NWX-OS-OGC-RG07

Moderator: Renee Rowell
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2:00 pm CT

Coordinator: At this time participants are in a listen-only mode. To ask a question during the question and answer session please press star 1 on your Touch-tone phone. Today's conference is recorded. If you have any objections you may disconnect at this time. I will now turn the meeting over to Mr. Benson Chang. Sir? You may begin.

Benson Chang: Thank you very much. Welcome everybody, we've had quite a good turn out to this, so just as a matter of introduction for myself, I'm actually a contractor supporting the Office of the National Coordinator for Health Information Technology out of HHS, specifically the Specifications Development -- or as we like to call it, Spec Factory -- Operations within the Office of Standards and Interoperability within ONC.

And essentially I am supporting all the volunteers that have been participating in the Nationwide Health Information Network, really developing some of the specifications around how do we exchange health data in a standard specific format that has actually been an on-going project for quite some years, dating back almost to 2005.

So, the purpose of the session again is to sort of get people, you know, sort of in tune with what is going on with the Nationwide Health Information Network and what lies in the future, what happened in the past, and some of the speakers today during the initial session will be relating some of that information.

So, and essentially the format of the call, we'd like to start with that basic overview session and then later on we will open up for questions and answers from all the participants. So at this point I'd like to actually turn this over to our call moderator, Mr. Thomas Davidson from the SSA agency who's been involved with many of the current pilot projects and historical efforts on the Nationwide Health Information Network. So, Tom?

Thomas Davidson: Benson, thank you. One thing I'd like to clear up is, similar to Benson; I too am a sub-contractor supporting the Social Security Administration. I have been supporting their health IT program initiative for a little over three years now. Much of that time also supporting their efforts within the Nationwide Health Information Network.

Going through what was initially referred to as the trial implementation phase of the Nationwide Health Information Network, as well as being one of the first - one of the earlier participants and going - taking some of these standards and specifications and moving them into a limited production environment with one of our partners to benefit the Social Security Administration.

Additionally on the call as a speaker, we also have Eric Heflin from Medicity who is also active in the Specification Factory efforts and has been involved with this effort also for a few years. Eric, do you want to say anything real quick?

Eric Heflin: Thank you, sure. You know, I actually have the really, kind of, the honor of having been involved with the NHIN Exchange for I think going on now on five years, ever since the trials implementation really kick off and currently am acting to coordinate the Security and Privacy work group. And then, I'm actually a volunteer, we were originally under contract from the state of

Delaware as their R&D lead for the state implementation for the (unintelligible) so, version 2.

And I've also been pretty active in HSPE; you know the Security and Privacy and Infrastructure work group while that was around. And I'm currently also involved with the Information Technology Infrastructure, sighting things for the IHE. And so the real focus has largely been on where the infrastructure side of things for the NHIN as well as the security architecture. So, Tom, back to you?

Thomas Davidson: Okay, thank you. What I'd like to do is start off, since this is relatively a kick-off meeting and one of the things we'd like to do is towards the end of the session, we take the questions as explore potentially some of the topics that the participants engage - participants reached in as well as gauged the interest in this type of discussion. I really am going to cover a general introductory - introduction to the Nationwide Health Information Network.

One of the things I think it's important to start off with is to kind of say what the Nationwide Health Information Network is not. There tends to be a somewhat of a misconception that the Federal Government has created a brand new network or has stood up a server form for which all of the United States Healthcare data is going to reside. And that is not correct, it sometimes is referred to as a network of networks, but as the Office of the National Coordinators Web site indicates, the Nationwide Health Information Network is actually a set of standards, services and policies, that enable to secure exchange of health information over the Internet.

So, to better understand what that means, I thought I'd break down each of these components. When the statement indicates 'standards,' what types of standards are we referring to? And many of the standards are in use today, in

technology they are standards from the Worldwide Web consortium, such as HTTP, XML extensible markup language, XML schema definition, SOAP simple object access protocol, and such as web service descriptive language such as WSDL.

Additionally, other standards that we tend to leverage are standards from Health Level 7, OASIS, IHE Integrating Healthcare Enterprise, some relatively well-known healthcare vocabulary standards, (ICD-9), SNOMED, LOINC, as well as some standards from the Counsel for Formal Quality Healthcare and ANSI X12.

As far as the services that are defined, we have some basic infrastructure surfaces to enable the secure exchange of the information. So when we have - there's a certificate authority available. There is a web services registry for discovering the endpoints for participants as well as the basic services that enable the secure health information exchange which I'm going to get into later.

Lastly, the policies component of that statement, there are general operating procedures that govern registration, certification, information handling, handling of breach notifications, as well as the Data Use and Reciprocal Support Agreement also know as the DURSA. Given that what types of information exchange models are available through these standards and the information exchange models can be categorized into potentially three areas. There's a push model, standards and support push models, there is a pull model, as well as a publish and subscribe model.

As an example of the push model, there is a specification for the Nationwide Health Information Network called Document Submission, which enables the

transmission of medical information documents from one participant to another.

Currently, this specification is being used in a pilot phase and potentially - currently four projects. One of them is the (CARE) Health Information Exchange project, currently being piloted by CMS. There's also the Physician Quality Reporting Initiative also by CMS in addition to a one that is ramping up right now called Electronic Submissions of Medical Documents by CMS which, that latter one will be used for CMS to potentially receive electronic records back to their recovery audit contractors.

A secondary exchange model, the pull model, is - tends to be covered by three of the basic specifications called Patient Discovery and Query for Documents and Retrieve Documents. Patient Discovery enables, as it's name implies, the ability to discovery whether a patient is known at a Nationwide Health Information Network participate or NODE on the network.

Query for Documents then enables a participant to potentially enumerate the available medical records for that patient with Retrieve Documents as specification enabling them to then retrieve the documents that have been discovered. These specifications are currently being used in a production setting by the Veteran's Administration and Department of Defense in their VLER initiative, the Virtual Lifetime Electronic Record. Additionally, the specifications are being used by the Social Security Administration in their authorized Release of Information to a Trusted Entity use case.

Another specification that can be classified under the pull model would be the CAQH CORE Eligibility Verification Transaction. This one was also being piloted by CMS in - as a Medicaid Eligibility Verification project.

For the publish and subscribe model, the Nationwide Health Information Network has a specification called Health Information Event Messaging. This enables general -- as the name implies -- publish and subscribe general notifications to a participant. Currently being used - or was being used in a pilot project by the Centers for Disease Control in their Geocoded Interoperable Population Summary Exchange population health biosurveillance project. So, as a potential example, the ability to say monitor for flu outbreaks, so about a year ago when the H1N1 was rather popular - well a popular news item within the United States and a concern throughout the US.

Beyond these basic specifications, there are some supporting specifications that go along with these exchange models. There's a messaging platform spec, an authorization framework specification, and a web services registry specification.

The messaging platform specification defines the underlying transport requirements used as these messages are transmitted over the NHIN. So, they will describe how will the messages be secured, currently, as an example using a transport level security, TLS. The authorization framework provides a means for participants to convey who or what entity is actually making the request as well as for what is the purpose. An example might be, you know, treatment payment or operations as an example purpose for a query or a request.

And lastly, the web services registry, also known as the UDDI, or the Universal Description Discovery and Integration, which, again as it enables the discovery of an endpoint for a particular service so that in an automated fashion any participant might determine whether another participant supports a particular service.

So, in supporting this, these are the basic specifications for the Nationwide Health Information Network. One of the questions that tend to come up is then, where does CONNECT fit in? Or the NHIN CONNECT project fit in?

CONNECT started out as a Federal Health architecture project in an effort to pull together a lot of the federal agencies that were - are involved in health information exchange. It started out as a project in which a sub-contractor was engaged to develop what is considered to be the Nationwide Health Information Network Gateway for the federal agencies and has subsequently been released to open source.

CONNECT provides the implementation for many of the specifications that I've mentioned earlier. CONNECT is currently being used by a large number of participants in the Nationwide Health Information Network but I also want to point out that it is not the only implementation. There are vendors that also have produced compliant gateways to the specifications so that there is a difference between the specification for the Nationwide Health Information Network and implementations, which CONNECT, is one of them.

As an example, during some of our trial implementations, IBM had developed a gateway, I believe Medicity and a particular participant during the trial implementations, Kaiser Permanente had developed their own gateway as well.

At this point, I've covered the high-level overview of these, and if possible, we can open it up unless Eric or Benson would like to add onto this as an introduction. We can potentially open up the end of questions and we cover anything from details of the specifications to finding out more information. As

well as what folks that have dialed in are interested in discussing or topics that they might want to cover or could be covered for future discussions.

Coordinator: Thank you.

Eric Heflin: This is Eric; I just wanted to announce that Karen Witting has joined the call. I just want to give her an opportunity to introduce herself. And then regarding your other question, I would suggest we do, if this makes sense to everybody, is let's go ahead and open it up for discussion now and then I thought later on in the phone call, after we address some of the initial questions that people have, that we could - I could, you know, provide an overview of the security model in particular and then open it up for questions again, if that makes sense.

Thomas Davidson: Sounds good. Karen?

Karen Witting: Yes, hi, I am Karen Witting, I work for IBM and I've been participating in the Exchange Specification Factory for quite a few years, can't remember how many. In particular, I've been involved in the document submission and Patient Discover and Query and Retrieve, which are all based on IT profiles, a lot of my involvement is within IHE, so I kind of have been adjusting the specifications and writing the Nationwide Health Information Network specifications and to adopt those particular IHE profiles.

Thomas Davidson: Thank you. You'd like to open it up for questions? The moderator?

Coordinator: Thank you. At this time we will begin our question and answer session. To ask a question please, press star 1 on your Touch-tone phone. Please unmute the line and record your first and last name when prompted. To

(unintelligible) the question you may press star 2. Once again, please press star 1 to ask a question. One moment please.

Once again please press star 1 to ask a question. I do have one question, give me a moment to listen to the name. (Nancy Felozi) your line is open.

(Nancy Felozi): Okay, hi. Thanks for taking my question. I do have a little bit of confusion still about NHIN CONNECT. We've been hearing about of these big technology vendors that are involved in this project and creating this software, and I still don't really understand exactly, you know, how much money is going towards this, what's the current status with, you know, all of these different technology vendors, what exactly they're doing, what is the timeline? Is there any way that you could explain to me again, you know, how much money is being put towards this, who are the companies that are involved in this and what is the timeline?

Eric Heflin: So, this is Eric. I can take a crack at that initially, if that's all right.

Thomas Davidson: Go ahead.

Eric Heflin: But really, you probably want to break it up into maybe three separate topics. The first topic being what is the CONNECT implementation of the Nationwide Health Information Network specifications doing, you know, with it's funding source, what are it's timelines, it's backlog and so on. The second is perhaps what are other organizations doing, such Medicity, IBM, and probably some others that are on the call today, which I want to make sure they feel free to announce themselves as well too, that are setting up their own gateways which are compatible with the NHIN specifications as well.

And the third is, I think probably a discussion that maybe Benson wants to address to give you an overview of the ONC initiative known as the S&I framework as well too. So, does that make sense to kind of break it up that way?

(Nancy Felozi): Yes, that sounds fine to me; you know anything for clarification is (muchly) (sic) appreciated.

Eric Heflin: Okay, well the CONNECT - I don't want to speak for that team and I'm not sure if there's anybody on this call from the CONNECT team. But what I would do is point you to the actual connectopensource.org, I believe, Web site. And what they have done is I think a really outstanding job of providing a lot of visibility into their development process, their methodology, defects they're resolving, enhancement that they're adding.

They published a backlog of issues for, I think, last time I checked for I think about 12 months out, so you could see what was in there pipeline as far as any future development. And the funding behind CONNECT, I believe it largely comes from, and Benson correct me if I'm wrong on this, the Federal Health Architecture.

Benson Chang: Yes, I believe so.

Eric Heflin: And so the funding, and again, I'm not a member of the CONNECT team so this is not authoritative, but the funding basically is a shared pool that comes from several Federal Health partners, or actually I believe quite a few Federal Health partners. And so I think, for example, Social Security Administration, the Indian Health Services, Veteran's Affairs, the DOD, and so on have pooled resources into a single budget that the CONNECT team draws from for

their implementation work. So, does that help as far as the CONNECT aspect of that question?

(Nancy Felozi):   Yes, and do you know what the total amount of money is, you know, that has been allocated and is there going to be more dollars spent on this going forward or...?

Eric Heflin: Right, well I actually I did ask that question of one of the CONNECT managers and what I was told at that time was that this is a - incentives for that to be an ongoing entity and that the reason that it's an ongoing entity is that, you know, there's actually, you know, a lot of agencies that really have adopted that. So anyway, I would like to defer the rest of the CONNECT aspect to anyone else that's on the call that's, you know, on the CONNECT team, if they'd like to jump and then I can, you know, tackle the next part of that question.

Benson Chang: Yes, this is Benson. I just wanted to point out that, yes, the - most of the folks that are on this call are actually, you know, technical implementers that have been involved, so there's not much visibility that we have into the budget cycle or anything that's coming from a funding perspective, you know, towards these projects. I mean, we're really just here to, you know, answer questions about, you know, the technology aspects. So...

(Nancy Felozi):   Okay.

Eric Heflin: As far as the second part, and as far as disclosure, I actually do work for a vendor as well as being involved within the Standards bodies and a volunteer for the NHIN exchange. So, I do know that a number of vendors have actually stood up and created gateways that are designed to take the current 2010

production specifications and implement the applicable aspects of those specifications.

For example, gateways do exist from at least multiple vendors that allow participants to - as part of adopt the vendors technology suite, to actually also have a gateway that allows you to perform at least basic exchange across the NHIN. At this might be a good time to talk a little to about the concept of various levels specifications and profiles that the NHIN has implemented.

Tom, I don't know if you want to talk about that, but I'd think maybe you'd be the right person to have a discussion about that the fact that, you know, there's core specifications and more foundational specifications, than on top of that, there are profiles as well too?

Thomas Davidson: Well, do you want to - didn't we want to get through the third part of that and then we can come back?

Eric Heflin: Oh, okay. Sure. And so, then to -- bottom line is as far as the overall - the industry, you know, momentum behind this, I think what it comes down to is that all of these together would really provide a comprehensive picture of what is available, you know, for you, presumably as a candidate to the NHIN exchange to consider when joining. Taking account, you know, the overall technology that you have, the technology you're looking at adopting, whether or not to use CONNECT open source or another implementation is commercially available and so on. And together that really, I think, would allow you to create a strategy as far as, you know, which direction to take.

And the other key thing too I wanted to emphasize, that overall the strongest advice I can give as far as a correlation between a successful adoption of any technology and a successful project, is to start from an approach whereby

which you look at use cases. You know, look at what is important to your stakeholders, for your organization, or for example, are you trying to adopt, you know, a push model to allow for referrals, are you trying to adopt a pull model to provide for exchange? If so, what are those participants then exchange also - adopting as far as technology?

So at that point, I'd like to turn it back to Tom and let's talk about the, kind of the levels of base profiles or base specifications versus the profiles on top of that.

Thomas Davidson: Some of what -- Eric, first of all thank you for answering the questions. To get back to the core specifications which would be - we're introducing a little earlier, there are a fundamental set of specifications for the Nationwide Health Information Network that are currently published on the Office of National Coordinators Web site, they are labeled under the ONC initiatives under Nationwide Health Information Network resources, currently tagged as the 2010 Final Production Specifications.

The specifications such as the Messaging Platforms specification and the Authorization Framework serve as an underpinning for some of the other - some of the services that might be exposed. So, I guess as I mentioned earlier, the Messaging Platform spec starts identifying what are the potential core standards that we're using to do messaging? And identifies the use of SOAP 1.2, the use of HTTP as a transport layer - as a transport mechanism, the use of TLS as a means for encrypting that transport channel.

And the Authorization Framework, as I believe that Eric has mentioned we might get into later if time allows, is a discussion as part of the additional security framework beyond the transport layer. How an NHIN participant may

identify and can identify the user or the entity that is initiating the web service transaction or the request or the query or the push notification if you will.

On top of these specs, we get to - or building on top of these two specifications, we have some of the core services, Patient Discovery, Query for Documents, Retrieve Documents, Document Submission as service itself, Health Information Event Messaging, the notification mechanism as well as the CORE Eligibility Verification Transaction. These transactions are built on top of the Messaging and Authorization Framework specs.

And lastly, we get to a point where we get into specific use case profiles in which these core services are pulled together in a means - in a mechanism and defined to satisfy a specific use case. So, as I mentioned earlier, you have from CMS some of the pilot projects, the Electronic Submission of Medical Documents, the CARE Health Information Exchange project, the Physician Quality Reporting initiative, the CMS Medicaid Eligibility, you have the - for Social Security Administration you have the Authorized Release of Information, and additionally for - currently for VA DOD you have the effort going on for the support the Virtual Lifetime Electronic Record.

So, we end up, unfortunately, building up some layers with the core services, and on top of that pull together for a profile. And inevitably, this is where some of the terms some of you may have heard where you get to peel the onion, because most of you in satisfying a use case, may start off with the profile specification and have to start peeling that onion back to understand well, what are the services underneath and what are the underlying standards that you as a potential implementer may have to understand and go through before you can actually stand up your solution.

Benson, (Rich) do you have anything to add or Karen? Alternatively, if there's another question?

Coordinator: We have seven questions in queue right now. (Julie Carter Lindburgh) your line is open.

Julie Cantor-Weinberg: Hi this is Julie Cantor-Weinberg with the College of American Pathologists. This isn't really a question; it's just a note. I, and I'm sure others were in this situation, we were just locked out of the first 15 minutes of the call, are there resources or a PowerPoint or something where we could get the information you went over in the first few minutes?

Thomas Davidson: Certainly, there - I believe this call is being recorded so then - and I believe it is the intention to publish the transcripts. Additionally, for some of the information we covered, as this was an initial call and to try and gauge partly interest and better understand what information those that are dialing in might be interested in as they're trying to potentially understand the Nationwide Health Information Network.

Much of what we went over is available or just briefly discussed in the few - fifteen minutes is available on the Department of Health and Human Services Web site under the Office of the National Coordinator effort or initiatives. We will be posting - we'll post the links to that on the wiki page. Benson, was the wiki page sent out in the initial email? Okay.

So, the information is available under the Office of the National Coordinator and if you were to, for those on the call right now, if you were to go to Google and simply type in ONC space NHIN you'll be taking the first link will pretty much be the Web site which will get you the ability to navigate down to the Nationwide Health Information Network and to understand some of the

initiatives that ONC is undertaking as well as some resources that talk about the specifications that are used and the various projects.

So Exchange Standards and Interoperability Frameworks, some of the policy and technical committees that are currently going on to support some of the ONC initiatives, and meeting notes that are available and as well as additional Web sites that will drive you down into certain initiatives, specific projects and Web sites.

Eric Heflin: This is Eric; I'd like to add on to that if I could. The wiki was actually in the meeting invitation, so if those of you that received an invitation, if you go to that you should be able to pull up the NHIN exchange - nhin-exchange.wikispaces.com site and it has pointers to a lot of material as well.

In addition, probably one of the key reasons we decided to put together this meeting was that it seems like there's a really valuable document that some people were not aware of that I'd like to also point you to. On the HHS Web site, there's a document called the "Nationwide Health Information Network Exchange Architectural Overview."

And this document really is designed to cover a lot of the basics that we're talking about today as well too, such as the rationale and some of the design principles such as local autonomy and things underlying justifications for some of the decisions we made in designing the NHIN Exchange overall. It also talks about pinpoints to some of the concepts as far as being a network of networks, it talks about our architectural principles, using web services, and so on.

So that's a very, very useful document that I would strongly encourage anybody that is becoming indoctrinated into the way the Nationwide Health

Information Network works. I'd start off with that single document, and again that was called the "Nationwide Health Information Network Exchange Architectural Overview."

Thomas Davidson: Eric thanks, and much of the information I went over today actually came right out of that document.

Coordinator: Our next question comes from (Hunan Srinivas). Your line is open.

(Hunan Srinivas): Hi, I am calling from (unintelligible); I'm a student here. I'm wondering if you can help me understand how the lack of, you know, unique patient identifier as an issue is being address here? I'm very new to Internet science; so starting from that point will help me understand, you know, how it's implemented.

Eric Heflin: Karen, I think you've had a lot of discussions with IHE about this topic, especially given that IHE are from other countries that do have the National Patient Identifier. Do you mind covering that?

Karen Witting: So, the question that I heard was how do we deal with the lack of a National Patient Identifier, was there something else you said after that after that? I was not able to understand it.

(Hunan Srinivas): No that was it, that was the question.

Karen Witting: Okay. We handle it by enabling an ability to do demographic matching, so you heard about the Patient Discovery specification. That allows - support the transaction that goes from point to point, so from one entity to another, the initiating entity sends a collection of demographics to the other side. The other

side takes that collection of demographics, searches within it's own database to find matches, and returns matches.

So, that's the easy answer to your question. The hard answer to your questions is does that really work? The hard question is does that really work? Right? And the answer is it works, except for a long list of (Gotchas) and watch out for this, and concerns about that, and we did spend about a year and a half ago, probably between three weeks, more than ten hours talking about the different (Gotchas) and issues and concerns with it, which I'm happy to go through if that is your interest.

Thomas Davidson: Yes, Karen.

((Crosstalk))

Eric Heflin: I'm sorry Tom.

Thomas Davidson: Go ahead Eric.

Eric Heflin: That - one of the NHIN's core principles is to try not to create standards. The NHIN Exchange is not a standards body, it's an entity that creates specifications as well as has an operational component as well too. And so the approach we take is to create specifications built on top of other standards, which are often in creating coordination with the NHIN Exchange.

And one of the standards we've adopted for our Patient Discovery request or transaction is for when gateway says, "do you have information about this patient?" We based it on IHE center called XCPD and that standard has some really interesting options that I think we'll probably look forward to implementing in the future. Although, I'm not sure if any discussions are

underway about this, but XCPD, among other things, let's you actually have almost a dialogue between the two gateways.

Where the gateway A says, "here are the demographics, do you information on this patient?" And also in gateway B could come back and say, "well, I could give you a better answer if you gave me this additional demographic information." And so to an extent, I expect in the future, just anticipating that we'll be able to have even a more robust method for determining an exact match for a given patient given the demographic information.

Karen Witting: So, that was an example of one of the things we spent those ten hours discussing, so maybe Tom is now going to address another of those things. There are quite a few of them.

Thomas Davidson: All right, and some of the items you get into -- actually one of the things I was going to hone in on is that Eric had mentioned earlier the - one of the underpinnings for the Nationwide Health Information Network and some of the discussions that we had years ago was the local autonomy principle.

What the Patient Discovery specification allows is the ability for one participant to potentially inquire if they are - if they have or are aware of the patient. What the specifications don't do is actually state, this is how you're going to do the match and this when you're going to reply. It's up to the potential responder to adhere to their state and local privacy policies and their own internal conditions for what they believe is going to be a match.

Inference Risk Models that are employed within various - not agencies, but within various enterprises, come into play. There are plenty of patient indexing software that is in use today in many hospitals and healthcare facilities that deal with this potential problem in doing matching based on

potential demographics as well coming up with competence margins and probabilities of whether they believe - whether the software believes or indicates that there is a potential match.

Much of this can be augmented by some of these programs to say, "well, we're only interested when the software comes back and says it's a 100% match," whereas maybe 90% is good. Some of the obvious problems you get into by doing demographic matching of, you know, take my name for instance, you know, on the official registry it might be Thomas, but it may also show up as Tom and is Tom a 100% match for Thomas? The answer is no.

Additionally, as part of the Patient Discovery specification, once participant A requests to determine if participant B is aware, the specification includes and suggests - or actually includes as requirements that participant B must include in it's response the demographic information that they matched upon. The reason for that is that allows participant A to then take their own evaluation of whether they believe the information is a match. So it allows for a differing integrity matches so that both sets of policies for the various facilities can be satisfied.

Eric Heflin: We might want to take the next question.

Coordinator: Yes.

Thomas Davidson: (Unintelligible).

Eric Heflin: Thanks Tom.

Coordinator: Our next question comes from Chris Wessells. Your line is open.

Chris Wessells: Hi I'm Chris Wessells with TetriDyn Solutions, it's a technology-implementing venture. My question is just you had examples of a push-pull publish and subscribe, would you restate the organizations who have performed the implementations of those four types?

Thomas Davidson: Certainly. Some of these - and just to let you know, some of these are considered pilot projects, versus some are currently considered production. So for the push model, those being supported by say the Document Submission specification.

The CMS, the Center for Medicare and Medicaid Services has three (unintelligible) ahead that are leveraging that underlying specification. All are at CMS supporting different projects, the C-HIEP, the CARE Health Information Exchange Project, the ESMD, the Electronic Submission of Medical Documents, and the Physician Quality Reporting Initiative.

As far as the pull model, which I mentioned for the specifications Patient Discover, Query for Documents, Retrieve Documents. Social Security is leveraging those specifications in this pull model, or those pull based specifications if you will, for their Authorized Release of Information to a Trusted Entity and has been leveraging these and in a limited production and more recently in an official production state for well over the past year. Veteran's Administration Department of Defense are leveraging these pull based specifications in their Virtual Lifetime and Electronic Records initiative, or the VLER initiative.

As far as the publish and subscribe, the health information of that messaging was the basis for a CDC pilot project regarding population health for their

what's called the Geocoded Interoperable Publish - Population Summary Exchange or GIPSE project.

Chris Wessells: Was there an example for subscribe?

Thomas Davidson: The pub and subscribe is...

Chris Wessells: Okay, thank you.

Eric Heflin: The CDC in that case was the subscriber. And they were looking for information available about influenza or influenza-like symptoms being reported.

Chris Wessells: Thank you guys.

Thomas Davidson: Thank you Eric.

Coordinator: Our next question comes from (Jennifer Otitigbe). Your line is open.

(Jennifer Otitigbe):   Hi, thank you for the overview. I'm interested in learning more about, you know, so there are other vendors who've developed proprietary or commercially available, I guess exchange systems. How - has there been any coordination with them? And what is the difference - what are the differences between the open source version and some of the commercial versions? Is that going to create problems for someone if they choose a commercial one versus the open source? I'm just interested in that interplay.

Thomas Davidson: Great, thanks for the question. And to - will it create problems? And that's kind of where we get into what's the difference between the specifications that have been defined and are available and the numerated as the production

specifications on the ONC Web site, versus the CONNECT implementation which is the open source or potentially the implementations built by some of the vendors. Off the top of my head, you had - I think you had asked what are some of the vendors, I, you know, Eric represents one of them, Medicity, Karen actually represents another, IBM. I do believe (Cisco) also has an implementation, I believe there may be others.

The idea is that given the specifications -- the specifications enable or define how we're going to interoperate so that if you're building towards the specifications then whether the solution is built by a vendor or part of an open source initiative, they should be able to interoperate. And we're leveraging a lot of the underlying standards that are available today and some of the efforts that went on by some of the vendors, such as (Epson), IBM and Microsoft, to ensure interoperability when they joined together for web services exchange.

Additionally, one of the efforts that is part of the on boarding process to the Nationwide Health Information Network is a certification for interoperability and this gets back to part of the policies and procedures and that right now, there is an on boarding initiative for any participant regardless of the potentials, vendor or solution that they've chosen for the gateway, to go through a series of on boarding tests. And again, since this early on is to ensure interoperability using these standards.

(Jennifer Otitigbe):   Thank you.

Thomas Davidson: Thank you.

Coordinator: Mr. (unintelligible), your line is open.

Man: Hello, good afternoon everybody. Thank you for the great information. I have two questions. The first question is, is there any standard or specification that enables some kind of a message auditing, is it the product gateway or is it in the NHIN cloud?

The second question is where does NHIN Direct fit? Where does it fit? Thank you.

Karen Witting: So, I'm going to jump in and try and answer these questions. Hi this is Karen. In terms of auditing, auditing is assumed to be in the local organization, so for instance if you have a transaction going from organization A to organization B, our specifications state that auditing requirements on both sides. So, A is required to audit what it sends and B is required to audit what it receives. But we don't have a global auditing approach, it's organization based auditing.

In terms of Direct, there is a lot of work in Direct on use of XDR and XDM, which is the push model. So in the Exchange architecture is push based focused and it is based on XDR and allows for a push model and that same push model has been adopted by Direct.

Eric Heflin: I'm sorry, just one other...

Thomas Davidson: You might want to explain what XDR is.

((Crosstalk))

Karen Witting: (CoXDR) is simply a SOAP based push mechanism so that if you have content in one place and want to push it to another place, it is a transaction that allows you to bundle that content, include metadata about the content and send it using SOAP to the other organization.

Eric:　　　　　　One other key point, I'm really glad you asked that question about the cloud too. One of the concepts I'd like to clarify is that, you know, there is an operational entity associated with the NHIN Exchange. The ONC has stood up a group of services, specifically for issuing security certificates and also the services registry.

However there is actually no real true cloud concept today for either the Direct project or for the NHIN Exchange. What really happens is that the entities that are interested in the Exchange need to consider whether or not they're going to be part of the federal exchange, or a private exchange using the NHIN specifications.

If they're going to be a part of the federal exchange then they would probably become executers of the DURSA, the legal agreement governing the NHIN Exchange with federal agencies, otherwise that they would have a private agreement - legal agreement presumably between the two organizations wishing to do the exchange.

And so there is no - at this point - currently, nor to my knowledge is there plans for there to be a true cloud, which I would define in this context as being a large data center, perhaps the DR that actually acts a central repository of services and data that others can access almost like a service, like a utility service. So that doesn't really exist today.

Thomas Davidson:　　Thanks.

Coordinator:　　　Mr. Joe Murray, your line is open.

Joe Murray: Hi this is Joe Murray from MEDecision. Thank you very much for the presentation, I find the information really valuable so far. My question is that if I'm currently working with an IHE compliant healthcare information exchange that's not on the NHIN, beyond the changes required for connecting to the gateway, are there any changes that would be required to the core ITI components in my infrastructure.

So for example, would there be a minimum set of registry confidentiality or procedure codes that we need to ensure compatibility with the NHIN to add to our systems to make it forward compatible? Thank you.

Karen Witting: The answer is yes. There are a set of codes, so all the coded value that are used in XDS are also used in the Query and Retrieve transactions. All those attributes are used there. The adopted Query and Retrieve is based on (XCA), so it's very compatible with XDS. All the coded attributes have been adopted from (CAD), so it's (BCAD), that's what the NHIN Exchange has adopted to use.

And to continue answering your question, it depends on what you're going to be doing. So, if what you are going to be doing is enabling outside organizations to query and retrieve content from your XDS based system, then the only thing would probably be the coding, and of course trust and security, and these kinds of thing also have some impact in terms of getting certificates set up and things like that.

If what you're intending to do is push content to another place, similar kinds of issues in terms of getting the coding right, but the push transaction is based on the same set of metadata as what XDS uses. If what you're going to be doing is something other than those things, there might be some work. For instance some of the -- we actually have some administrative transactions that

use X12 and there's a bunch other things you can do. So, Exchange is not a -- you must do x, y, and z and then everyone does the same thing, it kind of depends on your use case.

Eric Heflin: And I fully -- this is Eric -- I would probably totally emphasize the last point. The use case really would drive the detailed answer to your question. One thing that you mentioned, I've kind of latched onto was the idea of policy. One of the things the NHIN Exchange has done is allowed for a great deal of flexibility.

And one, kind of, an unusual concept for a lot of people, is that many organizations use a monolithic system in which case the trust is established by somebody logging into the system. And then that person has a certain role associated with them and then that role controls what they can do, what patients they can see, or what types of data, or what reports they can run and so on.

The trust of the NHIN Exchange has taken a different approach by which the trust really is between the gateways or between systems behind the gateways. And the trust is actually a shared responsibility in terms of whether or not the responding system is going to authorize and allow a request. Typically how this would work is the initiating system would proxy for a human end user or system saying, "does this person or the system have rights to make a request?"

And if that's true, as per local policy for the initiating system, then request goes through the gateway, and then a responding gateway would make a similar decision either based on the evidence provided as part of the request in terms of (unintelligible) version, or by pointers to other documents at the responding gateway can access to make policy determination decisions. So, the NHIN model in summary, really the authorization for a given request is

the responsibility of both sides, which give them the opportunity to make sure their local policies are enforced.

Joe Murray: Great.

Eric Heflin: And if you want more information about that, there's key stands we use are called XACML and (XPA).

Joe Murray: Thank you.

Thomas Davidson: Thank you. One other thing, again I'm not sure, but for the benefit of everyone on the call, Karen mentioned for the vocabulary sets for XDS, the (C80) came out just for those that may not know. She's referring to the document under the - on hitsp.org, H-I-T-S-P dot org, which is the - was a group that called the Health IT Standards Panel that had assemble a series of specifications and standards to help enable the - had identified a series of specifications and standards to enable the exchange of secure healthcare interoperability. And the (C80) document is a document called "Clinical Document and Message Terminology Component" and is available by going and viewing the complete library from HITSP. Thank you.

Coordinator: The next person did not record their name. Your line is open; please check the mute switch on the phone. Go ahead with your question.

(Robert Horst):   Yes, hi, this is (Robert Horst) with the Chesapeake Regional Information System for our Patients, and my question was about provider directories for the Direct system, and just exactly where are those directories would reside, I guess, in the ideal model. You mentioned vendor gateways and I'm not sure if each vendor would have a provider directory that - for other using Direct could look up to find a provider that they want to send a message to.

We're with a provider, directly being hosted by an HIE and then sort of providers are looking up on the HIE to see whether one of the providers in their area are connected so they can actually send messages. So, could you comment on that?

Eric Heflin: This is Eric, the Direct Project, to my left, I've seen the last updates on this issues is they're aware of the fact that not having a provider directory as part of their initial roll-out is something that's - that they need to consider addressing. And I think actually they have a work group formed to work on that, I'm not sure whether it stands as far as actually implementation of that. I do believe meaningful use anticipates that the provider directory at large exist as a state shared service. I'm not an attorney, but that's my understanding as of right now.

Karen Witting: So, Eric, I'm not sure, I thought the question was more what does our project actually - our project, not Direct, do for provider directories, or was the question what future thoughts are there about provider directories. Which question are we answering here?

(Robert Horst): (Unintelligible), yes, just a really, you know, I guess what's anticipated as far as a provider directory and would it be...?

Karen Witting: What's anticipated, okay. All right.

Eric Heflin: So as far as the actual NHIN Exchange, which is, you know, very different this time from the Direct project. We actually have just briefly touched on the need for provider directories, but the closest we've actually gotten as far as actual work in that direction was actually just a directory of services and

exchange points. So we have no current plans as far as implementing or specifying a provider directory at the National level.

(Robert Horst):   How...

Eric Heflin: (Unintelligible) I think the IHE's or the states would probably be responsible for doing that. Tom?

Thomas Davidson: There is a current specification that, Karen do you want to talk about within IHE called Healthcare Provider Directory that may assist you (Rob) in your question as a possible solution.

Karen Witting: Yes.

Thomas Davidson: That's going to be chosen at a National level, it is at least a starting point that you might - that you could consider.

Karen Witting: Right. It was a recent profile from IT that went out for trial implementation last August and in fact, last week I believe five or six vendors came forward and tested and I think that testing went very well. So there is a lot of discussion at the HIT standards policy, I can't remember which committee about this. I'm not particularly involved and we hope that once they've had kind of the high level discussion of what a healthcare provider should be and where it would be hosted, which is an excellent question and I don't have an answer for it, we're all speculating on that.

Once we get to what standard will be used, we hope that at least this profile will be considered. This profile is based on LDAP and uses a DSML in terms of allowing for our SOAP transport, but the schema of the transaction is LDAP.

Thomas Davidson: And I believe that for those that are on the call, I think there will be some vendors demonstrating support for this profiles at HEMS.

Karen Witting: Absolutely, sorry about that. Absolutely.

Thomas Davidson: Within the IHE Interoperability booth, for those that would like to find out more information.

Karen Witting: Yes, excellent point. Thanks. I unfortunately have to go to another call right now.

Thomas Davidson: For the moderator, roughly how many questions are still available?

Coordinator: We still have seven questions in queue.

Thomas Davidson: Okay, Eric, can you hang on? Benson?

Eric Heflin: I'm available for another 30 minutes.

Benson Chang: Yes, we could - I could...

Thomas Davidson: Little longer - if the call can stay open for a little longer to try answer some of these questions?

Coordinator: Yes, that's fine.

Thomas Davidson: Great, thank you.

Eric Heflin: Yes.

Coordinator: And one moment and I'll open the next question. It's John Runningen your line is open. Sorry about that.

John Runningen: Thank you, hi. This is John Runningen, I'm a healthcare investment banker in Atlanta and I'm not a technology guru so I apologize if my questions are naïve, but can you talk a little bit about the economic model assuming all of the standards work, how will the - this initiative be funded, how will it be managed, and how do you envision the primary use? Is it for patients, providers, payers or vendors?

Eric Heflin: Probably -- this is Eric -- probably all of the above ultimately. I mean we've really tried to do is the overall NHIN Exchange is driven from a single use case provided by an organization federally, I think, a charter organization which was initially emergency response.

                  And so the future use cases have been presented to us, or subsequent use cases represented to us, for things such as the CDC's need to have visibility and to, you know, public health reporting biosurveillance purposes as well too. And subsequent - even more use cases were presented to us backed by CMS for Social Security Administration for claims disability termination purposes, for medical evidence, for auditing purposes as well too.

                  So, I think the reality is our approach - really our philosophy is that if a valid use case is presented with a sponsor, we would certainly be willing to consider that which really gives us the ability to open up the NHIN Exchange to a large number of stakeholders. I mean, ultimately, it's to everybody's advantage to have the maximum number of stakeholders available because each of them can contribute, you know, a piece to the overall sustainability, right?

John Runningen: And, but who pays for it? Is it a government-sponsored program or is there a fee to get a gateway and plug into it? Or how would you envision that working?

Eric Heflin: It depends, the other - the CONNECT implementation is government sponsor released to my knowledge; again I'm not authoritative on their budgeting. You know, the organization I work for and Karen and some others work for are funded from our stakeholders which are often states or regional IHE's or (unintelligible) other health information exchanges as well too, and those in turn are often funded by a variety of entities within, say the state. Like the state's Department of Public Health, the state's CMS, the state, you know, BlueCross/Blue Shield, the state, you know, biosurveillance entity. So, there can be a variety of stakeholders that contribute to this ultimately.

John Runningen: But to be a part - so if they wanted to submit and be a part of it, they say great, you can use it for regulatory purposes. Would they then have to fund that use and if they're requiring that their members use the network to, you know, for regulatory purposes for example, are they compliant? And therefore they've got to submit the data to the other party through your network and that's the only way they can submit it. There's got to be a cost associated with it and I'm just curious how that would work.

Eric Heflin: Right, so that's again probably a question for the entities specifically involved and selected for the exchange of interest to you. And if you're going through the state designated entity, or some other state authorized organization, that has acted as the coordinating and funding, really kind of locus for NHIN Exchange, then that's really a question for them. I

If you're part of a - form something new, let's say for example you're on a private health information exchange and you're seeking to have a gateway as

an onramp to exchange with federal partners? Then that would be a decision made, you know, in collaboration with your stakeholders as well too. And I've seen probably 30-50 sustainability models, it really kind of depends on what your stakeholders want to do, what's your architecture supports, what's your vendor supports and so on.

John Runningen: Sounds like you're flexible. Thank you very much.

Benson Chang: Actually, there's one other thing I'd like to add to that Eric. This is Benson. The resources page that was sent out with the meeting invites, which is like healthit.hhs.gov-nhin, actually has a resources page that during the trial implementations of the NHIN, there was several business plans submitted by some of the participants that I believe that are actually posted on that page, so that might be of interest to you.

John Runningen: Where would I find it?

Benson Chang: It's the address that's in the meeting invite, healthit.hhs.gov-nhin. And there's a resources link on the left hand navigation that should point you to that.

John Runningen: All right, thanks.

Thomas Davidson: And actually Benson, that's a great idea. Another thing you may want to draw from is most states have published plans now too, that indicate what their operational entities would be and their sustainability model would be. Both under the current environment as well as future environments.

John Runningen: And is there a common state regulator or information source where you'd find that? Is it the same in every state? Is it the Health and Human Services

division of a particular state or is it some other commerce division or something like that?

Benson Chang: I believe it's through the state designated entity, which would then be managed under the Department of the HHS.

John Runningen: Okay great, thanks.

Eric Heflin: Again, I'm a (techy) (sic), but that's my understanding of how the business side of things work.

Coordinator: Our next question comes from Carlos Pickett. Your line is open.

Carlos Pickett: Thank you very much. This is Carlos Pickett with Bridge Consulting, a (unintelligible). My question is around some - if I could get some clarification around Direct as it relates to any potential integrations with NHIN. For instance, is seems Direct is really designed for small organizations in a peer-to-peer environment to share information with email and other methods. But if a consortium of providers let say, implemented Direct, could - is there a pathway for them to logically move in to NHIN as it evolves and matures in each particular state that they might operate in?

Eric Heflin: Well -- this is Eric -- I think likely there is. One of the things that the Direct project has been aware of all along is that there - this other entity over here, which, you know, Tom and I and others have been involved with. And I think from day one they had an interest in trying to simplify the perception of the NHIN exchange as well as provide a pathway for interoperability to them.

And I think Karen had to drop off and that's unfortunate, she was actually one of the people leading that discussion within the CONNECT - within the Direct

project. But one key tenant of their project is as an optional component, they can use the same metadata structure that the NHIN Exchange uses.

And so that would provide at least a reduction of a barrier to exchange. But there are some conception differences; the Direct project security is user to user or user through a (HITSP) to another user, so the security model is quite a bit different. With the NHIN Exchange our security model is system to system level trust model and so there needs to be a way to reconcile that.

For the Direct project, for example, each individual user, as I currently understand it, can have their own certificate issued which they're essentially responsible for getting themselves or getting through their (HITSP) which is, you know, kind of the industry that they may be associated with. And that cert could be issued by anybody; any trusted entity that can issue certificates or it can even be self-signed. Whereas the NHIN Exchange, we use a single route trust model, which basically means all of our certificates that we use for trusts - trust in each other participant, comes from one source that we all know and agree to trust it. So there are some barriers.

Another barrier is the fact that a provider directory is still an outstanding issue for the Direct project, which means that, you know, in order for one provider to exchange with another, they have to literally pick up a phone or send a fax and ask what the other providers special email address is and their security certificate before they can essentially do the exchange. Unless they give us an intermediate via a (HITSP).

So, bottom line, I fully expect that the two projects, my personal take is that they will come together and will allow for, you know, interoperability between both the current Direct project push model as well as the NHIN Exchange which has a variety of models including pub/sub, push, as well as

query models. And Tom, I don't know if anybody or you want to add anything onto that.

Benson Chang: Hi this is Benson. I just wanted to say, yes, I mean, a lot of what Eric said is definitely true. I think, you know, that the Office of Standards and Interoperability within the ONC is, you know, aware of these questions that have come up multiple times about, you know, the relationship between Exchange and Direct as projects and I think that's currently what's being - under discussion and so how to harmonize and sort of to draw a road map for both of them moving forward. So, this stay tuned and hopefully we'll have some answers as that gets worked out, so.

Carlos Pickett: Really appreciate those answers that did help me a lot. What would be a good source to continue to monitor the progress around that integration? Would it be CMS or another Web site particularly I should pay attention to?

Benson Chang: Actually the Direct's community wiki is -- I think - I forget what the address is. Eric or Tom, do you remember?

Eric Heflin: Yes, I think they just changed it. Let me look it up here while we're on the fly. It was NHIN Direct, but I think - I'll look right now.

Thomas Davidson: If you Google it, you'll get the link. You'll find the updates and you'll get redirects.

Eric Heflin: It's directproject.org, wiki.directproject.org.

Carlos Pickett: Okay, thank you very much.

Eric Heflin: And one other consideration too, is that as you consider you're approach, which it sounds like that's where you're at in your overall decision making process, is again to think about the use cases. You know, are you supporting provider to provider, are you going to have (HITSP)'s or these (HUBS) that you can leverage. And then also do you want to exchange to federal partners using the NHIN.

And then, you know, based on that series of use cases, create your requirements list and then from that go to the market and say, you know, what would vendors, what open sources projects, what proprietary projects and so on come as close as possible to meet these requirements. And I do know that at least some vendors are considering or have deployed solutions that allow interoperability between the NHIN Exchange as well as the CONNECT project - or the Direct project.

Carlos Pickett: Okay.

Coordinator: You're next question comes from (Mike Howard). Your line is open.

(Mike Howard): Thank you for this presentation. Could the leadership on the call please restate your names, the companies you actually work for and will you be attending HEMS?

Benson Chang: Sure, I'll guess I'll start. This is Benson Chang, I actually work for Deloitte Consulting and we're a contractor to ONC. And yes, I'll be attending HEMS.

Eric Heflin: So, I'll go next. Okay, so this is Eric Heflin. And I'm a Director of Standards and Interoperability for Medicity Corporation. And I'm also volunteering and acting as liaison to IHE as well. And I will be attending HEMS in IHE Interoperability Showcase area.

Thomas Davidson: And I'm Tom Davidson, I actually work for a small company called Global CI and I too will be at HEMS supporting the Social Security Administrations effort in the IHE Interoperability booth.

(Mike Howard):   Thank you.

Eric Heflin: And Karen Witting, who I believe has already dropped off. I don't know if she'll be at HEMS or not, but she works for IBM.

Coordinator: Your next question comes from (Ben Wormeli). Your line is open.

(Ben Wormeli):   Hi, this is (Ben Wormeli) from California Cancer Registry and within the California Department of Public Health. And my question is about NIEM, the National Information Exchange Model, and if somebody could talk about what if any relationships so far or in the future that has with NHIN. I've seen some things on the ONC Web site about it, some meeting notes and things, but if you could talk about it from your perspective, that'd be great. Thanks.

Eric Heflin: Benson, would you be best to handle that or would you like me to take a crack at it.

Benson Chang: Sure, go ahead.

Eric Heflin: So, this is something we're interested in, I think pretty broadly, is to find a way to solve a couple problems we've all had and struggle with as vendors and implementers over time. One of the biggest problems we've had is there's no single place you can go to, to get everything that you need to actually deploy a solution today.

You know, some of the contents in word documents specifications, some's (sic) in pdf files on a different Web site, a lot of the contents pointed to standards bodies, we've actually been referring to that informally as the onion problem where you peel off one layer and you find that you have several more layers. So what we try to do to solve that issue is, and I think there's probably about three groups in parallel to try to resolve this from different angles, is we've tried to bring together a package basically a zip file that contains everything that you would need as an implementer to get started with implementation or understanding or testing the NHIN Exchange.

And so the work we've been doing has largely been geared towards creating a prototype for the existing specifications, but also bringing in some other very useful artifacts that we personally would have found useful at our organizations years ago that we hope will be useful to you and to others in the future, such as whistle files, computable models.

And so, if you have the skill set within your organization to do model driven development than we actually are working with another group under (OSSI) framework that's creating computable models and those would be brought into this package. As well as either references directly or references indirectly to your links to related documents that might be useful to you such as underlying specifications as well too.

And on top of that, we've created a navigation structure that allows you to look at this by either work group or by your role as either a tester, implementer, or a legal policy person, where by the workflow status such as approved or the data is created and so on. And the prototype for that has actually been published, again it's just a very rough draft prototype which I expect will change substantially, but it's been published on the same wiki that was sent in the meeting invitation.

(Ben Wormeli):   Okay.

Eric Heflin: I'd like to ask the speaker a question, (unintelligible) a question. What actually do you see as being the positives and negatives about adopting a model like that?

(Ben Wormeli):   Well, the governance model of NIEM is a very powerful one and also the (IETD)'s, which I assume is what you're talking about, packaging up everything. And so, that's why I was wondering like when someone goes to develop a use case for an exchange or whatever, you know, are you talking -- when you say prototype, are you talk everybody, basically using the same, you know, writing it in the same way, basically?

I mean, there's like - I have a connection, a family connection to NIEM. My father is (Paul Wormeli) who's at the IJIS Institute in the Justice and Homeland Security Domains. They're the ones that kind of got it going.

Eric Heflin: Right, right.

(Ben Wormeli):   As I know, a know a lot about it, but what I don't - so I'm just trying to get more out you guys about, you know, what the status is and...

Eric Heflin: Okay. Well (unintelligible). Seriously, you know, the concept we've adopted wholeheartedly, which is, you know, how can we create a package for implementers and testers and other primary target audiences like that, that makes the deployment and the testing of this easier. So that's actually what we've largely adopted. So thank your relative for leading that effort. We're moving forward with that as well.

(Ben Wormeli):   But first, I'm sorry, one more question. So have you already like been writing (IETD) style specifications?

Eric Heflin: Yes, the prototype actually is on the wiki. You can download that and take a look at it right now. It's not complete, certain elements are known to be missing such as the catalogue, but there are initial versions of the overall package in there.

(Ben Wormeli):   Okay, thank you very much.

Eric Heflin: Sure, thank you for the great question.

Coordinator: Your next question comes from (Scott Serich). Your line is open.

Scott Serich: Yes, this is Scott Serich, I'm with the IJIS Institute and I just wanted to let you know that we're plugged in and I think I'm signed up to receive all the notifications and we're ready to move forward. So, just wanted to follow-up on that call and we're looking forward to the interaction. Thanks.

Eric Heflin: Okay, very good. And that actually brings up a good point, for those looking for more information, again, probably the key two sources are the HHS Web site, for the ONC, and the other key source is the NHIN Exchange wiki, which we try to make our discussions and our decisions and our artifacts transparently available to all that way.

                   If you are joining it now, you can actually see it, a non-perishable record of discussions and decisions we've made beforehand. So, encourage to take a look at that and there's also some email list as well too that Benson can set you up with, who are involved in various committees and work groups too.

Benson Chang: And I actually, why don't I go ahead and state that for the record so it goes in the transcripts. That actually did not go out with the initial invite we pointed everybody to the main ONC NHIN resources page. So the address for our Exchange wiki is actually exchange, E-X-C-H-A-N-G-E dash specifications, all one word, dot wiki spaces dot com. (exchange-specifications.wikispaces.com)

Thomas Davidson: Eric, sorry Benson, we've gone over a little over 20 minutes. Do you want to give this a - call this at 4:30 eastern time? (Unintelligible).

Benson Chang: Yes, I think so. Moderator how many questions do we have left?

Thomas Davidson: ...key things you want to do?

Coordinator: Actually that was the last question at this time.

Benson Chang: Oh, great.

Thomas Davidson: Oh, perfect. So, good timing.

Benson Chang: So, I guess Tom and Eric, unless you have anything else to do, I'll just do some housekeeping?

Thomas Davidson: The only other thing I'd to do is thank everyone for their participation and the great questions. And I hope this was informative and that individuals on the call found it beneficial for spending their time. And I - if there is continued interest, please, I believe Benson's going to touch this, but please submit questions or potential future topics of discussions and we might be able to continue from there. Thank you.

Benson Chang: Okay, Eric, anything you wanted to say in closing?

Eric Heflin: Nope, just thank you everybody for joining and it was very rewarding to see
this much participation and we really hope this helped your on boarding
process.

Benson Chang: Okay, thanks Eric. Okay, so thanks everybody for participation again. And
again, apologies, I know some people has some problems getting in.
Apparently, there was an update sent to the original meeting invite with a new
meeting call and number and apparently everybody did not get that. So,
hopefully everybody will be able to - that missed the first section where Tom
was giving an overview, will be able to see the written transcripts.

We're planning to post that to healthit.hhs.gov/nhin within a couple days to
get the full transcript of the meeting. And also, the wiki space address that I
just mentioned exchange-specifications.wikispaces.com we're actually going
to, you know, try to set up a page there within a couple of days where people
to sort of log in and give comments about the session or future topics that they
might want discussed and, I mean, obviously this group will try to see if there
are more targeted session that we would want to, you know, go over in the
future on - you know, as opposed to a general session like this one. We'll
definitely assess the interest there and see if we can set up a subsequent
session. So, thanks again everybody for participation and moderator, I think
we're done.

Coordinator: Thank you for participating in today's conference call. You may disconnect
your line.

                                     END