

NwHIN Power Team Meeting
Draft Transcript
September 1, 2011

Presentation

Judy Sparrow – Office of the National Coordinator – Executive Director

Good morning everybody and welcome to the NwHIN Power Team. This is Federal Advisory call so there will be opportunity at the end of the call for the public to make comment. Workgroup members please identify yourselves when speaking.

Let me do a quick roll call: Dixie Baker?

Dixie Baker, Chair, SAIC

Here.

Judy Sparrow – Office of the National Coordinator – Executive Director

Wes Rishel?

Wes Rishel, Gartner

Here.

Judy Sparrow – Office of the National Coordinator – Executive Director

Ken Tarkoff?

Ken Tarkoff

Here.

Judy Sparrow – Office of the National Coordinator – Executive Director

John Feikema? Kevin Hutchinson? Nancy Orvis? David McCallie?

David McCallie, Cerner

Here.

Judy Sparrow – Office of the National Coordinator – Executive Director

Ollie Gray?

Ollie Gray, DoD Military Health System

Here.

Judy Sparrow – Office of the National Coordinator – Executive Director

Frank Fontaine?

Frank Fontaine, VA

Here.

Judy Sparrow – Office of the National Coordinator – Executive Director

Avinash Shanbhag?

Avinash Shanbhag

Here.

Judy Sparrow – Office of the National Coordinator – Executive Director

MaryJo Deering? Did I leave anyone off?

Ok, I will turn it over to Dixie Baker.

Dixie Baker, Chair, SAIC

I want to thank you all for dialing into today's meeting. As you know we are very rapidly approaching the time when we have to deliver back to the standards committee our recommendations for this set of building blocks that can be used to support the exchange of health information. The ONC has made it very clear to us that they plan to use our recommendations to help inform the decisions on where to invest in further piloting of existing specifications and where to support the development of new specifications. That's the direction we are going in.

ONC has asked us to start by assessing the specifications that were developed for the 2 current nationwide health information network pilots, NwhIN exchange, and the direct project. There were 10 specs developed for the exchange pilot and 2 for the direct pilot and we've assessed that these 12 specifications using 5 metrics, better defined in the hand-out that I had Judy send out ahead of the meeting, those 5 metrics are the need, the maturity of the specification document itself, the maturity of the underlying technology that the specification relied upon, deployment and operational complexity, and industry adoption where with respect to the industry for which the specification was developed. The initial scores were assigned by the ONC staff working with us and they reached out to the in-hand exchange coordinating committee and to **NIST** to provide additional input and then the power team responded, reviewed those initial scores and have made some adjustments.

In today's meeting, we're taking the additional step of reaching out to power team members whose organizations have been involved in the implementation of the exchange specifications to make sure that the scores we've assigned accurately reflect their own experience. So to do this I've asked the DoD and VA members of our power team, Ollie Gray and Tim Cromwell, to provide input from the teams who have worked on implementing the exchange specs for the DoD and the VA. I want to thank Ollie, Tim and their teams for doing this for us, we really appreciate it. I'm sure that their experiences will be really valuable to this team.

To prepare for this meeting I had Judy Sparrow send you a PDF document that contains our spreadsheet as it stands today with our scores for the exchange and direct specifications and in that I've updated that spreadsheet as was recommended at our last meeting and I've also sent a document defining the metrics. These same 2 documents I have given to the DoD and the VA teams that we will hear from today. So to review today's agenda we will begin by hearing this feedback on our scoring from the DoD and the VA and I will let Ollie and Tim introduce their speakers from their organizations. From this discussion, I hope that our power team can agree upon the final scores for these exchange and direct specifications and maybe even identify in those specifications that we feel comfortable recommending for broader adoption or even for additional piloting. Hopefully we will have some time for discussion about potential alternatives and gaps as well. Are there any questions about today's agenda? Ok, with that let me turn this over to Ollie Gray and again with the power team's thanks on this Ollie and you can introduce our DoD guests. I would also ask that the spreadsheet be displayed.

Ollie Gray, DoD Military Health System

Thank you Dixie. I am from the TATRC branch of the Military Health System. TATRC is the Tele-medicine in Advance Technology Research Center. Joining me today on the call is Jerry Goodnough who is a member of our advance concept team and is our lead architect who has had experience with the implementation of the specs in some of our research opportunities that we have dealt with. I'm not sure if Sanjay Dora has joined us from the MHS or not. Sanjay is also going to be providing some input from DoD and the ? implementations that they have joined in. I am going to turn it over to Jerry Goodnough and one other member of our team that has possibly joined, Dr. Steven Steffensen. Steve will also have some comments for us. Our team has gone through and reviewed the spreadsheet. As we've reviewed the spreadsheet and the scoring, Jerry has some comments that he would like to make and then I will turn it over to Sanjay. Thank you.

Jerry Goodnough

Good morning. In looking through the spreadsheet, I must say that I don't fundamentally disagree with the vast majority of everything that is here. I had a couple of questions and concerns in terms of some of the rankings mostly with regard to maturity level in some cases and in some cases need. Fundamentally, the only ones that I – well to preface it, we have done a mostly research and development in the early-stage pilot. Obviously, some of the stuff further down in terms of maturity of the stack for later use is outside of our scope.

One of the major things that we found when working with the NWHIN specs is that obviously, they are highly layered. We found that we need a full detailed reading ability all the way down through the layers on a number of ? going all the way to the details of soap services. We have had some members who worked on the standards committee for oasis for TP20 and TP30. We have gone all the way down through the HL7 stats of course but the layer of what comes together to form all of these specifications is represented in one of the largest levels of complexity for implementation for us as opposed to any one specification.

Looking at need, one thing I was surprised by in terms of being rated as a moderate need was a need for patient discovery. It seems that in all of our trials and all of our experience through subject discovery and patient discovery and the entire process, the fundamental number one stumbling block has always been proper patient identification. It is not necessarily a specification issue as much as achieving correct bilateral agreement on what is going to constitute a match. I understand that the standard has to be silent on that to some degree that is the nature of the standards which is normally set up often for bilateral exchange that presents a problem when we start to move into a larger implementation.

The other question I had was in terms of the HEIM specifications maturity of underlying technology said it was declining which looked like it was SOAP and Web services which I thought was the underlying core messaging which has a different maturity level of the underlying technology. That was somewhat surprising that two things that I thought were the same underlying technology had different maturity levels. That struck me as a potential issue. Is there anything that I am missing here, Ollie?

Ollie Gray, DoD Military Health System

I think you've covered the major areas that we had concerns with. Sanjay, would you like to present from the MHS perspective? I know you had an issue with line 10 in the spreadsheet.

Sanjay Dora, DoD

Good morning, everybody. In addition to what Jerry described, one of my observations was that it did not specify as to which version of the specifications had been evaluated in column 1. Similarly for standards, which version of those standards? Because it is a very generic statement to say Oasis UDDI. I think it

could be more specific. We might want to highlight those. I agree with some of the maturity ratings but, there is not enough data for us to classify those that we have not collected any data yet. This is hearsay and what the developers say and feedback. That is all I have for now.

Ollie Gray, DoD Military Health System

Thank you. One of the things to note is that we are in the process of doing more implementations with the MHS with our ? sites. That will be starting near the end of September and we will have more information as those sites go forward. Dixie, that is all we have from the DoD perspective unless Steve would like to add something else.

Steve Steffensen

No, I am here to listen in.

Dixie Baker, Chair, SAIC

Thank you both. We appreciate your input. Sanjay, I can give you some insight. First, the versions of the specifications themselves, although in the handout material that I sent to you I didn't include this, but the versions that we are evaluating are the same that are on the in-hand exchange website. The complete titles of those were presented to the standards committee in August. The standards used column is really, and I recognize that some of these vary dramatically from version to version. It was intended to help people understand what the basic technologies were that we used in the standards. That column is not a part of our report at all. It is just more of here are the technologies that the standard is really using. Maybe Avinash can add something here but I believe the only database assessments that we had quantitative input, I believe, were the market adoption where the ONC did gather real numbers about how many users and servers, etc. Would you like to add something there, Avinash?

Avinash Shanbhag

I think that was accurate. This information that was collected from some of our ? exchange partners really helped us in that area. Furthermore, in terms of specification and maturity, I believe that we received additional input from groups of subject matters experts in the area who had sent us a report that provided insight into a number of implementations supporting some of these standards. I think that this was attributed to the market adoption segment of the matrix.

Sanjay Dora, DoD

So the NwHIN specification that you are referring to is the ones that are under review on the NwHIN site published in summer 2011 or the ones that are in production?

Dixie Baker, Chair, SAIC

I think they are the ones in production.

Avinash Shanbhag

The other ones are in production. Our understanding is that the ones that have been updated recently have made several minor changes. Essentially the underlying technologies and standards have not deviated. The ones that were reviewed by this team were the ones that were in production.

Sanjay Dora, DoD

My comment on the standards used that is relevant to report because there are some standards being used which have not been adopted by DoD. For those, we had to get special certification and accreditation to get those standards waived. For example, 1.1 is way back now and many are using 2.0

and that is a requirement for your authorization framework. It is important to mention those because we have constraints here.

Dixie Baker, Chair, SAIC

When you say that some standards have not been adopted by DoD, you are referring to the standards in column 2? Has DoD adopted all of the specifications?

Sanjay Dora, DoD

We are using the only ones that are relevant to our use cases.

Wes Rishel, Gartner

When we talk about a standard not being adopted by DoD, one case that we here is because of the history of the development of NwHIN, it may have incorporated a standard in an older state and not updated it when DoD did. Are there cases where standards are wholly and adopted or an alternative is being adopted by DoD that we should be aware of as an indicator of where the market goes? I have another question after that.

Sanjay Dora, DoD

Yes, I think both of those cases are true. There are some standards that are under evaluation or emerging standards. They are all listed, I believe, in a system called ?

Wes Rishel, Gartner

I am interested in Oasis UDDI. Is that currently a DoD standard?

Sanjay Dora, DoD

I do not have a list of front of me. I can check.

Wes Rishel, Gartner

Okay. LDAP is more likely to be a DoD standard. My other question is to what extent does the adoption to any of these standards represent special requirements for FISMA that might not have been necessary if we were not crossing the FISMA boundary between government systems and ? systems?

Sanjay Dora, DoD

I think that FITS 140 compliance is needed, but there are situations where partners are not FISMA compliant but, we have to communicate. We need to have both versions which are FISMA compliant and non- FISMA compliant.

Wes Rishel, Gartner

So, to translate, for those of you who are not familiar with FISMA which includes me, there are versions of the standards you are describing here or particular profiles of them that are FISMA compliant and other profiles that are not and in order to communicate with the civilian agency, you need to use the non-compliant versions, correct?

Sanjay Dora, DoD

Correct. The non-compliant connect implementation.

Wes Rishel, Gartner

So, there are two sets of exchange specifications, one contains all FISMA compliant profiles and the other contains non-FISMA compliant profiles. If you are going to communicate across the boundary, you

need to use the non-compliant version. If you are communicating within the government, you need to be using the compliant version, is that correct?

Sanjay Dora, DoD

Yes, on a general basis.

Dixie Baker, Chair, SAIC

FITS 140 is primarily encryption so is the problem here that their encryption implementation are not certified? What is the incompatibility?

Sanjay Dora, DoD

If you have a doctor's clinic, they can't afford to have all of the FISMA certifications, but they are a partner.

Dixie Baker, Chair, SAIC

Not FISMA, you mentioned **FITS**.

Sanjay Dora, DoD

Yes **FITS**, so whatever they are using on their other sites it may be non-compliant.

Wes Rishel, Gartner

The gentlemen from TATRC commented on the need for full visibility through all layers of specifications. I am curious what that means. I thought that the purpose of layering was to avoid necessity for everyone to understand everything.

Jerry Goodnough

In a certain sense, that can be true until you come down to implementing the specification. I am coming from a couple of perspectives both from implementer and team member. One of the issues has to be as you layer underlying layers can change. If you have made or implemented those layers before, you don't know that unless you are individually tracking them. More to the point, by the time you collapse a viewpoint to read the specs through you literally have to pull all of the underlying specs together to form a coherent whole to understand what's going on.

Wes Rishel, Gartner

I would imagine that it is also important in debugging and testing as well?

Jerry Goodnough

Yes. In all honesty, you get a whole class of developers who – I am an architect; I am comfortable in working at higher level abstractions. There are other team members who like to form an entire complete world view of everything before they sit down and write a piece of code. So it presents a problem that way in terms of management that way too.

Wes Rishel, Gartner

In my experience, there are others that only develop the world view during testing.

Jerry Goodnough

That is true. The full lifecycle is important.

Wes Rishel, Gartner

So, this is an issue that you specifically noted for these specifications as compared to other projects that you worked on?

Jerry Goodnough

It is endemic – it has hit enough layers that it became noticeable this time.

Wes Rishel, Gartner

I see.

Jerry Goodnough

I am comfortable working in two or three layers, but as was pointed out, we have had difficulty over time tracking the vast number of versions of things that went in and trying to assemble the complete whole at any given time. The version numbering is something we do that we become sensitive to.

Wes Rishel, Gartner

It sounds like there is some kind of complexity function going on with the number of layers.

Jerry Goodnough

Yes, the complexity management becomes harder and harder.

David McCallie, Cerner

I would like to follow up on that layers question that Wes asked. One of the things that we have been asked to take into consideration is not only the experience of people who have already implemented some of these protocols, but what they think might be difficulties in rolling that out on a nationwide basis. I am wondering if you think the large number of layers and complexity of assembling a whole world view would be a barrier to widespread dissemination of these protocols. Is that something that you anticipate other people will run into? Or is that just the way TATRC works?

Jerry Goodnough

In terms of wide scale adoption for the specifications, I don't think the layering is a major issue because the relative number of actual implementers that have to read the spec in its entirety is not the whole scope of the United States. It is a fairly limited number of people who have to deal with the problem. I do worry about routing and patient information as you move out to a large scale but that is a whole other issue. I have a meeting in another two minutes that I need to go to.

David McCallie, Cerner

You made a comment about your surprise that the patient discovery was rated as a moderate need. I share that and just noticed it in the spreadsheet. I think that is a high need. Could you elaborate on what you discovered with working with the patient discovery model in your last few minutes?

Jerry Goodnough

Since we do limited trials, we have limited usage directly in the patient discovery. Our partners have directly implemented access to it from opening EMPI. Mostly, the specification itself is not the inherent difficulty other than the issues become who you talk to about locating a patient. That is always a major issue; who are the partners where you would actually discover a patient with? That is an understandable problem. How do you reach that agreement between you and the other person that really these are the same people? As I say, that is more of a policy issue. There is a guidance issue that says we have established at a national level that this is generally and acceptable match at a certain probability, it might be useful, but I can see it's fraught with peril. It is a traditional problem of patient identification. I've been

doing this for 28 years. When you walk into the door, the person that you pull up in the medical record is still a persistent issue.

David McCallie, Cerner

That is helpful. Thank you I don't want to keep you past your deadline.

Jerry Goodnough

Thank you for this opportunity to speak.

Dixie Baker, Chair, SAIC

Thank you very much, Jerry.

David McCallie, Cerner

I have another question for the other DoD members that are still on the line. I was wondering if the pilots had progressed to the point of where the document query and document transactions had been utilized and if they had, whether a reasonable workflow for clinicians was able to be established?

Ollie Gray, DoD Military Health System

Sanjay, Are you on the line?

Sanjay Dora, DoD

We have established the workflow on **VCA** phase 1 and **VCA** phase 2 and 3 may have additional things.

David McCallie, Cerner

Could you explain what that is? I'm not familiar with **?** to know the difference between phase 1 and phase 2.

Sanjay Dora, DoD

The data elements and the information that will be retrieved and displayed at the clinician's desktop, the functionality of that will go in those phases. It is being phased out by consult and appointment and radiology or lab. When we go into **VCA** phase 2, we will partner with SSA and somebody needs to know that they have the authority to release the patient information. Today, all of that patient information exists on local MPF on paper. There is some manual intervention or a process flow that needs to be built in. Somebody needs to authorize what needs to be released. There could be different authorizations on the provider side where they say you can release only X, Y, Z, but not the others. So those processes will come into place in the coming months.

Steve Steffensen

For **?** 1A in San Diego there was a workflow put together from the provider perspective and screenshots and a user guide that was put together to walk through what the workflow would be. But for the **?** 1B, the follow on initiative I think changed that quite a bit. There were older documents that did address the provider workflow issues in accessing documents off of the NwHIN. Our other partners at TATRC and to include **Conoma** Health System may have additional documentation on the provider workflow and the impact of document query and how that relates to their environment. Ollie, I think only **Conoma** is the only partner that is doing that at the provider level now. Health wise using an **?** HL7 **?** for exchange of patient educational content using NwHIN as a separate R&D project are planning on doing some pilots, but we have not started at the provider level yet. Probably just the **?** 1A lessons learned from the provider workflow that we have and then the experiences out of **Conoma**.

David McCallie, Cerner

I realize that the experience is somewhat limited, but the looking at the protocol capabilities, do you envision adequate workflow can be developed? I am curious how difficult it will be for a provider to locate what he is looking for and what happens if there are multiple sources of the data. Will a provider have to consider each source separately or will they be a merged view that synthesizes the information for more than one external gateway? Have you looked at it at that level yet?

Steve Steffensen

Early we did. One of the two areas around document discovery are you could look at things from a data centric view or a document centric view. One of the things we set forward early on on the R&D side back in 2008 timeframe was to address that issue of workflow from a providers perspective. From a provider perspective, I may only want to know labs and don't care about retrieving all of the other stuff only show me the lab data in an aggregated form. We did not move much further beyond an initial piloting. The VA had done some aggregation work, but we did not do that in our initial pilot. I believe the follow on for ? is that they are doing some aggregation of that data so there may be some lessons there. That brings up a valid problem. One of the issues we had with the earlier versions was that it affected the workflow dramatically where the amount of time it took to retrieve documents. There was a lot of thought put into pre-retrieval of documents based on clinic appointment schedule, what would be the impact on workflow. To my knowledge, that is not moved very far in terms of pre-retrieval based on the appointment schedule. Does that answer your question?

David McCallie, Cerner

Yes, that helps. It sounds like the experiences of somewhat limited.

Steve Steffensen

Yes.

David McCallie, Cerner

I was concerned about the need possibly for pre-retrieval particularly if you take into account the patient locator interactions that have to occur. In theory, you could have several requests for a patient match and have to reconcile each one of those independently.

Steve Steffensen

From a workflow perspective too as a physician, the patient may come in and say I am here for a follow-up of x, y, z appointment at another hospital. You might be only interested in that report. Why should you have to wait on every document query to be completed before getting the document that you want to do that targeted retrieval? We talked through the implications of changing the interface to allow for a specific retrieval as opposed to a federated query.

David McCallie, Cerner

That is exactly what I was getting at. Thank you.

Wes Rishel, Gartner

I think what I'm realizing is that I am not exactly clear what is being done now in production. And for how many providers is it being done? You may not have the specific numbers, but can you give us some sort of a characteristic of how much this is being done? Particularly to what extent is it being done across the civilian government boundary?

Steve Steffensen

I know you guys have been in production since 2009 so there has been a lot going on. Most of what I am talking about is purely on the R&D side trying to figure out what the issues are going to be down the road.

Wes Rishel, Gartner

I am just curious that if you are concerned about workflows, and looking at proposals to improve them, what is the current experience? How important are these concerns?

Steve Steffensen

I think that Sanjay should answer this.

Sanjay Dora, DoD

I guess the workflows are important, but the underlying architecture for patient discovery, today this goes sequentially. When you fire a query, you wait for it to come from one provider and then it fires another one and when we go nationwide, it will be a long time before we get the whole thing retrieved. What we have suggested is an enhancement in the underlying architecture to fire the event to whoever they need to go to and as the response comes back, start the background processing and not wait for the others to respond because they could respond 20 minutes or two hours later. There is no SLA by the time a partner had to respond. The other thing is in the workflow, the way that the architecture has to be designed for nationwide implementation, you want the workflow to be near real-time. We see a lot of challenges with that based on the pilot infrastructure that we have deployed, the throughput of queries and the correlations for matching and the display on the screen. I think the underlying architecture has to be taken into account with the big picture of going nationwide which is missing.

Wes Rishel, Gartner

Thank you very much.

Dixie Baker, Chair, SAIC

We have heard that query, discovery, and retrieve are often used together. The issues that you are bringing up, I think, are mostly related to the discovery specification. Is that true?

Sanjay Dora, DoD

Yes, discovery is one of the long-running things.

Dixie Baker, Chair, SAIC

Yes, that was my thought and I can enlighten us a bit. The initial need for the patient discovery that came out of the ONC in working with the NwHIN coordinating committee and NIST, the initial need came out as low. I replied that patient discovery is a high need. I think I replied that patient discovery is not a low need because it is one of those things that every organization is a struggling with. So, we elevated it to moderate which is where it is now and today I am hearing 2 more comments. I am thinking that when that value was assigned, there was some confusion about whether they were rating the need for that specification versus the patient discovery function. Avinash, can you shed some light on that?

Avinash Shanbhag

I will try. Early on in the first iteration, I think that the feedback we have gotten from our survey and discussions was that patient discovery due to all the issues of patient matching that were discussed today was not very robust. However, once patient matching was sorted out through bilateral agreements, then the ? functionality was working well. I would say that early on when we looked at it, it was more of the basic specification and really it is not even the specification of patients as much as patient matching which was really the issue. However, as we have discussed in the last few months, what has been

brought to our attention and this has evolved that the fact they all come as a block that you discover your patient through patient discovery and then you get the ID's that you use for retrieval is where we get the building blocks. Also, in a sense, I think that the need to actually have the full use case in terms of getting to find patients at a higher level is a need that we always knew but it is getting to that point. So, the need for patient discovery as discussed here seems more of a use case. When we started off, it was more of the way that the specification was created. Does that help?

Dixie Baker, Chair, SAIC

Thank you.

David McCallie, Cerner

I think that we have stumbled a little bit on this in the past on the distinction between evaluating these protocols per se and evaluating the way in which they have been woven together into the overall architecture. There is one thing that may or may not be issues with the patient discovery protocol, but clearly there are issues with the fact that you do not know where to send the queries so you have to probe the systems and the patient needs to know where to probe. This is a missing capability above and beyond what is currently specified.

Steve Steffensen

Is Tim Cromwell on the phone? The VA did –

Dixie Baker, Chair, SAIC

Frank Fontaine is on the phone.

Steve Steffensen

Frank, I don't know if you are familiar with the CITL work that was done early on. You funded CITL to look at the initial pilot from an evaluation perspective which may get to some of the workflow issues. Such as conduct stakeholder interviews, identify potential effects of C32 exchange. I don't know what the outcome was, but I know you had funded work with CITL.

Frank Fontaine, VA

Yes, I am familiar with this. I heard that it was underway and that they were gathering metrics. Unfortunately, I am not familiar enough with the results to elaborate on that.

Steve Steffensen

That might be valuable to this group if Tim has some of the results of that.

Frank Fontaine, VA

Yes. I know that Tim and Jamie Bennett may have this.

Steve Steffensen

I have the old slide deck where they talked about their deliverables for this but I don't remember seeing any of the artifacts out of that.

Dixie Baker, Chair, SAIC

The name of the project was?

Steve Steffensen

CITL. They were the group that came up with the levels of interoperability. The slide deck called it The Center for Information Technology Leadership. They may have a different name now.

David McCallie, Cerner

Dixie that is Blackford Middleton's group.

Steve Steffensen

It used to be called CITL but I don't think it's called that anymore. It was performance evaluation, San Diego, VA, Kaiser Permanente, and implementation and it was performed by CITL and they had several deliverables looking at the impact on workflow.

Dixie Baker, Chair, SAIC

Okay.

Wes Rishel, Gartner

To elaborate on a point that David made if that is okay. David presented an issue that has come up from time to time in this power team. What are we evaluating? Are we evaluating the individual protocols or the success? There is a difference between saying here is a set of protocols that have been used successfully in a number of different architectures, at least some of them have worked well and saying that here is a set of protocols that have been tried in one architecture and are still a work in progress. I think it is hard to make the statement that we can evaluate the underlying protocol absent a large scale successful implementation. That becomes a matter for technical experts to agree or disagree on and there is no hard data to point to. I think we need to take the information, for example, sometimes workflow can be changed just by re-factoring how you use protocols. Sometimes workflow needs a new protocol in order to change. It is not determined ad hoc that a set of protocols can handle all workflows. I think we would need to be evaluating in terms of scalability and in terms of use experience based on what is out there in terms of available information and not say that it didn't work that time but it will work next time.

Dixie Baker, Chair, SAIC

That is exactly what ONC wants us to do. They are not waiting for us to step forward and say we think the following specifications should be made law tomorrow. As pointed out in our August meeting that this is a roadmap and FISMA has pointed out that they are wanting us to help them decide should do more piloting of these specs and if so, which ones? Should we invest anymore? Should we just cut our losses on some of these specs? They are not looking to us for black-and-white answers is what I'm trying to say.

Wes Rishel, Gartner

Yes, now that we have learned more, it is easier to understand the instructions. I think we are hearing from the participants that they themselves in various activities have understood the areas of interest in investigating this.

Dixie Baker, Chair, SAIC

Okay, I want to thank you again. We appreciate your thoughts and for spending this valuable time with us. You are certainly welcome to stick around for the rest of the meeting and to continue to participate, ask questions and respond whenever you deem might be valuable to us. Is Tim Cromwell on the call get?

Judy Sparrow – Office of the National Coordinator – Executive Director

I don't think he's going to make it. I think it is Frank Fontaine.

Dixie Baker, Chair, SAIC

Then, let me introduce Frank Fontaine whom Tim has asked to represent the VA in reviewing the list of specifications. Frank, we appreciate you spending your time and giving us your input. I will ask you to introduce yourself and talk a bit about your experience with these specifications.

Frank Fontaine, VA

Yes, thank you for the invitation. I appreciate being included. I am the VA NwHIN adapter development manager. I started to work on this effort in 2009 so I have a little bit of history and experience that I could convey to this meeting. I agree with all of the DoD evaluation of the metrics. The only two that I have questions about and I know we discussed the patient discovery quite a bit but there were comments about the need moving from low to moderate and my question would be possibly that should be high? The rationale would be to expand on what was commented that this poses some serious challenges with regard to scalability once we are nationwide and has to do with who you communicate with and the number of partners that may be a part of the network. Currently, we are faced with challenges and we are under 10 partners. If we talk about orders of magnitude, I think there are some serious challenges with regard to patient discovery.

Secondly, with regard to the NwHIN document specification, also questioning whether that should be moved from moderate to high. The rationale behind that would be that it seems like, based on our pilot experience, that we really need a simpler and more restrictive specification so that we can achieve better interoperability.

Dixie Baker, Chair, SAIC

Which one are you talking about?

Frank Fontaine, VA

It is the NwHIN document submission specification. I believe that is what is referred to.

Dixie Baker, Chair, SAIC

The document submission spec. Ok.

Frank Fontaine, VA

If I could give you a real-world challenge that I personally have witnessed across the three years, there are a lot of challenges having to do with the multilayer specification aspect. Those were the early challenges for the VA. It has become less as we start to have production implementation but I think that any new member would be faced with the same challenges. Some simpler, more restrictive spec that is not multilayered certainly would remove some of those delays and challenges for implementation. I also believe that the in one of the specs, the CCD or C32, we were faced with challenges having to do with the allowed flexibility of where the reference data might appear and how it appears in the narrative blocks. This posed some style sheet challenges. Picking up on the narrative blocks further, part of the VA's challenge to display aggregated views of the NwHIN data as collected from the partners, we were faced with some challenges by pulling the data out of the coded sections as opposed to just trying to display it from the HTML narrative block itself and once again, feedback into the simpler more restrictive specs. That is all I had.

Dixie Baker, Chair, SAIC

Comments or questions?

David McCallie, Cerner

You were referring to simpler specs at the CCD and C32 level, were you also suggesting that the actual query for the retrieved documents spec was a problem without regard to the actual documents themselves but the protocol by which one locates and retrieves documents, or were you referring to the content of the C32?

Frank Fontaine, VA

I would say mainly the payload, the document itself. Although there were a few locations where we saw some challenges with the document exchange spec itself where perhaps it needed to be enhanced to include additional or more specific details having to do with the metadata response so that the consumers had more information as to what to deal with.

David McCallie, Cerner

That is one of my concerns particularly as the number of documents that are theoretically available grows over time, did your clinician users indicate the desire to be able to do a more focused query such as finding the most recent EKG? Did the trials not get that far?

Frank Fontaine, VA

I am not exposed to that level of feedback from the users. I have not heard anything along those lines.

David McCallie, Cerner

Is what being exchanged today mostly the CCD summary style document?

Frank Fontaine, VA

That and now we are moving into the notes, the C62s.

Sanjay Dora, DoD

I think there needs to be a size limitation to this document and how far you can go back in time. Otherwise, there is no limit.

David McCallie, Cerner

Why would there be a limit? Is that because of inadequate ability to construct the query?

Sanjay Dora, DoD

It is performance related. If someone sends a 1 GB file, it takes time to get it.

David McCallie, Cerner

Why would there be a GB clinical document? What's being sent? Are they pre-aggregating before they send?

Sanjay Dora, DoD

Images, they imbed stuff. They invent things. I don't know how the size is growing.

David McCallie, Cerner

I am thinking of a more generic query model. If you said find me the most recent EKG and it was five years ago, which is outside your window, you would still want to find it.

Sanjay Dora, DoD

Sure, so those options need to be provided.

David McCallie, Cerner

That is what I was asking. Thank you.

Dixie Baker, Chair, SAIC

The option to specify what? Sanjay?

Sanjay Dora, DoD

The date range or some other parameters.

David McCallie, Cerner

Given how important images are and given that's one of the expensive resources that you would like to share rather than repeat, I wonder if a footnote here might be that the handling of large images is an underspecified function here. That is going to get more common not less common. If we can't handle a large image, we have a problem.

Sanjay Dora, DoD

If we go to the **diacom** standards, those files get huge.

David McCallie, Cerner

We need a better model for that.

Dixie Baker, Chair, SAIC

Does that relate to the document submission as well, Frank? You mentioned the document submission specs. Is it able to handle images?

Sanjay Dora, DoD

I am not sure. I will have to go back on that.

Dixie Baker, Chair, SAIC

The CDA can handle an image. You can stick an image in there.

David McCallie, Cerner

That may need special handling. In other words, maybe those should be treated as a special case.

Dixie Baker, Chair, SAIC

Yes.

Wes Rishel, Gartner

I think in this context, we need to talk about the C series constraints on the CDA rather than the CDA itself. It is a generic specification. I do not know what C32 and C68 have had statements addressing the size or how they contain images.

Frank Fontaine, VA

Based on our current pilot experience, with the **?** team have agreed upon is leaving the size restriction up to the producer of the document. So that if the producer believes that collecting that much data or that large of a range of data would be detrimental to their network, they have the right to respond with this query result is too large, so essentially sending back to the requester that this cannot be serviced.

Wes Rishel, Gartner

Okay. Do you see these as the actual bundles that are sent as being aggregate summaries of data about an individual patient, or do you see them as being specific notes associated with a specific point in time?

Frank Fontaine, VA

I don't that it applies to summaries as far as my experience has been.

Wes Rishel, Gartner

So, it is individual notes that might have an image attached?

Frank Fontaine, VA

Exactly and the start and range of a set of notes could be too many data pulls to respond to.

Wes Rishel, Gartner

So, in that situation, thinking about the relationship of the protocol to the workflow, we have got a situation in which a user might want the last – but if they have to describe that in terms of a date range, then sometimes they will be frustrated because what they are ask for tended to represent a lot of individual data. It is almost like asking to give me the most you can as opposed to making me guess the size or date range I need to ask for.

Frank Fontaine, VA

Yes, and that was a part of the evaluation that the ? team went through. To try to present the user with as much information and not require them to make "guess" queries.

David McCallie, Cerner

I can't help but editorialize her the P-cast model with all of its weaknesses notwithstanding, I think tried to address this problem by thinking more in terms of a search function rather than a blind fetch over date ranges and classes of documents.

Dixie Baker, Chair, SAIC

Yes, and one step further, the search of the metadata associated with a content whether it be an image, a document, or whatever. That is a good point.

David McCallie, Cerner

The most recent EKG or mammogram would be a legitimate query rather than I need the last five years and I hope I find a mammogram in there.

Dixie Baker

Frank, I am trying to record comments that are made specific to the specifications. Are you suggesting any changes to our scores for document submission?

Frank Fontaine, VA

No, I am not.

Dixie Baker, Chair, SAIC

I didn't hear that. So, the only two scores, specifically, that I heard that we should revisit are the declining maturity underlining technology for the HIEM is inconsistent with a messaging platform score of mature. And that we need to revisit the patient discovery need. I would like to discuss the patient discovery need. What I heard, a number of times today, is that the function of patient discovery is a high need. The NwHIN patient discovery specification, it has problems so we may want to look at alternatives. Is that what we heard?

David McCallie, Cerner

That is consistent for me. We should ask our guests.

Sanjay Dora, DoD

I think the need is high and the implementation needs to be looked at and certainly there are other options.

Dixie Baker, Chair, SAIC

Okay. That is consistent with what I heard. Thank you.

Ollie Gray, DoD Military Health System

We would agree that the need is high for patient discovery.

Dixie Baker, Chair, SAIC

The technology score for HIEM, I hadn't noticed that but think that's a really good point that the underlying technologies are essentially the same for messaging platform and HIEM, but we rated the maturity of the underlying technology which is self-based Oasis so for messaging at mature and HIEM is declining. So, what do you think is the accurate maturity of the underlying technology? Anyone? Wes, you usually have something.

David McCallie, Cerner

Maybe I am changing your question slightly, but we have heard two out of two concerned about the numbers of layers and complexity of the layers. I don't know how to reflect that concern. I think it is a legitimate concern, particularly with the notion of rolling this out to hundreds of adopters. How do we capture that concern about complexity of excessive layers in an evaluation of the underlying standards?

Dixie Baker, Chair, SAIC

We don't, we capture that in our complexity rating. We rate all of these specifications on complexity so I think your point is on target. We should revisit the complexity measures and see – right now we have the messaging platform as moderate and we have a note that ? are available to deploy and manage services. That was the note from ONC and that is why they ranked it moderate. The UDDI list services registry is moderate. The high complexity items that we have are the authorization framework and patient discovery. Those are the only two that we have currently as high complexity.

Wes Rishel, Gartner

Right now, the term in the headings in the spreadsheet is operational complexity.

Dixie Baker, Chair, SAIC

No, it is not, it is deployment and operational complexity.

Wes Rishel, Gartner

I understand that, but the reference to complexity is constrained by the word operational.

Dixie Baker, Chair, SAIC

No, the deployment is supposed to be the implementation. When we define it if you look on the definition sheet we defined it to include both the complexity and implementing it and complexity operating it over time.

Wes Rishel, Gartner

I read the heading as saying that the /(slash) represents an alternative and the two things are deployment and operational complexity.

Dixie Baker, Chair, SAIC

Then we should change that.

Wes Rishel, Gartner

The bigger concern I am hearing is a kind of complexity that comes not from the individual rows, but the fact that there are so many of them.

David McCallie, Cerner

Yes, the summation of them.

Wes Rishel, Gartner

Yes. That is what really we are hearing from these people. I think maybe it is a comment that needs to be made outside of the table or something like that. The table is meant to analyze individual things. We need to synthesize section 2.

Ken Tarkoff

I have been trying to figure out how to connect on is when you have the operational complexity moderate to high and market adoption low, we want to articulate how important those relationships are. I think we are hearing a lot of those examples of when you start to deploy to more places, you uncover a lot of challenges that may require additional specifications or standards or other things. Maybe operational standards that might be needed at service levels, etc. I think we need to highlight the importance of those 2 columns and how they relate to each other. There are a lot of things we have not learned yet. It may come out that it could inform our rankings of the ones before; the patient discovery one is a perfect example. If you had higher level market adoption, the only way to get there is that some of these things would have to have been solved.

Dixie Baker, Chair, SAIC

At our last meeting, we changed all of the market adoption to low simply because all of these specs have just been used in the pilot. We were trying to convey the message that I keep hearing today that they really have not been tested for scalability and workflow and operational use. Although I agree with our thinking there, we sort of lost any kind of fidelity in that rating at all by putting them as all low. Essentially, that column becomes useless to us. At the same time, the fact that they have not been tested at a large scale is a key point that we want to make.

Wes Rishel, Gartner

You did a good job of setting the stage by characterizing the decision in terms of next step criteria. Is it ready for larger scale? Is more piloting required? Is it worth pursuing? I think we are coming to a systematic conclusion again. We have done the analysis and the synthesis tells us that as a group there have not been enough iterations. We have done some piloting and found some issues that we think we know how to address these issues. That iteration in an operational rather than a laboratory setting is really required. I think that is the best input we can give to ONC in terms of their need to answer the questions you outlined.

Dixie Baker, Chair, SAIC

Well, if we ask them if we concluded that there is not enough iterations, we know that there are some issues here, there have not been enough iterations and it has not been tested in an operational setting, we don't know the scalability, etc. Are any of these specifications ones that we would suggest not to be

included in pilots moving forward besides the two that there is low need for access consent policy specification?

Wes Rishel, Gartner

We want to be careful not to jeopardize existing work that is going on. We don't want to take some patient communication that's going on and pull it back but I am not sure that it is a problem in our recommendation. I would suggest that the notion of going to **Olaf** and **TLS over rest** is certainly one that gets to this challenge of where we are or where the industry is heading. My understanding from other analysts is that it is still far enough back on the hype cycle that we can't look at the experience in other industries as a guide to its utility. I would suggest that those are the topics for us to discuss with regard to your question rather than a direct answer to your question.

Dixie Baker, Chair, SAIC

Okay.

David McCallie, Cerner

I keep coming back to the fact that there may just be missing pieces of the puzzle that are not so much flaws with the specs as just missing pieces so the lack of a health record locator service, the lack of some more unified index perhaps regionalized, those aren't necessarily faults of these spec, they are faults within the way that they are deployed. I think we need to register that because you can deploy perfect specs in a bad architecture and you'll fail.

Dixie Baker, Chair, SAIC

I heard today that although there is a high need for patient discovery capability that that specification, the architecture behind it has problems and we should look for alternatives.

David McCallie, Cerner

To debate that a little bit, the way that it is deployed today where you pick a bunch of potential homes for the patient data and sent out synchronous messages and wait for them to come back. Then, you iterate through them and refine them for the missing data if the remote system needs more data. That clearly would not work in a fast paced provider workflow. That doesn't mean that the query is flawed, but the way they're using it is flawed, for example, asynchronous deployment. The real problem is that you have to ask so many places and the patient has to know where to ask. That is a huge flaw, not in the protocol, but the way it is deployed in the exchange.

Wes Rishel, Gartner

I agree. We need to use the information on these rows as data towards some conclusion of synthesis of these rows. It is possible that the way the question was asked we would be exceeding our brief to do that. Nonetheless, I think the issue is so important that we should be pressing toward the chart and some synthesis conclusions about it.

David McCallie, Cerner

Some editorial comments, if you would.

Dixie Baker, Chair, SAIC

We have been keeping notes of the comments we want to make. But do we take these specs and do more piloting of the whole set of specs, or are there ones that we should tweak and invest in some refinement of the specification itself before we do further piloting? We owe ONC that answer. Maybe we will find this answer at our next discussion, but they are looking to us to give an answer.

Wes Rishel, Gartner

Among the once we have listed, I think we have heard concerns raised about whatever the protocols are that create a potentially unbounded response and the way it is dealt with. There must be a line in here where we can comment on that. I am trying to think back in the testimony to hear if there were any direct lessons we can learn about C32 or C68.

Dixie Baker, Chair, SAIC

I think the point that David made about the real kind of query that they're looking for is more akin to a P-cast type of query than an exchange type of query is worth a comment. I think he is right on that point.

David McCallie, Cerner

Dixie, I would also suggest that we keep notes specifically about images and very large –

Dixie Baker, Chair, SAIC

I had that, too.

David McCallie, Cerner

I had not thought of that as justifying a special case, clearly **Diacom** feels that way.

Dixie Baker, Chair, SAIC

All right. Are there other comments from any of the guests? What we need to do is I will write up some key points from today's discussion and send it out for your review. We have one more meeting before we need to make a final recommendation to the standards committee. At our next meeting, we will develop the synthesis of what we found out. As Wes suggested, we will come up with our observations, and we will consider not only alternatives to standards that might be considered but also gaps that ONC might want to address in their toolkit, if you will or their box of specifications to encourage and facilitate the exchange of information. With that, are there other comments? I want to thank our guests for your valuable insight. We appreciate your time and your thoughts.

Judy, can we open up for public comment?

Judy Sparrow – Office of the National Coordinator – Executive Director

Operator, can you see if we have any public comments please?

Operator

There is a public comment.

Judy Sparrow – Office of the National Coordinator – Executive Director

Okay. Please identify yourself.

This is Karen Witting with IBM. I appreciate the input from DoD and VA. I found that quite fascinating. I want to make a comment on patient discovery. There was a discussion that consideration of alternatives would be good. The concerns I heard were valid ones are not a part of the spec, they are part of a deployment of the spec as was pointed out. The spec supports asynchronous behavior. So, the synchronous issue is the way that the spec is deployed. Let's say I am regretful that it is not being deployed in an asynchronous manner. The Web services registry was designed to help to find where to send queries. In addition to allowing you to find every possible place to query, it also allows you to query based on a state. They would be the ability to go to the Web services registry and find all the places to send the patient discovery query within a particular state. You are right, that requires the patient to know where the data might be. That reflects the current model now to get data. Most patients have to provide

more than just the state, usually the phone number and name of the organization. It reflects that model of behavior. I agree that we would like to move into a model behavior where the patient doesn't have to give so much data. But, that is what is reflected in the spec and the thinking that went into how to find the data. I am not saying it is a great way to do things, but it was the thought at the time. Thank you for listening to my comment.

Judy Sparrow – Office of the National Coordinator – Executive Director

Thank you, Karen. Any other comments?

This is Carol Bickford from the American Nurses Association. After listening to this discussion about the complexity and probable efficiencies in capacity, when would you recommend that the piloting be stopped and the lessons learned? Do you expect that there will ever be a success in light of the lack of implementation and success in moving the query forward? It is sort of like the Emperor has no clothes. Someone is going to make that statement and how that will affect the scheduling for the provider requirements and reimbursement and so on that trickle down from the connectivity.

Judy Sparrow – Office of the National Coordinator – Executive Director

Thank you, Carol. Anyone else? The next call is September 9.

Dixie Baker, Chair, SAIC

Thanks you all and thank the public for dialing in and we will talk on September 9. Thank you.

Public Comment Received During the Meeting

1. When making a maturity assessment was consideration made of usage outside the US? For example XACML is employed in Europe more than in the States, does this matter to the recommendations being made?
2. Guessing at what might or might not be non-compliant is not helpful. Please be specific about the concern about compliance.
3. These discussions on compliance are not relevant to the specifications; they are issues of operational choices above the specifications.
4. Are these delays caused by the Specifications, or the choice of using the CONNECT 'gateway'? The CONNECT gateway was designed to assist with deployment, and as such includes trade-off between transparency vs. using the full speed that the specifications can allow.
5. The assertion that one doesn't know where to query to discover patient identities is incorrect, the specifications and protocols are clear on how to do this. Yes the solution does send the probe everywhere in the trusted NWHIN-Exchange, but this is a known and managed list.
6. Have you asked the INTERNATIONAL community? the underlying protocols have been used successfully outside the USA.

7. Please separate issues of 'what CONNECT implemented' from 'what the NwHIN-Exchange specifications can do'. CONNECT has cut many corners to get the high-priority use-cases solved.

8. YES 'it' can handle images.... directly or indirectly through XDS-I/XCA-I

9. The size is known, it is a part of the MetaData.... If you don't want to PULL a large document, you can use the size value in the metadata to determine that you don't want to pull....

10. PLEASE look at the power of the XDS metadata. It does support the use cases expressed. E.g. get me the latest EKG.

11. How about a recommendation that your analysis indicates that the current specifications are good to go.

12. XACML is not included in the core -- it is only in the Access Consents specification, which I would agree is not mature

13. OAuth and REST are wonderful browser centric and last-mile API... but they are not sufficiently robust to support backbone

14. XCPD is NOT Synchronous... it is async...

15. the issue of 'asking so many places' is a USA Government Policy problem... not a technology problem.

16. Re: Patient Discovery spec, it may need tightened in terms of demographics used. For example, address, phone and SSN are "if available and allowed."