

**HIT Standards Committee
Consumer Technology Workgroup
Transcript
July 26, 2013**

Presentation

Michelle Consolazio – Office of the National Coordinator

Good morning everyone, this is Michelle Consolazio with the Office of the National Coordinator. This is a meeting of the HIT Standards Committee's Consumer Technology Workgroup. There will be time for public comment and please make sure when speaking that you identify yourself. I'll now take roll call. Leslie Kelly Hall?

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Here.

Michelle Consolazio – Office of the National Coordinator

Brian Carter? Arthur Henderson?

Arthur Henderson – President – Affinity Networks, Inc.

Here.

Michelle Consolazio – Office of the National Coordinator

Brian Ahier? John Ritter?

John Ritter, MS – Software Engineer – Co-Chair EHR Workgroup and Volunteer HL7

John's here.

Michelle Consolazio – Office of the National Coordinator

Anshuman Sharma? Susan Hull? Mohit Kaushal? AJ Chen? Tonya Dorsey? John Derr? And I apologize, Yair Rajwan?

Yair Rajwan, DSc, MSc CS, MSc HIS, PFNLM – Director, Analytics Visualization – Visual Science Informatics, LLC

Present, Yair Rajwan.

Michelle Consolazio – Office of the National Coordinator

Sorry about that. Tom Jones? Liz Johnson?

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

I'm here.

Michelle Consolazio – Office of the National Coordinator

Christine Bechtel? Marcia Nizzari?

Marcia Nizzari – Vice President Engineering – PatientsLikeMe

I'm here.

Michelle Consolazio – Office of the National Coordinator

Fred Trotter? Russ Leftwich? Holly Miller? David Harlow? Susan Woods? Kim Nazi? And are there any ONC staff members on the line?

Ellen V. Makar, MSN, RN-BC, CPHIMS, CCM, CENP – Office of the National Coordinator

Ellen Makar is here.

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

Mary Jo Deering.

Michelle Consolazio – Office of the National Coordinator

Thank you and with that I'll turn it over to you Leslie.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Great, thank you very much; we've got a meeting today to discuss some next steps and really get some work assigned to this group and so we're going to move pretty quickly to get to that point, but I'd like to do some reminder of process and our charge and our scope if we could just change slides please.

Now these are really exciting times and all of us are very eager to move forward in patient engagement. It's important to be mindful that our process is one that respects the public inclusion, it's one that make sure that we are mindful of our obligation as representatives not only of our individual selves but participants in a federal process, in a broad process that includes a good deal of public involvement.

So, in order to honor that process we should be deliberating within the team meetings and I know that it's really great to have wonderful robust discussions on e-mail but it can be distracting and move outside of our process and the team member's inclusion. So, I'd ask each one of us to be considerate of our process and to make sure that if we have agenda items or things to be discussed that it come back through the committee teams or sub-teams and that can come either through Ellen or Mary Jo, or me.

So, I would just remind us that I think as Susan Woods puts it, we are really in the creation of black and white TV that's kind of where we are right now, it's all new, we have a bit of a mess, we don't have a lot of connectivity yet, it's pretty regional, it's still – although we see the future of potential 3D we still are in the midst of vacuum tubes and black and white television and so with that there is a great deal of opportunity, a great deal of excitement, but it's important that we move our agenda and advance our black and white television to be a color all together.

So, our scope and our charge really gives us that overarching recommendation to make sure that the standards and that infrastructure support the patient engagement and care collaboration in the future. So, we also need to make sure that we are continually integrated into other Workgroup's efforts and vice versa. So the Consumer Empowerment Team out of the Policy Committee, the Meaningful Use Workgroup in the future will spend much more time and integration I think with the Implementation Team as we move from black and white TV to network television.

And also I think that we will be very – working on a very aggressive timeline to meet the current Meaningful Use timelines and objectives. Next slide. And we can go to the next slide. So, the – how many of you on the group were able to listen in on the July 18th session?

John Ritter, MS – Software Engineer – Co-Chair EHR Workgroup and Volunteer HL7

John Ritter was.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Oh, good, John, anyone else?

Kim Nazi, PhD, FACHE – Management Analyst – Veterans Health Administration

Kim Nazi.

Holly Miller, MD – Chief Medical Officer – MedAllies

Dr. Holly Miller was for most of it.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Oh, great Holly and Kim, super. So, what we heard in this session and I'd like anyone to comment in if they find any other overarching themes, but there really is an issue around policies and procedures that can address most of the provider and patient concerns and we hear that I think over and over again by the people who actually are accepting patient generated health data. They say at first there was a lot of noise but as they had good policy, good procedures, good expectations setting as part of that with patients they were able to move forward in a very positive way.

But there needs to be some flexibility and making sure that patient generated health data – I think honored existing process around content for instance things like provenance, things like being structured so that the data can be consumed in a meaningful way to the provider and that there might be more than one channel of patient generated health data for instance we hear about device data, we hear about team members and family caregivers and all of that must be considered.

And I'd to invite the group who listened in for their thoughts and also comments of what you felt were other big themes from this session.

John Ritter, MS – Software Engineer – Co-Chair EHR Workgroup and Volunteer HL7

This is John, I've been an advocate of the patient navigator role as well that came up a few times, there seemed to be a good description of the bridge that exists between the patients and the providers that is between the PHR system and the EHR system and there seemed to be a lot of head scratching as to why the divide continues to exist.

And so I think one of the roles that can and should be promoted would be that of a patient navigator someone who can help organize the PHR data make it presentable to the doctors and help interpret the EHR data that's been piped to the PHR, this is a huge consumer empowerment role that has not yet been instantiated well into regulations or into standards.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

And I would ask you to explain what you think the navigator role can be, because we have many roles defined in patient generated health data. Can you be a little bit more explicit about what you think – how a navigator differs from a caregiver or a family member or a person with a health Power-of-Attorney or any other related role?

John Ritter, MS – Software Engineer – Co-Chair EHR Workgroup and Volunteer HL7

In my opinion it would be someone who understands how to take the data, the plethora of data, the lifelong data that may exist in a PHR and mold it into a digestible packet that's targeted for different members of the care team so that each member of the care team wouldn't have to tramp through the entire PHR record looking for something of interest and vice versa so that the EHR system when – system or systems send data to the PHR they can help the patient understand what the data means and what's relevant to them in order to help them change their care practices at home. So, does that make sense?

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

It makes great sense, thank you. I think that's an important concept that I have not yet seen in the standards as a role. So, it would be wonderful to keep that theme going. Any other comments or considerations from that listening session that folks would like to share?

Kim Nazi, PhD, FACHE – Management Analyst – Veterans Health Administration

Hi, it's Kim Nazi, and one thing that I've been thinking about like across the discussions is that although there is the need for kind of broad principles and strategies I also take from the wonderful presentations that we may also need a more granular approach focusing on specific types of patient generated data.

So, for example, a patient narrative versus patient feedback, versus report of medication usage, versus vitals or blood glucose readings, you know, we need a broad approach that stands up to some important principles but we also perhaps need to have a specific focus on different types of data, because there may be different policy decisions or thresholds about those different types of data.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

That's great. I think you're right on there. Other comments?

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives

This is Russ Leftwich, I wasn't able to join the call on the 18th, but with respect to the navigator perhaps it should be referred to as a navigator function since it might not be an individual or better yet maybe some more intuitively descriptive term should be used there.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Because it could eventually be a system function –

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives
Right.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

For instance with natural language processing, but initially that – so it's more of the – and I guess I would ask could it be a navigation process that could be done by a variety of individuals or a single individual or a system in the future.

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives

I would think, yes, but maybe it should be –

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Would that involve –

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives

Navigator function or role.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Okay. Any other comments?

Yair Rajwan, DSc, MSc CS, MSc HIS, PFNLM – Director, Analytics Visualization – Visual Science Informatics, LLC

Yeah, this is Dr. Rajwan, I didn't hear the name of the lady that mentioned that we need to look at different data types and it's true in the EMR system that absolutely the content, the notes, especially in mental health and more psychiatric conditions, that you have more content actually in free text and free structure. So, I mean, although Dr. Weed introduced back then the SOAP structure to write notes but it's still free text. Now some EMRs already let you do shorthand and copy and paste that is creating issues.

I think one of the things is it will be helpful to separate structured data for, you know, clinical decisions diabetes, hypertension where there is some data that we know we need to collect and analyze in a standard format, EKGs and blood pressures, and definitely A1c, but we need also to focus on the free text content, because one of the things we hear from the patient perspective is they don't understand the notes, so there is one thing the issues with the terminology, but the second one, when we're looking at patient history most of the focus of the research is done on the structured data, how to show the changes within the biological measurement, but there was not a lot of research done in the free content.

So, I think one of the things is we can – if you're looking at the roadmap of what we need to focus on, if we can kind of separate how we're going to address the structured data versus the free forms that would be very helpful from a consumer perspective and we are working on the group from AMIA how to show patient history of the free text forms, how to visualize it to patients. So, I think that's an area that is Greenfield and most of the content in EMRs are free form.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

And you said there is work being done right now in AMIA around this?

Yair Rajwan, DSc, MSc CS, MSc HIS, PFNLM – Director, Analytics Visualization – Visual Science Informatics, LLC

We are working, our company with ICF we are working on the papers of showing the history and there is none, with AMIA having a workshop on visualizations in EMRs and we are basically writing the papers, we are submitting the papers around how to show patient history while focusing on the free form content.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

It would be great to have that work aligned with the patient generated health data team in HL7 and also with the long-term care and care coordination as well. So, I would encourage you to cross reference as much as possible. Any other comments from that session? Big take away learnings? I'd ask Ellen or Mary Jo do you have any comments that you'd like to add from that session?

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

Well, I think people were very excited about the presentations because there was ample demonstration of both value and feasibility. Obviously, to date it's been done in larger organizations, but again the take home was that, you know, of course you need processes and policies and you need to define what it is you are going to accept especially, you know, at the beginning of Meaningful Use Stage 2 and I would remind people, I'm sorry Stage 3, that, you know, the goal of this objective, since it will be a menu objective and doctors don't need to do it to earn incentives, so the goal of the objective will be to make it such that doctors say "I can see the value of doing this and I can see that I can do it, and it will help me toward Meaningful Use incentives."

So, as the second two bullets on the slide show this objective isn't locked down yet and what you see up there as draft is certainly going to change, but it should be clarified within a couple of weeks. So, the timing is really good.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

And I would echo that I think this is a really wonderful and responsible approach by starting with a menu item and sending signals that allow for future development of standards and policy around patient generated health data. So, I think that the team has identified some opportunities for growth in the development of those standards that support this menu item and beyond, and I think that's really very, very helpful.

And it is important to note that this is still in draft but we do see opportunity for this not only in this initial recommendation from the Meaningful Use Workgroup on August 7, but through our normal federal process for those of you who are not familiar when we have the notice of public rulemaking and then public comment, and then final draft it's a considerable process that allows for us to evolve and provide comment in a variety of different ways. Ellen, did –

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

Hey, Leslie, did –

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Yes?

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

I'm sorry, this is Liz, can you tell me what semi-structured means?

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

You know, Liz, that's been talked about in the Meaningful Use Workgroup and I'm not sure that's the right language, but for instance, there is no argument about the need or the acceptance of a patient's response to a physician generated request for information whether that's a questionnaire for family history, for allergies, for quality of care, for any information that the provider might want.

But there was also a discussion that in even a questionnaire you may have narrative response so we did not want to leave out an option that would include a questionnaire that could have the selection A, B, C or D or some response that had a free form narrative, that may not be the right words, but the intent was that it was both "and" or an "or."

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

Okay.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Does that make sense?

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

It does, I got it, thank you.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Okay. Any other comments or questions? Yes?

Holly Miller, MD – Chief Medical Officer – MedAllies

Yeah, hi, this is Dr. Miller, I had a comment on the first bullet after flexibility, which is that many advanced primary care practices such as patient centered medical homes and others already have created family and patient counsels to better guide the practice on meeting patient and family needs and increase their patient and family satisfaction. And so I would encourage practices that already have that in place or to consider putting that in place to work with the families and the patients to select the most meaningful patient generated health data that they might want to collect going forward.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

That's a great comment. So, it's almost back to the expectations as well as policies and procedures, it's making sure that everybody has the same expectations of what type of data, who collects that data, how that data is responded to and sort of the workflow and value. And what you're advocating or I hear you advocating for is really making sure that the family is helping to determine the value of the information and the source of the information that goes back to the provider.

Holly Miller, MD – Chief Medical Officer – MedAllies

Yes.

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

And Holly, this is Mary Jo, I did want to thank you because I know you – I believe it was you who probably made a suggestion to the technical expert panel and that was in their slides as one specific recommendation.

Holly Miller, MD – Chief Medical Officer – MedAllies

Oh, thank you.

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

So, thank you, yes, they definitely picked it up.

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives

This is Russ Leftwich, I think it's important for this group to be aware and to make others aware that the HL7 clinical document architecture is by no means synonymous with coded data that it is intended to include narrative and that some key data like the medication list maybe intended to be coded, but it is not by any means synonymous with coded data.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Okay, good point. All right, let's go onto the next slide. So, we have some work ahead of us. We have to make sure that we're ready for this with formal recommendations. So, what I'd like to start talking about a bit is what are the standards needed to support the flow and the use of the patient generated health data by providers including acceptance and have some discussion around each one of these items, and we will be – and I guess I'd like staff direction here.

I'd like to get general feedback on this information but then also note that we are going to have a separate sub-team to report out. So, would you prefer to go through this and get some feedback from the group, which would be my preference, but that question is open to ONC staff?

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

Let me just suggest perhaps that we read through this slide carefully and read through the next slide carefully.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Okay.

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

And then read through even slide 7 carefully and then take it as a package so that they can sort of see the whole scope of the work starting from the ultimate questions to answer –

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Okay.

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

Down to “well, what should our answers look like.”

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Right, thank you Mary Jo.

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

And that might tee up a really good conversation rather than taking it one, you know, one bullet point at a time.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Okay.

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

And then go back and start from any kind of discussion.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

All right.

W

Yeah, I agree, that’s what we were thinking.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Okay, super. So, really what we are tasked with is the standards that are needed to support the flow and use of patient generated health data, but we have some very specific work to do and that’s nail down the use cases from PHR to EHR and other document-based submissions Direct to the patient portal and that –

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

That was a misstatement by the way, that didn’t mean Direct with a capital “D” that it just meant from the patient to the patient portal.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Thank you.

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

So, there is no way it could use Direct of course, but it wasn’t meant to limit it, you know, in terms of that delivery standard.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Thank you for that clarification and then that would get into secure messaging or other means of submission to those use cases. And then also vocabulary and content standards, we still have some work to do around that, just what is our role and responsibility, how do we make sure that we’re working within the current environment and vocabulary, and content standards.

Today when we think of vocabulary and content we think of how medicine has been interpreted to be used and reviewed by consumers, so using vocabulary and content to blend those worlds. As patient, information is now integrated into the provider world how do we make sure that information is mapped in a meaningful way. So we have some considerable work to do there. Next slide.

And what standards supporting patient generated health data have already been incorporated in the Meaningful Use 2 and I guess a companion question to that is what are gaps existing and do they need to be considered? And what Meaningful Use 3 standards have been recommended by the Policy Committee and Standards Committee to date? And what Meaningful Use 3 standards have been proposed or recommended right now in the FACA pipeline and again, I think we have the Meaningful Use 2 question up above but it's both supporting and gap areas that we would need to consider. Next slide.

So, we need to establish a subgroup to answer and report out these questions and do so in a relatively speedy way. So, what we're looking for are the standards needed to support standards that are available now, the gaps and to report out by August 28th.

So, what I'd like to do now is to take some time to have discussion around the questions and then also seek volunteers to participate in that subgroup.

W

Yes, what I was thinking, Leslie you might want to go back two slides.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Yes.

W

To where those questions are, so those are the big questions and then underpinning those questions is that next slide, which are those foundational questions, which is what the work is.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Right, right.

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives

This is Russ Leftwich; I think under other probably we should call out data generated by mobile devices.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

And potentially other types of medical, biomedical or telemetry devices as well.

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives

Right and that was implying that.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Yeah.

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives

But perhaps that should be yet another bullet point.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Great.

Yair Rajwan, DSc, MSc CS, MSc HIS, PFNLM – Director, Analytics Visualization – Visual Science Informatics, LLC

Another question, this is Dr. Rajwan, on the third bullet the vocabulary and content standards that's the consumer vocabularies or we're looking at clinical vocabularies?

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

It's a little bit of both.

Yair Rajwan, DSc, MSc CS, MSc HIS, PFNLM – Director, Analytics Visualization – Visual Science Informatics, LLC

Okay.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

So, what we need to make sure is that if we are going forward with data to be consumed in the EHR where there are opportunities to use vocabulary to help translate for a word or to codify information coming from a patient we should use it. Let's learn from the lessons we've had for many, many years, right, how often have we been sharing data for the last 30 years in the provider setting without a vocabulary attached?

Yair Rajwan, DSc, MSc CS, MSc HIS, PFNLM – Director, Analytics Visualization – Visual Science Informatics, LLC

Right.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

And so it's a missed opportunity. Now we have a Greenfield what can we do going forward that would help to create a more meaningful, robust dialog?

Yair Rajwan, DSc, MSc CS, MSc HIS, PFNLM – Director, Analytics Visualization – Visual Science Informatics, LLC

So, paraphrase what you say, we will look for vocabularies on the clinical side that could be translated to a vocabulary on the consumer side and vice versa. So, we can look for vocabularies that can actually interpret from each side.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Correct.

Yair Rajwan, DSc, MSc CS, MSc HIS, PFNLM – Director, Analytics Visualization – Visual Science Informatics, LLC

Excellent, excellent, thank you.

W

Leslie, another use case that I wanted to include potentially under the second bullet there is or other, I think it's very onerous when we're asking patients to submit data for example, fingerstick glucoses to read it off their device and then enter it into a PHR to go to the EHR. So, one of the potential use cases that I would say is home devices such as glucose, fingerstick glucose monitors, scales, etcetera, to be able to have those Bluetooth connected to a system so that the data could flow into potentially a PHR and onto an EHR or directly to the EHR.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Great.

W

I guess it would have to be PHR to EHR, but, so to have – to consider home, medical home devices, again glucometers, scale, blood pressure cuff, etcetera.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Great.

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

Hey, Leslie, all of these suggestions are, you know, in my opinion amazing. I'm trying to figure out how the use cases will play into the recommendations. What is all critical information that we need for the future to make, you know, to advance this whole concept, but how do the use cases play into our particular work right now?

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Well, right now what we see is the use cases help us to constrain the standard recommendations or for instance under the patient generated health data and other work that's going on within the HL7 and S&I we have several templates that have been discussed and created, and so as we take a look at those and the use cases do we have alignment there, do we have gaps, do we need to make sure that these use cases are being addressed specifically.

So, it's really about constraining and identifying more than, in my mind, creating new standards, but making sure that our cases are addressed if there are needed templates within the consolidated CDA then that's a discussion point as well.

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

So, it would be, as much as anything, not only to inform the current process, but to inform the future, right?

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Yes, exactly.

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

Okay.

Kim Nazi, PhD, FACHE – Management Analyst – Veterans Health Administration

And this is Kim and I also think that use cases not only help you constrain but also help you to expand so that if some of these assumptions are inherently limited kind of applying real world scenarios –

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Right.

Kim Nazi, PhD, FACHE – Management Analyst – Veterans Health Administration

To the situation sometimes help you, you know, broaden up or expand what might otherwise be limited to a certain case, you know.

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

Well, yeah, and I was hoping that was sort of where we were going and the fact that it would, you know, inform from a different perspective which is what you just eluded to Kim which is practicality. I mean, we want to reach but we want to make sure that we're making progress while we're reaching.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

That's good caution and I think one way to make sure those use cases are expansive as well as constrained is that you sort of have an end vision in mind and then you come back and say what are the building blocks to get us to that end vision. And if we believe that the patient generated health data is simply an equal contributor to care then – and that's the end gain then we first start with what's useful, what's practical, what's necessary from the provider point-of-view and I think as habits change and we become dependent upon patient generated health data that becomes in itself the need to expand it.

W

And Leslie, very much to that point, I know there has been a lot of discussion about alerting and I think alerting could be a very interesting end game both for alerting a provider and alerting a patient and that's part of why I think it's these home devices that if there is consistently elevated fingerstick glucoses for example that the patient can be alerted, the physician can be alerted, etcetera and that maybe somewhere down the road, but it's still an important end game to be considering.

Arthur Henderson – President – Affinity Networks, Inc.

This is Arthur Henderson –

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

I think you have a great point there, because –

Arthur Henderson – President – Affinity Networks, Inc.

This is Arthur Henderson, kind of building on that –

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Yeah, go ahead.

Arthur Henderson – President – Affinity Networks, Inc.

Building on that same point, I think it's very important that, as we talk about these use cases from the patient perspective we have to build value in there. I mean, to try to get a patient to respond to a questionnaire or enter their glucose information is great, but what value are they getting in return for that?

On the other side, for the physician groups, you know, some of the folks we've dealt with they are very afraid of this data deluge that they will get because now a physician has the responsibility to review that information or a physician organization or a medical organization has a responsibility to review that information and that's one thing for structured data, for unstructured data it's even an exponentially bigger problem that they're afraid of.

So, I think it's critical as we do our work that we make sure we can assign different value attributes both for the physicians and the patient for why they're doing it.

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

This is Mary Jo and I just wanted to add a few things building on this conversation. The Meaningful Use Workgroup will very likely help frame the use cases, I don't know how narrowly or how broadly, but as you can see from the prior draft they are looking for ways to scope it in some way that would be reasonable and again that comment about policies and procedures being in place so that if your policy is that you only accept a particular scope, a particular type or types of data then you've made a decision in advance that would, you know, help, you know, reduce that liability and that risk.

I also wanted to add something to the comment about, you know, just the example use cases that are there and the bullet on secure messaging. Secure messaging is already a requirement in Meaningful Use so when you do the next exercise about, you know, what standards are already incorporated into Meaningful Use, why, you know, there's a box that's checked right away. I'm not saying this group – it's not the place of this group to necessarily advocate for one of these or another but as you do your work and find out what's available, what can be built on that might point to some low hanging fruit.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

And to that end also potentially some gaps with any existing standards as well.

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives

This is Russ Leftwich, perhaps there should be, to the earlier point about data overload, a top level bullet point on this slide that is use cases for presentation of information meaning how do you, you know, it would be much less of a risk or overload if the data comes as a graphical representation rather than a stream of vital sign data or glucose readings or whatever.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

You know, I think you've hit a strong point there that we do need to consider in this sub-team, because much of the discussion about patient generated health data objection or the concern is not necessarily the data once consumed into the record it's the presentation assumptions. So, for instance, there is very little support for data to be automatically streamed into the EHR. So, what assumptions do we have around that data coming in just like a lab result coming in, there's an assumption that there's an inbox step, that there is some sort of review and acceptance of that data.

I think it would be important to tee that up under the use case or define that a little bit better because we do see sidetracks and "well, I don't want that automatically in" and "I don't want an alert" or "what's my obligation." And that's not about the data being meaningful it's about how it's presented to the EHR being useful and practical in the workflow. And I do agree that would be an important part of this work.

Holly Miller, MD – Chief Medical Officer – MedAllies

And Leslie –

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives

And not only for –

Holly Miller, MD – Chief Medical Officer – MedAllies

I'm sorry; I just want to cut in for one second, because in reality that data exists, it's just synchronous or asynchronous. When we send a patient out telling them to check their fingerstick or check their blood pressure at home they're doing and it and we're giving them guidance on if it's this – if you're seeing these values do this, if you're seeing these values do that, but in reality it's asynchronous because then they come in 6 months later and they bring us all this data but in the interim neither have we been alerted if they're going off or have they been alerted if the data is not in the range that we're looking for.

And so I think that ultimately if we can create an alerting system at both ends where it's not a data stream necessarily, but it's looking for variances that have been defined by the provider that potentially we can prevent hospitalizations and morbidity and mortality.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Yes, so there's really two different phases of alerting that we've just touched on. One is an alert that says "you've got mail" or "you have something new coming into the EHR" how does that get handled? And then you have another that says "I have an alert as a result of that data" that says "there is a new finding that requires action." Both are material and so perhaps providing clarity in the use cases as to which we're talking about and I think Holly to your point if you've established a relationship with a patient who has a device that's going to communicate you may choose rules that simply state "I want this data coming in and posting to my chart on a frequency of a week" or another patient you say "I want this data coming in, I do not want it automatically posted to my record unless it's been reviewed by my nurse."

So, I think there are varying degrees of alert from "you've got mail" to "there is a finding that requires action" and I think perhaps that needs to be considered as we go through these use cases for underlying assumptions. What are we constraining this to today? I do think the alerting is something further down the path but I do think it would be worthwhile to identify some of these issues and constraints on there.

Thomas M. Jones, MD – Chief Medical Officer – Tolven Health

Hi, this is Tom Jones, we've covered a number of interesting areas and I'm going to try to synthesize a view of this particularly moving forward which has to do with the shareability of the data, because so much of our conversations right now are between a patient and a provider or a provider and a patient, and none of the conversations have really talked about, well, what happens to that patient generated data when it's shared further on.

So, if we can begin to focus on that which of course in the provider groups we've already done that, because Meaningful Use even 1 has said this is a patient summary, these are the standards for the patient summary and we can argue about how those standards should be tightened up, but I think if we start to focus as we begin this on the core sharable data that we want to have across the entire environment from patient to provider to another provider back to the patient then we can begin to tease apart some of these very exciting innovations about device generation this and that, but I'd like to pull us back just a little bit and say, okay, what about the blood glucose that's done at a fingerstick by a nurse at the bedside when the patient is an inpatient is that data shared as part of a patient summary right now? I think answer is "no" because we've said "no, the glucose has to be generated by the laboratory and then shared as a lab result."

We now need to sort of broaden our horizons and perhaps use the information that we think of as being solely patient generated in a broader context and say, is there other data being generated by all providers and caretakers including the patient and their family that now needs to be sharable across organizations?

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

I think that –

Thomas M. Jones, MD – Chief Medical Officer – Tolven Health

And that gets into the whole coded business too.

Kim Nazi, PhD, FACHE – Management Analyst – Veterans Health Administration

Yes, and this is Kim, I'd also ask us to think about where we're headed with aggregation of data from multiple providing organizations within personal health record systems. So, as we move forward with enabling patient mediated exchange and transport the likelihood then exits to the point that was just made that patient generated data input to a healthcare organization might surely include, you know, that data source from other systems in a very real way. So, going back to the idea of provenance and including the idea of both author and source I think is critical.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Yeah and I think what –

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives

Yeah, but –

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Go ahead, Russ.

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives

Yeah, the point I wanted to slip in above about the presentation of the information and we referred to in the EHR but that would apply to the PHR as well for the patient's view of the information.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Yeah, I think what we've just outlined is a really powerful roadmap of going from very simplistic binary requirements between a patient and a provider or a patient and their designee and a provider to really a longer term view of a collaborative care environment that assumes that there are multiple parties in exchange, that assumes that patients and their team are all included, and assumes that device and other data is included.

So, I think that we've got a really good vision that you guys have just outlined and our focus will be first starting with the Meaningful Use requirements are we ready for just that what is there and then perhaps coming back with recommendations that include this longer view as we go forward, because it is the natural consequence of beginning a dialog between two parties, the natural consequence is that that expands both in number of participants involved and number of times the communication occur, because the value of the communication is greater when another person starts, it's just the network effect.

And so really I think that this is a wonderful way to describe our longer term view and then come back to focus initially with our deliverables between now and the end of August which is to make recommendations specifically for any gaps in Meaningful Use 2 and towards the recommendations for Meaningful Use 3.

To the degree that we can also include this longer term view that helps send a signal to the market forces and in future policy to say "hey, here's a greater opportunity." So, I think both are important, but we do have an immediate task by the end of August. So, this is great. Do we have other comments or considerations?

Kim Nazi, PhD, FACHE – Management Analyst – Veterans Health Administration

This is Kim again, I'd like to add one more thing to the table?

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Okay.

Kim Nazi, PhD, FACHE – Management Analyst – Veterans Health Administration

So, the idea of synchronization and data refresh I think at times we see this as data getting from one place to another and there that's done, what do we do about it, how do we present it, but there's also kind of a need to spin that and really think about synchronization of data. So, synchronization of data, if we don't kind of envision what the standards might be to support ensuring that the data is synchronized appropriately then I think the value of the data is lessened because it becomes a one-time snapshot and no one is quite sure if that's the most recent copy of the data or if there is new information which really hampers it's utility.

This also comes up in terms of the data refresh ideas that are, you know, on the table triggering automatic updates and things like that and so kind of thinking through that lifecycle I think will be another dimension of this.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

It will – versioning, revision, synchronization, data refresh it's almost as if where we're having to start is e-mail but what we're really envisioning is Google docs and moving an agenda that allows for it, because even if the patient were not included in generated data the fact of the matter is we have the problem of versioning, of synchronization and data refresh as soon as we allow multiple parties to participate in the use and communication with electronic health workers. So, it is definitely a large problem. Other comments or considerations for this team?

John Ritter, MS – Software Engineer – Co-Chair EHR Workgroup and Volunteer HL7

This is John Ritter, it looks almost as though we were in need of some sort of scoring standard, a usability scoring standard. So, the doctor would want to know for example how well as the data synchronized from a scale of 0-10 or how correct was the data that the consumer generated on a score of 0-10.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

What would correct mean?

John Ritter, MS – Software Engineer – Co-Chair EHR Workgroup and Volunteer HL7

Yeah, see that's the trick, you know, how –

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Because –

John Ritter, MS – Software Engineer – Co-Chair EHR Workgroup and Volunteer HL7

When it's the patient as a historian, you know –

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Right.

John Ritter, MS – Software Engineer – Co-Chair EHR Workgroup and Volunteer HL7

If you've got a great historian the doctor needs to know that and he can trust the data a little more quickly, but if the patient is a zero level historian then maybe we need to assign a patient navigator to help, you know, massage the data, triage it so the doctor can use it.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Well, what if the patient and the doctor simply disagree? So, does it make that the data that the patient is providing less credible? So, that whole idea of what's correct is almost like art you'll know it when you see it.

John Ritter, MS – Software Engineer – Co-Chair EHR Workgroup and Volunteer HL7

Sure.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

And today there is clinical judgment that is used all the time to say whether the patient is a valid historian as you put it or not, but as we move into patient generated health data the values, preferences and biases of the patient or their lifetime goal, what do they consider health for themselves will actually stray further away from episodic care and more into holistic person.

And so is it that there is an accuracy issue? Is it that there is a value difference? Is it that simply there is a disagreement? So, one way to look at it, is this simply another data source to also be considered or reconciled rather than a data source to be valued or not, a value judgment placed on it or not so I think that's worth some further discussion.

Kim Nazi, PhD, FACHE – Management Analyst – Veterans Health Administration

This is Kim again, I just can't help but offer a thought on that, because in a study that I did it became clear that why does patient submission of medication usage updates one way not result in effective medication reconciliation and the reason is because the process of medication reconciliation is more than the data, it's also about the dialog for clarification, for understanding and so that process can't occur in that one way stream and as soon as we were able to add secure messaging it enabled kind of that bidirectional communication so some of this has to be seen as more than just the flow of data it also has to attend to processes that require kind of collaborative work, right?

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Right.

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives

There is also, this is Russ Leftwich, there is also reporting bias which is real I think in terms of collecting data and when glucose meters were new and memory chips were new almost 20 years ago there was a glucose meter that had a memory chip in it that was used in clinical research and that was unknown to the users of that device and they wrote down their glucose readings and that revealed that ¾ of the individual's skewed their recorded glucose readings on paper compared to what was captured by the memory chip. I think this is just reality and when there is that sort of reporting and observation it does get skewed sometimes or fairly often actually.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

I think that it is important to distinguish you have quantitative information that has the ability to provide accuracy and then you have subjective information that gets back to the bias of feeling or the patient experience. So the Dartmouth finding's tells us that patient reported data is the only data that tells the provider how the patient is doing. How have they responded to their care? What was their experience like? What kind of risks did they report? What is their history or their response to the care provided? Their current functional status?

So, we have a lot of information that patient reported data can provide and I think we've just hit on many of them. I think back to – I think an original point that maybe Kim or Holly brought up was this idea that the narrative is as important and we want to make sure that the standards provide both the quantitative information or the structured response to a provider question, but also the opportunity to provide more of the patient's experience and response to the care they're receiving. A patient is the only one that can say what they've experienced and how well they're doing. So –

Kim Nazi, PhD, FACHE – Management Analyst – Veterans Health Administration

Can I –

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Go ahead.

Kim Nazi, PhD, FACHE – Management Analyst – Veterans Health Administration

This is Kim again, I would take it one step further even, sometimes that's more than that, sometimes it is the context for understanding the relevance of the quantitative data. So, for example for the blood glucose reading that's a great quantitative value, but what has the patient eaten, so, you know, there is more under the hood in terms of the, you know, the qualitative information because sometimes it is the context for the meaning of the quantitative information.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

So, perhaps there is an evolution that we have not just in terms of the types of data that goes back to the patient, but almost as the data increases in width and depth there is also a corresponding need to have richer abilities to synchronize to provide the data refresh, to provide the context of the data and the ability to aggregate it. So, it's almost as if we have a reverse funnel that we're starting with something quite narrow but as that data becomes more robust there is also a context surrounding that data that allows us to filter, to aggregate, to refresh, to synchronize and to provide a meaning to existing quantifiable data.

So, these are really important concepts I think for us to perhaps create a graphical representation of this roadmap of where we see patient generated health data standards required to accommodate all types of patient generated health data.

But the initial scope will be to get to what's needed by 8/28 in to respond to that. If we go back one slide, which is the – I believe it has the Meaningful Use 3 recommendation at the top, patient generated health data through semi-structured questionnaire, so this gives us some constraint and a deliverable by 8/28 and then I would hope that along with that we can put this sort of overarching roadmap recommendation as well just to start putting signals out to the market and opportunities for work in the future.

So, with that we need to get to volunteers for this team and I think we're looking at dates in August as well and I think we have some tentative Fridays in August to meet and Ellen was that the 9th, the 16th and the – I can't remember?

Michelle Consolazio – Office of the National Coordinator

This is Michelle, we need to make sure that we can have those calls with the other calls that are already scheduled on the FACA calendar.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Oh, thank you, Michelle, okay.

Michelle Consolazio – Office of the National Coordinator for Health Information Technology

So, Ellen if you could just follow-up with me and we'll check into those dates.

Ellen V. Makar, MSN, RN-BC, CPHIMS, CCM, CENP – Office of the National Coordinator

Will do.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Okay.

Michelle Consolazio – Office of the National Coordinator

Thank you.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

And can we get volunteers from this group? We'll also send out an e-mail to those who have not been able to attend today for volunteers, so if you have an interest in participating in this initial recommendation would you let us know.

John Ritter, MS – Software Engineer – Co-Chair EHR Workgroup and Volunteer HL7

Sure, would you add John Ritter to the list?

Marcia Nizzari – Vice President Engineering – PatientsLikeMe

This is Marcia – I'm sorry.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Let's go around the group I think we could do that efficiently. We have Arthur?

Arthur Henderson – President – Affinity Networks, Inc.

Yes.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Liz?

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

Yes.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Russ?

Russell Leftwich, MD – Chief Medical Informatics Officer – Tennessee Office of eHealth Initiatives

Yes.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise
Holly?

Holly Miller, MD – Chief Medical Officer – MedAllies
I will try, yes.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise
Okay. Yair, is that how you pronounce your name, I'm sorry?

Yair Rajwan, DSc, MSc CS, MSc HIS, PFNLM – Director, Analytics Visualization – Visual Science Informatics, LLC
Yes, you can actually assign me to the vocabularies, the third bullet.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise
Okay.

Yair Rajwan, DSc, MSc CS, MSc HIS, PFNLM – Director, Analytics Visualization – Visual Science Informatics, LLC
If you don't mind.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise
All right.

Yair Rajwan, DSc, MSc CS, MSc HIS, PFNLM – Director, Analytics Visualization – Visual Science Informatics, LLC
If it's okay with you?

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise
That's fine. John?

John Ritter, MS – Software Engineer – Co-Chair EHR Workgroup and Volunteer HL7
Yes.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise
And have I missed, Kim?

Kim Nazi, PhD, FACHE – Management Analyst – Veterans Health Administration
I'll say, yes I just have a few constraints over this next few weeks, but for that reason if we can have input by other means that would be wonderful.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise
Okay and did I miss anyone?

Thomas M. Jones, MD – Chief Medical Officer – Tolven Health
Yeah, Tom Jones.

Marcia Nizzari – Vice President Engineering – PatientsLikeMe
This is Marcia Nizzari, from PatientsLikeMe.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise
Yes, Marcia.

Marcia Nizzari – Vice President Engineering – PatientsLikeMe
I'm an expert at modeling semantic meaning and data and would very much like to be involved in anything but especially unstructured data.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise
Okay and Tom?

Thomas M. Jones, MD – Chief Medical Officer – Tolven Health
Yes, depending on when the calls are scheduled I'm more than happy.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Okay, super, well I appreciate that and with that I think we have some public comment need or any other comments from staff.

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

Yes, I just wanted to point out that I know there has been a lot of interest in, you know, what transport standards might be available for consumer technologies and I will share with this group an invitation to 9:00 a.m. Monday meeting of two joint Workgroups also on the standards side that are specifically looking at consumer transport standards including Blue Button Plus so that way if you want to join well you're free too.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Which team is that?

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

It's the joint NwHIN Power Team and the Privacy and Security Workgroup both led by Dixie.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Yes, and also I would also let the folks know that there is going to be a meeting outside in the – on the Direct group on the 13th and 14th that will also help inform transport and requirements then. So, that's great and do we have – we have some time for public comment?

Public Comment

Michelle Consolazio – Office of the National Coordinator

Operator can you please open the lines?

Caitlin Collins – Project Coordinator – Altarum Institute

If you are on the phone and would like to make a public comment please press *1 at this time. If you are listening via your computer speakers you may dial 1-877-705-2976 and press *1 to be placed in the comment queue. We do have any comment from Mark Savage.

Leslie Kelly Hall – Senior Vice President of Policy – Healthwise

Oh, good.

Mark Savage, JD – National Partnership for Women & Families

Hi this is Mark Savage from the National Partnership for Women and Families and thank you for a very rich conversation. The National Partnership has been working a lot of patient generated health data and care planning as the broader process reducing health disparities and I wanted to flag two issues, it would be really helpful to include in the work that I heard discussed today one is to make sure that somehow language access is considered so that, you know, we have 1/5 of the population in the United States speaking a language other than English at home, perhaps they can read in English, but that would be a tremendous asset to try to build in as a standard so that it can be built in as a use.

And for the same reasons interoperability with assisted devices especially say on the mobile side of things would be really helpful as you're weaving things together, very much appreciate the conversation this morning.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Thanks, Mark.

Caitlin Collins – Project Coordinator – Altarum Institute

We have no more comment at this time.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Great, well, thank you very much everyone for some wonderful comments and ideas. I think we've really added to this work ahead and look forward to it. Mary Jo or Ellen do you have comments?

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

No that sounds good to me.

Leslie Kelly Hall – Senior Vice President, Policy – Healthwise

Okay, thank you everyone, appreciate it. Bye-bye.

Michelle Consolazio – Office of the National Coordinator

Thank you.