



**HIT Standards Committee
NwHIN Power Team
Draft Transcript
July 24, 2014**

Attendance (See Below)

Presentation

Operator

All lines bridged with the public.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology

Thank you. Good afternoon everyone, this is Michelle Consolazio with the Office of the National Coordinator. This is a meeting of the Health IT Standards Committee's NwHIN Power Team. This is a public call and there will be time for public comment at the end of the call. As a reminder, please state your name before speaking as this meeting is being transcribed and recorded. I'll now take roll. Dixie Baker?

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

I'm here.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology

Hi, Dixie. David McCallie?

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

I'm here.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology

Hi, David. Arien Malec?

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

I'm here.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology

Hi, Arien. Cris Ross? Jitin Asnaani?

Jitin Asnaani, MBA – Director of Technology Standards and Policy – athenahealth

I'm here.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology

Hello. Josh Mandel?

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

Josh Mandel’s here.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology

Hi, Josh. Keith Figlioli? Keith Boone?

Keith Boone – System Architect – GE Healthcare

Keith is here, Boone.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology

Hi, Keith. Kevin Brady? Ollie Gray?

Ollie Gray – Research Program Manager – TATRC

Here.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology

Hi, Ollie. And Wes Rishel? Is Debbie Bucci on from ONC?

Debbie Bucci – Office of Standards and Interoperability – Office of the National Coordinator for Health Information Technology

Debbie’s on.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology

Hi, Debbie. I’ll now turn it back to you Dixie and David.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Okay. Well thank you again, thank all of you for dialing in today. This is a really important meeting. The second task that we’ve been asked to do is to provide recommendations around query for a patient record and response to a query for a patient record. And we’ve had several conversations about this. At our last meeting, we heard from the Data Access Framework, S&I Framework project and today we tried in the slides that we distributed, to bring everything together and we crafted a number of draft recommendations that we wanted to focus our discussion on.

So, in the...on the slides that you have, you’ll notice that...could...well, maybe before I start, maybe I’ll let David chime in. David is in his car, for everybody who...in case he can’t get through, but, David?

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

Yeah, thanks Dixie. My apologies to the group that some travel got dropped on top of this meeting, so I'm going to do my best to connect in on the road. But I sort of shared my thoughts with Dixie the last couple of days so if I drop out, I'm confident she can represent the things we've been talking about. So, many thanks to all of you for showing up, this is obviously a really important, key set of decisions and recommendations, so we're looking forward to the discussion.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Okay, with that we can start with our slides. The first part of these slides you've seen before, so we'll go over them pretty quickly so that we can get to the part that we really want to discuss with you, but we did want to remind you of where this whole task is focused. Can you advance the slide please?

And this is really...really captures it right here is that the task came to us from the Implementation or the Information Exchange working group of the HIT Policy Committee. And the task was to recommend standards for enabling query exchanges without really changing the law, so using existing HIPAA and HITECH authority, without any additional authority needed. And the task focuses on enabling query functions within the certification authority and to address both directed exchange and query exchange, where directed is interpreted to mean that you know the name of the patient that you're asking for and you know the name of the provider or provider institution that holds that individual's record. Query is a broader exchange where it's not exactly a broadcast query, but it's a request for a patient's record that's sent to multiple places. Next slide.

The Policy Committee said that the standards should address both the search for the patient information, respond to searches for patient information. Next slide. I think the next couple...oh, and these are, build on what already exists, keep it simple and make it generalizable so that it can be built upon and flexible enough to accommodate multiple use cases. Next slide, please.

I think the next couple summarizes a discussion, a really useful discussion that we had with Micky Tripathi. It really helped us understand, and he's from the Information Exchange Workgroup of the Policy Committee and he really made it clear that we should...that we should focus on the functions themselves, the functional requirement. There should be...that the query need not be synchronous, so it can be both asynchronous query, do you have this record, and then they come back later, no I don't or yes I do, here it is; or synchronous, so accommodate either one. And next slide, please.

And oh, and this is to be...this recommendation is targeted for Stage 3 of Meaningful Use, which corresponds to the 2017 edition of the standards and certification criteria. So, everything...all of our conversation today, we should keep it in mind that that's really where we're targeting these recommendations we're thinking about. And then the other points that Micky clarified were that the standards need to address both issuing a query to another provider and responding to a query that you receive from another provider. Both Direct and the Connect transport standards should be leveraged, wherever possible. And responsibilities for providing identity information, like the whole patient matching issue is outside the scope, can be assigned to different organization, but it's outside the scope of this particular task.

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

Hey, Dixie?

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yes.

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

It's David, just one comment. I think we made some changes in some of the subsequent slides and replaced the term "Connect..."

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yes.

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

...with I think the broader IHE XCA/XDS set of standards. Because I think connect is technically a particular implementation and we're talking really about the standards rather than the implementation.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Right, right. This slide is just what Micky said to us, so yeah, you'll see in a later slide the same...a reference to XCA...XDS/XCA and that's what we're talking about. Umm, we don't want to restrict the content to the Consolidated CDA, but also recognize that we need to certify the capability.

Okay, the next two slides, I think, are the summary of the Data Access Framework that we heard at our last meeting. This Data Access Framework, it's an S&I Framework project and it focuses on query. Their use cases are very broad, it ranges from query within your own local organization to query a targeted organization and then it also extends to federated DAF or queries multiple federated organizations. Next slide.

And the next slide summarizes some of the complexities that the DAF project is being address...is addressing the ability to access data across...both within and across organizations, as I just said. The ability to access a patient's data ask for a document and the ability to request patient's data as discrete data elements. So both of those are being addressed in the Data Access Framework Initiative. And finally, enabling both the patient level and they're also addressing population level queries. So, the next slide.

Okay, now we start on things that...on slides that I don't think...are basically new and this is really where we want the active discussion to occur. But before we really start into this, I want to give anybody a chance to ask any question about what you've seen so far, just in case anything is not clear. Okay.

Keith Boone – System Architect – GE Healthcare

So Dixie, Dixie, its Keith. Did the slides go out via email; I'm having a bit of trouble getting into Altarum?

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah, I think they went out today, right Michelle?

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology

Yeah, they were sent out this morning, do you need me to re-forward them, Keith?

Keith Boone – System Architect – GE Healthcare

Umm, as long as they went out this morning, I should be able to get to them. Do you know who they came from?

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

...it's under the FACA...

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology

Yeah, the ONC FACA mailbox, it was sent at 9:27 a.m., Eastern Time.

Keith Boone – System Architect – GE Healthcare

Okay. Thank you.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah, thank you.

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

And Dixie, there are a couple of us that are operating from the slides and not from the live, so if you could say the slide number when you start changing slides, that might help us stay in sync.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Okay. Okay, everybody...does everybody either have the slide, except for Keith, I think that was...was that Keith that spoke?

Keith Boone – System Architect – GE Healthcare

Yeah, I have the slides, Dixie I found the email.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Okay, great. So everybody either has the slides or has the display, the meeting display online, right? Okay, we're on slide 9. And we have two slides here that present a number of standardization options and some of the challenges that might be associated with those options when you think of each of these in terms of a possible standard for the 2017 edition.

And the first, of course, is the Data Access Framework that we just heard about. And the challenges are that it's currently in development. The focus is broader than what our charge really needs to be and we...the...we suggest that the focus really needs narrower on the remote...the query of a remote system for data for a particular patient. So DAF includes internal query, and we believe that that's outside our scope and also it talks about population query and that, too, is outside our scope and bro...federated query is outside our scope.

So it's really broader than what we need at this point. It doesn't have strong vendor support for the emerging recommendations, although the final recommendations are still being developed. And it requires support for both SOAP-based and REST-based query responses. For the query, you'll recall they showed us a slide that had the stack...the SOAP stack and the...had the stack for both issuing a query and responding to a query. And for issuing a query, you had the choice of either a SOAP-based query or a Restful query, but on the response, the EHR really needed to support both, since the querying system could be sending it in either SOAP or REST. So, it really has complex requirements for supporting, at least as far as they've gone so far.

The second one, as David pointed out, this is what Micky Tripathi referred to as "Connect." It's the IHE XCA/XDS standard. We've...this Power Team has talked about this one a number of times and we did an earlier assessment and our conclusions were very similar to this, is it's cumbersome and it's limited to documents. And the documents that it's limited to, the CDA documents, that limitation has been well received. It's also network dependent, so we know from our earlier work actually that there's variation among the implementations and those implementations are not always interoperable as a result.

The next possibility is the Direct protocol...

Keith Boone – System Architect – GE Healthcare

So Dixie...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yes.

Keith Boone – System Architect – GE Healthcare

So one of the things that I point out about XC...the XCA stack is it really doesn't care about the document, it could be CDA, it could be DICOM, it could be PDF, it could be anything.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Uh huh.

Keith Boone – System Architect – GE Healthcare

The Connect implementation might be using CDA, but the IHE XCA SOAP stack is not insisting that it be CDA documents, that's just the majority of what folks have implemented.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

And it's also...what I meant to say is, it's really the current standard, the current standard for these sorts of exchanges is Consolidated CDA.

Keith Boone – System Architect – GE Healthcare

So yeah, that's...

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

(Indiscernible)

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

But it's not a limit...you're right; it's not a limitation of XCA/XDS, yes.

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

Yeah, it...so this is Arien. I would say that XCA and XDS are not limited to Consolidated CDA or CCD documents, although, as Keith notes, that's how it tends to get used. It is inherently a document-oriented standard in the sense that it has document set, metadata and document-oriented metadata. So the core unit of exchange in XCA and XDS is metadata and the associated documents. So there...I think the statement itself is true, in terms of it's a document oriented standard as opposed to a data oriented standard.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yes.

Keith Boone – System Architect – GE Healthcare

Yeah, I was not questioning that at all...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah, that would be a much clearer way to state it, I agree. Yes. And when...any of you are welcome to speak at any time, I should clarify that, but when you do, please announce yourself, announce your name because we do have others, not only in our working group who don't recognize all voices, but also we have the public listening in, so, remember to state your name when you come online.

Let's see, the Direct protocol is secure email, basically. It's asynchronous, so basically someone would send a secure email message and say, "Do you have Arien Malec's record?" And then they would come back yes or no and if they do, they would return it as an attachment or, if they ask for a particular value, you could, in fact, query for a discrete data element, but it would just be a text kind of a response.

And then the last one we have on this page is the emerging HL7 FHIR standard, which is getting a lot of attention right now. And it's getting quite a bit of early adoption, as these things go, but it really is not a mature standard. It doesn't have a full set of resources defined and it doesn't have a full set of profiles that would be needed for a 2017 edition. So we ask the question, could it be ready by 2017? And the...we would need to develop the appropriate profiles for it. Any other comments?

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

Dixie, this is David. I just wanted to register the notion of I think there that notion of a well-scoped subset, and this will come up I think later in our discussion is, the balloting and finalization of the entire FHIR standard may take longer than a subset that might be sufficient to solve some of the problems addressable in the 2017 edition. So the well-scoped subset idea is the notion of carving out a piece of it and saying, we could move faster on that piece of it, even though maybe some of the rest of the standard isn't yet finished, or the profiles aren't completed. And we'll have a chance to talk about that later, but...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yes.

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

...that's just what that phrase means right there.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

And that's actually the nature of...yeah, that's the nature of FHIR. The next piece...

Keith Boone – System Architect – GE Healthcare

So, this is Keith.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah, Keith.

Keith Boone – System Architect – GE Healthcare

So I would plus one that comment and add to that point, so IHE is meeting this week, we just finished up meets in PCC, ITI is still meeting and there's work on building a subset based on documents called mobile access to health documents or MHD and I think that's referenced on that slide probably as well. And so...and they're working with HL7 in the development of that and building some profiles that are expected to be tested coming in at the January Connectathon. And that's also where we're looking at...essentially if you look at what Blue Button Plus did; it based itself on an early draft of FHIR.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Um hmm.

Keith Boone – System Architect – GE Healthcare

But what we, in various discussions, would like to see is it actually be based...the Blue Button Plus specification be based on the current DSTU. So, looks to be a lot of alignment around that general idea of a core subset, some of it being document related, but some of it also maybe being individual data element related...might be sustainable.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Um hmm.

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

Yeah Keith, so this is David. Thanks for pointing out MHDS, that comes up in later slides and I was, in fact, hoping to define a subset or at least the thought here was a subset that would include some discrete resources as well as the document list capability. So that's great clarification, thanks.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yes.

Keith Boone – System Architect – GE Healthcare

Well and...this is Keith again. Further on that, I will be submitting to Patient Care Coordination in the September cycle, a FHIR based edition of MHD that has...that will address problems, medications, allergies, immunizations, labs, vital signs, procedures and encounters, if I have the set right, based on the existing set of resources in FHIR. And that would build actually off of some of the existing work that we've done in QED. So this is more stuff that's actually coming out of the DAF White Paper, to be published later this week...or to be put into the publication cycle later this week, we approved publication this morning. So in essence there's a lot of alignment with DAF, with FHIR, with IHE MHD in pushing forward in this general direction.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Huh, very interesting. That's very...

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

So this is David...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

...interesting. Thank you for that update. Yeah, that's very interesting.

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

And David again here, there...we may have a plethora of choices, which is cool, better to have too many than too few. But the...there's also some vendor activity working through Stan Huff's group at Intermountain, I think he calls it the Healthcare Services Coalition Platform, or I get that backwards, maybe the Healthcare Services Platform Coalition, yeah, HSPC, to do a similar set of profiles. And they've engaged Graham Greaves to help them clarify a subset of resources that sounded very similar to the list that Keith just read off, so...

Keith Boone – System Architect – GE Healthcare

And we're not going to be defining resource...what's the content of the resources, we're going to be focusing our efforts on what's the queries to get the resources back and relying on existing FHIR...

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

Okay.

Keith Boone – System Architect – GE Healthcare

...standards and profile. So this is all very aligned.

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

Yeah, that's good to hear because I think Graham Greaves and Stan's team are working more on the actual profile of the resource itself, so there might be nice interdigitation if you guys are thinking more about the query definition that sounds good.

Keith Boone – System Architect – GE Healthcare

Absolutely. Yeah, because FHIR handles really the RESTful transport and the query syntax and what we're focused on is, these are the value sets that you'd need to be able to support and how you'd issue the queries to get particular, say an A1c value or something along those lines.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

So is that work, Keith, more focused on Blue Button Plus use of FHIR?

Keith Boone – System Architect – GE Healthcare

No, no. The Blue Button Plus piece of FHIR was based on MHD sort of venue...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Right.

Keith Boone – System Architect – GE Healthcare

...of being able to query for documents. This work is based on functionally what QED, Query for Existing Data provides, that's the SOAP stack in DAF...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Umm, uh huh.

Keith Boone – System Architect – GE Healthcare

...in the DAF White Paper, but we're looking at a RESTful stack.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

I see.

Keith Boone – System Architect – GE Healthcare

And it's just, how do you specify the queries to get back the information you're looking for and then what's the right set of profiles and resources that you would get returned in that. And there's also work that's going on between HL7 structured documents and FHIR that's talking about building C-CDA based templates, represented in FHIR resources. So now we have Stan's work and the C-CDA work that probably need to get harmonized in HL7 so that we don't have two groups going off and doing the same thing. And from an IHE perspective, we're hoping to avoid having to specify the resource content requirements, so much as just a query and the response profiling detail.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Which really is...makes it very, very well aligned with what Stan Huff and Graham are doing, okay...

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

Yeah so the...

Keith Boone – System Architect – GE Healthcare

Yeah, but I don't know how they're...I don't know how well they're aligned with the structured document C-CDA template work.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Uh huh.

Keith Boone – System Architect – GE Healthcare

Because this is the first time I've heard about this project that Stan is doing with Graham and I don't know that there's actually a formal HL7 project that's actually doing this. So, that's an interesting piece.

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

Yeah...this is David. Stan's work is not officially an HL7 project, I think he's obviously as the Chair of HL7, happy to make it consistent, compatible and working with HL7, but he's pulled this coalition together actually it antedates FHIR. And they've been working on service definitions for a long time and...

Keith Boone – System Architect – GE Healthcare

Right.

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

...have switched to the focus on FHIR, just because it's the obvious right way to go. There is potential, I mean with all these things there are choices to be made and the value sets are where it...the rubber hits the road. But, I think we're all converging on reasonable consensus about the broad value sets, so hopefully there's no...not going to be any argument about LOINC or SNOMED or RxNorm...and things like that and it'll be just the details of things like administrative gender or whatever, where there might be some reconciling work to be done.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah, I hear a recommendation emerging to encourage...to bring these things together. Okay, let's...next slide, please. I think the next thing, yeah, this document query. I'd like to...Josh has recently published a paper in JAMIA about the issues around the Consolidated CDA and we thought we'd ask him to summarize those. And I know you, Arien, are going to be giving some testimony on the same topic, so please feel free to add to his comments or, as you see fit. But Josh could you just kind of talk about some of the issues you've identified.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Sure. Well, the main thing I'd like to do is, first job, I'll just make sure that folks have a link to the JAMIA publication, because it goes into far more detail than I can on this call. Is that something we have a way to share with folks by email...?

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah, we can...

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

...on the phone.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

If you just sent it to Michelle Consolazio, she will just send it to everybody on the workgroup.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

Okay, I’ll certainly do that, and in the meantime, if you Google for the title of the article is, “Are Meaningful Use Stage 2 Certified EHRs Ready for Interoperability?” So I’ll just describe really briefly this project, the SMART Platforms Project at Harvard, did together with the Lantana Consulting Group. The goal was to collect a bunch of Consolidated CDA documents, as many as we could from as diverse a set of participants as we could get, and analyze them. And we wanted to focus on a few of the key domains in the C-CDA document, a few of the key sections of structured data that are used to meet the Meaningful Use Stage 2 common data set requirement.

So we specifically focused on looking at the problem list, medication allergy list, medications, lab results, vital signs and smoking status. And we wound up collecting documents from about 20 different EHR and other Health IT vendors, several of which represented...about 14 of which represented certified EHR technology for Meaningful Use Stage 2. And we didn’t ask for any specific data in the documents that we produced, we just asked for examples of the C-CDA documents that these products produced. And did first a qualitative and then a quantitative analysis, looking through these documents and trying to figure out for each of the domains that I described, to what extent would structured data be available and how consistently.

So if somebody was building a downstream application that was trying, for example, to work with medication data from each of these 21 different products, to what extent would they be able to have one code path that could parse C-CDA medications. Versus to what extent would a developer need to have multiple different code paths, one for each vendor that might be supplying one of these Consolidated CDA documents. And what we found was that there was a very high degree of heterogeneity in the way that a lot of the important structured data fields were represented.

So I’ll just look at medications, to take a few examples here. And on a basic level, you would hope that structured medication would be able to tell you reliably what drug, how much to take and how often to take it. And we found that on each of those questions, what drug and how much to take and how often to take it, we saw issues in these documents not infrequently. We quantified the extent to which we saw these issues, but I might just describe a couple of examples of the kinds of things that we saw. So one thing that we saw pretty prevalently in these exported documents was a mismatch between a code that you might find in a coded data field, so for example, the medication code and the value the code was meant to convey.

So you would see, for example, a display name, we saw in one case the display name said this was supposed to be a code for codeine, but the actual code in RxNorm was a code for penicillin. So there’s an opportunity to get these things out of sync and none of the standard validation tools appears to catch those, so you could produce a document like that and it would pass through the model-driven health tool validator and all the Meaningful Use Stage 2 certification tests, the automated tests would allow those kinds of codes to pass. Similarly, we’ve seen examples of codes that simply didn’t exist, so there would be a code that said it was from RxNorm or said it was from SNOMED, but didn’t actually correspond to an RxNorm code or a SNOMED code. So semantics in the codes were a very consistent issue across these domains.

Similarly for things like units in lab results, if you’re trying to convey a physical quantity, which is a value and a unit, we saw very wide heterogeneity around the sort of strings that were used to represent these values. Such that it would be very difficult to say something like, how many thousands of white blood cells you saw in a microliter, we saw probably 10 different ways of representing thousands per microliter, some of which were compliant with UCUM and most of which were not under the hood.

There were also a number of issues that we saw around, for example, the representation of how much of a medication to take. So in the C-CDA, there's something called the dose quantity, which is supposed to tell you when you take the drug, how much to take and there was pretty wide heterogeneity around the way that those dose quantities were represented. So in particular, if you're dealing with a medication that comes in tablets and the product that's identified is a tablet, then the expectation at least in the Consolidated CDA Implementation Guide is that those quantities should be represented in tablets. So it would be one tablet, for example, or take two tablets. We saw, in some cases, a vendor would attempt to represent a number of tablets, but they wouldn't use any kind of a standard code for tablets, they would just use sort of an English word in that space. And in other instances we would see values given in milligrams, even though the manufactured product that was identified was at the level of a tablet.

What we saw really was vendors, to say it perhaps a little bit too glibly, vendors treating C-CDA as sort of a template in which to put in the pieces, wherever they figured they might go, rather than really treating the semantics of these fields with any great fidelity. And the problem is, there's no good automated way to tell whether these vendors put the data in the right field with the right format or not. Most of the existing validation tools are purely at the structural level and don't really delve into the meaning of the data. And the last comment I'll make...

Keith Boone – System Architect – GE Healthcare

So Josh...

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Yes.

Keith Boone – System Architect – GE Healthcare

So this is Keith. So a question for you, and before I get into the question, so in IHE when we do testing on content profiles people are actually given the content that has to be represented, which makes it a lot easier to do validation, did you get the units right? Because there's some knowledge of what's to be expected...

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Yes.

Keith Boone – System Architect – GE Healthcare

...in terms of the testing. Is it possible that some of the issues that you're identifying could be addressed by providing vendors with better test cases and better validation tools to verify that the material is coming out correctly? Because I don't argue that you're seeing what you're seeing at all, I know you're seeing what you're seeing because we're seeing it in the field when we go to integrate with other systems. But I'm wondering if maybe there are some things that could be done in the testing framework to help vendors understand the proper semantics and proper values that need to be put into place in the software. Because they're basically coding to the test and if it passes...

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

It's a perfect question...

Keith Boone – System Architect – GE Healthcare

...validation...

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Yup.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Hmm.

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

Sorry, this is...

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

I think that’s exactly the right question Keith. Let me...

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

Keith Boone – System Architect – GE Healthcare

Yeah, go ahead; I’ll do my comments later. Sorry.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

Yeah so Keith, I think you’ve asked exactly the right question. Let me come back to it in one minute because I think your question gets at, how can we make this better? How can we take the status quo where people are writing to the test and the test isn’t a very hard one and improve it over time. And let me just say, a limitation of the way that we did this paper was, we just collected whatever data we could get from vendors, we said, give us something. And so we weren’t able very often to say, oh, you probably didn’t mean this, you probably meant something else. We were only able to make that call when what we saw was either self-contradictory or nonsensical. Even so, even with those constraints, we found quite a lot of things that were self-contradictory or nonsensical, kinds of things that should never come out of a product, no matter what you’re trying to express.

The last comment that I’ll make though, before we come to the issue of how can we make this better is, overall the Meaningful Use common data set operates at a very high level of granularity. It says, for example, that you need to include a medication list. But to the best of my understanding, it doesn’t say, for example, what fields in a given medication are required to be filled in. Do you have to say exactly how much the drug or exactly on what schedule or is it enough just to say, I’m taking penicillin. It’s just sort of a bag of codes. And a thing we saw pretty often was null flavor values for a lot of the detailed information about a medication in one view section and it was often an open question of, well maybe in the sample data there just wasn’t anything to say. Versus, well this vendor isn’t ever populating these fields and we could only take a guess about which of those was the case with the methodology that we had. So that’s my very quick summary of this work we did together with Lantana in reviewing real world vendor C-CDAs. I’m very happy to entertain discussion.

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

Yeah, this is Arien; I want to pile on a couple of issues. I completely endorse all of the ones that Josh just mentioned. To pile on, there have been...we’ve seen a number of issues where handling of status is variable and inconsistent. So for example, in some cases status will be missing, that’s active status versus no longer...actively taking versus historical medications. In other cases, it will be included, but will be included consistently, in some cases where it’s missing you’re supposed to interpret the medication as active, in some cases where it’s missing you’re supposed to interpret the medication as not currently taking, and that’s actually variable on a vendor by vendor basis.

We’ve seen a lot of inconsistency in validity of what does it mean, null handling is a huge issue that trips up a lot of people and when...under what condition can information be missing in the discrete information, such that discrete information actually is...makes some kind of semantic sense. So in some cases, there is a sufficient amount of information missing that all you can do is throw up your hands and just not...just skip over that particular

medication. And then in particular, handling of “no known” and in particular handling of “no known” in an allergy section is inconsistent and highly variable.

So there’s actually good published guidance in the Consolidated CDA Implementation Guide for how to handle “no known” via negation indicators for, for example, a medication list. For medication allergies and intolerances versus environmental allergies, where they’re both in the same section, often times there’s a negation indicator on a SNOMED code. And the use of those SNOMED codes is inconsistent between vendors such that you have to code specific vendor processing on a vendor-by-vendor basis to figure out what they mean by “no known medication intolerances” versus what somebody else means by “no known medication intolerances.”

And then I guess the final one would be we’ve actually seen significant variance in instance-to-instance configuration where if you’ve seen one example from a vendor, you may not have seen the other. And sometimes these documents get parsed through or processed through integration engines that can mess up the document. And I have particular suspicion that in some cases particular vendors attested with their test partner by sending them hand-coded versions of a Consolidated CDA that may or may not have represented what was actually omitted by the EHR. So I guess that’s a suspicion that I’m not sure I can validate, but heavily wonder and actively wonder about.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Okay, thank...

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

So this is...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yes.

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

Dixie, this is David.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yes.

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

One more piling on, but on a different axis, the feedback that we’ve gotten from some clients who are exchanging data with CDAs is, in addition to the semantic incompatibilities that Josh and Arien have described, there’s another issue that is the cumbersome factor. Which is that when you get a large document, and some of the CDAs can be many dozens of pages long, and you’re looking for a specific piece of information and you’re trying to extract it out of the CDA and incorporate it into the local record, that that process is just a non-starter for most clinicians. So, I know that’s a completely different issue, but it is related to the overall problem of, are we doing a good job of moving discrete data around with this CDA-style approach.

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

Yeah, I...

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

I just want to make sure we register that as well.

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

This is Arien; I want to pile on that one as well because there's a discrepancy between two goods. Good one is providing complete and accurate information, so if you've got a patient that's been hospitalized; you want to provide a good amount of discrete information that includes historical medications the patient was exposed to and also the active discharge med list...the active reconciled discharge med list. You may include labs and radiology reports that may be good context for what happened during the hospitalization event, may not be relevant for a particular...for the post-discharge encounter.

You've got that good of supplying as much data as possible versus the way that clinicians usually see these documents as a rendered XSLT that renders literally section by section the narrative text that accompanies that discrete information. And so there's...I don't know if there's an effective way right now and clearly if there is, people aren't using it, to provide a summarized, clinically specific narrative that's one or two pages, and supply large amounts of discrete information. And so your choices are, either limit the information you're sending so that the actual document is 1 to 2 to 3 pages or supply complete and accurate information and just overwhelm the clinician with the rendered document.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Okay, and then the final issue that we brought up is the inconsistent wrapping of the Consolidated CDA as attachments on Direct email messages. So...and then to finish these issues, I think everything we listed, everything you heard today from Josh and Arien and David, are listed in these bullets under the document query options and challenges.

The final other considerations that...three of which make almost every list we come up with, are the trust issues across networks, the lack of a standard for patient identity and a lack of standard for a record locator services. And then we also pointed out that there's a separate activity that's looking at the JASON Report and there's an ONC, the 10-year Interoperability Concept paper that may have some impact on...or relevance to what we're doing here. Okay, let's go to the next slide and get into some of the draft recommendations.

What we want to recommend is to limit...first of all, limit the use cases, not make it as broad as DAF is, but to limit the use cases that we address in the 2017 edition to the query for a named external healthcare organization for a specific patient's data and the return of that patient's data. Or a return of...that I don't have...a return from the query. And that we...the use cases should address both query for a document and query for discrete...a set of discrete data elements. The...we wanted to...we suggest recommending that by 2017...by the 2017 edition, we should set at least as a goal, eliminate the need for EHRs to support multiple transport stacks for query and response. And at the same time...meanwhile, because who knows when the 2017 edition is actually going to be there, but more immediately, address some of these issues that we've talked about today. Next slide, please.

Okay...

Keith Boone – System Architect – GE Healthcare

So you're on slide 12 now, right Dixie?

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yes, I'm sorry. I'm sorry, so slide 12, the...as you'll remember, they...Micky Tripathi and the Information Exchange, IE Workgroup, recommended that we recommend a set of functional requirements. And we've taken a stab at what these functional requirements should be based on our assumption that we just...in slide 11. And what we...our recommendation is that they would...these functions would include the capability to generate and address to a trusted and known endpoint, a query requesting a document containing current summary clinical data for a named patient. And also...and secondly, go along with

that for the non-document query, generate and address to a trusted and known endpoint a query requesting discrete data elements for a named...from a named patient's EHR.

So, we wanted to skirt this whole...to skirt the issue but also to highlight the issue at the same time, we wanted to include in there that this query is going to a trusted and known endpoint. And so we're avoiding having to address the issue of trust, but at the same time, reminding ONC that this is a huge issue, the need for trust.

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

Dixie...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

The third one is...third and fourth are responses, the last three are responses.

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

Dixie?

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yes.

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

Dixie, its David. Just one more on the known endpoint, you covered the trust...the known endpoint, the idea there was to just sort of say that by some process, you have discovered the endpoint that you need to connect to. So we are not specifying how you would do that, it might be through a record locator service or it might be through some other kind of knowledge that you have about where the patient's records are. So we're stepping over the how do you figure out...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah.

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

...where the data is and really say now that you know where it is, you should be able to do this query. I hope that's clear, but that was the intent of that strange wording there.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah actually this is...the wording here is really to bypass all three of the issues that we just highlighted, the trust issue, the record locator service and the patient identity issues. So, that's part of why we worded that way.

So the third one is, in response to a query, return a structured encoded document containing the requested clinical information. And then the fourth is to in response to a query, return the requested set of discrete data elements. And then finally, in response to the query, return some response indicating that you received the query but you don't have the requested document or data. So, could we have some discussion about both our recommendation for scoping, that's slide 11 and these recommendations for functional requirements?

Keith Boone – System Architect – GE Healthcare

So, this is Keith. I like the recommendation for functional requirements but I'm concerned that if we focus too much on just the purely functional that what we're going to be missing is interoperable exchange because if...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Well we aren't, we got into more detail in the next slides, Keith.

Keith Boone – System Architect – GE Healthcare

Okay. So this is a good set of functional requirements.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah, this doesn't go into the standards yet that really give you that interoperability, I totally agree with you, but that's on the next slides.

Keith Boone – System Architect – GE Healthcare

All right.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Okay, this is not...

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

And this is David...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yes, David.

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

I'm sorry, just to Keith's point. I mean, we really feel the tension, I think we all have lived this long enough now to feel the tension between over-specifying and under-specifying and I think we've got a complicated dance. ONC has a complicated dance for the next year to figure out how to thread the needle and not over-constrain and block us into standards that may not scale for the future. But also not to under-constrain and end up with everybody has a compliant EHR but nobody can talk to each other.

So, I don't think...I don't want to pretend that we have that answer in hand completely, but we want to queue it up so that that's the discussion that we have, what's the right way to balance under and over constraint. Recognizing that this is a really rapidly changing landscape with the emergence of FHIR and the emergence now of National Scale Networks that are beginning to weave vendors together in patterns that are highly desirable, but which may not stay in sync with a regulatory approach based on stuff that was balloted years ago. So, a lot of tension here, I don't think we can hide it; we just need to highlight it and then try to do the best to make rational choices.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

So let's go on with our recommendations that do get to the more detailed level on slide 13 and 14. So, slide 13, advance please. Okay, we made three recommendations, two are on this slide and the third is on slide 14. What we want to recommend is that...we recognize there's no ideal solution that just plugs in and this will give us interoperability by 2017 on query response and we know it's going to work for sure and it fits well within the NwHIN algorithm for determining when a standard is ready for prime time.

So, as David mentioned, what we wanted to come up with is something that kind of pushes forward toward newer standards that are less complex and that are being actively adopted, as we've heard today, are being not only...well are being actively worked on, actively pursued. And so we want to encourage those, but we want to have a degree of caution as well.

So, we've recommended that ONC target the 2017 edition for requiring the functional capability to query for patient records and discrete data elements both using the HL7 FHIR standards, profiles and resources. We think this makes sense because it's consistent with the JASON recommendation. Vendors, as all of us on this call know, are beginning to embrace FHIR and...but, at the same time we recognize that HL7 may need to fast-track a ballot on a simplified subset of FHIR profiles for the core elements such as problem sets, medication, lab results, vital signs, etcetera. So that's our first recommendation.

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

Di...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

And then going along that...with that is recommendation number 2, is to ex...support efforts to accelerate the development of FHIR based services and FHIR profiles, including the query response for named patients data as available documents or as discrete data elements. And we realize that we need to accelerate the development of FHIR profiles that align with, as Keith mentioned, the mobile access to health documents, the MHD IHE profile and core CDA elements, using...building upon the DAF work that we heard at the last meeting.

And then let's go to the third recommendation...

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

(Indiscernible)

Keith Boone – System Architect – GE Healthcare

Hold on Dixie,

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah.

Keith Boone – System Architect – GE Healthcare

So on this slide, so a couple of things on this slide. So absolutely consistent with JASON and plus one on vendors are beginning to support FHIR. I can tell you we've been very involved and supportive of FHIR and are starting to look at it internally. On the HL7 needs to fast track ballot on simplified subset of FHIR profiles for core elements such as problems, meds, etcetera, so we have a whole standards community and it's not just HL7. As I think it was David or maybe it was Arien who mentioned Stan's working on some stuff, IHE is working on some stuff and HL7 is working on some stuff. Rather than saying HL7 needs to fast track this...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah.

Keith Boone – System Architect – GE Healthcare

...what I'd prefer to say is that ONC needs to fast track efforts to coordinate across the standards community to make this happen sooner.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah, I agree.

Keith Boone – System Architect – GE Healthcare

This isn't creating another S&I Framework project, either.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Well maybe we shouldn't say that they should...maybe we should phrase it like we do in number two. Well, that might be repetitive, actually, because in number two we say that ONC needs to support efforts to accelerate the development of FHIR-based services and FHIR profiles. What we were trying to emphasize in that third sub-bullet there, Keith, was really that we are not recommending...we are not suggesting that FHIR will be fully mature by the 2017 edition, and we wanted to highlight that before we got into the recommendation for ONC supporting efforts to accelerate things, right? So we just wanted to...what we're trying to...

Keith Boone – System Architect – GE Healthcare

So...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

...say is that we don't expect...

Keith Boone – System Architect – GE Healthcare

So as an HL7 member, just to sort of...let me give you a view of how this kind of statement sometimes has an impact...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Um hmm.

Keith Boone – System Architect – GE Healthcare

...on things. When you say HL7 needs to fast track a ballot, okay, what often happens is that creates a lot of rift and shuffling in existing project work. That actually puts some of that existing project work that might even be supporting what you're trying to accomplish, behind...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Um hmm.

Keith Boone – System Architect – GE Healthcare

...requires additional coordination efforts, maybe you should talk to John Feikema about the amount of time that he spent with the US Realm Task Force in HL7 regarding some of the coordination that has to happen around some of these US driven initiatives.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Um hmm.

Keith Boone – System Architect – GE Healthcare

And so it's important that we all understand that this is a key demand for this, but I'd be very concerned about getting too much pressure to fast track a particular piece of FHIR rather than looking at what's actually going on and just making sure that all of the right people are talking to each other. And that's not even a matter of kicking up another product...or another project necessarily so much as it is having people like Josh and people like me and people like Arien, who are aware of what these needs are, engaging with these sorts of projects. And trying to drive them to closure to meet the set of needs that are actually part of these recommendations.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Well the other point that you've highlighted here Keith is that we really shouldn't be making recommendations for HL7 anyway. These recommendations really should be for what ONC can do, they really...I mean we shouldn't say, oh, HL7 needs to do anything anymore than we should say, IHE needs to do...it really should be directed at what ONC can do. But do you have a suggestion for another way that we could under point one highlight the fact that we don't expect this 2017 edition to be the whole, fully developed FHIR, that we're really talking about...maybe we just eliminate the reference to HL7 fast track ballot.

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

So Dixie...

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

Yeah I think Dixie...Dixie this is Arien. I think that material could actually go along in your second overall bullet point to note that simplified subsets of FHIR res...simplified...the profiles of FHIR resources for core elements...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yes.

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

...need to be developed and that probably can go along in as one of the sub-bullets for your major bullet two.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah actually it started there and then we decided we wanted to make...but we'll move it down there, we'll eliminate the explicit reference to HL7 fast track ballot.

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

(Indiscernible)

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

And then one other...this is Arien, one other comment I have on this one is that I worry about...with past as prologue, with the state of Meaningful Use Stage 2, the state of Consolidated CDA that we just heard about, I think there could be similar discussions about the state of Direct. I think there could be similar discussions about frankly the state of every interoperability requirement and functional requirement for Stage 2 Meaningful Use.

I worry about the timeframe considerations for calling out 2017 and I wonder whether we might want to recommend frankly a delay in certification for the functionality that is...that allows for sufficient time both to get through the standards work, but also and just as importantly, to allow vendors to build the functionality, create interoperability and get providers upgraded. So I worry about saying target 2017 because I actually think that we would fail and another year would help us get where I think we all want to go.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Well actually David and I discussed that last night, that exact point...

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

Yes...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

...and the issue is they really haven't asked us for our opinion about that and so that's why we didn't say anything about it. But David, can you hear...was that you?

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

Yeah, no, I just wanted to...this is David, agree with certainly with Keith's original point that this is a broader question than just HL7 per se; we just got sloppy in our wording there, but also with Arien's point. And I think the maybe the key message for us to take back when we make our recommendation is, we feel so strongly about the need to support this JSON-like, FHIR-based, discrete approach that we should ensure that there's time to do it right. And that if that can't be done, I mean the implication will be, if that can't be done in time for the 2017 proposed schedule, then they should look at that schedule. So our recommendation is, we feel really strongly about doing this right and we can enumerate as I think we have already in this call, the reasons for that. So whether it's fast track the standardization work and the consolidation work or slow track the next turn of the regulatory certification crank, that's ONC's decision but we feel real strongly that we should get this right. That we...support a JSON-like, discrete data API based on the emerging standards.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

And maybe we should go ahead to point...to recommendation number three, which does address the limitations of the Consolidated CDA.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

So, this is Josh, I had one more...I have one comment on recommendation number one, before we go ahead which is just around the work functional. So I agree that on the previous slide, which was I guess slide 12, that we were outlining functional requirements, things that a system needed to be able to do...capabilities. But here on slide 13 where we get into actual Meaningful Use capabilities, these aren't functional anymore, we're saying we're going to have a set of FHIR profiles and EHRs will conform to them, so that's not a functional requirement, that's like an actual interoperability requirement.

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

(Indiscernible)

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Well these are the...there are two parts of what we recommend, the functions and we also need to recommend, where we can, standards and implement...I mean, that's in the law, we recommend standards, certification criteria and implementation guidance. So...

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Right, so as I read recommendation one on slide 12, it has the word functional, but it's actually getting into standards.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Oh, I see what you're saying, yeah, yeah.

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

Yeah, good point.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah, that's a good point; I see exactly what you're saying, yeah.

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

Yeah, good point. And this hopefully addresses Keith's concern about if you just talk about functions, you don't necessarily get the interoperability. So, good catch there...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Well wait a minute...

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

...function.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Slide 13 isn't called functional, it's called technology certification. Slide 12 is called functional, but 13 is called technology certification.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

So on slide 13...

Keith Boone – System Architect – GE Healthcare

I think the operative word is functional capability and just...

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

...point one, yes...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Oh, oh, I see in number one, I see.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Yes. Thanks.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah, yeah, I got it. Got it. Thank you very much. Yeah, I see exactly what you're saying. Yup. What I was going to say is if we finish discussing the Consolidated CDA point, number three, but then we come back to what David has suggested and perhaps consider adding a four that says something about, we should ensure there's time to do this right. Maybe...so to make...and word it such that it's clear that it refers to all three of these, as David pointed out, if they need to delay some work on the C-CDA to make FHIR move ahead more aggressively, that they need to do what it takes to do it right.

Jitin Asnaani, MBA – Director of Technology Standards and Policy – athenahealth

Dixie, this is Jitin. I also strongly recommend that we actually define what it means to "do it right" for the purposes here. We're talking about the quality, talking about the content we're talking about certification.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yes.

Jitin Asnaani, MBA – Director of Technology Standards and Policy – athenahealth

And I think the point has been brought up a couple of times that most vendors out there are just depending on ONC certification to determine that they're sending good documents and that's it, and that's not actually driving interoperability. It's better than what we had two years ago where we had nothing at all, nothing computable at all. But we're not there yet and in my mind, that's a huge part of getting it right and I think Keith and Josh brought that up earlier as well. And we should...

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

Amen.

Jitin Asnaani, MBA – Director of Technology Standards and Policy – athenahealth

...always brought in during a standards discussion.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Well why don't we...why don't...because we're...why don't we go to the third recommendation and then talk about what we really want to capture in that do it right recommendation. Okay? Go to the next slide, please, which is the one about...and this is the one where we say, in the near-term, basically fix some of these improvements that are needed to the Consolidated CDA Guide. And we talk about resolution of known places where the C-CDA is inadequately constrained, which is basically all the examples that Josh was giving. The requirement, support for on-demand CDA smaller documents that David was pointing out, that...and Arien did as well, for a 1-2 page summary document. And then the third one is ways to support other high-value clinical documents besides C-CDA. So, before we talk about our number four, doing it right, could we have some discussion on number three?

Jitin Asnaani, MBA – Director of Technology Standards and Policy – athenahealth

Dixie, can you elaborate on the third sub-bullet here and its significance? It feels like a lot of extra work, and I'm not...I see the value, but I'm not sure the value is proportionate to the amount of effort required. Can you help me out and help us understand that?

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

So, this is David, I'll respond because I think I wrote that when we were getting this slide deck organized. One of the things we got back from our clinicians when we talk about...when we were querying them about using a CDA for exchange of patient data is that even though they appreciate the CDA, they were discovering that a number of vendors they were interoperating with were not making available the kind of bread and butter textual clinical documents, like a clinician dictated discharge summary or certain consultant reports or key imaging study reports and the like. And that people have fallen back into the kind of excuse, if you would, of CDA is all I need to generate and that that's really hurting patient care. So the thought here was, should we do something or could we do something that would encourage or maybe better scope a way to share a broader set of documents to address that concern. And now maybe that's outside...

Jitin Asnaani, MBA – Director of Technology Standards and Policy – athenahealth

Yeah...

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

...our scope, but that's what this is trying to get at.

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

This is Arien, I completely support it, I don't think the wording matches the intent. I think the wording is "consider ways to support sending summarized clinical narrative along with discrete information." Because I don't think we want to say, don't send the discrete information, the Consolidated CDA. I think we also recognize that an XSLT render of a complex history generates an unreadable summary. So what I think we want to do is focus on the need to support a concise clinical textual view that accompanies the discrete information, whether in CDA or in other standards like HL7 FHIR. Does that make sense?

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

Arien, so this is David. That makes sense, my thought was a little bit different and its...I think it's quite similar, but when you...when a vendor decides what to publish into the XDS exposed document registry, in other words, the stuff that the external world can query. The spirit here is to go ahead and publish a broader set of useful clinical documents, including some of the traditional textual narrative documents about the patient that are now, in many settings, just not even being published because people think the CDA is all you need.

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

Yeah, okay.

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

So, if somebody, go back to the PCAST example of, I want to find the mammogram, we don't have a way to do that today in most systems. But the XDS registry obviously could handle that, but we don't expose it and that's, I think, absolutely need to continue to focus on discrete elements, the new stuff, but let's not neglect the high-value narrative documents that are in our EHRs but are not being exchanged very well.

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

I see...this is Arien, I see the need there. I think the use of the term discharge summary and consults where there actually are Consolidated CDA templates is confusing. I think for that you want to find a way to send the summary narrative text and the detailed discrete information clearly for things where there are narrative only reports like an imaging summary or the like. Then you want to be able to also send and receive those documents as well.

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

(Indiscernible)

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Well I'd like to bring up, I think Jitin had a point there, especially if we really want, in number four recommendation, to tell them that they should ensure that there's time to do it right where "it" is FHIR, it's not CDA, Consolidated CDA. Maybe this third sub-bullet might be I mean it would take resources to do that. Do we really want them, ONC, to put additional resources into coming up with yet another document type or would we prefer they put their resources into accelerating FHIR?

Jitin Asnaani, MBA – Director of Technology Standards and Policy – athenahealth

This is Jitin, the way David said, and David, please correct me if I'm wrong, what I really heard you say was not that we would have new document types, where I agree with Dixie that's a lot of work and maybe that's not the right trade-off. But there are elements that are already there that exist that we have stored in EHRs and they could be exposed. They probably even are being used for like exchange in

very localized situations, but are just not generally available because they're not required in the C-CDA and that's what most people kind of use as the gold standard for what they should exchange.

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

Yup.

Jitin Asnaani, MBA – Director of Technology Standards and Policy – athenahealth

And maybe there is some short-term work of identifying and prioritizing those fields that should be exposed as part of adding on to the current C-CDA template. Is that right or did I get that wrong?

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

Yeah, no, this is David, exactly right. No, I did not have a thought of a new kind of CDA or a new kind of document, it was really a broader thought about encouraging, I don't want to say requiring because that's a loaded word. But let's just say encouraging that when you do expose your documents; expose a broader set of existing documents in the record than just the CDA or just an on-demand CDA. And the thought that where work might need to be done is to take the LOINC work on identifying document types and get some standards that we all are comfortable with about document types. So that if somebody wants to do a query for a mammogram, they would actually know how to...what to look for, what the type of that document would be coded as. And I apologize that I'm not up to speed on that work.

Keith Boone – System Architect – GE Healthcare

So...

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

I know that some work has been done, I just don't know how far along it is.

Keith Boone – System Architect – GE Healthcare

So, this is Keith. So Arien, on what you just said, somebody wants to query for a mammogram, I'm assuming you're talking about querying for mammography report. And that's actually already covered in the diagnostic imaging report in C-CDA. And I think what you're getting at is how do you query for that using something like XCA, so that what you're getting is the mammograms and not all of the imaging reports. Is that correct?

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

Yeah.

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

If you're talking to David or Arien, I'm confused as to who you're talking to.

Keith Boone – System Architect – GE Healthcare

Ah, sorry, sometimes I confuse you two, that was...

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

Yeah.

Keith Boone – System Architect – GE Healthcare

...David.

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

So, this is...David's response is yes, that's what I'm talking about, not bundling it all up into an 80 page document that nobody has the patience to sift through, which is current practice. But exchanging these things as identifiable documents.

Keith Boone – System Architect – GE Healthcare

Yeah, so I think you're right there and you're actually...you're tying into another point that I wanted to bring up, because I think it might be discussed later in these slides, is in promulgating these regulations, one of the unintended effects that's occurred is that people are not producing summaries of any sort. In order to comply with ONC's requirements for this, that and the other thing, there's been some perhaps forgetfulness about what it means to actually produce a summary and that a summary is not everything that you have in the EHR, it's the necessary and relevant information that needs to be reported. And I think part of that issue is addressed or attempts to be addressed in the current regulation, which says the provider should be able to select what information goes out. But that there's not a lot of attention being paid to yes you have the functional requirement, but the actual sort of selection of that is not being done. Because the hospital that's sending these reports out or the provider that's sending these reports out is sending them out so that he can get his payments or they can get their payments for Meaningful Use.

And it's not...they're afraid if, well if I don't include that, it's not going to comply and therefore I'm not going to meet my Meaningful Use requirements. So there's not enough attention that's paid to making sure that the data that's being sent out is relevant. And I don't know how you regulate that or even address that, because you're not even talking about the technical standards. The technical standards enable people to send the relevant data in standard sorts of formats, but they don't say anything about what is relevant, that's clinical practice.

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

So...this is Arien. Keith, I agree and disagree. So I agree that EHRs are using the Consolidated CDA like a hammer and nail and not...aren't necessarily thoughtful about what's included. I would disagree in that I don't know of a good way to provide a large amount of detailed, discrete information and a summary narrative that's textual that can be represented to the provider in a page when you've got a patient with a complex medical history. And so if you want to get both the quick summary of patient status for referral and send all of the detailed clinical information to the refer to provider so that they can have all that in...as context information for the referral, I don't know of a good way to get both of those done.

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

Well, so this is David. I mean I think we're over-engineering or something because every EHR has a list of documents that have value enough to be put in a table of contents and a clinician can click and open it, read it and make some decisions.

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

Yes.

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

I'm just suggesting that some subset of that document by practice ought to be exposed to these external queries. In addition to the stuff on summarization and in addition to the discrete, just if all you wants the meds, query to the meds, you're done, fine, end of discussion. But if you want to read what the neurologist said in his comments on the EMG, you shouldn't have to download an 80 page CDA; you should be able to see that EMG report and read it, download it and read it.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

This is Josh. I’d like to...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

(Indiscernible)

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children’s Hospital

...suggest that we take the last...I’d like to suggest that we take the last bullet point from number three, which is what we’ve been discussing for the last 10 minutes, and extract it into its own number four recommendation, because I actually think it has nothing to do with the header that we’ve given number three. About five minutes ago Dixie tried to ask, should we be investing resources into recommendation number three at all, given that we might not see it as the future. I won’t try to answer that question but I would say let’s extract the fourth bullet point into its own recommendation and then let’s talk about whether we want to invest in number three or not.

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

Yeah, it’s a jumbled slide, I apologize, it was late at night.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Yeah, I think this one needs some more discussion and consideration, especially from the context of our overall what we’re trying to do. I really do. And we also talked about adding a number four that says that ONC should ensure that there’s time to do this...encouraging migration to FHIR, to do it right and we need to define what “right” is, so I think we have two outstanding items. What to do with sub-bullet three, 3, sub-bullet three and number four, this how to craft a recommendation that says that ONC should ensure there’s time to do it right. Can I...could I ask somebody to take a stab at coming up with a statement for number four that says ONC should ensure that this is done right and it’s not...it gets the right resources it needs, etcetera.

Keith Boone – System Architect – GE Healthcare

I...this is Keith, I’d be happy to take a stab at that.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Okay, thank you, Keith.

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

This is David, that’s good...

Keith Boone – System Architect – GE Healthcare

And I’d be happy to work with anybody else who wants to help me with it.

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

Yeah, let’s circulate it, Keith, when you get a chance. I mean, I think there’s some discussion that we may want to have around that just at the group level. It’s the stuff that we covered on our last slide, which we probably really don’t have time, I think we’re about out of our session, that it takes a whole network to make this stuff actually work, so, if you’re specifying standards at the endpoint but leaving the network unspecified, is that going to be good enough? And how do we negotiate that perilous divide? So take a shot at what you’ve got in your mind, because I’m sure it’s good stuff, and then let’s make sure we get plenty of discussion about it email...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

And David, do you want to try to take a stab at clarifying what 3 sub-bullet three means to say such that it's clear that we are not trying to create a whole new document type that would detract from the overall goal here.

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

Yes, yes.

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

I would recommend dropping this or moving it into a prior section, because I think we should keep point three focused on addressing the known deficiencies on an urgent timeframe and then focus the majority of our recommendation on a FHIR based approach for 2017 and/or beyond, done right.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

I think that's a good recommendation.

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

Yeah. Yes.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Why don't we just bring up the point in an earlier section, but not really direct any explicit recommendation to it?

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

Yeah, I like Arien's point and I'll take a shot at clarifying what I meant and we can decide whether we want to drop it or put it somewhere else.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Okay. And then...

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

I think...

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

...it is the end of our meeting, we do have a fi...the final slide just is to highlight these outstanding items that we are not addressing. So what we'll do is we'll do an update to the recommendations and maybe we could schedule a short meeting to go over these final changes to them, before we move on to the next item that's assigned to us...the next task that's assigned to us, which is the portability, data portability. So, with that I want to thank everybody for not only dialing in, but this very active and very, very valuable discussion. Thank you all. Michelle?

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

Likewise.

Public Comment

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology

Operator, can you please open the lines for public comment?

Caitlin Collins – Junior Project Manager – Altarum Institute

If you are listening via your computer speakers you may dial 1-877-705-2976 and press *1 to be placed in the comment queue. If you are on the phone and would like to make a public comment please press *1 at this time. We do not have any comment at this time.

Dixie Baker, MS, PhD – Senior Partner, Martin, Blanck and Associates

Okay, thank you. Thank you, Michelle. Thank you, Debbie. Thank everybody for dialing in and we'll look forward to getting Keith's response and David's as well. Okay, thank you very much.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital

Thank you.

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

Bye, bye.

Jitin Asnaani, MBA – Director of Technology Standards and Policy – athenahealth

Bye, bye.

Meeting Attendance								
Name	07/24/14	07/10/14	06/19/14	05/29/14	05/09/14	04/17/14	06/12/13	06/06/13
Arien Malec	X			X	X			
Christopher Ross					X	X		X
David McCallie, Jr.	X	X	X	X	X	X	X	X
Debbie Bucci	X	X	X	X	X	X		
Dixie B. Baker	X	X	X	X	X	X	X	X
Jitin Asnaani	X		X	X	X	X		
Josh Mandel	X	X		X				
Keith J. Figlioli		X			X			
Keith W. Boone	X	X		X				
Kevin Brady		X		X	X			
Ollie Gray	X						X	
Wes Rishel			X		X			
Total Attendees	8	7	5	8	9	5	3	3