U.S. Core Data for Interoperability Task Force

Transcript

April 1, 2019

Virtual Meeting

Members/Speakers

Name	Organization	Organization Type
Christina Caraballo	Audacious Inquiry	Co-Chair
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Tina Esposito	Advocate Aurora Health	Member
Valerie Grey	New York eHealth Collaborative	Member
Ken Kawamoto	University of Utah Health	Member
Steven Lane	Sutter Health	Member
Leslie Lenert	Medical University of South Carolina	Member
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Brett Oliver	Baptist Health	Member
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Sheryl Turney	Anthem Blue Cross Blue Shield	Member
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Johnny Bender	Office of the National Coordinator	ONC Staff

Operator
All lines are now bridged.

Lauren Richie – Office of the National Coordinator for Health Information Technology - Designated Federal Officer
Good afternoon everyone. Welcome to the first day of April and our USCDI task force meeting. Of the group we have, our co-chairs, Christina, and Terry. Also, from the numbers side, we have Steven Lane and Tina Esposito. I don't think any of the others have joined, but I'll just do a quick check. Do we have any of the other task force members that have dialed in? Okay, hearing none, I will turn it over to Christina and Terry to get us started.

Christina Caraballo – Audacious Inquiry – Co-Chair
Great.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Would you like to…

Christina Caraballo – Audacious Inquiry – Co-Chair
Sure. So today we're going to go – a little different of an order. We're going to go into our pediatric vital signs, and then we are going to over the homework questions on clinical notes and provenance and continue that discussion. So, we can move on to the next slide.

We have made a couple of changes here, actually, as of today, that is not updated. We are actually going to have our – April 8th meeting is going to be this Friday at 1:00 p.m. You should have received a calendar notice for that. And then next week we are presenting our next round of draft recommendations during the HITAC meeting. And then we will be finalizing based on any comment that we get during that meeting. We will finalize on April 25th. So, moving on to the next slide. Actually, I think we can go just to the next one.

So, we have taken into the discussion on the pediatric vital signs. We have the three proposed data elements from ONC to review. Which are the BMI percentile for age and sex for youths 2 to 20? Weight for age, length, and sex. And… octave – oh, my gosh. I had this. How do you say this word properly?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Occipital.

Christina Caraballo – Audacious Inquiry – Co-Chair
Thank you. I actually had it.

Steven Lane – Sutter Health – Member
Occipital parietal. Occipital-frontal, sorry.

Christina Caraballo – Audacious Inquiry – Co-Chair

Occipital. Thank you. Occipital circumference for under three years of age. And then, any missing elements. So, I guess we can go ahead and kick off the discussion with that.

Steven Lane – Sutter Health – Member
Well, one thing that I read, Steve Posnack's response to all of us regarding the provenance. And the sense that I got from that was really that there's a desire that we not muddy the waters too much. That we move ahead with what's been suggested and perhaps create a road map for the future. Which I think is reasonable. Taking baby steps seems to be pretty successful for most of us.

So, I think that these, as a provider who provides care for kids, these are very reasonable. And certainly, pediatric obesity drives the need for BMI. The weight for age is again related to that. That sort of tracking kids for obesity and appropriate growth. And head circumference is just a very standard measurement that we do on infants. Mostly in the first year of life but certainly up to three years to assure that their development is on track. So, and that's not used in adults, which I think is why it was left out initially.

So, I think that these are all very reasonable. I mean, there are lots of other vital signs that one could collect. But I'll be interested to see if we get any kind of public comment back specifically from pediatric endocrinologists or folks who work on developmental pediatrics. But I think that this really does move us forward as an addition.

The other first thing that would come to mind would be kind of percentiles for the blood pressure. Because just like with pediatric obesity, pediatric hypertension is becoming more of an issue as the population grows in every dimension. And, but again, I feel comfortable with this as a first pediatric addition to sort of the standard vital signs that we collect on all other patients.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Steven, this is Terry. That's really helpful, thank you. What about blood pressure? Which seems to be a…

Steven Lane – Sutter Health – Member
Well, I would assume we have got blood pressure as a vital sign already. I mean, and that's certainly worth clarifying. I mean, we have vital signs in USCDI from before, I presume, in the core clinical data set. Maybe we can go back and review that. But I'm assuming, not knowing this off the top of my head, that blood pressure, pulse, weight, are already included in USCDI from before. But maybe I shouldn't make such an assumption.

Christina Caraballo – Audacious Inquiry – Co-Chair
Your assumption is correct. I just pulled it up.

Steven Lane – Sutter Health – Member
Okay, good. Great. All right. Yeah, so yeah, I think blood pressure is key. And as I said, sort of the next place that comes to my mind would be blood pressure percentiles. The other thing that a lot of pediatric care providers utilize is alternative standards for the growth charts. So, growth charts where we manage looking at length and weight and this head circumference in particular by age, typically that data is presented in a nomogram format, where you can see where the individual patient sits with regard to their percentiles.

Most of those, the vendors will present standards from the World Health Organization. But there are alternate standards for premature, for individuals who were born prematurely, for individuals with certain genetic conditions. But I guess that's not so much USCDI, it's not so much the data that we're sharing. What we're sharing is actually the height, the weight, the head circumference. And then it's really up to the recipient EHR to display that data as they do. So, it's not really a USCDI issue.

It's kind of interesting, you know because they are including the BMI percentile. And there again, that is a calculated number. You know, the BMI is calculated off the age, the height, and the weight. So, it is interesting. What they are saying is the source system should calculate that number and then send the calculated percentile. Which again, will be determined by which standard nomogram you are using. So that – I hadn't thought about that.

Really the second one is also calculated. Weight for age, you know, by gender. You know that is a little – weight for age per length. What exactly does that mean? That language is a little odd. Let me pull up my system really quick and just see how we present that. Sorry, I don't mean to distract here, but…

<u>Christina Caraballo – Audacious Inquiry – Co-Chair</u>
Yeah I mean it is a good conversation.

<u>Terrence O'Malley – Massachusetts General Hospital – Co-Chair</u>
And Steven, sort of the overarching issue, and I think you hit it right off the bat, is which elements do we want to give ONC the green light on now, and what do we want to put in the next bucket? It is sort of a heads up of where things should go.

<u>Steven Lane – Sutter Health – Member</u>
I am just trying to find a kid on my schedule, here. Okay, growth charts. Yes. Because interestingly, the only one of these that's really a vital sign per se is the head circumference. The others are calculated numbers from the actual vital signs themselves. Which again, you know the vital signs themselves are really more of the weight, the length, obviously, heart rate, blood pressure, temperature, etc. And then this BMI.

So, the BMI percentile, I'm looking at this now, is based on a nomogram, which in my system we get it from the CDC. And it is by gender. And it is from 2 to 20, so the age is right. And really, and what they do is they take the weight and the length, and they determine the percentile, the BMI percentile. So, per age and sex. So, it is by sex, because the nomograms are by sex. And it is by age because that is a key factor. So that one makes sense. But then the weight one, weight for age per length and sex. I don't know what that means.

So, there is a weight for length. That is a thing that we calculate. And it is by – it is gender specific. And though the age does not – let's see. Weight for length. I think that is actually miswritten. We have had a misspelling on this PED stuff before with the less than three years old thing. I think it is a weight for length per age and sex, is really what that should say.

<u>Terrence O'Malley – Massachusetts General Hospital – Co-Chair</u>
Yes. To your point, isn't really height, you know, height/length, weight, blood pressure, head circumference, out of those…

<u>Steven Lane – Sutter Health – Member</u>

02 SAT. Is 02 SAT in our core clinical data set, by the way?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Interesting. I don't know.

Steven Lane – Sutter Health – Member
I mean, that is important in adults and kids.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Just as a routine…

Steven Lane – Sutter Health – Member
As a vital sign, yes. I mean it is one that I use all the time. I'm sure you do too.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
It is elective. I am not sure how useful it is. But…

Steven Lane – Sutter Health – Member
Well, I mean, in kids who are sick, it is pretty useful.

Christina Caraballo – Audacious Inquiry – Co-Chair
The vital signs in there are diastolic blood pressure, systolic blood pressure, body height, body weight, heart rate, respiratory rate, body temperature, pulse oximetry, and inhaled oxygen concentration.

Steven Lane – Sutter Health – Member
There you go, that's the 02 SAT. Perfect. Okay, those are all great. Yes. So really the only one of these that is a vital sign per se, that we are adding, is the frontal-occipital circumference. And that is very appropriate. The other two are really speaking to a calculated value that is based on other vital signs. Specifically, height, weight. And again, and in most systems, that is going to be calculated based on the CDC standards. But there is also a WHO standard. So, it is kind of interesting to say that if you are going to send the calculated value, the BMI percentile, the weight for age or weight for length I should say.

Weight for length is actually – the weight for length is a simple division problem. But when you say weight for length by age and sex, then you are looking at a percentile. So, I think that we should change the wording on that second sub-bullet to say weight for length percentile per age and sex. And I would again say for youth 2 to 20 because that is what the CDC gives us in their nomogram. The WHO does 5 to 19 apparently. So again, in both cases, this is a percentile. And in neither case, given the language, do they say percentile based on what standard. So, I think if we just want percentile, we also have to say what the reference database that was used to calculate the percentile is?

So, for both of these, BMI percentile for age and sex, for youth 2 to 20, plus reference data set used to calculate the percentile. And then the weight for length, we need to get that right. Same thing, per age and sex for youth 2 to 20, including reference data set.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Yes. So, it raises a question in my mind about whether we just specify, specifically for pediatrics, just to make sure it is clear, the actual vitals. And really the calculations, then become an issue for the core system. But do you routinely exchange BMI percentiles or blood pressure percentiles?

Steven Lane – Sutter Health – Member
Well, no. That's what is interesting. So, in my system, there actually is the ability to exchange pediatric vital signs. That is something we installed, I don't know, five or six years ago. And it is really cool because when I look on a growth chart, I can see the growth points that were obtained in my system and I can see those that were obtained in other systems using the same vendor. But I don't – you know, the percentile, it really seems to me that that would be recalculated in my system based on the raw data.

So, I do not really see a whole lot of value in sharing the calculated percentiles. I mean, it is sort of better than nothing. But really, I would assume that the – having the percentile sent from the source system is vaguely interesting. But having the data integrated into the recipient's system so the recipient's system calculation and nomograms could be used. And the outside data and the internally generated data could be tracked together in a consistent format. That is actually really the more important issue. So, I am not against sharing calculated BMI and weight for length percentiles, but I don't see it as having tremendous value.

And everything I am saying is sort of fresh brand ideas in my mind. Because when I read this the first three times, none of this struck me as problematic. I am glad we are digging deep.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
But I think you raised an important point. It is sort of the core data I think is what matters most. And then system functionality that takes that data and converts it into information of value to you. But it is really the core data that you are going to be exchanging. So, I might – I will make a motion that says let's explicitly list the vital signs that are already in USDCI under the pediatric banner, include all of those plus the frontal-occipital circumference. Make that our recommendation. With a note saying these data will let you calculate all the other stuff.

Steven Lane – Sutter Health – Member
Well, but I think the question is, and again, I don't think it is a USCDI question, what we want is for recipient systems to receive the external vital sign data and to be able to integrate it and provide a single longitudinal view of the patient's data. But that is not our job. That is not what USCDI is about.

So again, I would question, in addition to what you just said, I really would question the value of sending calculated percentile data. Though I guess the one thing – as someone who works in a fully functional EHR, maybe that is easy for me to say. If you are not working in a fully functional EHR, and you are getting this data, you know, if you are the patient, for example, or if you are an app, or if you are not a recipient system that is prepared to take in and integrate and calculate these, I guess there is value in receiving those calculated percentiles. Though again, only if and only if, they are received along with the reference and a statement of what reference database was used to calculate them.

Al Taylor – Office of the National Coordinator – SME
So, this is Al Taylor from ONC, and this is my first time on the call. But I am going to be assuming a role with USCDI going forward at ONC.

Steven Lane – Sutter Health – Member
Hey, Al.

Al Taylor – Office of the National Coordinator – SME
Hi. Your point about the transmitting calculated data is an excellent one. Especially when you consider that the calculation is going to be different depending on which nomogram you use. Meaning full term and preemie, which is not so much the ages 2 to 20, but the age per length is going to assume, probably a preemie may need to use a p chart for that. And there are also other ones like Down's syndrome charts preemie that might be applicable to that. So, if you send me a percentile, but the patients a Down's syndrome baby, those numbers are not going to integrate into my normal baby nomogram.

Steven Lane – Sutter Health – Member
And I am reminded, Al, that you are a pediatrician, right?

Al Taylor – Office of the National Coordinator – SME
OB.

Steven Lane – Sutter Health – Member
Oh, you are OB. Okay, I'm sorry.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
One step down the line.

Al Taylor – Office of the National Coordinator – SME
No, we think of that as better than the pediatrician, but that's just…

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Well, you are a scout leader, so that counts, right?

Al Taylor – Office of the National Coordinator – SME
We cause trouble. We cause trouble. So, I think that just being able to – and if you did transmit the data, the calculated data, you would have to say which graph, not only when it was calculated, but which graph was used. Because then if receiving each or may or may not own the preemie chart or the Down's syndrome chart.

Steven Lane – Sutter Health – Member
Right, right. That is why I think, yes. So, again, I've convinced myself, you know, first that it was not that important, and now again, that it is important. Because again, there are more stakeholders that need to receive and make use of the USCDI then folks in my position, you know, as a provider using a highly functional EHR. So, I think we got that. And again, in terms of missing pediatric vital signs, I think as you said, if you take the core ones from the core clinical data set, you add the head circumference, you through in these calculated percentiles and word them right, and include the reference data set, I think we are good.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Let me push back and say let's not include any calculated value.

Steven Lane – Sutter Health – Member
But again, the reason I convinced myself back on that one, is because what if I am PHR, and I am not prepared. I do not have nomograms and whatnot. Receiving the calculated value, I think, would be

really valuable. What if I am a home care nurse taking care of a chronically ill kid, you know, and my homecare system doesn't know what to do with it. You know, if you just get the raw height and weight, you do not really have a context. So that is why I think these are good. They provide context for the raw, vital sign data for those whose systems will not give them that context themselves.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Maybe I am more optimistic that the symptoms will actually be able to do that fairly easily.

Steven Lane – Sutter Health – Member
Yes, but that is not our job at USCDI, right? We are just about the data.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Right. So, right.

Christina Caraballo – Audacious Inquiry – Co-Chair
I think this is a really interesting conversation. So, if we are just about the data, then should we be doing the calculation? Because the calculation is more using – it is more knowledge-based. Whereas just the raw data is that actual measurement.

Steven Lane – Sutter Health – Member
I hear you. I hear you. I am just still thinking about recipients and stakeholders who do not have the ability to do the calculation. And I do not think that we can assume that everyone will.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
But they could plot it out on a nomogram that they could print off the internet.

Sheryl Turney – Anthem Blue Cross Blue Shield – Member
Right. This is Sheryl Turney. I agree. I think it was John that was talking, or I am sorry if I do not recognize the voice, but I agree with that as well. I think there is a number of stakeholders that are not going to have the reference graph or the ability to do the calculations, especially the patient. And so, they are going to want to know, what does that mean?

Steven Lane – Sutter Health – Member
That was me, Sheryl. Steven Lane.

Sheryl Turney – Anthem Blue Cross Blue Shield – Member
Oh, Steven. I am sorry. I should recognize your voice.

Steven Lane – Sutter Health – Member
No worries. So, we are of two minds. We have the position that says just send the raw data and leave it up to the recipient to do the best they can because that is not really our business in USCDI. And the idea of including that contextual data in addition when it is available. Or really, I guess USCDI means it is required. So, we are sort of forcing the fending system to do that calculation. So that is interesting. That is a way that we can sort of use USCDI as a lever to drive EHR functionality, right? We are saying basically the EHR has to calculate these percentiles and then send them.

I think part of what we are trying to do here is to create value for the pediatric provider community or for the pediatric community generally. And where there is a perception that that was lacking before

and looking for what is the lowest hanging fruit. And here again, since I think that most systems do pretty routinely, pediatric care systems routinely calculate and display this data, sharing it again for other really stakeholders beyond the clinician group. They are really the beneficiaries of these. Because I think we can assume that most clinical systems will receive the raw data and recalculate it.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
So, let me ask the question a different way. Is there any calculated value that is useful that are not driven off this comprehensive list of vital signs? Are there any other values you use in practice that you calculate that you find helpful and do any of them rely on vital signs, not on our core list?

Steven Lane – Sutter Health – Member
Well, so yes. So, the length and the weight themselves, and the blood pressure, as I said, will each have a reference data sets, and be displayed in a growth chart format. That is what is often used. So, we are talking about calculating these percentiles for BMI and for weight for length, but there are also calculated percentiles for weight itself and for length itself and for blood pressure. And so those have been left out.

And there again, if we were talking about adding pediatric vital sign data amounts. Once we are saying, please calculate a percentile for age and gender and send that along, why would we limit ourselves to BMI and weight for length? Why wouldn't we include the percentiles for length, weight, blood pressure, etc.? So maybe that is another way to slice this. To say that really, the only new data element that we are proposing is the head circumference. And then optionally, there is potential value for non-clinician stakeholders to receive percentile data and the supporting reference data set for vital sign data. But if we are going to do that, let's not just do it for BMI and weight for length, let's also do it for length and weight and blood pressure.

So, sort of give them two options. Either just give them the head circumference or let everybody else deal with the calculations of the percentiles. Or let's do percentile calculations comprehensively and consistently across each vital sign.

Tina Esposito – Advocate Aurora Health – Member
This is Tina. I'm sorry. Really quick. Steven, just check me on this. It sounds as if certainly we are going to stay true to our mission, which is to ensure that the data transmit and gets to where it needs to go. But what I am hearing you say is that in order for it to meaningful, we have to ensure that there is a percentile that is calculated? Do I have that right? Is there sort of a meaning that is missed if the second step doesn't occur?

Steven Lane – Sutter Health – Member
Whenever you interpermeate pediatric vital signs, you do it in the context of percentiles. Whether it is an individual vital sign like the length or a derived measurement like a length for weight or a BMI. So, the percentile is the context that allows you to interpret the vital sign meaningfully. And again, if you are in a clinical system which is highly functional, your system will do those calculations and do that presentation. But if you are in a nursing system or a public health system or a homecare system or you are the patient themselves or a caregiver of a child, then that contextual information is really valuable.

Tina Esposito – Advocate Aurora Health – Member

And I guess I would put forth then, that is the comment. For most or for many, that have access to an advanced medical record, this is not an issue. But for others this would be in this context, would be important.

Steven Lane – Sutter Health – Member
So, my current proposal is that we say, yes, there is one new vital sign to add. Which is the head circumference? And yes, there is value for some stakeholders in receiving the contextual information that is the percentiles that are derived from the vital signs. And then I would suggest that we make a list of those. And it would not only include the BMI for age and sex and the weight for length for age and sex, but it would also include the weight itself, the length itself, the head circumference itself, the pulse, the blood pressure, and for each of those vital signs or derived ratios, that they should be calculated and sent with the reference data set.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
And that matches the comments that Bob McClure is making in the chat. So, I think let's make our recommendation that. This is really a bifurcated recommendation. That the vital signs, here's what we want. For calculations, there is a comprehensive list of them that all need to be standards-based, clearly identified what nomograms are in the background and let them sort it out.

Steven Lane – Sutter Health – Member
I like it. And thank you, Dr. McClure.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Thank you, Dr. McClure, and thank you Dr. Lane, and Dr. Taylor, and everybody else.

Ken Kawamoto – University of Utah Health – Member
Terry, this is Ken. Could I make a quick comment?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Hey, Ken. Yes.

Ken Kawamoto – University of Utah Health – Member
I do think it gets a little bit complicated in this one because there are so many different charts that could be used. So, I think if we are going to recommend that the data be sent rather than the functionality be available to calculate these, then we need to be clearer. Like are we saying we want the CDC growth charts, the **[inaudible] [00:33:02]** growth charts? If they have Down's syndrome, are we expecting the data set to take that into account and use a different growth chart?

Steven Lane – Sutter Health – Member
So, Ken, what we are saying is, send us the raw, vital sign data and calculate your percentile. By whatever means you do, send the calculated percentile and the reference data set that was used to calculate it. So, I don't think that we have to say which reference data set they need to use. They just need to, if they are calculating it, that's fine. Just tell us which reference data they set used.

Because again, if you are a clinical system, you are going to receive the raw data and recalculate it based on, your assessment. Am I using a preemie growth chart? Am I using a Down's growth chart, etc.? That is up to the recipient system to make that determination. But if you are a non-clinician system, if you are homecare system, if you are a patient health record, then just knowing what the

calculated percentile was and what was used to calculate it, seems to me to enough. I don't think we need to specify which reference data set they would use.

Ken Kawamoto – University of Utah Health – Member
Okay. I think it would be a pretty big ask and there are so many things we could ask along these lines. Like if they are going to give us the same **[inaudible] [00:34:32],** you must send a clearance or whatnot. I am not necessarily against it. I would be interested in what EHR vendors think of this requirement.

Steven Lane – Sutter Health – Member
You know, we could phrase it in another way, Ken. Instead of saying you must send this, as part of USCDI. We could say for the calculated percentiles, that if the source system calculates percentiles, then they must be sent. Because again, I mean, I can imagine a pediatric patient health record, right, where you have parents entering growth parameters. And they may or may not calculate these percentiles. And if they don't, maybe USCDI, it is not our job to force them to do it. So, this may be and if you do this, if the source system does this, then you must send it.

Ken Kawamoto – University of Utah Health – Member
Okay. Yes, I think – just a comment. There are some systems may be set up so that they support multiple charts, and it is just up to the end user to select which chart they want to use. I am not sure it is being recorded, which of those is actually the correct chart to use for that patient. So, there may be some complications because they may calculate it, but they may rely on the end user to select at the time of use which chart is most appropriate. But I mean, if it is along the lines of if you have what you know is definitely the right one then you should send it, I think that is fine.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
How about changing the language from must to may? Because I am concerned about the point you are raising, Ken. I see the value of it, but I think we are stepping into an area that complicates this information sharing, rather than simplifies it clarifies it.

Steven Lane – Sutter Health – Member
I think I agree as well. Again, I am sort of sitting here paying with pediatric growth charts in my system. And Ken is absolutely right. That as a user, I can say well I always – routinely I want to use the CDC reference data set. But if I want, I can switch over to the WHO reference data set. And the data displays differently, but I am guessing that my system is not storing the percentile data in a data field where it could then send it. I think it is just displaying it against a nomogram that will when I hover over the point, it calculates the percentile. But I will bet that that is not being stored.

Or it could be, it could not be. I mean, we don't want to create more work than necessary for a system. So, I like the idea of if you have this, you are encouraged to send it, but if you do not have it, I mean, again, even using a highly functional EHR, I do not know if these percentiles are stored. Because again, for any given data point on my growth chart, if I switch my reference data set in real time, the percentile changes. And again, I do not think that is being stored anywhere. I think it is just being displayed.

So, if you store percentile data, then you should send it with the reference data set. But yes, I do not think we need to demand that every EHR vendor suddenly starts storing that in a discrete field. That

seems like it is asking for a lot of development time and energy that could be put into something more valuable.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Okay. So, do we think we have reached a consensus around adding one new pediatric vital sign to the long list that is already in USCDI? And then encouraging systems that can send calculated data points, that they send those with the referenced data set?

Steven Lane – Sutter Health – Member
Well, actually it could be a little separate. So, you could calculate a weight for length, it is just a ratio. You can calculate a BMI. It is just a little bit more complicated ratio. And so those are calculated – those are derived vital signs if you will. So, I would say if the system derives a weight for length and/or a BMI, that they should send that. But again, the recipient system could always derive that from the core vital sign data. Similarly, so first is the vital signs, then there is the calculated derive measures, weight for ratios, weight for length and BMI. And then, there is the percentile data. So that is like a third layer. If your system calculates and stores percentile data, then you should send that along with the reference data set that was used for that calculation. So, I would break it into three.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Thank you, Steven. That makes a lot of sense to me. Other comments on this either for or against that position? Just so, we are going to put it down as a consensus, we will circle back to this probably next week. But anyone else want to weigh in on that formulation?

Christina Caraballo – Audacious Inquiry – Co-Chair
No, I do not have any further comment.

Tina Esposito – Advocate Aurora Health – Member
I do not have anything more to add.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Okay. So, it is a wrap. So hopefully, Steven, we will put it down as you have said it. Great. That was a good discussion. Thank you, all. And thank you, Dr. McClure, as well. That was very helpful. Okay, so Christina, where are we going from here?

Christina Caraballo – Audacious Inquiry – Co-Chair
We are going to pull up our homework questions on clinical note and provenance. So, we sent around, with our Google doc, maybe, Johnny, we can go int our Google doc now as well.

Johnny Bender – Office of the National Coordinator – SME
Yes, sorry just one sec.

Christina Caraballo – Audacious Inquiry – Co-Chair
No problem. So, I will just state the two questions that we had. For the clinical notes, we just wanted any additional or any remaining comments from last week to indicate which of the newly proposed elements you most value and provide other important note types that you feel should be raised. So that was under the clinical note.

And then, provenance, we asked everyone to provide a short definition of how you would choose to define the author within the context of the proposed data element, considering the conversations in recent meetings about the differences between author, generator, source, and aggregator. It is in those two areas. Johnny, do you have a preference on where you want to go in the document? There are clinical notes.

Johnny Bender – Office of the National Coordinator – SME
Yes, no. Where you want to go to. Yes, I can zoom in.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Can you zoom, yes?

Johnny Bender – Office of the National Coordinator – SME
Yes. I do not think I have the actual homework on here.

Steven Lane – Sutter Health – Member
Can somebody copy the URL of the Google doc and shoot it to me?

Johnny Bender – Office of the National Coordinator – SME
With presenters, yes.

Steven Lane – Sutter Health – Member
That would be great. Well, I do not think there is – there is not a presenter comment, there is just a public comment, and I do not think you want it there. So, you may need to shoot it.

Sheryl Turney – Anthem Blue Cross Blue Shield – Member
Who is speaking?

Steven Lane – Sutter Health – Member
Steven Lane. Sorry.

Sheryl Turney – Anthem Blue Cross Blue Shield – Member
I will send it to you because I could not find it until this morning either. I will send it to you right now.

Steven Lane – Sutter Health – Member
Thanks, Sheryl.

Johnny Bender – Office of the National Coordinator – SME
Great. Thanks.

Christina Caraballo – Audacious Inquiry – Co-Chair
Okay. So, we are at the clinical notes. So, on the screen, we have the clinical notes that are in the proposed USCDI…

Johnny Bender – Office of the National Coordinator – SME
Yes. So how do you want to do this discussion? Do you want to do it based on the homework we just had?

Christina Caraballo – Audacious Inquiry – Co-Chair
Yes. We can do that.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Yes, let's start off with questions, so.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
So, on the Google doc, under our clinical notes section, there is a list of the ONC proposed new note types. Consultation, discharge, history, image, lab, pathology, procedure, progress. And if you scroll down about a page, there are the CCDA document types, the HL-7 list. And I guess one question I would have is there a reason why we are not selecting all of these 12 instead of…

Steven Lane – Sutter Health – Member
Yes. My thought continues to be that we should include them all. That somebody who was writing for the ONC picked a subset and were the ones they thought were the most important. But I think it makes sense for us to just link to the CCDA standard as it is evolving. And this is the new version. I know they added a couple fairly recently. Let me go back and find my reference document and just be sure this is the latest. That 12 is the right number.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Yes. I think this is number two. Or 2d1.

Steven Lane – Sutter Health – Member
Okay, good. Any other thought on that comment? Does that make sense to the group or…?

Christina Caraballo – Audacious Inquiry – Co-Chair
Yes, that makes total sense.

Sheryl Turney – Anthem Blue Cross Blue Shield – Member
I agree with this one.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Okay. All right. Good. Well, that makes this a lot easier then.

Sheryl Turney – Anthem Blue Cross Blue Shield – Member
Never mind. Stop.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
There we go.

Steven Lane – Sutter Health – Member
Yes. So, the new ones that were added were cared plan, referral note, and transfer summery. All of which I know is near and dear to your heart, Terry, so.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Yes. Our little study generated a fair chunk of those, so. Good. All right. Any other comments on clinical notes, then? So, I guess the next question is, all right, this is a great list, and it is a step a little further than what ONC initially proposed. So are there any other types of notes that we think – if you scroll

down a little farther, Johnny, you will come to the HIT recommended additional elements. There is a – and whether this is a note or whether this is a template. But it is recommended medication list, an advanced care plan note, long term services, and support care plan, which is different. Quality metrics, standard query response, function, cognition, so anyway those…

Al Taylor – Office of the National Coordinator – SME
I am sorry. Where did this list come from?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
I made it up. This is if you keep going on the Google doc, and you get to the title that says HITAC recommended additional elements. What's missing? What might be valuable? There are some other note types that are not – and again, the question is are these notes or are they templates and just could fit into the tone of these other note categories. But they are…

Steven Lane – Sutter Health – Member
Well, it is interesting, Terry because when you are speaking as a clinician, a note type is different than a CCDA document template, right? I mean it is a little squishier and subjective. I mean, these document templates, a lot of really smart people spend a lot of time figuring out just what belongs in them and what the structure is and testing and all that stuff. But there are clearly different kinds of notes that we would write as you say. But since those – unless you are actually referencing a standard with your terminology here, I think again, it is hard to say this is going to be part of USCDI. Because then it requires a lot of upstream work, right? I mean people have to create these note types and define them and train them, etc. Is there something in here that you see as so different then what is already in CCDA that it needs to be added? And if so, does it make sense to add it to USCDI or to push it back to CCDA and say it should be added there?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
So, on this subsequent list, I think the one that probably – the two that stand out most to me in terms of high value, are a current reconciled medication list, separate and apart from any other note that that might be found in.

Steven Lane – Sutter Health – Member
Here, here.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Okay. And there is a standard. And I believe that there is an accepted standard. And then the second one is the advanced care plan note, and I know that is Lisa Nelson's. She has an HL-7 note type that was balloted and passed. I do not know where it stands right now. Whether it is trial use of if it has gone further. But those two, from my perspective, if they are not explicitly called out in one of the other note types, and almost even if they are, they independently have value. And if you only wanted to send an advanced care plan or a reconciled med list, do we need a note type to sort of carrying that?

Steven Lane – Sutter Health – Member
I do not know that these really are notes. Well, an advanced care plan, I guess, is a note. Because it doesn't really – I don't know that there is a standard structure for an advanced care plan. There is certainly a structure for a medication list. It is a list. And one could argue that there should be medication names and forms and dosages, etc. So, I don't know – I mean, I totally agree. That a

reconciled medication list. And I would take out the word current. I would say, reconciled medication list as of.

Johnny Bender – Office of the National Coordinator – SME
With the date?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
As of.

Steven Lane – Sutter Health – Member
You are right, as of, and according to whom. Right, that is the thing. Who reconciled it and when? And he who should not only be the individual but also their role. Was it the patient? Was it the parent? Was it a nurse? Was it the pharmacist? Was it a physician? You know. So, add a by whom and the role.

So that's, and again, if we can use this opportunity, if we can call it a note type, and say it is a note that has the format of a list, that is fine. An advanced care plan, again, I think this is very much end of life care preferences. I think most people know what that is now. And sometimes this takes the form of an unstructured note. Are you thinking about pulses and dermal powers as a part of this or are you thinking specifically of an instructed textural note?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Yeah, I think both. I think if it is the CCDA, you have enough flexibility to do both. But it is actually, even more than just end of life, this is a statement of the individual's preferences, in many ways their priorities, which are also on the common clinical data set, or to be called out in USCDI later on. This may be the envelope which holds those particular core data elements.

Steven Lane – Sutter Health – Member
Looking down at the other documents that you listed, cognitive function, functional capacity, quality metrics, query response. I mean, those are all interesting. I know our organization has a lot of interest in quality metrics. This sort of goes to the whole area that we are looking at in the vast and DaVinci on the fireside. But again, it is hard to think of these as note templates.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
With the exception – well, let me phrase it in another way. Is there or could there be or should there be, a standard quality metric query response that sort of looks at electronically generated quality metrics? So, the ECQMs of the world, which are going to grow as interoperable exchange increases, in fact, it will be electronic quality measures for interoperability, as one measure for example, or a set of measures. And the question is that is this an area that is worthy of thinking about whether there is a note type that could serve as a common starting point for sharing.

Steven Lane – Sutter Health – Member
I think what you are really getting at, Terry is that there is a standard set of data. Well, one could argue that there is a standard set of data, that is used for electronic quality reporting. That set is changing, right, like Medicare and others change what they are doing. But it is more stable now than it was a few years ago.

And what you are saying is if you are an EHR, that there should be a standard format, we can call it a note type, you can make it a report, you can call it any number of things. That where you pull that data

from your system, package it up and then share it with somebody. And again, whether that is another clinical system, whether it is a payer, whether it is a public health patient, what have you. And again, I think we are sort of trying to shoehorn this into USCDI, to say that, again, either to say that every system should be able to do this, or to say that if you are able to do this, if you are able to calculate one or more standardized quality metrics, then you should then also be able to package those up into a standard format. Call it a note type, and then ship it to somebody.

Again, that is a laudable goal. I mean, I think we really do want systems to be calculating standard quality metrics in standardized ways. And we do want them to be able to share those, both via Fire and CCDA and you name it. Again, I question the use of note types for that. And again, it is also there is sort of, this is another one of those derived metrics, right? I mean electronic clinical quality measures are derived from clinical data. So, it is kind of like those BMI percentiles we were talking about. So, if you derive something from your core data, you need to explain, what was the equation or methodology that you used to derive that, right? Because there is often calculations involved in putting those together. Again, it feels like a little bit of an overreach to USCDI to me, just on the surface. But I'm not against it.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Okay. And thank you again, Steven, for being far more articulate than I am about exactly how this fits in. Thank you. So, any other comments? Ken, Sheryl, anybody?

Steven Lane – Sutter Health – Member
Maybe we want to put this, you know again, I think it has a lot of value, but maybe this goes into the next bucket, just so we get people thinking about it. Rather than the do it now bucket.

Sheryl Turney – Anthem Blue Cross Blue Shield – Member
Well, this is Sheryl. I don't know if anything that we are recommending is going to do it now anyway. Because remember, this is going to go against the promotion model that we have for USCDI. So, I think it will still have to be evaluated by the team that is going to look at the data fields and then identifies which are the most important to move forward. So, I just think this is adding to the list, but I don't think what we are going to recommend adding will necessarily be classified do now versus do later. Unless I interpreted it wrong, but I don't think so.

Christina Caraballo – Audacious Inquiry – Co-Chair
I think my understanding is that we are – these are all being proposed for version one, so we are looking at what the draft that USCDI will be when it is actually final.

Sheryl Turney – Anthem Blue Cross Blue Shield – Member
So, if that is the case, then I would agree. We would identify that these should be there in a future version.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Okay, so the quality metric note, our USCDI stretch note type, goes on a to be thought about in the future category. How about a reconciled medication list as of this date by whom note?

Steven Lane – Sutter Health – Member
You know the one of these that – you know, we have discussed three. The one that is the most note like is the advanced care plan. The medication list is a list, and the quality metrics is a bunch of derived

metrics. So I think if we are talking about note types, we should sort of elevate this advanced care plan note as something that we have an interest in. And then I think probably a discussion with Lisa and the CCDA team, and perhaps even the Fire team. I do not know if Fire is dealing with note types or not, would make sense.

And then I think we need to consider whether USCDI is the right place, the right vehicle to promote the sharing, the documentation, and sharing of reconciled med lists and the standardize sharing of a set of standardized quality metrics.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
I think that is a good question to raise. So, if it is not here, where is it?

Steven Lane – Sutter Health – Member
Is there a better home for this?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Right. And if not, then we will take it.

Steven Lane – Sutter Health – Member
And then the others here, so you talked about the care plan note. That is a note, right? Functional capacity, again to me that is less of a note that it is maybe a questionnaire kind of thing.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Yeah. Or a template, a checklist…

Steven Lane – Sutter Health – Member
Right, right. And cognitive function, again, we tend to do that using standardized instruments as opposed to free text notes.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Right.

Steven Lane – Sutter Health – Member
Say more about the LTSSHCBS care plan. So, I assume work has been done here on standardizing what goes into these care plans?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Yes. There is an INI framework project. ELTSF. Evelyn was running it for a long time. And it is now gone to the ballot. HL-7 ballot.

Steven Lane – Sutter Health – Member
Oh, good.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
It is in active ballot right now.

Steven Lane – Sutter Health – Member

Fabulous. And it is the content and the structure so that this information could be captured and shared presumably in either CCDA or Fire format?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Correct. So, it will be both. So, Fire research is being built at the same time the CCDA document type is being built. And the whole idea is that it all rests on standardized vocabulary. So that it speaks the same language as the rest of the medical care system.

Steven Lane – Sutter Health – Member
Well, that sounds great.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
And this will help us with issues around the social determinants of health, the recognition that supportive services are probably going to be the major strategy at risk. Provider groups are going to grab to reduce total cost of care. So, it is an important area to think about.

Al Taylor – Office of the National Coordinator – SME
And Terry, do you know it is similar standardization work being done on the advanced care plan in addition to the general care plan?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Other than Lisa's note, which was the patients emergency – I can't remember the exact title, but I think it was the patient-generated emergency care plan standard. Which also is the first standard patient-generated note in HL-7. So, it has a couple of characteristics which are interesting. Beyond that, I think the CCDA just is flexible enough that you can put in free text, which is important in the note type. But also, you can put in a standardized pulse most, five wishes, whatever you needed.

Steven Lane – Sutter Health – Member
Yes. I think both of these care plan notes are really good things for us to add when their standards are defined.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Okay. Any objection to sort of that recommendation, that we add them to the list with a qualifier that when their standards are defined, we would like to move them up the queue?

Sheryl Turney – Anthem Blue Cross Blue Shield – Member
That sounds like a good plan.

Steven Lane – Sutter Health – Member
Terry, did you want to say anything more about this the transfer of care note that you listed at the top? Why do you see that as different than the discharge summary? In my mind, they are kind of the same thing. Perhaps, whether you are being discharged to home, discharged to home care, discharged from acute to long-term care, or rehab, or vice versa. Being discharged from long term care to hospital admission. I mean, I see transfer and discharge as very similar.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Right. And there is a big overlap, and the discharge summary is the default transfer note right now. But the discharge summary has different roots and a different purpose and a different regulatory

requirement then a transfer note. So, you are required to have a discharge summary basically that memorializes what happened in the hospital or the facility you are in, whatever. But for the most part, it is the hospital. And in that memorialization may or may not be terribly useful for further clinical care. It is useful only to the extent that it provides information of value to the next clinical team. d what is valuable to the next clinical team depends on who is on the team and where they are, and what the constellation of issues the patient presents with.

So, it is not a standardized note. It is standardized, but it is very flexible and has a lot of moving parts in it. And the main purpose is just to provide the information to the next care team, clinical or not, that is needed for safe, efficient, appropriate, care.

Steven Lane – Sutter Health – Member
That is a good point. There is sort of the billing purpose to the discharge summary. As you say, it is just kind of the summarization of what got done, which again, is sort of related to the billing. And then you are right, the transferred piece of it can be thought of as a different purpose. But are they, in a CCDA or a Fire world, are there going to be different standards as far as what is required? Or is it just more us as clinicians kind of approach it differently?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Yeah, I think it is the latter. I think the summery transfer note in the CCDA has a set of templates that are reasonably housed within that note type. And they are different, although there is a fair overlap, they are different than the templates that are housed in the discharge summary note type.

Steven Lane – Sutter Health – Member
I think you mean the document section, inside the document template.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Okay, yes.

Steven Lane – Sutter Health – Member
I don't mean to be argumentative, sorry.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
That's okay. That's fine. So, my sense is, I kind of think that there are two separate note types, with a fair overlap. But the discharge summary includes a lot of information that is of absolutely no relevance to me as the following clinician. What I really want is a very clear statement or problems, you know. What was the problem? What did you do? What happened? What are you going to do next? What should I do next? What should I be aware of? What should I be worried about? That is never found in the discharge summary.

Steven Lane – Sutter Health – Member
Yes. But since we have already determined that both the discharge summary and the transfer summery are CCDA document types, what do we need to add to that? And we have already said we want to include them both.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Yes. I do not think we have to add anything more. I think we just do it on the **[inaudible] [01:13:41]**.

Steven Lane – Sutter Health – Member
Okay. Got it. I just was not sure if there was something more you wanted here.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
No, I want it on the list.

Steven Lane – Sutter Health – Member
Perfect.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
I am glad that one other person wants it on the list because it is probably going to end up on the list anyway. But anyway.

Sheryl Turney – Anthem Blue Cross Blue Shield – Member
Yes. This is Sheryl, and I want it on the list, so I am happy it is there.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Wonderful. Great. So, do we think we have sort of come to our mini-consensus on the document types? That we will add transfer summery and we will put the LTSS and the advanced care plan as next – in the batter's box as soon as they get their standards in place?

Steven Lane – Sutter Health – Member
And we are going to figure out whether we are the right place to be talking about the reconciled medication list.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Okay. And the query, and the quality query and response. So, we actually have sort of three tiers.

Steven Lane – Sutter Health – Member
Now Terry, I just wanted to ask you, when you referred to that as query and response, that is not how I would have characterized it. I mean, I would have characterized it as a standard eCQM report or something. What were you getting at when you referred to the query response part of that?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Yes, it is more –, and so the query part is, do you hold the following data elements that I need in order to calculate this quality metric? That's the query. So here is the list.

Steven Lane – Sutter Health – Member
Or have you calculated this quality metric, and can you just send it to me?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Yes. That would be a reasonable alternative. But it is really just a standardized way of requisition and bundling and sharing.

Steven Lane – Sutter Health – Member
Right. Either the native data that is needed and/or the calculated measure.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair

Right. And the specifications, as we said, we really need to have specifications of the particular nomogram. But the specification would be, here is the NQF query, the NQF standard, which goes into infinite detail about what ICD 10 codes are included in the denominator. So, it is a very elaborate request.

Steven Lane – Sutter Health – Member
Right.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
But it should be a standard query. It should be nice if we could just think about it as – in a sense, as a note type. So, I am going to send you a query, and you know it is a quality query.

Steven Lane – Sutter Health – Member
And you are going to send me a response, and I will know what I am to expect.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Correct, yes.

Steven Lane – Sutter Health – Member
Thanks. That is helpful. Because I think we have to close the loop with quality metrics. It is going to be more and more driven out of the HR I believe.

Christina Caraballo – Audacious Inquiry – Co-Chair
Okay. Why don't we take a quick break for public comment? Just because we are kind of wrapping up on that point. Is that okay, Terry?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Oh, Absolutely. Yes. Fine with me.

Christina Caraballo – Audacious Inquiry – Co-Chair
Operator, can we open the public lien?

Operator
Certainly. If you would like to make a public comment, please press star one on your telephone keypad. A confirmation tone will indicate your line is the queue, and you may press star two if you would like to remove your comment from the queue. For practices using speaker equipment, it may be necessary to pick up your handset before pressing the star keys.

Christina Caraballo – Audacious Inquiry – Co-Chair
Okay, and do we have any comments in the queue at this time?

Operator
We have none at this time.

Christina Caraballo – Audacious Inquiry – Co-Chair
Okay. I will give it back to you, Terry. I know we had the number up for a while, so hopefully, they gave folks time to dial in. But we will wrap up what we need to today, and then we will prepare for our next meeting.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Great. Okay, gang. Anything else that we – that people are eager to share that we have not touched on? Next time around we will hit demographics and provenance. But I think we did a great job on notes and pediatric vital signs.

Steven Lane – Sutter Health – Member
When you guys met last week, did you discuss Steve's feedback on the provenance?

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Yes. I think we did.

Steven Lane – Sutter Health – Member
Good. Okay.

Sheryl Turney – Anthem Blue Cross Blue Shield – Member
Yes. We did.

Christina Caraballo – Audacious Inquiry – Co-Chair
Okay. So, I think this is – go ahead, Terry.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
I am just saying, the question on provenance is – and someone raised the point – shouldn't we look at what some of the other countries have been doing about provenance. Particularly Great Britain, some of the international approaches? And I must confess, I haven't looked. But we can dive into provenance next week. I think the issues are going to be the same. This is a great starting set, and what do we think should be added to it that is not a big stretch right now? And then, where do we think the elements ought to go from here?

Christina Caraballo – Audacious Inquiry – Co-Chair
Sounds good. So, we will have to finish our provenance discussion next week. I think it was a really good discussion around the pediatric vital signs. I would like to come back to that. I do not think we are fully baked in our recommendations. I think we see a tremendous amount of value in providing the percentiles and calculations for the systems that may not be as robust. But I would like us to consider over the course of the week, before our next meeting, what risks are involved with the calculations.

I think we have seen a couple comments from Dr. McClure and his conversation that we were going to need maybe a way to calculate. So is that from CDC or another source? And I would just like us to think about what complications are there going to be with the percentiles to make sure that this is the direction we want to go. Because I think we have identified it as a huge value add.

Steven Lane – Sutter Health – Member
And again, I think the complication is that they are not going to be valuable for most advanced EHRs that would receive them. And in fact, those EHRs may not have any place to put them. Because if, as is suspect, EHR is kind of displaying the percentile in real time based on calculations in the user interface as opposed to storing them. Suddenly they are getting a percentile, they are going to have to figure out somewhere to put that. And then they are going to have to figure out whiter or not they actually

display that calculated percentile from the external system to the user, and if that is not what they are in the habit of doing….

I mean I can see some complications with the sending of the percentiles to clinical systems. Again, I think as we have discussed, the primary value is really to the other systems that perhaps are not as advanced or have not built out functionality in that area. To be able to take that contextual data and display it to users. But yes, that probably does bear further discussion. To make sure that we are encouraging something that is valuable without creating an undue burden for those where it would not have value.

Christina Caraballo – Audacious Inquiry – Co-Chair
Exactly.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Yes. Well, put.

Christina Caraballo – Audacious Inquiry – Co-Chair
Any lost comments, questions, thoughts, before we wrap up?

Steven Lane – Sutter Health – Member
I just wanted to say that your meeting that you scheduled for Friday is at a time when I had another meeting that I am trying to move. So, I am working on that.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Thank you very much. And sorry for the last-minute change. It is just a cascade of events, and next week is going to be a pretty tight week.

Steven Lane – Sutter Health – Member
I am looking forward to seeing you all, though.

Terrence O'Malley – Massachusetts General Hospital – Co-Chair
Absolutely. So, thanks to everybody. This was a great discussion. I think we are making progress and look forward to the next set. So safe travels until then.

Steven Lane – Sutter Health – Member
Ciao.

Tina Esposito – Advocate Aurora Health – Member
Thanks, everyone.

Christina Caraballo – Audacious Inquiry – Co-Chair
Thanks, everyone, bye. See you next week.