none we will assume consensus on those and move forward.

Our action item today, as noted, will be the approved recommendations of the NwHIN Power Team and appreciate again Dixie Bake and David McCallie's great work there. I know John Halamka has to step out in a moment to be with his board, but I want to make sure that we have the opportunity to hear John's perspective on the sequence of activities and their progress on work plans. So, John Halamka?

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

Great, well thanks so much. And we do continue to march through the work plan as we've laid it out for 2013. You know, sometimes standards people are very analytical. You know, sometimes standards people wouldn't be described as the most emotional. Well I think you'll hear from Dixie Baker today something to get very emotional about.

How long has it been that all of us have wanted a content standard that was so simple that say a 16-year-old with XML Spy could use it without knowledge of the HL7 RAM or a transport standard was so simple that an Amazon or Facebook engineer could just say "well of course that's how you do it."

And so what you'll hear from the NwHIN Power Team today is a very interesting discussion of how we go from a set of architectures, REST has always described as a means of doing business not an implementation guide to actually detail of how you do authentication and transport, and our authorization using commonly available protocols lifted right out of Amazon and Google, Facebook in the consumer space to do some very interesting kind of exchanges point-to-point.

So I think very exciting stuff that has potential to actually accelerate all the work we've done and to take, as Judy said, you know, the interoperability that's very good in Stage 2 and get it virally adopted so that it now becomes an expectation rather than an innovation.

Oh, and of course Jon Perlin I never correct you but I will say on the Clinical Operations Workgroup it's Jamie Ferguson who is doing all the heavy lifting. I'm just there as a bystander. And Jamie will talk today with John Klimek about some of the formulary NCPDP simplifications we're recommending to get those formulary files much smaller than they are today and build some real data liquidity around formulary.

We'll make a few comments about some use cases on image exchange and certainly want to offer our endorsement to the fine work that Doug Fridsma and others are leading on the S&I Framework on lab orders initiative and the electronic directory of service around labs, because that is also moving forward pretty rapidly.

So, hey if this year we hit solving the formulary issue, getting images to flow and get lab orders nailed down we will have hit some very substantial work product deliverables. So, want to turn it back to you Jon Perlin. I will go chat with my board and be back very soon.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Well, thank you John, good luck with your board and Jamie my apologies, I really appreciate both you and John and the entire team for all of your work, but I think the tenor of John's excitement is absolutely right in terms of this particular agenda. So, without further ado, let's move to Dixie Baker and dive into why I believe we all should be so excited about changing the habits of healthcare and the possibilities that are suggested throughout the work of the NwHIN Power Team and this presentation.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

So, Jon, this is MacKenzie before we go to Dixie I just wanted to note for the record that we do have Becky Kush and Anne LeMaistre on the line now.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Terrific. Is there anybody else online, members of Workgroup, on the Committee who have not been acknowledged either for roll call or who have joined? Terrific. Again, thanks, welcome all and thank you for your participation and Dixie Baker thank you very much for your leadership.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, thank you. You can you hear me fine?

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Yes we can.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, thank you, all right first slide, thank you. Today, David McCallie and I are going to present some preliminary recommendations from the NwHIN Power Team on transport standards for consumer exchanges and as you'll see in our next step at the end this is the NwHIN Power Team's cut at making these recommendations and they still need to be reviewed by both the Privacy and Security Workgroup and the Consumer Workgroup following this meeting so they're not being sent for formal approval today. Next slide.

Members of our Power Team, current. Next slide. Okay, I want first to explain the context of these recommendations. These recommendations, the task that was assigned was to make recommendations for additional standards to support transport of data to and from patients. So we have a consumer context here. The goal is really to recommend whether ONC – and at the bottom of this slide you'll see this further detail that were provided by ONC to recommend whether ONC should consider other transport standards besides those that have already been recommended.

And as you can see at the bottom here we interpreted this not to just be confined to the transport, the wire, the standard that is used to get the bits from point A to point B, but we interpreted the transport standard more broadly to include not only just getting the bits across but also getting recognizable and useful content from the provider to the consumer or to the third-parties. We were asked specifically to look at the Automated Blue Button Initiative, HL7 FHIR, the RESTful healthcare exchange and to the standards that these use. So, next slide.

And specifically we're looking at the requirements that originated in the HITECH Act that a patient be able to download, to pull their own data from their EHR or for a provider to push it to them and also for a consumer to request that their EHR data be sent to a third-party or made available to a third-party. Next slide.

This is just for your information. If you want to these are the three initiatives we were asked to look at specifically, the Blue Button Plus Initiative, which is an S&I Framework initiative that formerly, and Doug Fridsma has briefed us several times about, was called ABBI the Automated Blue Button Initiative.

The second we were asked to look at is the HL7 Fast Healthcare Interoperability Resources Specification and you can see the URL to that and the third is the RESTful Health Exchange Project, which is a joint object between the Federal Health Architecture and the S&I Framework. Next slide.

As we looked – we had speakers on all three of these initiatives to join the Power Team and to present their work to the Power Team and as we reviewed, as we listened to what they had to say, we looked at their slides, we noticed that there were several commonalities among FHIR, Blue Button Plus and RHEX Initiative.

The first is that all three of them use what we commonly known as the RESTful transport style of transport and HTTPS, of course HTTP, the Hypertext Transfer Protocol is the protocol that's used on regular web browsers to get to a webpage, you enter a URL and it gets you the webpage. So, HTTP and S adds security to it so that it's authenticated and if encrypted the link between the two are encrypted. So, basically what HTTPS is, is a secured RESTful transport.

The most – although FHIR and Blue Button Plus had no specific defined way to do authentication and to share authentication, authenticated identity, the RHEX Initiative used the OpenID Connect standard, this is basically the easiest way to think of this is as a standard that enables single sign-on. So it allows you to visit multiple websites without ultimately having to re-authenticate yourself at every single website.

Another common standard among all three of them is OAuth2. OAuth is suggested and included in the specification for FHIR and it's actually part of Blue Button Plus Pull and the RHEX protocol. OAuth2 is a protocol that enables a consumer to authorize another application such as a PHR or smart phone App or something like that to pull data from that consumer's EHR that's being held by their doctor let's say. So it's a commonly used standard, as John mentioned, by Google and Facebook and others on the web in the social networking community today.

And then the last column there FHIR is, I think it's most easily thought of as sort of the next generation of HL7, it's being developed as a content standard being developed by HL7 and David and I will go into all of these in more detail, but I wanted to present sort of a lay person's view of them at the outset. Next slide.

As we looked at these commonalities we also noted that there were really two types of standards there. There were lower-level protocols that were really basic building blocks, if you will, that were really used to create the other protocols. So we separated them out, the specifications into the lower-level protocols and the higher-level protocols that were composed of these lower-level standards. Next slide. So we're going to go over each and to just guide where we are we'll start with these lower-level building blocks protocols. Next slide, please.

Okay, the OAuth2 is an Internet engineering task force standard for remote service and third-party authorization. This is what many of you have probably seen when you get a message on your screen that says Facebook wants to access your Twitter account do you allow it or not? That is – OAuth2 enables that. It is a standard, it's a very flexible standard that can be used for many purposes and is used for many purposes. It is not an old standard, but it has been widely – it's been rapidly and broadly adopted by Google, Facebook, eBay. And in the analysis we're doing here it's used by both the RHEX demonstration and the Blue Button Plus Pull capability. Next slide. Wait a minute before we leave OAuth2 David did you want to add anything?

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

No I think that's good. I think we should move through and then see what questions come up.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, I don't – I know I'm going pretty quickly so I don't want to, you know, talk over you if you're trying to jump in. The next slide, please. Oh, yeah, no this one OpenID Connect. I have a couple of corrections to make to this slide it's not an IETF pre-standard it's actually being developed by the OpenID Foundation so our apologies to them for not citing them correctly. We'll correct that for the minutes, MacKenzie.

And it's used for remote authentications and to allow an authenticated identity to be shared with another website so that an individual doesn't have to sign-on multiple times. So, it's, you know, best-known for its single – for its support for single sign-on.

So it sends to a second – from one service to another service, because one service has authenticated the individual and then they're able to send the attributes of the individual to another service so that they can, you know, if they trust it they can use it without requiring them to login once again.

Another standard that's used for single sign-on, which is kind of similar to OpenID Connect, is SAML and that's mostly used in the traditional kind of SOAP web services stacks, that's like what's used for the – eHealth Exchange uses a SOAP and SAML uses SOAP stack, and SAML is used for the same purpose there as OpenID Connect is being used by Blue Button Plus. It's designed to replace OpenID 2.0, that's another correction that I need to make in the notes and 2.0 has been, you know, significantly adopted across Internet companies.

It layers nicely on top of OAuth2 which basically would login using OAuth ID and your identity would be passed on using OAuth or OpenID Connect and then OAuth2 would be the one that would authorize third-party applications to then access an account. So they're complimentary but they certainly don't do the same thing. So they layer on top of each other very, very nicely. It's an emerging standard in limited but growing use for passing user authentication assertions and this analysis is used by RHEX for the single sign-on basic capability again. Next slide, please.

hData is used by RHEX in this analysis. And hData was initially developed by the MITRE Corporation and is now an HL7 standard and I think it can probably best be thought of as the predecessor to FHIR. And it allows the exposure of healthcare resources through a RESTful exchange as I described earlier. It's an HL7 draft standards for trial use and it's likely to be superseded by FHIR and even the REST team acknowledged that fact so that, you know, we won't not talk further about hData at this point. Okay, next slide, please.

FHIR is the Fast Healthcare Interoperability Resources it's a new HL7 standard that is still in development but it has very strong support both by HL7 leadership across the board and rapidly emerging industry interest. It's been brought up a number of times within our Standards Committee meetings in fact.

FHIR focuses on resources used for exchange. So it's not limited to documents. It talks only about resources. So it doesn't really care whether a resource is a document or a query, or a service, or a message its focus is strictly on these resources similar to object, content objects. It's very – its emphasis is on simplicity and structure. Each resource is mapped to the referenced – let me see reference implementation model, but it does not need to be computable so it's more human readable mapping to the RIM.

Extensions are formally defined and published but there is a defined way to define them and to publish them, so although you can extend it within the standard, the standard itself defines how you go about defining, specifying and publishing extensions. And then each resource has a narrative part as well.

As I mentioned its emphasis is on simplicity, implementability and human readability. Of course, as you'll recall, the NwHIN Power Team's emphasis in determining adoptability of standards, two of them are simplicity and implementability. So we were quite excited about – and we are quite excited about FHIR. It uses a single syntax for all resources and it uses – the specification includes a RESTful transport, but FHIR can be used with other transports such as SOAP or Direct. And finally, unlike most of the HL7 standards we know about, that no licensing is required for using FHIR. Next slide.

The base specification for FHIR is complete and stable. And it's being adopted. The current – HL7 itself is currently defining specific resources and they plan 25 consolidated CDA resources and 6 IHE and DICOM resources to be defined – resource definitions. I heard a phone ring I hope –

Mackenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Yeah, Dixie, the operator will see if she can fix that.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Okay, okay, thank you. Initially we expect it to be used immediately in web centric social media applications. Secondly, we expect that HL7 Version 2 messages content will be exposed using FHIR and the CDA release 3 is speculated to be displaced by FHIR. A lot of the resources, of HL7 resources that formally were dedicated to other initiatives like release 3 and version 3 of HL7 are now working on FHIR.

In these it's used by Blue Button Plus in our analysis and the CommonWell Consortium is using FHIR to build record and encounter record locator services. And it was chosen for its simplicity and implementability. David do you want to add anything there?

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

No, I think the promise of FHIR at least on our review is really quite high because it addresses some of the concerns that we have raised in the Standards Committee meetings in our previous 47 meetings, it amazes me that we've had 48 of these, about the complexity of some of the version 3 artifacts that are tied to the RIM which underlie the resource definitions and FHIR does a nice job of separating that underlying complexity away from the actually sort of clinically relevant content giving you what you really care about the clinical content in much simpler and sort of leaner and more composable, and easily interpreted fashion.

So, the CommonWell Alliance chose FHIR for those reasons, because it was clean and it got right down to the meat of what we need to agree on which is definitions for things like persons, patient encounters, document lists and so forth it gives you what you want with nothing that you don't need.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Thank you. Next slide, please. Now we're going to move onto what we call the higher-level or composite protocols Blue Button Plus Pull and RHEX, RESTful Health Exchange project. Next slide.

Blue Button Plus as I mentioned before is the new name for ABBI, the Automated Blue Button Initiative that Doug Fridsma has talked to us before about. It's really the second-generation of Blue Button. It's aimed – it's designed specifically for structured and secure transmission of health information on behalf of an individual consumer meaning either to the consumer or to a third-party named by the consumer.

It's comprised of two pieces, the first is Blue Button Push which has just adopted the Direct e-mail transport protocol and they do have an implementation guide available at bluebuttonplus.org and so currently that has been published it's available and all efforts on Blue Button Plus now, most efforts I shouldn't say all, the majority that is on Blue Button Plus is focused on Blue Button Pull. So from now on that's what we're going to focus on as well is Blue Button Pull, because Blue Button Push uses Direct, it's a done deal, it's published, it's there.

Okay, moving onto Blue Button Pull, Pull is an API that enables an application to pull EHR data on behalf of a consumer. So the application uses OAuth2 to register or the application that you're trying to use uses OAuth2 to register with a provider. So if I have a smart phone App that I want to be able to pull my data that smart phone App uses OAuth2 to register with my provider who is holding my EHR. And that registration includes things like the name of the App, the location, the permissions that they should ask the consumers for and how to display the questions, the authorization questions to the individual.

There are two types of registration that are defined in Blue Button Plus Pull. The open registration and trusted registration. And trusted registration – well open registration is just, you know, it requires no registration, no pre-negotiated vetting of that application.

The trusted registration requires the use of the Blue Button Plus registry and those applications are vetted. So, they are vetted in some way, to be defined, to be – that demonstrates or asserts their trustworthiness for individuals who use them. And noticed that this registration is only there in Blue Button Plus Pull it's not used by RHEX as we'll go into next. FHIR is used for content search and retrieval and a secured REST is used for the transport. Next slide, please.

In these next two slides we tried to show you – I know I've been describing how OAuth2 is used, I've been sitting here waving my hands to try to describe it in the air, but in these two slides I'm trying to really depict what's happening when you use OAuth2 and in this more broadly what happens with Blue Button Pull exchange. So, here above this dotted line we have a consumer and a consumer is using a smart phone App with an App called MyHealthMonitor and also attached to that smart phone is a blood pressure cuff and I thank Wes Rishel for giving me the basics for this slide, I appreciate it.

So what happens is first a consumer uses this App to record her diet history and her blood pressure readings and maybe how often she's exercised that day whatever else she's putting in the MyHealthMonitor App and then that App communicates with a service that's somewhere on some server that the App communicates with. And the service wants to be able to pull in her EHR data, her, you know, EHR data related to her cholesterol and blood pressure, and her, you know, heart health in particular.

So this service goes over to the holder of the service that holds her EHR and says, you know, I'm asking to access this consumer's EHR. The EHR then goes "well I can't let you do that until I get permission from the consumer." So the EHR goes back to the consumer and says "do you authorize this MyHealthMonitor to access your data?" She comes back and she says "yeah that's fine." And then at that point OAuth2 is out-of-the-way and MyHealthMonitor uses – pulls cholesterol data from her EHR and plots it in the App and displays it in the App itself. So, to actually pull the data, it uses FHIR and REST. Next slide.

This is what the consumer actually experiences. They're working along on MyHealthMonitor here and all of a sudden it says, the following – the EHR – the user gets the following application is asking for authorization to access your account MyHealthMonitor 2 and so the user then decides yes that can access my health information and that's really all the user experiences. You probably have seen this many times. Next slide.

The status of Blue Button Pull is the draft specification is online. It responds well to the Internet use case where consumers control who to expose their data to. So this whole, you know, the ability for consumers to allow their health data to be shared with a third-party, it's very well suited for that and we think it responds well to that requirement.

There's ongoing debate about the need to certify or rather control which Apps can use the service and this is this whole vetting process and the, you know, trusted registration versus open registration.

EHR vendors are currently underrepresented in the development of Blue Button Plus and very few have committed to implementing it, especially Blue Button Plus Pull I should say and there are very few service site tools available they're still in development. Next slide.

Okay moving on to RHEX. This is the initiative that's jointly sponsored by the Federal Health Architecture and ONC, and MITRE Corporation is doing most of this work. We've seen it; it's been presented at this Standards Committee before.

The RHEX Initiative applies open source web technologies to demonstrate the uses of a RESTful, secure standard-based approaches to healthcare exchanges and the work of the RHEX Project is directly responsive to the NwHIN Power Team's recommendation that we made back in 2011 that we need a third transport standard. We have Direct, we have the SOAP transport that's used in exchange and we felt that we needed a secured REST standard as well. So, this initiative is directly responsive to that.

It's layered over several core Internet standards HTTPS which is secured REST, OpenID, which we've talked about is for single sign-on, OAuth2 is for authorizations of a second application and it uses hData for health content. And the designers noted that it was – RHEX was designed before FHIR really emerged and they noticed that they could switch to FHIR for resource definitions quite easily. Next slide.

RHEX is fairly far along, we'd like to thank Ollie Gray for bringing in a TACTRC team to meet with us and talk about their completion of a pilot that really demonstrated the use of RHEX to exchange data between two people, so two defined individuals rather than two organizations. And then the Maine Health Information Net had a second pilot that's been completed and it demonstrates the use of RHEX for transporting volumes of data to a state repository. So, it's organization to organization.

There are several new pilots underway at TATRC, the sharing of large images between AHLTA and third-party provider systems providing patients access to the medical history in AHLTA using a mobile platform and securely migrating health data from the DoD's AHLTA to the Veterans Health VistA EHRs.

And the State of Maine is implementing RHEX statewide to support small independent providers and federally qualified health centers in underserved areas. And then there is another planned pilot for the Veterans Health Administration. Next slide, please.

Okay, I hope this looks familiar to you guys by now. This is the graphic that was developed by the NwHIN Power Team to show the readiness to become a national standard. And on the X access we have the adoptability and on the Y access we have the maturity and you'll recall that each of these are further broken down into criteria and very granular metrics.

So, looking at the initiatives and standards that we examined in this work so far, the HTTPS or secured RESTful transport is very, very mature and very adoptable, very ready to be a national standard. OAuth2 is rapidly, although it's not an old standard, it's broad and rapid uptake puts it in the, you know, border between pilot and national standards.

FHIR is still in the pilot stage and OpenID Connect is the newest of the lower-level standards that we looked at. Blue Button Plus or Blue Button Plus Pull of the – now going into the higher level or composite specifications, the Blue Button Plus Pull is still in definition, it's still being developed so it's an emerging standard at this point although Blue Button Plus is quite mature, Plus Blue Button Push is what I meant is quite mature. The RHEX Project is still in the pilot stage and in fact they have, as I just reviewed, they have defined a number of pilots that they're going toward. Okay, next slide.

We wanted to make this overarching conclusion and that is that we believe that these four components, these four building blocks secured RESTful transport, OpenID Connect, OAuth2 and FHIR are used together, can be used together and should be used together to create a safe and appropriate set of standards to use as building blocks for more complicated healthcare applications.

So we think using these four together to build these complex applications is a safe thing to do at this point in terms of maturity. And we believe that both Blue Button Plus Pull as well as the RHEX Pilot are two demonstrations of how you can safely and appropriately use these standards together. Next slide.

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

Dixie?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yes?

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

I just – this is David, I just wanted to make an additional comment on that slide just in case it's not clear, I think there's a strong analogy of the standards that we are talking about here compared to the standards that have been used in the past for SOAP-based transactions but just to make, you know, the analogies clear, you know, both the – I'll call them the traditional healthcare standards based on the SOAP stack use HTTP as the core engine and HTTPS for secured transport.

But in the case of these newer standards you have RESTful resource management assumptions that replace the SOAP component. You have OpenID Connect which replaces the SAML component and then you have FHIR which replaces the ebXML and V3 RIM component.

So you get equivalent layers and we think equivalent power, but with a little bit more modern Internet friendly approaches. So I just want to make that clear.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yes, excellent contrition. Thank you very much. Are there any questions about what David said, because I think that's pretty important? Okay, next slide.

Okay, we have two pages of recommendations here. The first is that we want to applaud these efforts that we looked at, all of them and we recommend that ONC continue to support and encourage the development and piloting of all three Blue Button Plus, FHIR and RHEX.

Blue Button Plus Pull focuses on the very specific identified need to enable a consumer to access their own health data or to authorize its release to the third-party application, that's what Blue Button Plus is responsive to, it's a very narrow but very important but very specific use case. It's an emerging standard whose development should be supported and early pilots should be encouraged. And we think that we see the need and the team's even need for more EHR vendor participation, so we would encourage that. And we don't know of any other alternatives that address this need certainly in as elegant a fashion but at all really. We think it's very well-crafted to respond to this need.

FHIR is highly likely to become the key next generation content standard for healthcare. So, there is a – we see a need for a FHIR consolidated CDA it's not only the Power Team sees that, but the FHIR team and the RHEX Team as well. We think it's an appropriate content standard for both Blue Button Plus and RHEX and for other applications as well. Next slide, please.

We think that RHEX is a very useful demonstration of how secured REST, OpenID Connect, OAuth2 and FHIR can be used together to support healthcare exchange in a safe way and a secure way. We thank the RHEX Team for the work that they've done, we commend them for their responsiveness to what the NwHIN Power Team asked for. We think that it also is responsive to an industry needs for a very simple means of transporting large healthcare data objects that can't be accommodated as a Direct attachment.

And we would encourage the team, as we discussed when we met with them, to replace the hData with FHIR and we think that, you know, as opposed to Blue Button Plus whose focus was a very, you know, a very clearly defined focus, RHEX is a very flexible standard, the whole architecture is very fixable and also the OAuth2 standard itself contains a lot of optionality. We think that – and because of that we think that profiles that are based on this RHEX initiative may be a more appropriate candidate as national standards than the full RHEX. Okay, Next slide, please.

And this is our final slide. Our next step is to present these preliminary results to the Privacy and Security Workgroup and the Consumer Workgroup and we want them – we identified a few questions for them to consider and we asked for more questions from this group that we would put on the table, but the whole question of Blue Button Plus Pull's use of open registration versus trusted registration. And, you know, we'd like some discussion on what level of assurance might be reasonable and appropriate for pull applications and whether the architecture, you know, whether – this is really a policy question quite frankly, but whether, you know, how essential the trusted registration as part of the standard is.

The – how OAuth2 applications might be authenticated, you notice that the – and this actually has to do – yeah OAuth2 has to be authenticated – is a TLS service authentication where they authenticate the two ends of the RESTful exchange is that essential – is that sufficient or is further level of authenticated for OAuth2 applications required, you know, in other words if an OAuth2 application has been authorized, you know, or in order to be authorized how should it be authenticated to make sure it really is the application that it claims to be.

There may be other security concerns around the use of OAuth2 for enabling consumers to pull their data and we encourage the Privacy and Security Workgroup to bring these other – any other concerns up as well. So, with that let me turn this over to David first.

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

Yeah, thanks, Dixie, I think that was a good summary. The thing that I came away thinking about after working through this and realizing the power of these new building blocks, if you would, if you consider OAuth2, OpenID Connect and FHIR to be kind of new generation building blocks is the ease with which they can be manipulated and combined will raise interesting questions about how profiles are developed that use those standards in a – those building blocks in a more standardized way for higher-level purposes and we see a good example in Blue Button Plus Pull where the building blocks have been appropriately profiled, constrained and aligned for a specific use case. With RHEX I think we saw a portfolio of use cases that demonstrate the power of the building blocks but in and of themselves weren't probably sufficiently profiled to become independent standalone standards at that higher-level.

So, I think the interesting challenge going forward will be if we add these tools to our tool chest, how do we create and manage the higher-level aggregations of them in a standardized way that, you know, improves interoperability for the higher-level services.

And I think there are some good ideas, we heard some very good ideas from the people that told us about FHIR in terms of registering profiles online in an easily web accessible way so that you could validate that the profile that you were using does what you think it does so that you could extend these things kind of on the fly in experimental fashions and then circle back and get consensus on them when you wanted to lock it down and say that it wouldn't change from that point going forward. But, we may need some new models to do that that are different from the way that we have profiled things in the past and I think that's for future discussion.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Thank you.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Great, well David and Dixie what a tour de force and the Pull example you showed on slide 16 really kind of gives a very concrete image of the possibilities of the tool sets, David very provocative questions, you've already got your first question Arien Malec has rung in electronically and we'll start with Arien and if others want to address some of the questions that Dixie and David have raised or the presentation more broadly, please ring it after Arien. So, Arien?

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

Thank you and mine is more of a comment than a question. The Power Team was asked to evaluate this stack in the context of consumer engagement and the recommendations and comments that have come out I think reflect that mission.

I also would note that we've been asked, we the Standards Committee, have been asked to evaluate whether it's possible to further modularize EHRs and create an API layer around EHRs. And one of the takeaways that I have with this stack of OpenID Connect, OAuth2 and particularly FHIR is that it lends itself very well to a really nice range of use cases for modularizing and composing portions of an EHR.

Just by way of example, we have an electronic prescribed, web-based electronic prescribing application that we've integrated with a number of EHRs not an unusual thing for folks to do and it requires – it historically has required an ungainly mix of SOAP-based SSO calls with HL7 Version 2 messages to reflect back the status of the prescription back to the chart and things of that nature and you could replace that entire component with a set of FHIR-based resources and a universal authorization or an authentication and authorization framework.

And you can you can think through all of the areas, decision support is a good example, any of the components of an EHR the can and should be modularized, this ends up being a really nice toolkit to enable that modularization.

So, one of the things that we may want to think about as the Standards Committee is evaluating the standards stack for purposes beyond the purpose for which the NwHIN Power Team was requested.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

You know, we talked about that quite a bit Arien, quite often, I didn't – I shouldn't say – because – we noted on numerous occasions how this same stack would be used – could be very, very useful for multiple purposes. The task focused on consumers was good because it focused the effort, but, yes I would totally agree with that this set of standards makes a very useful toolkit for a number purposes.

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

This is David, I just want to add one comment to that, that we unfortunately did not have time when we were talking with the representatives from HL7 about FHIR to explore the other – the relationship of FHIR to other HL7 service oriented architecture initiatives of which there have been a number through the years, but I think that's the interesting question is does FHIR supplant some of those efforts as well, which have some – in some ways have not taken much root because of their complexity and maybe the simplicity that these new tools offer would revitalize some of the service oriented thinking.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yes.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

This is a hugely exciting proposition and look forward to continuing dialog on that. Wes Rishel has his card up.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Thank you, Jonathan. I'm going to make some comments that are perhaps not leading the cheerleading squad, but I want to make it clear that I think that this is the most important and promising thing I've seen in a long time. So, I'm not in any way opposed to any effort that ONC might take on to promote this and get some basic uses of it ready for Stage 3.

At the same time, I look at the readiness evaluation slide and I see that we are on the verge of recommending an emerging standard for Meaningful Use Stage 3. Why do I infer that, I think in part because why else, why else, you know, we aren't getting any vendor compliance now, what else might lead to vendor compliance?

We have been in the position going all the way back to HISP days of doing that and I think to a certain extent that's inevitable. We I think have – are more sophisticated now and that we look at – are at least the building blocks more mature, but I can't but help remember the hype cycle on C32 where it was adopted everywhere and it was only in implementation that some limitations in terms of interoperability were discovered.

And my primary recommendation is that the level of effort that goes into supporting various FHIR applications be accompanied by projects that demonstrate cross vendor interoperability as soon as possible not that it might kill this effort, but it might create the equivalent of the C-CDA which is to say another revision of the standard that clears up a lot of issues.

I also want to talk about the dynamic versus trusted forms of using these protocols for Blue Button 2 and recognize that we've made some of our best progress under the Meaningful Use Program where we looked carefully at the resources required of the nation in order to implement a trust structure and that's in fact I think the work of directtrust.org demonstrates a low overhead moderate level of trust that makes the rollout feasible.

I'm concerned, you know, when you just put the question intuitively, should a physician's EHR be able to send data to an application when the patient has logged on with the same credentials they used to log onto the physician's own patient facing interface should the physicians be protected by only being allowed to that for certified applications or is the patient able to decide for themselves whether this application is good enough to achieve their data. I am hoping we won't have a one-sided view of that.

Perhaps the Consumer Group will help us balance the patient's rights to get their data with the physician's rights to not be compromised in releasing the data. And I think that is my main concern.

I will say that the idea of using these building blocks to build on intra-EHR interoperability model is very interesting. I personally have never believed that the value of a comprehensive EHR is the sum of the values of its components, that there is value in the overall EHR product as well and just to do this in a way that is enabling, but not necessarily constraining certainly in the phase 3 and Stage 3 timeframe.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Thanks, Wes for your recommendations. Let me invite two others who have cards up to make comments and maybe David and Dixie can respond there and certainly if others want to ring in either you can send electronically or just speak up, but we have Leslie Kelly Hall next and immediately after that Eric Rose.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

And Jonathan this is John Halamka I'm back.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

And John at any time.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

Okay.

Leslie Kelly Hall – Senior Vice President of Policy – Healthwise

Thanks, Jonathan, this is Leslie. Great work you guys this is really exciting. I think combining the balance between security and ease of implementation is very important and I echo Wes's comments about DirectTrust and low overhead. I do think it might be worth asking a question also in the Privacy and Security Workgroup about the level of assurance, are there opportunities for multiple level of insurance with regard to consumers or is it necessary to have a single level of assurance trust and encourage us to look at the end use cases of a collaborative care model where this new technology can really help to facilitate versus our old head model of transactional systems that are bilateral at best, but rarely multilateral that this use of technology can bring to us. So, I would encourage us asking those additional questions and I applaud the efforts of the group.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Thanks, Leslie and let's go now to Eric, Eric Rose.

Eric Rose, MD, FAAFP – Director of Clinical Terminology - Intelligent Medical Objects

Hi, thanks for the presentation the explanations were great, the diagram of the potential use case was very enlightening and it would be really helpful I think if you could – Dixie if you can kind of connect the dots from what we have in Stage 2, which is – as far as the requirements of view, download and transmit, and the standards for those which are basically just consolidated CDA and then use of Direct for the transmit part.

I guess what I'm struggling to understand is for the use cases that are behind the Stage 2 requirements, are there gaps that these standards would fill or is the idea of expanding the use cases – and if it's the idea of expanding the use cases have those been identified by the priorities by the Policy Committee and is it maybe – is there a risk of getting too far ahead of ourselves to try to facilitate complex use cases with transmission of very granular data when, you know, the very basic access to – you know, if I see two doctors being able to make sure that one of them has information from the other, you know, are still not realizable in most cases.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Well I would say – and thank you Eric I appreciate the feedback that it was clear. I tried very hard to make it clear what these did, these standards were doing. Regarding are there gaps I would say no because the two requirements that really came in HITECH were the capability for a consumer – for a provider to be able to download an EHR to a consumer and to provide that – to provide a consumer's EHR data to a third-party. So technically, yes, you could have a consumer go to a doctor and say, e-mail me using – well e-mail my EHR using Direct to this other doctor, okay. So, you technically could use Direct to do that, right?

But in terms of complexity, I would say that that is more complex than using the standards that we're recommending which would enable a provider to say, you know, once – well – say once well I want you to always provide my updates to my EHR to this application which I've authorized or they could – and they could do that without going into the doctor and sitting down and filling out a form. They could authorize it online, authorize it to go to a different application.

So, in terms of workflow required I think the standards we're proposing would simplify the effort required and simplify the workflow for both the doctor and the consumer. But whether there is a gap such that it's impossible to meet the legal requirements I would say no. Is that clear?

Eric Rose, MD, FAAFP – Director of Clinical Terminology – Intelligent Medical Objects

Yeah and I guess the second part of the question is there is a mandate from the Policy Committee to pursue these, you know, types of use cases?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

No, I don't think we need a mandate for the Policy Committee. These use cases are happening. I mean, we know that these use cases are happening in fact one of the fastest-growing areas of, you know, smart phones Apps is in healthcare applications. We know that the use cases exist. There isn't – we don't have a legal mandate to get use cases from the Policy Committee that I know of.

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

This is David, just to chime in, I mean, the Blue Button Push and Pull use cases were both, you know, put forward by ONC through the S&I Framework so there was certainly an ONC mandate to investigate these.

Eric Rose, MD, FAAFP – Director of Clinical Terminology – Intelligent Medical Objects

I see.

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

So, that's what led to the specific proposals.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

I think David the comments you made about this stack being analogous between the functions of a more familiar stack also suggests that, you know, we wouldn't want the Standards Committee to be in the position of being locked on standards that maybe supplanted in a variety of use cases including some that may not be specific – maybe identified in the broad sense, but, I mean toward Arien's vision of the use in terms of modular EHR, you know, it would be unfortunate for us to have requirements around standards that encompass or just as you've indicated activity that's going on currently.

Anybody else? We're running a little behind and that's fine, absolutely fabulous topic, but let's – I want to make sure we leave time for other activities today. Are there other individuals who would like to weigh in or offer comments?

Keith Figlioli, MBA – Senior Vice President, Healthcare Informatics – Premier, Inc.

This is Keith Figlioli from Premier, so where does this go from here?

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Great question, and what Dixie has suggested at the beginning is that we would agree on direction, conceptual agreement as opposed to a formal recommendation at this point. And what I'd like to suggest is that consistent with slide 23 the statement recommended that ONC support and encourage development and piloting of Blue Button Plus, FHIR and RHEX that we support that recommendation and I would ask Dixie would you and David be inclined to bring this back later for formal endorsement?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah, we do think that our collaboration with the Privacy and Security Workgroup and the Consumer Workgroup is very, very important so that's our next step. And what we had planned was once we had that meeting with them and the three Workgroups came to agreement, we would bring this work once again back to the Standards Committee for their formal endorsement.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Okay, so I'm going to interpret that in the form of a recommendation. Let me ask if there is anyone who objects to that being the direction, obviously it implies Dixie and David coming back for a more formal recommendation after those touch points.

Keith Figlioli, MBA – Senior Vice President, Healthcare Informatics – Premier, Inc.

Yeah, this is Keith again. I'm fine, the question I had was kind of back to Arien's point which is there are broader ramifications here and then there's major architectural discussions that would have to take place given, you know, the length of time of when some of these courses are architected and what you can actually certify and what you can't.

I just think – it just strikes me as this by design was a very narrow use case. But I'm kind of where Arien is there's broad sort of – a lot broader ramifications than this discussion that I'd like to see taken forward.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Okay, let's – I interpret that, if I'm hearing correctly as you're comfortable with the recommendation as Dixie offered it, but let's request that Dixie and David, if you agree to come back and describe some of the broader ramifications and potential use cases?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah, we'd be happy – I think that's appropriate actually if it's a – yeah if it's okay with the ONC I think that that would be very valuable.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Great, well let's touch base off line with Doug, S&I and Farzad and Paul, and, you know, in a coordinated manner if that's the consensus that's the way we'll go.

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

And Jon, this is David, Dixie and I would obviously welcome suggestions off-line and thoughts from others who haven't had a chance to speak up. I agree this is quite an important transition.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Great, well, let's, you know, do that within the FACA process and so within the Workgroup I would suggest that you can take comments back and appreciate your synthesis of the broad inputs when you next present on this topic.

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

Yes.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Good. Let me turn to John Halamka and as I do let me just say what an exciting proposition for all the reasons so to describe the use cases – imaginable really exciting. John, any comments you'd like to offer?

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

Well, just recognizing that we've done Automated Blue Button at Beth Israel Deaconess in a provider and patient exchange data through any Direct address that the patient chooses without requiring specific restrictions and it's been working wonderfully from both the provider and patient perspective. So, creating this liquidity of data with a low barrier entry as David and Dixie have described I think is something that will be welcome in the industry and look forward to being a pilot site Dixie.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Thank you.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Well, let me again thank Dave McCallie, Dixie Baker just terrific and also this whole conversation what a wonderful segue to the next topic, Consumer Technology Workgroup update. And let me turn to Leslie Kelly Hall and look forward to this next thread of conversation.

Leslie Kelly Hall – Senior Vice President of Policy – Healthwise

Thank you, Jonathan. Next slide, please. We are really excited to begin to work in a Consumer Technology Workgroup and we're still in the process of forming, convening, setting our agenda with some great conversations and team members joining and providing all kinds of wonderful perspectives, but I'll review a little bit about our charter, refresh so that you can see what we're all about. Next slide, please.

So, our charge is to provide recommendations and interoperability issues and standards to strengthen the ability for consumers and patients and lay caregivers to manage health and healthcare. A big broad charge and I think this presentation earlier by Dixie helps to lay the foundation for the Consumer Group to really advance policy quickly.

Our examples will be addressing large portability issues of data, patient access, the generation of their own health data, incorporating patient preferences such as we hope in the future a collaborative care planning.

So our touch points with other Workgroups, I think you can see as Dixie mentioned, the NwHIN Power Team, the Consumer Empowerment Workgroup under policy, the Meaningful Use Workgroup and also I believe the Implementation Workgroup and Vocabulary will also be an important part of our work. As we integrate the patients into the health ecosystem it brings a whole new group of authors and concerns, and a great opportunity that I think this group is quite excited about. Next slide.

So, here are the members of the Workgroup and you can see some from the Standards group, Policy as well as new members and leaders from throughout health information technology standards and consumer active organizations. Next slide, please.

So, to date we've had three meetings. We're really still in a convening process, but we have asked the group to comment on the consumer strategies through the great planning room technology that ONC piloted, as well as we've had a technical briefing on the Blue Button and the Blue Button Plus. I would like to see us also get a technical briefing in the future from Dixie and this last presentation from the NwHIN Power Team.

We also began an inventory of the standards that can support consumer engagement now and in the future as well as an inventory of the teams and interests of each member of the Consumer Workgroup. Next slide, please.

So, we need to make sure that we understand the proposed Meaningful Use objectives, that the standards that we have named in Meaningful Use and are under development also support consumer and patient engagement. So, the lens we're looking through is the current needs with regard to Meaningful Use and to make sure that we repurpose existing standards.

We're beginning with the content standards to support patient generated health data as a first item. And of note the patient generated health data work under HL7 was recently approved to be considered as part of the consolidated CDA and goes to formal ballot I believe in the January timeframe. So, that's been exciting, that effort started quickly in January of last year. Led by Virinder Batra from Intuit and Lisa Nelson and really has progressed quite quickly and well. Next slide.

So, as we are very familiar with our objectives that we're working on is to provide the patients the ability to electronically submit patient generated health data. This is one of the proposed objectives. So, our goal will be to find and make sure that the existing channels, existing standards including things like semi-structured questionnaires or secure e-mail with eligible providers and eligible hospitals are considered through the lens of the patient and their designee. Next slide.

So, we're also considering the patient's ability to request or amend their record online. This is very important. The policy team had looked at what could possibly be the framework to offer corrections and additions to the electronic health record and using the HIPAA Rule and right to allow for corrections on line, that policy framework is being reviewed to see if that can be applied to the patient generated health data and we are seeing very promising opinions and considerations of that.

We're also looking at the use of secure electronic messaging to communicate with patients on relevant health information and to make sure that that includes a secure, private and thoughtful approach. Next slide, please.

The shared care planning is something that has always come up in policy and is actively being worked on in HL7 teams but still very much in development and so we're looking for a potential – some potential direction through a combined work team effort, the Consumer Workgroup, the Policy Group to see what are the needs with regard to care planning to include things like patient directions, patient care preferences and values and so forth. This is going to be important work and it is hard. So we hope to work on this quite aggressively so that we can be ready to meet the needs of a more collaborative care plan or collaborative care model in the future. Next slide.

So, of course we want to look at the current standards under the same lens for patients as we do for providers. So, using the maturity criteria and adoptability criteria we will be measuring all our work against that. Next slide, please.

However, this will be done in a lens of repurposing and reusing existing standards that have already met the maturity and adoption criteria or are being put forward as emerging standards just as we mentioned in the last recommendation.

So, our bias will be use the existing standards, repurpose them with the patients and family in mind. Advance existing standards for future needs and always use preferred standards mentioned in Meaningful Use that have met the maturity and adoption criteria.

When we find that there is a need that has been identified in policy that can't be met with standards we feel that will probably be the exception rather than the rule, because the patients and their family members just represent a new group of authors, a new group of participants in the care team and to the degree that we can treat that group as equal co-producers of information in their health the more likely we can use existing standards with repurpose in mind. So, that's it, we're pretty excited.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Well, thank you very much Leslie, a great overview and let's open the floor for any questions or comments for Leslie?

Okay, well obviously you've answered all the questions anticipated with your terrific presentation and really what a terrific thread of opportunity building on the previous presentation. With that –

Leslie Kelly Hall – Senior Vice President of Policy – Healthwise

Jonathan? I'm sorry, Jonathan, I just had one more comment that I left out. I do think there is opportunity to collaborate across specific areas with regard to privacy and security and also with regard to consumer vocabulary and I look forward to working with those other teams in the future.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

And Jon Perlin if I could make one comment?

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Absolutely, John.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

That is, as I Leslie speak culturally not technologically but culturally, the barriers to implementing your vision it's rather funny, although we do quite a lot of patient and family engagement sharing of notes and all the rest. When I bring up the topic of patient generated data they say "what" you know, the patient would be able to add to their problem list, to their medication list, to their allergy list "I just worry about the provenance and accuracy of such data."

So, you see on the one hand, so functional status, no argument about that. Mood, no status about that, you know, maybe some preferences, care plans there is no new controversy there but when you're talking about structured data that has typically been the parlance of a licensed professional you suddenly see there's a difference between what I think of as the doctor entered the data and the patient entered the data. So, just sort of comment culturally about provenance and people's willingness to consume the data that you describe will be provided?

Leslie Kelly Hall – Senior Vice President of Policy – Healthwise

So –

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

You know, John it's hard not to imagine this evolution. I mean, if you think back to Dixie and David's slide 16 and the Pull use case with the blood pressure cuff connected to the mobile health application, you know, there is a cultural change that is ensuing and suspect sooner rather than later.

Leslie Kelly Hall – Senior Vice President of Policy – Healthwise

Yes and I do think from the testimony that we've heard on the patient generated health data and others we see that patient generated health data has been forever in a record we're simply now allowing an opportunity for the patients being the author, digitally of the same information that has been transcribed on their behalf on a record and the opportunity for improved accuracy. The opportunity for improved engagement has been proven by any organization that is accepting patient generated health data today.

And so we're very, very excited about that cultural benefits. And often when folks raise that objection somewhat tongue and cheek I respond with my Visa card seems to be updated quite well. So, that is a cultural change but I think it's one that has tremendous support and we have tremendous opportunities through technology. So, thank you.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

And –

Andrew M. Wiesenhal, MD, SM – Director – Deloitte Consulting, LLP

This is –

W

Hello?

Andrew M. Wiesenhal, MD, SM – Director – Deloitte Consulting, LLP

Yeah, this is Andy Wiesenhal, I was wondering if I could make a comment?

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

Oh, please, go ahead?

Andrew M. Wiesenhal, MD, SM – Director – Deloitte Consulting, LLP

I fully support all of this and as most of you know I'm part of an organization that has already done – or was part of an organization that has already done a lot of this and in fact I'm a patient still and submit a lot of structured and unstructured data to my own medical record. I think the area that we're going to end up having to be careful of, that John Halamka has just made reference to, is none of the stuff about, you know, what's my history, you know, what I'm measuring about myself today, what my mood is, what my functional status is, all of that I think is going to turn out to be extremely acceptable to everyone and everybody will ultimately recognize that the patient has always been the source of most of that information anyway.

The definition of what the patient has, the diagnosis is I think the area that's going to be trickiest and you can see certain diagnostic categories where patients and practitioners could be in dispute with one another about the nature of the diagnosis. I'll give one that's very, you know, meaningful to the people in New England. I could say I have chronic Lyme disease but no doctor would support that diagnosis. Now it's of interest that I might say that about myself, but should that guide somebody else's treatment in certain ways, yes certainly. So, I think that's going to be the area that has to be explored the most by the Consumer Group. The rest of it is going to fall into place quite easily.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

May I say a something?

Leslie Kelly Hall – Senior Vice President of Policy – Healthwise

–

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Oh, I'm sorry.

Leslie Kelly Hall – Senior Vice President of Policy – Healthwise

Go ahead, Dixie.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

Yeah, this is Dixie Baker, I totally agree that this whole area and Leslie knows this we've had the conversation recently, this whole area of patient provided data is going to be one, is one that we need to pay a lot more attention to, and I would point out that even in terms of structured data, you know, a number of patients these days are going to 23andMe getting their whole genome sequence and wouldn't it be nice if they would upload those data so that we'd at least be able to have them accessible.

And I would also add that, you know, probably a year or so ago we made a recommendation for metadata tagging that included provenance and if you include a metadata tag that includes provenance it takes care if the issue that John Halamka brought up earlier about, you know, once they know it came from the patient they can attribute it to whatever trustworthiness they feel comfortable doing.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

This is Wes.

Nancy J. Orvis, MHA, CPHIMS – Director, Business Architecture & Interoperability – Department of Defense

This is Nancy Orvis, could I make a comment on this.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

We've got a number of – Nancy why don't you go ahead then we've got Mary Jo, then Wes then let's – and just –

Nancy J. Orvis, MHA, CPHIMS – Director, Business Architecture & Interoperability – Department of Defense

Okay, I just – just as a – you know, national public radio had a piece yesterday on a group that was starting to look at helping certify mobile health Apps for patients so that they could know that that was indeed an accurate blood pressure that they could then give to their doctor. So, one of – as we said a lot of this is exploding, it's emerging, it's definitely using existing Meaningful Use standards as preferred.

I would suggest that we track over the next year if there are other groups that will help out our committee by doing some of this, you know, it's like when VeriSign emerged for authentic signatures is there are groups that are going out there that are helping give consumers validation and verification that this is indeed an accurate way to record your information or to transfer it, that's another piece that we follow along with this because I think that's going to be very important too.

You know, as the gentleman said before if I'm keeping my own records of my blood pressure and sending it up to my record all the time that's another piece that we're going to be looking at is that indeed the recording accurate when they did that.

Leslie Kelly Hall – Senior Vice President of Policy – Healthwise

Thank you.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Okay, I think we had Mary Jo Deering was trying to get in then Wes last comments. Mary Jo?

Mary Jo Deering, PhD – Senior Policy Advisor, Office of Policy & Planning – Office of the National Coordinator for Health Information Technology

Yes, thank you from ONC. A couple of quick things, ONC has asked that a technical expert panel be convened looking at patient generated health data to come up with some ideas and suggestions based on current activity as to what are best practices around this.

We are going to be making a presentation to the Policy Committee's Consumer Empowerment Workgroup and it occurs to me that we might invite other Workgroups to hear that presentation, because I think it will address a lot of the questions that have already been raised right here.

The other thing I just wanted to point out is that I understand that the new FDASIA Workgroup, which is stood up as part of the work related to patient safety and the FDAs look at consumer medical devices maybe touching on some of those issues that Nancy just raised, so that's another area of coordination to take a look at. Thank you.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

What Workgroup was that Mary Jo?

Mary Jo Deering, PhD – Senior Policy Advisor, Office of Policy & Planning – Office of the National Coordinator for Health Information Technology

FDASIA after the Food and Drug Administration's is it Internet Act?

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Safety and Innovation Act I believe.

Mary Jo Deering, PhD – Senior Policy Advisor, Office of Policy & Planning – Office of the National Coordinator for Health Information Technology

The Safety and Innovation Act and MacKenzie can probably give you another word about its charge.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Okay, Wes?

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Wes?

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Yeah, so I want to first of all to thank Andy Wiesenthal I thought his discernment was extremely valuable and gets a lot to the culture issues although, you know, we're all aware that culture trumps strategy so often in our lives. I think about the simpler case, the putatively simpler case of physicians accepting data from other physicians. This can even happen within an EHR when it comes to a problem, but it is a bigger issue where information comes in through some inoperability mechanism.

The lesson we've learned that give me great hope for Stage 2 is that the problem was not the technology of the exchange, although there were problems there that needed to be solved, the problem was the workflow and now we see EHR vendors who part of the way they'll stand up competitively along one another is how good is their user interface for accepting third-party data from other providers?

I see no reason to believe that work flow is not as much an issue as culture in this area and am concerned that if we simply create a mandatory requirement too soon that the industry won't have time to perceive the user's needs and work flow and respond.

My recommendation is to attempt to find cases where this is happening now, you know, if not through the proposed standards at least the work flow is in place and learn what we can from those organizations that are already doing it.

And on a separate topic there is a substantial overlap with the work of continua here which deals with all kinds of patient generated data except that data that the patient actually types themselves that is glucometers, you know, oximeters even strength monitors and there may be lessons that can be learned in the standards and work flow adopted by continua.

Leslie Kelly Hall – Senior Vice President of Policy – Healthwise

Thanks, Wes, that's great advice and I think we'll hear on your first comment some information about best practice coming from the technical expert panel that Mary Jo talked about and then the continua advice is well taken, thank you.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Terrific discussion and really appreciate all of the inputs and Leslie appreciate the great work of the Workgroup. Thank you for your leadership and very thoughtful presentation. With that let us proceed to the Clinical Operations Workgroup. I know Jamie will be giving that, but let me turn to John to introduce and moderate the next section in then onto the ONC updates and S&I.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

Thanks, very much, and so why is this first presentation about formulary important? So, i.e., prescribe a medication. Hey, John you go to the pharmacy and you try to actually pay for that medication, and you discover there is a \$125 per co-pay, that's a problem. Well, we could enforce formulary and we could ensure that formularies are downloaded and updated from every possible pay area and every possible plan in our EHR, unfortunately today's formularies includes NDC level codification, which means hey if you go pick up the bottle of Tylenol with a purple 20% off label that's a different NDC code than the 500 tabs and caplets.

And, so hence the download size of our formulary distributed today is enormous. So, they're both irregular and enormous making this a really challenging transaction. So, we'll hear from John Klimek, we'll hear from the NCPDP folks on some of the standards they've thought about ways to make this a much more fluid transaction so we don't run into the problem of the patient getting charged something unexpected. And of course we will talk about radiology images and we also talk about lab orders. But, Jamie, turn it over to you.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

Well, thank you, John, I think that, you know, that was pretty much everything I would have said in introducing this, so we do have these two basic updates on formulary and on our imaging discussions, and we certainly want to support the S&I work on the lab orders. So, what I'd like to do is to introduce and turn this part of the presentation over to John Klimek from NCPDP to walk us through the formulary and benefits slides and then I'll come back perhaps to moderate discussion on our recommendations.

John Klimek, RPh – Senior Vice President, Industry Information Technology – National Council for Prescription Drug Programs

Well, thank you, Jamie and thank you to the ONC Standards Committee for inviting me to speak a little bit about one of the standards that we have that addresses the formulary and benefit issue that is at hand. Next slide, please, next one.

So, just a little bit in context here, basically we're looking at the core measure to generate and transmit permissible prescriptions electronically which is the electronic prescription in Meaningful Use Stage 2 we talked more about the percentage of prescriptions that are being sent and then also implementing some type of a drug formulary check in Stage 1. In the core measure in Meaningful Use Stage 2 basically 50% of all permissible prescriptions written by the eligible provider are compared to at least one drug formulary and transmittal electronically using the certified EHR technology. So, here we're seeing the need more to be able to check for the formulary status on a particular prescription that that physician is sending electronically through the ePrescription technology that NCPDP has. So, next slide.

This sort of just gives you a general flow of the ePrescription and it's sort of basic in nature in the fact that you have the US Health IT infrastructure which is that center blue box which basically feeds information all the way from the payer or PBM to the intermediary, to the EHR vendor, to the physician's office somehow – and is also associated with care for that particular patient outlined by the arrows that are up above that blue box and then going back to the pharmacy. So, you see that basically there is that flow of information that represents the standard for data exchange that happens between the payers/PBM all the way through that continuum of Health IT all the way through that system to the pharmacy making sure that whatever information that the physician is prescribing for that particular patient, whatever medication they are prescribing for that patient is basically being now sent to the pharmacy. And again there is that flow of information that happens on a daily basis. Next slide, please.

So, basically what we're here to talk about mostly is the formulary and benefit standard. Currently, today the NCPDP membership has approved the 4.0 version of the formulary and benefits standard. I do have to comment that basically right now, you know, we're seeing out in industry mostly version 1.0 being used, although we have recommended through our normal process of recommending to CMS for Medicare and Medicaid, that version 3.0 be used. The differences between the versions 3.0 and 4.0 are very minimal in nature and we're looking at people making that switch between 1.0 and 3.0 within the next year or so.

So, there are the differences in the versions, but I just wanted to sort of state that right now we have an approved version 4.0 which again is something that's out there not being used today. We're seeing mostly people with version 1.0, and again the process of the payer, PBM through the intermediary then going to the EHR vendor and then going to the physician's EHR system and you can see those arrows are going back and forth where there is that communication that's happening back and forth between each of those entities.

Basically the formulary standard is not used from the pharmacy to the payer so you don't see pharmacy in this mix. In general, pharmacy will get their information when they actually process that claim for that prescription to the payer or PBM and that's where they get their information as to what's the benefit coverage for that particular patient.

As, John Halamka eluded to earlier that's the big question mark sometimes when patients walk into the pharmacy as to, number one is their medication covered and then also number two, what's it going to cost me? So, we're hoping that through this process of formulary and benefit we can sort of arm that patient with, to some degree to let them know what that particular medication is going to cost them and that it is covered when they actually do go to the pharmacy to pick it up. Next slide.

So, this is just a very high level of responsibilities of all the pieces that are outlined in that flow diagram. So, between the payer, PBM and the intermediary, basically the sender is responsible for maintaining updated formulary and benefits information, publishing the information regularly to keep recipients up-to-date and then also providing a means for linking a patient to a formulary either through a cross-reference list or through an eligibility transaction. And again, this is mostly all through that first process. Next slide, please.

The responsibility then of the intermediary is to facilitate the distribution of the formulary and benefit information then between the formulary publishers and the retrievers of that information which is the EHR vendor in this particular case, documenting and communicating the data load specifications, processing and usage guidelines, particularly to their service, and then also validating transmitted files against the standard specification and that's an optional functionality that we have in that particular process, but we do see a lot of people using that. Next slide, please.

The next piece here is basically then the receiver, which is the EHR vendor accepting or retrieving the formulary information from the sender. Again, this can be directly or via through the intermediary and integrated into their point-of-care application. Associating the formulary and benefits information to the patient or group as appropriate using the cross-reference list or an eligibility and then in the context of the ePrescribing system, present the formulary and benefit information to the physician during the prescribing process enabling him or her to make the most appropriate drug choice for the patient and again that's where the meat on the bone comes into play is where that EHR vendor is making that information available to the physician and making that decision process at the time of actually prescribing that particular medication. Next slide, please.

So, what we're going to talk about here are some of the things that we've identified as possible industry issues that we've seen out there in the field and some of the things are going to – some of these issues we're going to address in some of our recommendations in the last slides, but basically the first one is the large files needed to provide the formulary and benefit data and John Halamka mentioned that earlier.

Basically right now we're hearing that some of those files on the formulary and benefit data could sometimes exceed 20 GB of information. What we're looking at is the RxNorm code used instead of the NDCs which we're being told that if that process does happen that it reduces that file from 20 GB to probably in the vicinity of 6 to 7 GB, so more than half to a third of the size of the full file if regular NDC numbers are being used.

We're finding that, you know, some of the payers are providing that information in RxNorm codes, we're finding that some of that transition information is taking place at the intermediary where they're actually trying to convert some of those NDC numbers to RxNorm codes. But, the issue at hand is with the electronic health record vendor receiving that information, if they're receiving NDC numbers that's where the 20 GB file comes into play and it would be a lot more beneficial if they would receive smaller files.

The next one is submitted in batch form, no I'm sorry, submitted in batch form not real-time. What we see here is that that information is being sent to the intermediary on a regular basis sometime weekly, sometimes monthly and sometimes there are updates made on a daily basis. There really is no set standard as to when that information has to be there, but here again it's all being sent in batch form.

Group level variations and coverage are not represented leading to the provider not seeing the accurate representation of a patient. Drug specific benefits since the member specific exceptions and other variances are not accurately reflected. Here what we're seeing is that a majority of the formulary and benefit information that is being relayed to the physician is at a very high group level and sometimes when you get into a more granular level of specificity into a particular smaller sized group that may be an off shoot of the larger group level you may have some exceptions that are being made there in formularies.

So, what we're seeing is that sometimes a physician may see that at a particular group level a medication is covered but then actually when they go to the pharmacy they find out that there are some exceptions that are made because of exception group that the member is actually in. So, we're seeing some of those issues at hand but it's getting better.

Assumes the patient's current drug insurance plan is identified through a successful eligibility check, and again this is something that is pretty much mandatory on the fact that the electronic health record vendor needs to check first of all if the patient is covered before they actually do check the patient's formulary and benefit. So, here again we're assuming that but we're understanding that that happens the majority of the time as well.

Difference in coverage among different employer level groups and we touched on that just a little bit above, a little bit more specific into the specific level groups that an individual may be in. Use of symbols used in formulary interpretation that do not reflect actual drug specific benefits at the point of care and what we're talking about here is electronic health record vendors may take that formulary and benefit information and relay it in different fashions depending on that particular vendor. So, one vendor may decide to use green, yellow and red for their particular formulary status for a patient and others may use pluses and minuses or to some degree something to indicate to the physician that something is formulary preferred or not formulary preferred. So, we're seeing some variations in that, that's something that basically NCPDP we can't monitor or mandate because again that's happening actually at the electronic health record vendor level.

And then the last one cannot detect differences in primary and secondary prescription benefit coverage. We see that mostly in some of the Medicare Part D patient's ones that have primary insurance and then they also have a secondary prescription benefit coverage plan. So, that's some of the industry issues that we see out there. Next slide, please.

So, one other is basically how that information gets from the EHR vendor to the physician's office or the EHR system. There are basically two methods, there is an automatic push in which the formulary information is automatically pushed into the provider's system in real-time without any provider intervention and then there is also the pull or the manual method where the provider must take the initiative and manually download the updated the data or it's called practiced triggered.

In talking to the industry out there, this also seems to be a big variation out there where we see some of the EHR vendors not doing this on a regular basis and not having an automatic push to their EHR systems, and we also find some variations in the pull method as well where somebody at the actual physician's office has to go through that process of initiating that pull in order to pull down all that information from the vendor. Next slide, please.

So here are some of the proposed recommendations short-term and again, these are things that we talked through – that I've talked through with some of the previous slides. Obviously, the NCPDP formulary benefit standard is something that's being used out there currently and we see again that version 3.0 is one that everybody is going to be moving to very quickly from the 1.0 version. Again, the current standard is batch files. It should be supported by the CEHRT and formulary and benefits transmission to EHRs.

We also are recommending that formulary and benefit transitions, transmission with NCPDP 3.0 should be required to use RxNorm to facilitate accurate exchange of data and also more importantly to reduce the file size.

We're also recommending certified EHR technology should have functionality to match the patient. Again this gets more into specificity of that patient's pharmacy benefits not so much their medical benefits, but here again their pharmacy benefits, because again, the patient gets to the pharmacy and those are the edits that the pharmacy is running up against when they process that claim.

Then also that certified EHR technology should be required to support acceptable automatic updates or push functionality. Again, as we talked about earlier to minimize the latency of the information at the point of care and then formulary and benefit data presented at the point of care should, at minimum, represent the patient's group pharmacy benefit. Again that's at the very minimum. We would certainly like to get more specific into that patient's coverage when we start talking about coverage exceptions and co-pay exceptions that are in that particular information that could be provided to that provider.

Long-term, this is sort of the pie in the sky, certified EHRs would basically develop a functionality to run not only the patient level formulary checks against the actual patient's drug benefit, but then also, you know, doing that all in one clean transaction so that it looks very similar to the way the pharmacy processes a claim and this sort of gives the provider a little bit clearer information as to the specific drug and dose that may be required for a particular formulary or benefit that is under that patient's care.

Again, this is something that we've talked about internally as a new standard, a new transaction that would be required, but for the short-term we see that the formulary and benefit standard that's currently out there is something that is being used and can provide information to the provider in a very fast and efficient way. I think that's the last one.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

That's great, thank you John very much I really appreciate that. So, this is Jamie again, let me ask perhaps just the first question and that is in terms of these recommendations, John from the NCPDP perspective how would this align with the migration of Part D for this purpose?

John Klimek, RPh – Senior Vice President, Industry Information Technology – National Council for Prescription Drug Programs

Well, as stated earlier currently what was recommended from our membership and then NCPDP to CMS was the use of the formulary and benefit version 3.0. Currently, right now industry is on 1.0 and we certainly would want that to coincide with that change. We're probably anticipating probably the middle of next year when that'll happen where that will come down as a requirement for Medicare and again that's something that we want to see at least some similarity here in that same – in those same requirements.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

Right, exactly. Okay, thank you very much. So, questions from others?

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

David, I've got one.

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

And this is Arien, I've got one as well.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Wes too.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning, Fellow, Institute for Health Policy - Kaiser Permanente

Okay, David then Arien, then Wes.

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

Okay, first thanks for the presentation. One, I haven't worked on ePrescribing for quite a while, I did a number of years ago and have not really kept close track of it, but one of the frustrations that we ran into in the work when I was doing it was the lack of any kind of electronic way to do prior authorization. And I was wondering if part of improving the ability to reflect actual cost to the patient at the point of care, which I realize is a goal that is obfuscated along the way but many parties who don't want that actual cost to actually be invisible, what's the status of work on prior authorization as a part of a formulary benefit model?

John Klimek, RPh – Senior Vice President, Industry Information Technology – National Council for Prescription Drug Programs

Well, that's a very good question. In fact at our last Workgroup meeting that was held in May our membership has approved for release the updated version of the electronic prior authorization process which would be a process that would happen between the physician and the payer at that point of care and that also sort of feeds into the formulary and benefit standard version 4.0 which basically relies to some degree that the physician also has that capability of doing that electronic prior authorization. We're not seeing that happen today, but after the membership has approved it, we're going to start seeing some major initiatives out there in industry moving towards this because here again, you know, the issue that we see at hand is in many cases the physician is prescribing something that he thinks is covered and what it gets to the pharmacy level that's where the backstop comes into play where the medication is being rejected by the processor and stating that a prior authorization is required then it has to go all back up stream to the physician again and then from the physician back to the payers.

So, we want that process to all happen at the physician level so that they know that if a particular drug requires a prior authorization that they could electronically submit that information to the payer before that prescription is even transmitted to the pharmacy.

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

Yeah, that would be great, thanks.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

And so that sounds like an opportunity for a future update to the standard as the 4.0 perhaps would become adopted also by Part D and others.

John Klimek, RPh – Senior Vice President, Industry Information Technology – National Council for Prescription Drug Programs

Absolutely.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

Okay, Arien?

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

Thank you, so a couple of questions. First of all is the recommendation that RxNorm replace NDC or be supported in addition to NDC?

John Klimek, RPh – Senior Vice President, Industry Information Technology – National Council for Prescription Drug Programs

Well, currently right now we're seeing – the standard will allow for both. So either NDC number and/or RxNorm codes could be transmitted. What we're looking at is if strictly the RxNorm codes are being submitted from the payer to the intermediary for that process of sending that information to the payers, if they're using RxNorm codes that's where that file size could be dropped down considerably and that's where we see the benefit.

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

So, I guess that I'm just wondering whether your recommendation is to require RxNorm in the ENB 3.0 or 4.0 standard as opposed to, you know, optional? Because my concern, just to get the question behind the question, my concern is that there is a cost to do this transition both on the payer or PBM side and on the EHR vendor side and if it is optional, optional has a way of becoming required for the EHR vendor, but not required for the submitter, we could be in a position of creating a cost burden on the vendor without the corresponding benefit.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning, Fellow, Institute for Health Policy - Kaiser Permanente

So, just to clarify, our Workgroup recommendation is to make the RxNorm required.

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

Required.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

And the NDC optional, but I think we have to recognize that based on the ability to process the current file sizes that are being received with the NDCs that the ability for EHRs to realistically, you know, receive these data and process them in a timely manner, is really limited today.

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

Yes.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

So, it's not – it's just not realistic today to expect full adoption of formulary and benefits without the migration to RxNorm.

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

I think – yes, so I think – Jamie I think you and I are saying the same thing that it would be best if there was a transition to RxNorm as the required element and that that would be incumbent both on the payer side and on the EHR vendor side to make that transition.

The second question relates to the use of the PCN and Rx BIN numbers the like. I don't have any objection to this, but I think it would be useful to look at the prevalence of provider practices that routinely collect Rx BIN and PCN numbers. I have never been asked for my RX benefit card at a medical practice they tend to know the medical insurance but not the pharmacy benefit numbers. I'm not even sure whether most practice management systems or EHRs have the ability to store those numbers. So, I think it would be interesting before we make this required to also look at the practice work flow and technology support for that change.

And the last question –

Eric Rose, MD, FAAFP – Director of Clinical Terminology – Intelligent Medical Objects

Well –

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

Sorry, go ahead.

Eric Rose, MD, FAAFP – Director of Clinical Terminology – Intelligent Medical Objects

This is Eric Rose, if I could just break in, I believe that in almost all cases where this is implemented today the eligibility transaction does not require that the EHR send any identifiers.

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

Correct.

Eric Rose, MD, FAAFP – Director of Clinical Terminology – Intelligent Medical Objects

Yeah, it's basically sent first name, last name, date of birth, zip code and gender and it figures it out from there.

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

That's right, so using that eligibility identifier that was mentioned as opposed to the pharmacy benefit numbers and again it's a work flow issue of, you know, we're going to do this work but not have the work flow at the provider practices to routinely collect that information and are we doing work that's not going to generate any benefit?

The last comment that I have is that the requirement to get pushed notifications of formulary information, I believe should go to the Privacy and Security Workgroup. Anytime you're talking about pushing information over the Internet to an EHR you're requiring that EHR to open a port and secure that port otherwise bear the risk of a security vulnerability, and I wonder whether instead of that a more frequent refresh rate as a pull might be an appropriate recommendation.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

Great, thanks very much Arien. Wes?

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Thanks. A comment, I'm fascinated to hear that you're working on 4, you've approved 4 and the industry is at 1, this is an old story we've heard, you know, in many different situations and I think I've become convinced that the only levers that overcome the reluctance to invest in upgrading interfaces is an external financial lever. I think it's a lesson, you know, and it goes beyond ONC at this point, but it's an important concern.

I'm confused, and it is probably some fact I am missing, but my best understanding of RxNorm is that it doesn't identify the labeler and I don't understand how anyone could possibly compute a benefit, a coverage for a prescription without knowing the labeler.

John Klimek, RPh – Senior Vice President, Industry Information Technology – National Council for Prescription Drug Programs

Well, you're right Wes in the fact that the RxNorm code does not present the labeler in a particular product, but I think that's the genesis of identifying what drugs, what drug categories are covered and that's to a specific drug itself not to a specific NDC and that's where you have in formularies. In the formulary and benefit standards there are different files that are produced. There's a formulary status file which is used 100% of the time where it basically tells if the product is formulary preferred or not preferred or whatever.

Then there is also a coverage list which is used – a coverage file which is used some of the time, although I hear pretty close to 100% of the time, and that's the file that will tell you if a particular drug needs a prior authorization, you know, a particular drug needs a prior authorization.

And then there are co-pay files and that gets down to tier levels coverage and what's the co-pay on a particular product and I think at the purest form of a formulary status file that's where the RxNorm code would be used and I think getting back to Arien's comment of RxNorm code with the optional NDC numbers also being used, I think you will find probably in some cases still NDC numbers being used sometimes in cases of more specificity on the coverage file and co-pay files.

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

And, sorry, this is Arien just to add to that, the RxNorm does have the ability to distinguish between the branded medication –

John Klimek, RPh – Senior Vice President, Industry Information Technology – National Council for Prescription Drug Programs

Right.

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

And the generic and that's the level at which prescribers prescribe even though the pharmacy dispenses at the individual packaging level which will have a specific generic manufacturer and a specific generic price.

John Klimek, RPh – Senior Vice President, Industry Information Technology – National Council for Prescription Drug Programs

Right.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Okay, thanks, very helpful. Now one other question, as I recall, the original HIPAA law going back to 1996 or certainly regulations issued pursuant to it, specify a different standard for prior authorization, right, not NCPDP but a different standard, is that a problem here or is that covered by regulations associated with HIPAA?

John Klimek, RPh – Senior Vice President, Industry Information Technology – National Council for Prescription Drug Programs

Yeah, I understand where you –

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

It's an X12 standard.

John Klimek, RPh – Senior Vice President, Industry Information Technology – National Council for Prescription Drug Programs

It's an X12 standard that was actually labeled in the HIPAA guidelines, but here again I think, you know, when we talked about prior authorizations you could be talking about prior authorizations for multiple things, prior authorizations for a medical service or in the case of prior authorizations that we're talking about here is for medications and I think that's where the distinguishing factor comes into play.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

No, I understand that, what I'm concerned with is that somewhere along the road to implementing an NCPDP you have to get CMS to change the HIPAA regulation to distinguish between prior authorization for medication and prior authorization for other therapies or procedures, you know, it's bump in the road but nonetheless it's a big bump.

Finally, I'm just going to express an opinion, I'd love any comments you have but I'm not necessarily expecting there to be an easier obvious response. What I see here is a very complex computation, the coverage computation being very complex based on a lot of business rules, a number of codes, a number of attributes of patient or benefit or plan that are quite dynamic and an attempt to replicate that decision to some level in every EHR product in the country and I think that that is on the surface of it not a workable business proposition.

I wonder if it isn't necessary to either revise the expectations of the industry about how much the physician can know or rethink the standards in terms of mandatory services provided by PBMs that provide pre-adjudication online in support of this decision process in an EHR.

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

Hey, this is Arien, I just wanted to respond a little bit to that last bit.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Yeah?

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

We run, as you might know, RelayHealth runs the intermediary processing for claims adjudication for about 80% of pharmacies. This is a complex problem as usual in things in healthcare it's a complex problem because of contracting and it's – again there's the level at which prescriber prescribes and the level at which the pharmacy dispenses, and you're not going to be able to get to that level of pre-adjudication because – unless you get down to the packaging and the pharmacy level, because the price that's paid is a function of the contracting relationship between the pharmacy and the PBM in many cases.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

And the drug manufacturer.

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

And in some cases there are offsets on the drug manufacturer side as well, correct.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Right.

Arien Malec – Vice President, Strategy & Product Marketing – RelayHealth Corporation

And so the information provided to providers at time of prescribing, I'd go with your former which is that it's directional it should not be intended replicate the actual dollar amount that's paid because again that's, as you say it's a complex function, but it actually is adjudicating in real-time, but it's adjudicated in real-time against the actual dispensed event as opposed to the level at which the prescriber prescribes.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

So, perhaps it's well understood among people working in this that the expectation is some sort of preferred or not preferred flag as opposed to some kind of grading of the expense of different alternatives, etcetera.

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

But, this is David, I want to second Wes's opinion and notion that we really should, you know, contracts notwithstanding, they don't last forever, rethink this, because it's really kind of absurd that the physician and the patient can't make a decision with any chance of knowing the actual cost of the decision being made at the point of care. I mean, that's kind of absurd.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning, Fellow, Institute for Health Policy - Kaiser Permanente

Well and I think, this is Jamie, so I think that's where our long-term recommendation would get to, but it's obviously, that's not something that we have the ability to make recommendations on how to get there today and this is of course in response to the request from the Policy Committee for us as a committee to recommend the best way to represent formulary and benefits in the EHR.

But, the other thing I'll just – and drawing back to I think Wes this was your first comment on sort of the 1.0 and 3.0, you know, as we have done with the other ePrescribing standards in Meaningful Use in general we want to stay in sync with Medicare Part D and so that's why I had asked that question about the update of the formulary version 3 for Part D which is expected to be kind of middle of next year. So, if we want to keep – if we do want to have formulary in this program and if you want to stay in sync with Part D, then this would be the short-term recommendation without taking anything away from the comments about the complexity of the current flow and the desire to have more specificity.

Wes Rishel – Vice President & Distinguished Analyst – Gartner, Incorporated

Thanks, Jamie, so I would just add to that at the risk of redundantly repeating myself, that part of our obligation is to make sure the expectations are clear, that is what is the level of knowledge that we can reasonably expect the physician and our EHR to have when prescribing based on the limitations of getting something implemented in the time frames that you have identified.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

This is Jon Perlin, I just want to weigh in with two things, one is a time check and the other is that don't forget when we respond to the Policy Committee we can also transmit with some structural limitations of the approach as entirely specified and comment back, you know, some of – mix in the points that you've identified.

Let me turn back to John I know that there a couple of other folks in the queue, Eric Rose has a card up, but John let me get your sense of where you want to go next.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

Well, sure, so since we only have a couple of minutes, we're actually 15 minutes past time I wonder Jamie if we can move onto the radiology commentary, image transfers?

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

Yeah, well actually what I was going to suggest is I think this has been a really useful discussion and I'd like to continue this discussion with the committee. So, with your permission what I'd like to do is to take this topic back to the Clinical Operations Workgroup, consider the input of the committee, come back and put this on our next agenda as well for the next discussion.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

And that makes great sense because just as with Dixie's presentation this is simply a preliminary set of recommendations, next meeting we'll actually ask for approval. So, I think that's great, we will continue the discussion.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

Okay and then I would like to move on just to briefly update the committee on our – really just the discussion in our first meeting on image sharing which was another thing that was added to our clinical operations work list.

And, so what we've done here and if you could advance to I think two slides on the web, thank you, so we started out discussing use cases and also discussing which candidate standards and methods for image sharing we wanted to consider. We're still in that first step of discussing the use cases and understanding candidate standards that in the future would refine use case scenarios at a more detailed level and make recommendations aligned to those scenarios.

The initial use cases that we've started out with are a provider to consumer image sharing or image downloads as another way to think of this, clinician to clinician image sharing so individual to individual diagnostic image sharing, and then the third one is around more of an ACO style or a care team where the entire care team or network, or community would have the ability to potentially share appropriate diagnostic images.

And then we've started just the very initial discussion on a possible additional use case for consumer mediated provider to provider image sharing which it turns out is enabled really very nicely by the current pilot of RSNA for their image share methodology and so their image share pilot is working in a number of places. They're in the process of updating this to a new set of specifications where their initial pilot that's been running has the ability to share images based on a central repository model, but their updated specifications also will enable a distributed data model for provider to provider sharing.

And so while their initial pilot is exclusively consumer-mediated exchange between providers, their updated specifications we expect to be able to enable actually all of these different possible use cases. So we are looking at that but we also are very interested in understanding other standards and methods for image sharing that could fit these use cases so this is a work in progress and I wanted to give a brief update on it.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

And just one last thing Jamie and that is yesterday on a call with Farzad he said "don't forget about EKGs." I of course told him EKGs are not an image they're a time series but from a patient perspective the retrieval of what they perceive to be an image of their EKG it's certainly something to think through.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning, Fellow, Institute for Health Policy - Kaiser Permanente

Right, so I'd love to get comments from the committee?

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

Jamie, this is David, I have a question?

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

Yes?

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

I'm not that familiar with the RSNA image sharing pilot are you going to dive into the details of that at some point in the future or – I did not quite follow the...

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

Well, so I'd love to have you join the Workgroup calls on this, we have reviewed that with the RSNA reps at a high level and I expect that as we go into refining the use case scenarios we probably will do a deeper dive, certainly the materials that we've used in the Workgroup are available to everybody that describe what that pilot is and how it works.

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

Okay, is it just for super high level, is it some kind of the zero footprint model where you don't have to have preinstalled software for every particular kind of modality or is that too detailed?

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

Well, I would say that it's based on XDS sharing of DICOM images.

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

Oh, okay, so I think there's a problem –

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning, Fellow, Institute for Health Policy - Kaiser Permanente

So, that's where they're starting out and then I think their next round of specifications I think will enable the other use cases as well.

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

So, I've talked to – so that's great, that's exactly what I was curious about because just in conversations with our imaging people here, which is a space I don't know as well as I should probably, but, you know, there is enough incompatibilities with DICOM across modalities and vendors that it's pretty difficult unless you engage a third-party to remap the DICOM details to actually just move DICOM around seamlessly and that the alternative, at least for certain subsets of use cases, not necessarily every use case is, you know, a web-based zero footprint viewer, a.k.a. a browser and I think that we really ought to try to find a way to support that because I think it would account for, you know, a high percentage of the actual clinical use cases and certainly –

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning – Kaiser Permanente

Right and that can be enabled against the central repository version of this.

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

Yeah, but if there was a place to do it without a central repository as well.

Leslie Kelly Hall – Senior Vice President of Policy – Healthwise

Right.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning, Fellow, Institute for Health Policy - Kaiser Permanente

Yeah.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

And David, we did discuss this with the Policy Committee and the Policy Committee said, you know, there are multiple use cases there is high res, movement of DICOM so that you don't lose the metadata there is low res you can show it to your family, you know, there's all kinds of ways to think about it. So, when we opened up use cases as provider/provider or provider/patients and provider to group we do recognize that we need to think through DICOM and Non-DICOM alternatives.

Leslie Kelly Hall – Senior Vice President of Policy – Healthwise

This is Leslie and I have a question along those lines using the web service and assuming it's a consumer involved a zero footprint is preferable but the opportunity to actually have this group help resolve the problem of sustaining hyperlinks across asynchronous upgraded systems would be a wonderful thing so that regardless of where a patient might move whether they're in this PHR or that PHR, or movement and upgrades of systems we had some direction no how to sustain that linkage back to the media of any kind. Is that something the Workgroup is looking at medium or broadly, or just specifically related to DICOM and is it something that could be considered?

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning, Fellow, Institute for Health Policy - Kaiser Permanente

Well, you know, I think we'll look at a variety of different image formats so not just DICOM.

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

And this is also I'll point out a perfect use case for OAuth2 and in fact some of the RHEX pilot was focused on this just to manage – you not only need to make the link persist but you need to understand the authorization to view that link.

Nancy J. Orvis, MHA, CPHIMS – Director, Business Architecture & Interoperability – Department of Defense

Yeah, Jamie and David, this is Nancy Orvis, you know, DoD – I'm interested in the zero footprint showing what we have to others since I've got a lot of images, but I don't necessarily want to send them unless we're looking at things where we can leverage, you know, some pilot or whatever with the NHIN Connect piece or something like that.

And I think that's – there are a couple things I just wanted to mention, you know, RSNA – I'm glad you're doing it with these folks. RSNA has been blessed by Library of Medicine to be the terminology and the vocabulary that can be used and embedded in the images of the DICOM images and just as you know – I've just funded a project over the last year that helps give a lot of my radiology title names to RSNA so that they could finish populating out the whole RadLex naming nomenclature vocabulary for tests.

So, I just – if you're doing something that is allowing people to pick from a list of procedures to see the images or if you're doing a fairly broad-based thing I'd be happy to talk to you or help give you some input for that Workgroup.

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning, Fellow, Institute for Health Policy - Kaiser Permanente

Yeah, we'd love to get that for the Workgroup, absolutely.

Nancy J. Orvis, MHA, CPHIMS – Director, Business Architecture & Interoperability – Department of Defense

But, I do think you ought to address – I agree with David this web viewing, let's first see if you can see them rather than trying to move them all around. There have been lots and lots of dollars, costs in moving those images around.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

One last item from our Workgroup because I know Jon Perlin we do want to get a little bit of S&I before we have to take public comment, is that we did hear from John Feikema on the laboratory orders initiative and the electronic directory of services work and we as a Clinical Operations Workgroup certainly endorsed the direction of the S&I Framework folks working on laboratory orders and compendious standardization that it all seems to be in the exact right direction to reduce the cost of lab interfaces from \$5000 to \$500 and you get 98% of our common orderables in an absolutely standard enumerated list of compendia entries. And Jamie before we turn it over to Doug any final comments?

Jamie Ferguson – Vice President, Health Information Technology Strategy & Planning, Fellow, Institute for Health Policy - Kaiser Permanente

No, I think that's good it's obviously I just wanted to – just back on the image sharing, this is obviously just the beginning of a work in progress, I'm really happy to get the input from everybody and, you know, please join us in helping to figure out the use cases and the solutions on that.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

Well, great, well thanks. Now Doug are you on the line?

Doug Fridsma, MD, PhD, FACP, FACMI – Chief Science Officer & Director, Office of Science & Technology – Office of the National Coordinator for Health Information Technology

I am here.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

Well, hey, you know, we may have abbreviated your time but I know you're very efficient.

Doug Fridsma, MD, PhD, FACP, FACMI – Chief Science Officer & Director, Office of Science & Technology – Office of the National Coordinator for Health Information Technology

So, that is my job here is to bring us home. So, I've only got just a couple of slides that I want to present. I'll try to provide some additional detail there. There is additional information that's in the packet that you can all peruse on your lunch hours or if you need to fall asleep and are having trouble sleeping at night. Let's go to the next slide.

So, just to give you sort of a sense of where we are right now, we're about 28 months into the process, we've got about 2400 people who have registered with the wiki 700 of those are committed members. We are getting close to 550 committed organizations at this time and approaching 1600 working sessions. We continue to run at the pace of about every 3.5 hours having this group meet and tomorrow is kind of a momentous occasion for us, we will be launching one of our first international standards and interoperability framework activities that is joint between the US and the EU.

Its intention is to support the Memorandum of Understanding on the roadmap that we have between the US and the EU to establish internationally recognized vocabulary, structure, and patient empowerment as part of a way for both the US and the EU to create a larger marketplace for Health IT and to empower citizens that move across borders to be able to access their information in a standardized ways. So, that's going to be quite an interesting experience.

We've already established some processes and mechanisms with the EU so that they can participate in constructing and editing, and working on the wiki, and we've been meeting really for the last year or so to sort of set the stage for that. So, stay tuned for that. We certainly are looking forward to having a broader input into establishing these international standards. Next slide, please.

So, this is my typical slide with the standards portfolio. We've got a whole series of things that are in process. What I'm going to do is really focus on the bottom couple of activities. I think the Blue Button Plus activities have continued and we've gotten an update on the Blue Button activities both in terms of Push and Pull.

This past Monday there was a new presidential innovation fellow who joined ONC who will be working on some of the Blue Button activities and is in the process of sort of doing the environmental scan and figuring out the next place in which we can add to the portfolio of different kinds of use cases, different kinds of content specification, different kinds of transport mechanisms that can be used to support consumer engagement and having access to their information.

The structure data capture activities have completed their use case consensus activities and they're doing some standards analysis and at this point trying to really establish those more granular data standards for common data elements and to work on forms that can be populated with those common data elements.

And we're currently working right now to revive one of our standards on the Prescription Drug Monitoring Program. We did some additional – some initial pilot work around Christmas time and in January we completed our analysis there and we're going to probably re-launch with some additional focus based on what we learned on those initial pilots to help us understand how to address some of the issues about integrating EHRs into the Prescription Drug Monitoring Program. Go to the next slide.

So, just to give you a sense we have a number of pilots that are underway based on the communities that have been represented in the standards of interoperability framework and we've really got a large number of pilots across the country that have pretty broad representation as well and so it's just – it's really always humbling to see the amount of community engagement that we get and the enthusiasm to actually take those standards and to pilot them. Go to next slide.

I think this maybe my last slide, I'll provide a little bit more detail about some of the activities that are going on. The transitions of care is sort of in maintenance mode. We've taken a lot of the work on the transitions of care and we've moved it over to our implementation and testing environments so that we can begin to support updates and changes.

As you all know the consolidated CDA was approved as a draft standard for testing and use and so we fully expect for us to find things that can be improved on it as people begin to implement it and find ways to do it better than the way that we had initially described it. The implementation and testing platform is there to catch that discussion and make sure that we feedback to the standards organizations and to others to support the consolidated CDA and help refine it over time as we're moving forward.

So, laboratory results interface, I think John gave a very quick update there. We've got a series of pilots that are done, we've been able to sort of go through the HL7 Working Groups they're taking a look at some of the outstanding issues right now and we expect to have a normative version which is a much higher bar of the implementation guidelines to occur at the end of 2013, early part of 2014 and so we're looking forward to getting that in the pipeline and being able to support those activities.

The Query Health activities, we anticipate that there's going to be an update and sort of a re-envisioning of the Query Health strategy to help us both unlock data and allow not just big data analytics but small data analytics so that an individual provider can understand how he's doing in his practice or how she's doing in her practice and then understand from that kind of extract a way of improving the practice and making sure that they've got access to that.

It also follows on to having some targeted query where we can direct a query to a particular organization as well as the broader perspective that we looked at in Query Health about distributed query. We're working right now to sort of coordinate that with the Clinical Decision Support Group around some of the standards that they use to the support clinical decision support activities. But, stay tuned there are going to be some new activity I think that will be launched within the Query Health activity.

The data segmentation for privacy is actually – we put that on maintenance. We are working very closely with HL7, it will be refined for a September ballot and they expect to be able to go, I believe, directly to a normative ballot there. We're also coordinating very, very closely with IHE to consider a joint balloting process for that as well and so there's ongoing work to really sort of put a bow on that activity and make sure that it gets properly balloted.

The public health reporting activities right now are continuing to explore some cross initiative participation within the structure data capture activities and looking to explore some collaborations and pilots with the San Diego and the North Carolina Beacon Communities so that they can help support some of those activities as well.

Within the Longitudinal Care Coordination Group they're developing a series of interoperable health care plan exchange use cases and the goal is to move from sort of unstructured care plans to structured care plans, and then as we continue to refine and grow this to get to the point of computable care plans, but that's a little bit farther off and we need to make this initial work on support for the pilots of transitions of care and some of the care plan implementation guides.

More recently the LTPAC had their HIT summit just this past week and I presented to that group and I'm always impressed because that's such an enthusiastic and dedicated group of providers that actually don't qualify for many of the Meaningful Use incentive pay and so it's sort of humbling again to have that community participate in the standards efforts because they see the importance of it for their patients.

The laboratory order interface, we talked a bit about that, that is – we've now completed all of the ballot reconciliations for all 400 comments and will be pursuing and out of cycle ballot. We're also working on sort of an orderable IG it's called eDOS that will be balloted about the same time in June so look forward to that. We should have some things done by the end of the summer with regard to those activities.

A lot of activity within the Health eDecisions Group, they're continuing to prepare for kind of a use case number two ballot in September that's the one in which they're going to do clinical decision support as a service and working very, very closely to try to bring together some of the underlying information models and the virtual medical records and QDM, and others to help support a lot of the work that's going on within the decision-support group.

We talked little bit about the Blue Button activities and you got an update from Dixie about that earlier. We have a new presidential innovation fellow who started with us this week and we will be working over the course of the next couple of weeks to scope a project that could help extend that portfolio of content and transport specifications within the Blue Button that we hope will help support more patient engagement.

Finally, when it comes to the structure data capture activities that continues to move forward. It is a joint project led by AHRQ and NLM with significant participation there. Within the communities of the National Library of Medicine and the NIH we're trying to come up with this common data element structure and working very closely with the community.

We've essentially had the community come together and do what we call our concert series, exploring a lot of the different alternatives and I think our attention turns to the summer with refining that down into a smaller set figuring out what are related kinds of standards and then beginning to agree on convergence, if you will, around a common way to represent more granular elements, package them into containers and make sure that we've got the appropriate functionality within the EHR to access, view, populate and save that more granular information.

So, with that I will – that was a very, very quick run through, I hope we got ourselves a little bit better on target but if there are any specific questions I'm happy to answer those as well.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

Well, let's open it up to questions and then we'll move onto Seth. So, any comments or questions?

John F. Derr, RPh – Health Information Technology Strategy Consultant – Golden Living, LLC

Jonathan, this is John Derr, I just wanted to comment that Doug did our keynote for our LTPAC HIT Summit which was one of the most successful. This was our 9th one and Doug was our keynote and he set it off very, very well in the morning. We had about 300 people and most of them were providers which is a little unusual. So, I just wanted to thank Doug publically for the work that he did and all the other ONC people that were there on various panels. It was really great.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

Thank you, other comments? Okay, well thanks Doug very much and we will move onto Seth who is standing in for Jodi Daniel.

Seth Pazinski, MS – Division Director – Planning and Operations - Office of the National Coordinator for Health Information Technology – US Department of Health & Human Services

Okay, thank you and I know we're over time so I'll be quick and a lot of the items that I'll mention there are links to find additional information as well.

So, just to start off one administrative update for the committees, as committee members might have noticed there have been a couple of times where we've changed a meeting from an in person meeting into a virtual call, so starting in October, we're going to go to a schedule of bimonthly in person meetings. So for example you would have an in person meeting in October and then the November meeting would be a virtual call similar to this one. So just a heads up on that so MacKenzie and the FACA Team will be working to formalize those changes over the next year.

And then jumping into some of the policy and program updates to add on to the updates that Doug had given, the first item is just an update on some of our Beacon community activities. So, two items to mention here, one is ONC convened and event on May 22nd that was focused on kind of gathering the lessons learned from the different 17 Beacon communities and what has come out of that program over the past three years.

This program was focused on identifying ways to increase quality, efficiency and sustainability of healthcare through Health IT. So, there is a link provided on this slide, you can view the video cast and find out some of the lessons learned from that meeting. In addition, there is one Beacon who has been dubbed the Beacon Nation Lead, so this is a Beacon community that's trying to pull together all the lessons learned across the different Beacon communities.

We've released the first Beacon Nation Learning Guide that focused on improving hospital transitions and chronic disease management using admission, discharge and transfer-based alerts. So, this will be the first of the six lessons learned documents that we will be posting there. The other five coming out in July and September of this year.

The next item just to quickly mentioned that earlier this year ONC working with the National eHealth Collaborative established the HIE governance forum. That forum now consists of over 30 organizations representing HIE governance bodies that are participating and a steering committee has been established for that group. For the remainder of the year that forum is going to be focused on the development of best practice information. The first two areas that it's going to be looking at is privacy and security and meaningful choice.

The third item just to highlight some reports that have recently come out from ONC and some different contracts that ONC has, the first two were focused on coming out of our unintended consequences of Health IT and health information exchange. There is – one report focused on consumer eHealth and another report focused on health information exchange that identified some of the kind of key categories to focus on with regards to potential unintended consequences.

A third report had to do with advice to HIOs and HISPs related to the Meaningful Use Stage 2 transitions of care measure and some guidance to HIOs and HISPs on how to achieve that and support that. And the last report was focused on understanding the impact of Health IT in underserved communities and those with health disparities. All those are available under the report section on healthit.gov.

Fourth item to update on is on healthit.gov there is a page dedicated to certification technical resources which listed three of the more recent updates to that page as well as a link to obtain any additional information. It's a mixture of presentations, slide sets, as well as some additional documents as technical resources for certification.

And then last update is just to let folks know that we recently awarded a contract to start working on the patient centered outcome research strategic opportunities and this contract is over the course of the next year is going to look to explore standard policies and services required to establish a key core infrastructure. The work is being led in collaboration between ONC and the HHS, Assistant Secretary for Planning and Evaluation. The genesis for this work is based on the Affordable Care Act which directs HHS to build capacity for patient centered outcomes research and makes available an estimated \$200 million through FY 2019 for this purpose. With that, that's it as far as updates, happy to take any questions.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

So, any questions for Seth?

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

I have a comment.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

Yes, please go ahead.

Dixie B. Baker, MS, PhD – Senior Partner – Martin, Blanck & Associates

I was kind of surprised you didn't mention this, but just for everybody's information, on Monday there is a public hearing, the Privacy and Security Tiger Team is having a public hearing on non-targeted query that I think many in this group might be interested in. They define non-targeted query as looking for information about a patient when you don't know exactly where the information resides. So, it's Monday morning.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Just following up on that, this is MacKenzie, if any Standards Committee members are interested if you just send me an e-mail I can go ahead and forward it to you.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Thanks, MacKenzie. John and Seth, this is Jon Perlin, one of the things that John Halamka and I chatted about, you heard from Seth the plan to alternate meetings as both a matter of convenience and economy, but one of the things that we're working through is not that absolutely rigid, in that regard sometimes for example if there are difficult travel months, December around the holidays for example, we may slip in an extra virtual, on the other hand if there are agendas that are remarkably complex that we need to save that for in person we'll also try to work through that. But, I think one of the things that we all need to commit is that we'll try to work on – in terms of lead time in terms of virtual or in person. But, hopefully with a little less wear and tear for all members and appreciate all of your hard work in between the meetings and your attendance virtual or in person.

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

Okay, well so Jon then let us turn it back to you and MacKenzie for our public comment.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Well, thank you, John and without further ado why don't we go straight to MacKenzie to – for what really is one of the very most important parts is to welcome public comment.

Public Comment

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Sure, operator can you please begin opening the lines for public comment? And I'll just remind everyone that I will limiting your public comments to 3 minutes, so if you could please try and time your comments appropriately. Operator, please open the lines.

Caitlin Collins – Project Coordinator – Altarum Institute

If you would like to make a public comment please press *1 at this time. If you are listening via your computer speakers you may dial 1-877-705-6006 and press *1 to be placed in the comment queue. We do not have any comment at this time.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Okay, well it is hard to believe that this is the 48th meeting and what I think is remarkable is frankly not the amount of work that is left, not the amount of work that's been done by committee members, by ONC staff and others who are affected by all of the activities, but what's really remarkable to me is the discussions that we're able to have today that are predicated on everything that came before. Many thanks to each of you for your hard work and John any final comments on your behalf?

John Halamka, MD, MS – Chief Information Officer – Harvard Medical School/Beth Israel Deaconess Medical Center

I just think we continue to make excellent progress and of course our greatest challenge and the challenge for ONC is to keep moving forward fast enough but not too fast. As I told Farzad yesterday it feels like with ICD-10, Meaningful Use Stage 2, Accountable Care Organizations and Compliance Regulatory challenges we are running marathons every day. So, I look forward to metered progress and continuous progress.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Well said, well said, okay, MacKenzie anything else from you administratively?

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

I'd just like to mention that our next meeting is scheduled to be in person on July 17th at the DuPont Circle Hotel, thanks.

Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI – President & Chief Medical Officer – Hospital Corporation of America

Terrific, many thanks to the Office of the National Coordinator, to all committee members and all who have participated in this call, many thanks and we will see you next time.

W

Thanks everybody.

John F. Derr, RPh – Health Information Technology Strategy Consultant – Golden Living, LLC

Thank you.

MacKenzie Robertson – Federal Advisory Committee Act Program Lead – Office of the National Coordinator

Thanks very much.

John F. Derr, RPh – Health Information Technology Strategy Consultant – Golden Living, LLC

Bye.

W

Bye-bye.