Transcript

HEALTH INFORMATION TECHNOLOGY ADVISORY COMMITTEE (HITAC) EHR REPORTING PROGRAM TASK FORCE 2021 MEETING

September 2, 2021, 10:00 a.m. – 11:30 a.m. ET

VIRTUAL

Speakers

Name	Organization	Role
Raj Ratwani	**MedStar Health**	**Co-Chair**
Jill Shuemaker	**American Board of Family Medicine's Center for Professionalism & Value in Health Care**	**Co-Chair**
Zahid Butt	Medisolv Inc	Member
Jim Jirjis	HCA Healthcare	Member
Bryant Thomas Karras	Washington State Department of Health	Member
Joseph Kunisch	Harris Health System	Member
Steven Lane	Sutter Health	Member
Kenneth Mandl	Boston Children's Hospital	Member
Abby Sears	OCHIN	Member
Sasha TerMaat	Epic	Member
Sheryl Turney	Anthem, Inc.	Member
Steven Waldren	American Academy of Family Physicians	Member
Michael Berry	Office of the National Coordinator for Health Information Technology	Designated Federal Officer
Seth Pazinski	Office of the National Coordinator for Health Information Technology	Director, Strategic Planning & Coordination Division
Cassandra Hadley	Office of the National Coordinator for Health Information Technology	ONC Staff
Michael Wittie	Office of the National Coordinator for Health Information Technology	ONC Staff Co-Lead
Dustin Charles	Office of the National Coordinator for Health Information Technology	ONC Staff Co-Lead
Fredric Blavin	Urban Institute	ONC Contractor

Call to Order/Roll Call (00:00:00)

Operator
All lines are now bridged.

Michael Berry
Great. Good morning, everyone, and welcome back to the EHR Reporting Program Task Force. I am Mike Berry with ONC, and I am really excited to have you with us, and I want to thank our co-chairs and all the task force members for all their hard work these past couple months. I know it has been a lot of homework assignments and a lot of work behind the scenes, and on behalf of ONC, we really appreciate it. We really look forward to your recommendations next week. I am going to start with roll call, and I will start with our co-chairs. When I call your name, please indicate that you are present. Raj Ratwani?

Raj Ratwani
Good morning, present.

Michael Berry
Jill Shumaker?

Jill Shuemaker
Good morning.

Michael Berry
Zahid Butt? Jim Jirjis?

Jim Jirjis
Present.

Michael Berry
Bryant Karras?

Bryant Thomas Karras
I am here.

Michael Berry
Joseph Kunisch?

Joseph Kunisch
I am here.

Michael Berry
Steven Lane?

Steven Lane
Good morning.

Michael Berry
Kenneth Mandl?

Kenneth Mandl
Hello, everybody.

Michael Berry
Abby Sears?

Abby Sears
Good morning.

Michael Berry
Sasha TerMaat? Sheryl Turney? And, Steven Waldren?

Steven Waldren
I am here.

Michael Berry
All right. I think Steven is there. Was that you, Steven?

Steven Waldren
Yes.

Michael Berry
All right, thank you. All right, I will turn it over to our co-chairs to kick us off. Thank you.

Opening Remarks (00:01:34)

Jill Shuemaker
Great. Thank you, Mike, and welcome, everyone. We are in the home stretch. Can you believe this is our last task force meeting? It has been a whirlwind, and we so appreciate all of the feedback and the help that you all have given us to come up with our recommendations. We are just going to jump right into the standards adoption and conformance measures. This is our last set of recommendations to review, and we are hoping to reach consensus on our recommendations, so I am going to turn it over to Raj.

Raj Ratwani
Thank you, Jill. I appreciate it, and thank you, Jill, for covering last week, as I was out, and thanks to the task force on the continued great work and lots of incredible progress. Jill and I have been reviewing the previous recommendations that generally have consensus and some of the reconciliation that needs to happen, and things are looking good there. So, as Jill mentioned, our goal today is to work through each of the measures in the set and get feedback from everybody so that we can hopefully move all those above the line, as we have been calling it, and get things wrapped up in the meeting next week. So, Jim and Ken, I will turn it over to you to let you drive this through the Google doc, slides, or whatever you prefer, so it is all yours. Just as a reminder, let's use the hand-raising feature. Jim and Ken, I will help manage that.

Recommendations for Standards Adoption and Conformance Measures (00:03:02)

Jim Jirjis
Okay. Ken, do you have it? Pull it up so people can see as you edit. Can you hear me?

Kenneth Mandl
Yeah. Certainly, everyone can see… There it is. So, if Cassie has got the Google doc up, then my edits should be clear.

Jim Jirjis
Can you guys hear me, by the way?

Kenneth Mandl
Yes.

Raj Ratwani
Yes, we can.

Jim Jirjis
Thank you. We had a lot of rich feedback last time, so we have spent some time processing it all, and we have been able to trim a couple of metrics. Sasha, you had mentioned a few measures, and we were able to go through each combination, and what we have done is to try to simplify it for everyone. We want to walk through it in a way that makes it efficient to get through by the end of this session. One of the things we added here was in our section that… And, I think in many of them, there are numerator/denominator combos, but a little bit of context for what was driving that minimum set that we are recommending is what we have added at the beginning here, and people can read through the rationale. If you scroll down a little bit, Ken…

Kenneth Mandl
So, Chris has the…yeah.

Jim Jirjis
Okay, good. Got it. So, basically, the goals of the metrics are really to understand the use of these apps, which are reusable and substitutable apps, but even the context of a broader app industry, as well as the bulk FHIR and upcoming EHR requirements. Go ahead and scroll down, in the interests of time. Please, people, comment about it, but those goals there are important, so part of the driving principles is that you were…if we as an industry, customers, or ONC wanted to have insight into how this market and this capability is being used for further effort or further policy. So, here are some of the high-level themes of what is in the numerator/denominator. Understanding what FHIR versions people are actually using **[inaudible] [00:05:19]** APIs.

Understanding the volumes of apps that are able to read versus also write back is an important evolution to see whether those apps are burdening or not. Types of resources being exchanged: So, one of the themes is some insight into what data is being valuable, what resources. Obviously, having insights into the volume of activity were key themes in these numerators and denominators, as well as the

exchange…the implications of potential infrastructure burden if we get into how many gigabytes, et cetera. The distribution of app availability and utilization and how they are being used would be desirable. Are they being used in certain areas of the country, certain underserved areas? Is there equity of use? Just some insights into where the activity is. That is where it got into the denominators we talked about by site. It would be nice to have information about geography.

The ability to identify denominators to allow insights to normalize: So, some of the denominators that were different between the clinician- and patient-facing apps really were what would be useful, what context would the numerator be useful for. And then, some insight into the cost to the client for API calls, as well as the use and cost for upcoming EHI export. So, if you scroll down, we can…quickly walk through, and then we can open up for discussion. To simplify, it looks like there are a lot of measures, but actually, if you look at the numerators between clinician- and patient-facing apps, there are a lot of similarities between the two, and some of what is driving it… Obviously, one of the metrics for both of them was the ability to read versus write. That is important to track across both patient- and clinician-facing apps, but that does not really apply to bulk FHIR. So, for both the patient- and clinician-facing apps, but also for bulk FHIR, a lot of the numerators were similar.

You look at the themes and see each of these numerators has been designed to understand read/write, what resources, what version of FHIR, and then, also some sense of volume/activity, as well as some sense of the size of data really with an eye towards performance and infrastructure demands and **[inaudible] [00:08:08]**.

So, for the denominator, I know that there are really three sections, but if we just look at the numerators, they are pretty similar across both patient- and clinician-facing apps. So, before we get into the nuances of the denominator, I would welcome any comments or questions about what is in the numerator for these two, and why. So, if you look at the numerators…

Raj Ratwani

Sorry, Jim, there are a couple questions. Let's go to Steve Lane first.

Steven Lane

I just wanted to thank Jim and Ken for thinking this through so carefully. I think that clearly, this goes a bit beyond what we were handed by the team to comment on, and I think this sort of takes it to another level of clarity, and I just really wanted to thank you for that. I think looking at these dimensions of read/write, patient/clinician-facing, whether the apps are reusable really does get us at differentiations that are going to be valuable for ONC and for our community as we measure these things. I think the challenge for us is deciding which of these really belong in Version 1 and which are future aspirational goals.

Jim Jirjis

Steven, that is a great point, and one of the ways we thought we might address that is in our final recommendation, we have a notation for ONC to consider phasing. We think having all these insights will really help ONC, but to your point, if it is thought that there are too many, they might consider phasing it. Of course, if they do, they will miss some of the insights, but I think ONC could probably decide what is most valuable for them to track.

Steven Lane
Right, but as we have said, the value of phasing in recommendations is that the things that are rational to do out of the gate we start getting experience with, and those that are going to require a bit more effort on the part of the vendors or providers in order to be able to generate them, they can signal to the industry that this is what is coming in a year or two, and then the work can be done to prepare for that.

Jim Jirjis
Yeah, great point.

Raj Ratwani
Good point. I agree. I think we can definitely write this in as a phased approach once we come up with the particular priorities here. And then, in the vein of what Steve was calling out, I appreciate the really good work by Jim and Ken, and I know there is a large basket of measures, and they have reduced the number here. I think at some level, we should grow comfortable with that because of the complex space, and I think having these various measures is going to be really important in the complexity. Sasha, I think we have you next.

Sasha TerMaat
Sure. So, a couple thoughts. First, I am not sure that we actually want to call these numerators and denominators. I understand that we are capturing the ones that are labeled as denominators for context, but the numerators are not going to be directly associated with the denominators. We are not going to put… First of all, most of the numerators have multiple numbers in them, and we are not going to directly divide them by the denominators, so I think that terminology might be a little bit misleading in this case because I think we are really talking about a number of counts, which are called numerators, and then, some sort of contextual number count to give understanding.

Jim Jirjis
That is a great point. It is not as clear as just the numerator and the denominator.

Sasha TerMaat
No. I think it would be helpful for us when we think about counts to measure how many of these we are going to have because even if we look at I, clinician-facing endpoints, the total number of API calls by resource type and FHIR version, that is going to generate…60 numbers, right? Because if you have approximately 20 resources and maybe three versions of FHIR… And so, when I look at these, I think we absolutely need to prioritize some because there are a lot of things that would be reported here with all the stratifications on each of these counts, and then, all the denominators, so I would strongly encourage the group to identify which ones we think are going to be the most critical because I do think there is a large volume. My final comment, I guess, is that some of these… There are still comments in here that we would need to clarify, and I am not seeing if that is addressed, like site, for example. Did we put in a definition of that somewhere?

Jim Jirjis
No, Sasha, that is a good point. As I was going to go through this, there were a couple of questions that were in here. Let's take that one, for example, if we could, right now: Site. The reason we did the goals, purpose, and driving sense of those documents is that for each numerator/denominator combination, we

could understand…just for the data elements, forget the numerator/denominator, but both for measures and metrics, if there was value in it. So, what we were trying to get at with the site-by-site was the notion that having some sense of distribution… Is it a small handful of sites where all the action is, but the rest of the country is not seeing the equitable benefit of these? So, "site" was just meant to see a little more granularity on patterns of usage. Now, I do not know if that is co-ID… We have to consider what the informatics representation of that was.

Sasha TerMaat

Yeah. I think my fear is just that I have been through meaningful use, and when we have that type of ambiguity and measures, it leads to so much whirl and waste, so if we cannot be precise with what we mean by that, I think we need to move it out of the agreed-upon recommendations as a count and put it in for further discussion so that we could get some clarity on what we are recommending and then consider it.

Raj Ratwani

Well, we have some time here, and I am seeing Steve Lane's comment in the chat that he took a stab at defining "site," and so, I would say let's work through this. To your point, Sasha, I think we can move to being a little bit more specific on these things where it makes sense to.

Jim Jirjis

Yeah, and I guess one question is there are other programs that measure things by site. For example, I know in the meaningful use program, there are co-IDs. Maybe that is not the best here. Steven, do you want to comment?

Steven Lane

I had put in a comment earlier that we needed a definition of "site," and it did not look like anybody had drafted one, so I just took a wild stab at that, not being an expert in that particular data element, but I do think we need to have "site" defined, so I put that up on Page 2, I think, or 3, whatever, in the definitions. Please, others, make that better.

Raj Ratwani

So, Steve Waldren has patiently got his hand up. I want to give Steve Waldren a chance to ask his question, provide his comment, and then we can go back to looking at the definition of "site," and then, Jim and Ken, if you are planning to go comment by comment or measure by measure, we can get back to that. Steve Waldren, go ahead, please.

Steven Waldren

Real quickly, I agree. This is a lot of great work. I like the preamble that sets things up. I think this is the area that we should spend our complexity tokens to make these open APIs, really what people think around interoperability. I think if we want wide-scale interoperability, we should do that. I like the idea of thinking about phasing these. For me, I think what is really important is looking at both read and write so that these first seven measures have both of those in there. As it relates to resource site and FHIR version, at this point in time, it may be a little bit more complex, but I think moving forward, I would say that any FHIR versions that are in the marketplace, it is just how many you have for that version and not worry about resource type. If those FHIR versions that are being implemented into the marketplace, then that is where

we spend the time thinking about what resource types are also being done. I think that limits the number of measures. And then, for me, I would think the volume transferred would be a lower priority.

Jim Jirjis

Excellent, thank you. Other comments? Steve, did you have… I see some chat conversation going. Maybe we could have it audibly.

Steven Lane

I think we are trying to get at the question of site and what is the purpose of measuring site. We need to define that before we figure out how it is going to be measured. Again, I just took a swag at it. But, I think the key is we all appreciate that it is valuable, where possible, to look at inpatient, versus ambulatory, versus homecare, versus post-acute care, versus…the various sites of care, and then, I think with a lot of these, it is also important to look at even… Perhaps that is it. Perhaps it is really just the context of the care that is being provided. I guess if you are looking at a multi-hospital system, whether it is Hospital A or Hospital B really does not matter, so I really do think it is the context of care, and when I just googled "site of care" last night, lo and behold, CMS has this beautiful list of codes that described just that concept, so that was my thought.

Kenneth Mandl

This is Ken. I will just agree with that and add in that there is a diversity, equity, and inclusion angle to this as well to make sure that distribution of the benefits of interoperability are reaching all segments of the population.

Raj Ratwani

Sasha, I know you have your hand up, and a comment as well.

Sasha TerMaat

Yeah. So, there was a historical measurement challenge in MIPS when they wanted to report e-prescriptions by tax ID, and there is not necessarily a direct, intuitive relationship between placing an e-prescription and a tax ID, and different systems implemented it in different ways. Maybe you used the department of the provider who had logged in and placed the prescription to find a tax ID and associate it with the e-prescription because you have to stratify that by that reporting. But, I have received so many questions over the years of people for whom that seems unintuitive, whatever method was used, or it is inconsistent between different EHR systems because there is not a great way to associate a prescription and a tax ID, and I worry that what we are going to set up here with this type of stratification is a similar thing.

There is no necessarily direct connection between the audit log data when an API call is made and a site or a location. We could try to invent one by requiring the provider to enter a department when they log into the app, and then store that in the audit trail, but we are inventing a lot of additional documentation and data storage for something that I think… I just want to be really clear that this is data complexity tokens that are not just on the side of the reporting, but net new documentation and data storage filing in the audit trail for something that maybe does not have that much of an intuitive link in the first place because part of… Many apps might be not necessarily directly connected with a particular department in the first place if the idea is that you are able to do something in an untethered or independent way. So, I do not want us to

make a decision here which inadvertently forces documentation that is not super meaningful, if that makes sense.

Jim Jirjis

Good points. I wonder if one of the things we are trying to get at with this denominator is some sense of distribution, and I hear the challenges you are prescribing. Another is to have some sense of equity. Are underserved areas using it more or less, and are there other established denominators, if you will, that would provide some insight into distribution of use that the EHR would have access to and would not be a new data element?

Sasha TerMaat

Well, there are some things that already have a location associated with them. A visit probably has a location associated. If you require someone to pick a particular department or a location, then that could associate it there. But, when we talk about things like API calls done by clinicians, or patients, or other types of apps, those are not things today that necessarily have a link to an encounter with a location, and so, I do not know that we are going to start at a point where we have something convenient to use for that stratification. I think we are talking about really, is it worth it to the industry to add a stratification where we do not necessarily have one today…?

Jim Jirjis

Good points. I wonder…if we are thinking about the patient-facing apps, and maybe even provider, if we knew that wealthy urban ZIP codes versus… I am wondering if there is some patient info, even though they may be visiting in Florida when they log on, but really, they live in Massachusetts, but still, I am curious if that could be used, if there is some other way of getting at distribution for what areas of the country, what ZIP codes.

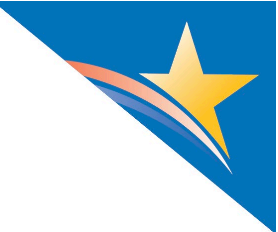
Sasha TerMaat

So, if the goal is to say for context, what are all the ZIP codes where this system is used, then theoretically, a company like Epic could go to each of its clients, and we would ask Sutter, HCA, OCHIN, and all of those folks, "Okay, give us a list of all the ZIP codes where you use our software," and you could give us that list, and then, in our aggregate report, we could provide a total list of all ZIP codes. But, I do not have any way to match up HCA's API traffic, Sutter's API traffic, or OCHIN's API traffic with ZIP code. You folks at Sutter, OCHIN, or what have you do not even have that because again, there is not a location necessarily associated with the API call to start with. So, I think if we are just trying to get a contextual sense of overall, we are looking at reporting from an EHR like Epic what ZIP codes it is used in, it is probably feasible for us to gather a list. Again, that is not stored in the EHR, so we have to ask everybody, but we could go ask everyone and put together a list every year. But, the challenge in my mind is associating that with API traffic.

Jim Jirjis

Yeah. Steven Lane is suggesting that then, we have terminology in here to measure these variables where possible in our goal, and what you are pointing out is there are challenges to… We cannot just point to a standard for that unit.

Sasha TerMaat



I guess my suggestion would be that given the inconsistency of site stratification, I would start with the contextual information proposed in I and II: How many active providers are there? How many EHR users are there? And, if we are able over time to get more specific about sites and we decide to prioritize our future complexity tokens there, it is an option. It would require much more development in the sense of expecting every system to probably capture locations, sites, departments, or however you would categorize it. It is not impossible, but it is so much more significantly complex in my mind that I guess I would not put that in Phase 1.

I would say in Phase 1, if we have a sense of active providers and of EHR use, that is going to give us a good amount of information. Is trying to get at a site thing, especially if we have to put caveats of "where possible" or know that it is going to be implemented in an inconsistent way, going to be worth it? If we spend a lot of time implementing something, but then it is done differently because it is not possible to do consistently, our data might not be so good that we might look at it later and be like, "Gosh, it really was not worth collecting this, because now, we do not have a consistent data set even to look at."

Jim Jirjis

Let me just ask one question. What if it turned out that HCA, Kaiser, or Sutter really provided the vast majority of API calls that are comprising the metric? Given that we do not know what the average number of API calls should be for an HCA, a Kaiser, or a Sutter, how do we judge whether there is any **[inaudible] [00:27:27]** of these technologies making the API calls making the API calls. And if, for example, zero federally qualified health centers were making API calls, how would we know that, and with its emphasis on social determinants of health specifically, would ONC not want to have an idea?

Sasha TerMaat

Yeah. So, it is certainly possible in Epic's world to differentiate via what I would call a different Epic deployment. So, there is an Epic database at Sutter, and a different one at OCHIN, and a different one at HCA, and we could measure each of those separately, and if we wanted to call each of those a site, I actually have no objections to stratifying in that way, but if we try to collect site or EHR deployment-specific data, we do run into two challenges: One, typically, when we ask our customers for permission to use our data for something like this, they get more sensitive if the data is identifiable to them, so we need to be cognizant to that piece of it.

And then, the second piece is that Epic's EHR deployment model is not the same as all the other EHR developers, and so, while in our world, it might make sense to count Sutter as one, OCHIN as one, and HCA as one, in another EHR's model, those might all be living on the same cloud, and they would not make sense to count them each differently, or they might have Sutter as 20 separate different EHR deployments across different clinics, and they would count that as 20. And so, I guess the challenging part there is not how I would measure it from an Epic perspective, but how we would get something that was meaningful from an industry perspective when we know that different EHRs have different deployment models, and what might be straightforward for Epic to measure because of our deployment models is not going to be the same for all the EHRs that are out there. Our trade association has been talking about that. The problem is that there is not one model of measuring sites that is common across all those models, if that makes sense.

Kenneth Mandl

Yes. Sasha, I take your point…

Raj Ratwani
Sorry, Ken, I want to pause for a quick minute. Bryant, you have had your hand up patiently. Is your question or comment related to this issue, or is it a different issue?

Bryant Thomas Karras
Yeah, I was just going to lend support that I think we need to think carefully about how the information is going to be used, and if it is just a matter of getting some kind of understanding of geographic availability of these tools, we probably can do that from individual EHR vendors that do not have a multijurisdictional footprint rather than asking systems that are using a centralized install to support many locations to add that extra complexity. If that is probably too difficult for them to tease out, it might not even be used, except for a onetime sniff test to see if it is working, if that distribution is going. So, I am just trying to add my support to Sasha. I will take my hand down now.

Raj Ratwani
Thanks, Bryant. Ken, back over to you.

Kenneth Mandl
So, thanks. A couple of things as I am going through the numerators, which really apply in many ways to clinician- and patient-facing apps. What we here is it is challenging for Phase 1 to understand how to get a sense of the geography, and so, considerations for that in phasing and figuring out what our approach is before making that a requirement in Phase 1 is what I was hearing. With the rest of the denominators, I think we had some comments about the resources and the volume from Sasha and others, I think, understanding the versions and the issues with that, or the volume activity. We also heard that the gig… If we were going to deprioritize and phase something, I think it was Steve who said the gigabytes or the size of the payload might be a second phase. Did I hear that right?

And then, if we look at the… Let's focus on the denominators. Now, this is where it is specific to clinician versus patient. So, if we look the clinician-facing apps, though the numerators are similar for both of these, the clinician denominators we left in there were context… So, the first one is providers with at least one session to just give some context to these numerators in the context of providers that have had…how many providers are active. If we drop the additional denominator of providers with at least one documented encounter because we did not see the marginal value over just using providers who have had at least one session, is there any disagreement with trimming that one, having the providers with at least one documented encounter instead of using providers who have had at least one session? No disagreement? Okay.

Also, the count of documented encounters was an attempt to try to give context to these numerators somehow normalizing population size. So, if you have 10 API calls when it is one patient versus 10 when it is 500 patients… It was a gross attempt to get some sense at least by population size. And then, the last, and then I will pause for this, is a need to understand the distribution of affability. It gets back to the site question again. So, I hope we already discussed that one. So, aside from that one, any comments about the denominators for clinicians before we move to providers?

Raj Ratwani
Sasha, please go ahead.

Sasha TerMaat
I am okay with the proposal in I of just counting providers with at least one EHR session, but I guess I want to highlight that that could certainly count people who are not seeing patients because you could have people who have a session for the purpose of looking at analytics, doing clinical review, research, managing an ACO… There could be reasons providers are logging into the EHR that are not going to represent actively seeing patients, so as long as we contextually understand that, I think it is fine to measure, but if we think it is representing active care, that might not be true. Well, that will not be true.

Jim Jirjis
Yeah. I think if it were the context of… I guess it gets down to a user. If you are somebody who has privileges at the practice to use the EHR at that site, you are a clinician. These all were measuring clinician apps that are only used in the context of a patient encounter because it might be a positive that we are actually including providers who have logged on, so, as value-based care escalates, there may be a lot of value-added activities substituting for appointments. We would not capture it if we only… So, maybe it is not a bad thing to capture more than just clinicians seeing patients. Thoughts?

Steven Lane
I agree, Jim. I put that in the chat. I think you are absolutely right on. APIs can bring value to all sorts of workflows beyond direct patient care.

Jim Jirjis
Let's pivot. I am going to go ahead and get through, and when we are done…

Raj Ratwani
Jim, there is a question or comment from Zahid as well. Zahid, please go ahead.

Zahid Butt
Hi, can you hear me?

Jim Jirjis
Yes.

Zahid Butt
Okay, thank you. So, I think I am still having trouble with something that Sasha was pointing out earlier, that having these measures being numerator and denominator types of measure instead of, for instance, number of active clinicians using a certain version of FHIR per month. So, to me, that sounds like… In the app world at large, you have a number of active Facebook users or Google users, so it gives you a certain amount of active user volume per month, or per quarter, or whatever, within a performance period. To me, that type of measure would probably give you more information than trying to link specific denominators to the volumes which… Actually, if you go back to patient and clinician access measures, part of this volume is already in those measures as well. It is just that we are going to now say number of active clinicians or number of active patients using a specific type of EHR capability, which, in this context, is FHIR Version 4

or FHIR Version 3. So, to me, those types of metrics probably would make more sense from what I think we are trying to get at, certainly in the first phase of this.

Jim Jirjis
So, am I hearing a proposal, then, to combine a couple of these comments into a concrete action to have counts per month, which is what we used to call numerators…

Zahid Butt
Right, active clinician users or active…however those are defined. The word "active clinician" is already in here for a specific amount of time, for a specific resource, for a specific type of standard, not the resource, but the standard itself.

Jim Jirjis
Yeah. In the denominators now, we have this idea of an active provider, but we also have a measure of how much EHR use that provider is taking advantage of. How would you recommend capturing both of those aspects of that metric?

Zahid Butt
Right. So, the number of active users within a certain time period would define the number of people who were using it within a certain timeframe.

Jim Jirjis
So, our active providers are providers with at least one EHR session, but it doesn't give us a sense for how many encounters that…

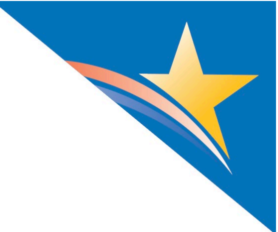
Zahid Butt
Yeah, I think the encounter level thing gets into the whole issue of the API use and how it will be incorporated into the encounter framework, and so, those are the types of granular metrics that perhaps could be at a future aspirational stage.

Jim Jirjis
Did you capture that, Ken?

Kenneth Mandl
Yeah. Jim, do you want to try to express this optimally here? Are we saying that the count of documented encounters in the period is something that is aspirational?

Jim Jirjis
What I am hearing you say sounds very much like we are saying the same thing. All the denominators are in the context of a unit of measure of time, right? So, all the combinations are going to be numerator and then denominator during that time period, right? And so, for example, in the clinician apps, a provider with at least one session for a three-month period or a one-year period is a denominator because it gives context to one of the numerator metrics we are interested in.

Zahid Butt



You could potentially have a number of sessions as a separate metric that could still be… The number of active users is one metric, and the number of sessions per active user or something like that could be a metric that does not specifically tie to a percentage of some sort or a ratio of some sort, which is where I am having a little trouble understanding this type of measure.

Kenneth Mandl
I wonder if it is necessary to lose that resolution in order to simplify.

Jim Jirjis
I do not know. I am trying to process. If you look at Numerator 1 and "Denominator 1," if you will, the denominator is providers with at least one session during the reporting period, right? Then, the numerator of the volume of calls or volume of whatever is useful because it gives us a bit of a distribution, like if the numerator is per hundred doctors or per thousand doctors. And, if there was a denominator that was number of sessions, then it is still valuable because you are now measuring a different context: The volume divided by the number of sessions, how much data is being transferred per session. So, they both seem valid.

Raj Ratwani
It looks like Sasha has a comment as well. Sasha, do you want to go ahead?

Sasha TerMaat
I think I was going to say exactly what Jim was. I think we are going to have some contextual counts that do not directly relate to the API call counts, for example. I am not reading that we are trying to associate each of the providers who had at least one session with the API calls, or is that what is intended?

Jim Jirjis
I think if it is at the EHR level, and ONC, for example, is a customer looking at this, or the marketplace is, and knowing that over time, the number of API calls per session is dramatically going up or flattening, there are going to be big gross numbers. Knowing that per session, this is how much activity is happening, or per provider, how much activity, I think those are valuable insights for us as a nation to know the health of the industry. Is it growing in use? Is it growing in the amount of data exchanged? That was the idea.

Sasha TerMaat
So, you would gather…if we were gathering data for HCA, we would get a number of providers with at least one session, like, say, a thousand, right? And, we would get a number of encounters, which would be, say, 100,000, and then, those would give context to the number of API calls for the FHIR R4 problem read resource, and that would be 300,000, and 300,000 might seem like a lot compared to some other site's number, but if we compare it with the contextual counts… But, there is not going to be something like "Provider 1 at HCA had 20,000 API calls and Provider 2 at HCA had 10,000 API calls."

Jim Jirjis
Right. That is okay if you are a Micky or somebody looking at this, saying… Because there is the time element, too, right? Is it a growing industry or not? Each of these different ratios, which I guess are numerators and denominators, gives us unique insight into the health of various aspects of how we built this, and whether it is growing and being used over time.

Kenneth Mandl
I would just like to step back for a minute. Along those lines, I know there was some suggestion of phasing the total volume of transfer in gigabytes of data into a later phase, but I am wondering if there is a reason to phase that and put it into a later phase, since the rule does allow for charges for API calls, and so, that seems to me that it would have to be measurable in the early phase.

Sasha TerMaat
Is charging by volume only applicable if the vendor if the vendor is providing the hardware, which would not be true across all models?

Kenneth Mandl
Taking the cost out for a second, I was just talking about knowing volume.

Jim Jirjis
And, the reason for knowing volume, Ken, was in part, I think, not because we could not get activity, but because of implications of load on the system, infrastructure concerns, equity of use. We talked a little bit about… I think those were the primary reasons, right?

Kenneth Mandl
Yeah. And also, just to understand for planning purposes what kinds of services, cloud services, support, and also as a metric, as we were saying before, of the growth of the use of this technology.

Jim Jirjis
Maybe you can respond in the comments. I think there are a few other sections we want them to go ahead and cover, right?

Kenneth Mandl
Yeah.

Jim Jirjis
Can I move to patient-facing apps for a minute? Because there are some questions here. Whether we call them denominators or not, really, they are just a set of independent data fields that, in combination, give insights that the single numbers themselves do not. So, if we take that kind of approach for patient-facing apps now, there is interest in wanting to track how patients are using these apps in the context of their encounters, but also, per our last discussion, we want to make sure we did not lose patients who did not have an encounter because it was a substitute for this, and I know last time, we had a little discussion about if these are one-year reporting periods, then it does not matter quite as much initially, so therefore, one of the first measures was the need to track the above numerators across all patients who use the app. So, of those who are logging on, what does the distribution of those numerators look like? And, that is why one of the denominators ought to be any patient who had a logon, whether they had an appointment in the period or not.

We also wanted to track people who are having encounters, and one of the questions for the groups, though, was… It is almost like a Venn diagram with three bubbles, right? One is total number of patients. There is a subset that, whether they have had encounters or not, are using this. That is the set of patients

who actually logged on once. And then, a subset of that are patients who have had an encounter. And so, one question is should we attempt to try to understand the patient-facing apps from a total… The number of patients who had an encounter is a surrogate for either volume or complexity of population, so we feel like that is useful to capture if you are normalizing it to some volume/complexity of patient. But then, if we just do that, we may neglect to get insights into who is using it outside of encounters, so the question was if we should have two combinations, one being of all patients who had an encounter, what is the distribution of their use above, and if the second metric should be some percentage of how many patients are using it who have not had an encounter. Thoughts?

Sasha TerMaat

Jim, is that different than what you were thinking on the provider side, or would the provider contextual numbers also stratify?

Jim Jirjis

I did not quite catch that. There is an analogy to normalizing if there is a subtle difference between how we are normalizing it when a patient is using it, but they are related, version when it is a clinician using it.

Sasha TerMaat

I guess from my perspective, it is just going to double the report processing. So, if that is where folks want to spend their hardware processing tokens, it is doable to report these twice, kind of separate counts for stratifications there, but it is not without extra processing.

Jim Jirjis

Great point, and from our perch, it seems like it is worth it because it is hard to imagine us not tracking at least a couple of mega metrics on patient usage and providers, so, all of this is going to create effort, and I hear you on the phasing, but it seemed like these would be the denominators. Otherwise, it is hard to know what to make of the numerators.

Raj Ratwani

Steve, it looks like you have a comment or question. Go ahead.

Steven Lane

Yeah, I was saying that like the discussion we had about provider-facing apps, patient-facing apps are probably often, if not primarily, going to function outside of the context of face-to-face encounters with clinicians, but that is not a reason not to measure volume because how often a patient-facing app fires for a patient or a population of patients that have a lot of encounters is going to be relevant compared to how often those apps fire for patients who have few encounters. We still need to put it in the context of volume of care, but do not assume that those apps are firing in the context of that direct care.

Jim Jirjis

Yeah. So, we thought maybe the first metric was good, or first denominator, if you will, but then, the second one could simply be a proportion of patients…some difference with the percentage of patients who logged on who did not have an encounter because if that started exponentially growing, and in parallel with value-based care, that is an interesting insight that people may be using it to augment care in new ways. We did not want to leave that off the table.

Sasha TerMaat
So, you are changing II to not be about encounters, but just to say patients who log into the portal who did not have any encounter in the reporting period?

Jim Jirjis
Yeah. So, we would leave I in there because that gets at of people using it, what sort of volume is normalized, but the second one could simply be… The denominator would be total…if you took the total number of patients who logged on, what percentage of them had encounters? So, for example, if the percentage that did not was five percent this year, but over time, it went to 30%, then 60%, that is a really important trend.

Sasha TerMaat
Would that not really be a measure for the patient access section that we talked about before?

Jim Jirjis
Oh, I see, you mean a different section than here.

Sasha TerMaat
Yeah. Because all these are new and added, I think there is some duplication with some of the other sections that we have talked about different measures, so in my mind, if we think it is valuable to stratify portal use counts by encounter, we should go edit our section on the patient access measures to add that stratification in that section, where we already prioritized what we thought was most useful, and then, here, I think we should focus on the minimal amount of contextual stuff to orient it, and the detailed measurements would be on the API stuff because that is more unique to this section, although we do have another section on API use too, and I am confused about some of the overlap between that also.

Zahid Butt
So, I think that is what I was referring to earlier, so there seems to be at least a little bit of overlap between the access and an active user type of definition. The other thing…

Jim Jirjis
Well, this may be a question… Oh, I am sorry.

Zahid Butt
I was just going to ask one more question. So, are we going to lock this into a portal usage, or is it any patient-facing app?

Jim Jirjis
Well, I would think we would not want to lock it into just portal use, right?

Zahid Butt
Right, because the language might need to…

Jim Jirjis

Oh yeah, there you go. Thank you. We missed that. Hey, on the first one, I wonder if our chairs can comment about… I think you guys had mentioned in the past that there will be an iteration that looks across the different sections for consistency and eliminating duplication. Is that accurate? It is good for us to at least make sure we are capturing what our intent is here, and then, whether you put it in the patient access section or here, is it sort of the chair editing call?

Raj Ratwani

Yeah, that is right, Jim. We will work with ONC/Urban as they are putting this together to see if it makes sense to have this sit outside in an overarching session, but I will make sure we have it noted here.

Jim Jirjis

Yeah, because I think the first denominator is going to give us important info, and the second one is just really trying to capture use that is not… For example, if I have an encounter and log onto one of these apps to check my lab results, yeah, yeah, yeah, versus I did not have my otherwise physical visit because I handled it in a substitutable way through one of these apps. We could decide whether it is here or a different session. We have already talked about the per-site one. We are going to have to do some thinking about what that means to actually get something **[inaudible] [00:57:35]**. Can we scroll quickly to bulk FHIR? The basic… I can be quick about these sections.

One of the points made earlier is "Oh, look at the total number of these." Well, a lot of them are actually the same numerator, it is just the way we bundled it out, so it is not like you add all these up and that is the total number of metrics. Some of these are actually the same across patient, clinician, and FHIR. The only thing with the bulk FHIR is you get some sense of the use of it normalized to the population size again for comparability, and then, I do not think we need to talk about the per-site question we described above. And then, our goal is to say per user type, and I know we had a lot of discussion here about what a user is, what research is, and if we have a terminology we point to, so, questions and discussions about the bulk FHIR part of this. It is the same thing, but did it get done in bulk? The only thing we removed is the writeback because it did not make sense for bulk FHIR to write back. I can go to the last… Go ahead.

Bryant Thomas Karras

Maybe I am missing a beat, but Ken, can you explain why bulk FHIR would not write back? What if there was a subscription to a registry and there was an update? Would that not write back to the bulk subscriber?

Kenneth Mandl

It is not impossible. I think it there is a less mature community activity around that than with the apps, so I would put it into… I think that is something we could consider phasing in at a later time.

Bryant Thomas Karras

Okay. I am hoping that bulk FHIR will be our salvation to providers asking for mass updates on their 20,000 covered lives daily, which is killing us.

Jim Jirjis

That is a really good point and good example: The ability to write back to registries, et cetera.

Kenneth Mandl

Yeah, and that is also… Bryant's point here is also why I think the total volume transferred is going to be an interesting metric because it will get at how much this is used, and I will say that just judging by the timeframes for adoption of Smart on FHIR versus bulk FHIR, Smart on FHIR was about seven years until, say…was actually nine years until Apple started to use it at scale. Bulk FHIR was six months from the time it was initiated as a project to the time CMS was using it, so I think there will be some really fascinating lessons that we can learn from these metrics about how data moves through the health system.

Jim Jirjis

Good point. On the per-user type, that is where a lot of the discussion and chat was about. You understand what we are trying to get at, understand… I guess there is a little discussion about is… Do we mean clinician versus non-clinician, and how would we go about…what would we use for that? So, the first question is what we all want to understand about who is using bulk FHIR. What level of granularity? I think you had down there payer, researcher, and internal user. Does everyone agree with not actually the priority, but the value of what we are trying to capture there, and then, does anyone have thoughts about the feasibility of the approach?

Zahid Butt

Ken probably has the most experience with this, and my question also is around whether it should be the FHIR resources as a count, or could it be just consistent with the previous thing that it is the FHIR version usage and the gigabytes that would be more consistent? But, Ken, I do not know whether you think the resources would be important in this context as a multiplier.

Kenneth Mandl

Well, the reason we did include the resources for all of these metrics was for a couple of things. One is to see what resources are being transferred, are being used. Which ones appear to be valuable? Which ones may be in API calls that are outside of the USCDI, suggesting that there could be value in updating USCDI to include highly used resources? And, it is really about that kind of regulatory planning to see whether the ecosystem is handling it through just best practice or whether there are resources not there. If you look at USCDI and you try to use it, you will very quickly stumble upon data resources that you wish were there that I think would be very highly desirable across the system, and which will almost certainly be folded in over some period of time, but this is the opportunity to measure that so that there can be a bit of regulatory science behind the standards-making process.

Jim Jirjis

Just to make sure we get through it, and then we can comment on any section, we can come back to that. On the EHR exchange, the issue here was with the EHR technology coming in 2023, I guess, to exchange the full EHI, the goal here was to understand the volume of requests that are being processed from patients as well as institutions, and then, some sense of cost to client. Any comments about this section?

Sasha TerMaat

I think we would need a little bit more definition to respond to… Per number of sites as a contextual item has the same "sites" definitional challenge we talked about above, so we might want a different contextual count. In fact, the same contextual counts about numbers of encounters or number of users might be applicable to reuse here. And then, as far as cost, I think we just need a lot more information about how that would be measured. Some of the costs I anticipate are going to be hardware processing costs, which,

in Epic's model, we do not directly know. If you have to buy another Clarity server to export more EHI, I do not have any direct insight into what marginal costs of that Clarity server to attribute to EHI export versus your other clarity activities, so I do not know that cost in general is reportable by the developer in this way. If they are charging license fees for the feature, you could ask what they are.

Jim Jirjis

I like that. To me, that is consistent because that would be… You are either absorbing it strategically as a company and capturing it on future revenue price adjustments, or you are charging a fee, or you are just eating it as a strategic platform necessary to do business. Those are the three ways people might handle costs like that, correct?

Sasha TerMaat

Right.

Jim Jirjis

But, if the goal is… Ken, I think our high-level goal was that we looked at this and said, "Boy, all these metrics, but what is the burden? What is the squeeze?" Maybe license fees give out a meaningful way to measure. Do people agree with that one as an initial measure for cost?

Sasha TerMaat

I can live with it, but my sense is that you are actually going to bend more in terms of your staff configuration of the feature and your hardware to support the feature than you are going to pay in license fees, so I think the… I can live with it as a practical thing to measure. Whether it is meaningful in expressing the cost of the EHI export to the industry, no.

Jim Jirjis

Ken, what are your thoughts? There is a little bit of an equity thing. Do small EHR vendors have… Go ahead.

Raj Ratwani

Ken, go first if you have a comment. Then, I see Steve Waldren's hand up, and then, Jim, there are also several comments in the chat from Steve Lane and Bryant.

Kenneth Mandl

Let's hear from the group before I comment.

Raj Ratwani

Okay. Steve Waldren, go ahead first.

Steven Waldren

I put in there that fees make sense rather than cost. I just do not think we will be able to get the cost. When I saw this, what I was thinking was just transparency. So, it is not that you would compare or contrast or say it is good or bad, but rather, that there is transparency so we understand what those costs are and how people are implementing those on the EHR side.

Raj Ratwani
Thanks, Steve Waldren. Steve Lane, I know you had your hand up for a bit, put it back down, and made lots of comments. Anything you want to articulate?

Steven Lane
Just to put voice to my comments, I think trying to measure costs is really important if we are going to be able to establish value for this technology, so while it is hard, in the same interests of phasing, we should find those costs that we can measure reasonably without too much burden in the Phase 1, and then create a roadmap for where that is going to go. I also wanted to respond to Ken's comment about the need to expand USCDI to support the app ecosystem. This has come up in our USCDI Task Force as well, and we have a specific recommendation drafted about this that we will be presenting in the same session where this task force is presenting next week, and I think it would serve us all well if we could point out that synergy between our work.

Kenneth Mandl
Do you have any suggestions on what some of those measurable costs would be in year one that we should add here?

Steven Lane
People talked about hardware costs, cloud costs, operational costs, software costs… You could think through the various categories and think about which of those represent the lowest-hanging fruit that most vendors and/or providers would be able to get at without too much trouble. I am really sensitive to Abby's comment that we cannot expect small practices to invest in a lot of cost accounting to support this, so, trying to get at something… Maybe it is related to computer cycles that are used to process them, but trying to start somewhere is valuable.

Jim Jirjis
Okay, I am going to just…

Zahid Butt
May I ask one more question? I think it might also be good to define what cost means because there is the EHR's cost, and then, there is a cost to the buyer of the EHR that is different, so are we implying here the cost that the EHR incurs in providing services, or is this a fee that they charge which is the cost to the users?

Jim Jirjis
I would love people's input. Initially, we were thinking of the cost to the client, to the user, what people are charging, but that is where fees become attractive. But really, that may or may not capture what the actual investment costs of the infrastructure… Maybe it is a surrogate for that, and maybe not.

Zahid Butt
I think whatever it is, we should probably define it.

Jim Jirjis

I say we start with cost to client because it sounds pretty complex and burdensome to figure out how to capture all those accounting costs with each EMR company, how to account for what they spend on platform versus… Is everybody good with that, starting with cost to client?

Steven Lane
That makes sense.

Steven Waldren
Yeah, I agree.

Jim Jirjis
We can come back and visit any of these just to make sure we have gotten through it, but the second to last one is really about ONC understanding how the vendors and platforms are utilizing reusable, substitutable smart apps, for example, versus nonreusable, nonsubstitutable, and I think we had some discussion about whether all the metrics have to be part of the actual certification criteria, and I think my comments or thoughts on this are that the actual Smart on FHIR apps are part of the certification criteria, and we are really targeting measurement around the use of those kinds of apps versus others, and so, contextual measures around it to give context that makes the measurement meaningful are appropriate, and so, for example, the industry understanding whether reusable apps is decreasing collab or increasing versus people using more of a **[inaudible] [01:14:09]** approach. So, our context is really important to understand what is happening with Smart. And then, the very last one after that is just the same discussion about cost. ONC is giving some insight into cost. Ken, do you have any further comment? It sounds like fees is where we are landing.

Kenneth Mandl
Yeah. So, it will be the total fees charged.

Jim Jirjis
Yeah, per unit… Total fees charged specifically for this capability? Is that the more precise wording?

Raj Ratwani
Steve Lane, did you want to chime in here?

Steven Lane
Yeah, thanks. I was actually thinking about this challenge of measurements and how they relate to certified functionality, and I think Sasha has made a good point repeatedly that if you measure the things that are certified, then you can have a better feeling that you will be measuring apples to apples because everyone is required to do something in a certain way, but if you do only that, you are really looking only in the rearview mirror, which has value, but it puts you in a place to generate information and knowledge that would allow you to advance the certification requirements. So, I just think there is a balance here where we want to be putting in some requirements for measurements that go beyond the certified functionality so that we can then inform future changes in certification. It is kind of a meta-observation.

Jim Jirjis

I think we have gotten through our recommendations, so, please, any other comments about any of the other sections, if people want to go back… I do not think we landed at the bulk FHIR understanding per user type. Unless I am missing it, no one commented on how we would do that and what it is we want… On a high level, we are trying to understand different kinds of users. Ken and others, what are your thoughts about what would be useful? Would clinician versus patient…go ahead.

Kenneth Mandl

I think it would be useful to know what the ecosystem using FHIR bulk data looks like, what it is weighted towards, and therefore, what would inform what data elements are available, how payment programs might be designed around bulk FHIR, if the use is increasing, or if the use is low and CMS is trying to develop programs around bulk FHIR, are there barriers that they need to identify? So, I think payer is one that is of specific importance to current policies and rules. It would be nice to understand other user types, such as public health versus internal clinician users versus pharma conducting clinical trials, which would come under "researcher." I am interested in the group's input.

Jim Jirjis

Given all that, I am anticipating that there may be a lack of established terminology for all that, but I may be wrong. I wonder if it would be useful to at least know… Would it be measurable for the vendors in the room to…get a sense of patient-requested versus health-system-requested versus other, just as a start? We would love to have granularity if it exists, but if we were to phase it, we would start with just three pieces to the pie, so if you can get a sense of non-clinician, non-patient… Maybe patient/clinician/payer/other or something. Would that be a good start?

Raj Ratwani

Jim and Ken, maybe we could pause on that for a minute, task force can think about it, and we can quickly turn over to public comment. We are right at 11:20, so maybe we can do public comment, and then we will come right back to this. And, just to remind everyone, we are wrapping up at 11:30.

Public Comment (01:19:18)

Michael Berry

All right, thanks, Raj. Operator, can we open up the line for public comments?

Operator

Yes. If you would like to make a comment, please press *1 on your telephone keypad. A confirmation tone will indicate your line is in the queue. You may press *2 if you would like to remove your line from the queue, and for participants using speaker equipment, it may be necessary to pick up the handset before pressing *. One moment while we poll for comments.

Michael Berry

All right. While we are waiting, I just want to invite everyone to attend next week's HITAC meeting. This is the full committee meeting next Thursday, and we are scheduled to meet, actually, at 10:00. I know the HITAC members' calendar says 9:30, but we will be moving it to 10:00, and so, again, we invite everyone to join and listen to the task force recommendations for the EHR Reporting Program, and also the USCDI Task Force. Operator, do we have any public comments?

Operator
There are no comments at this time.

Michael Berry
All right, thank you. Raj?

Raj Ratwani
Jim, Ken, I interrupted you. Please go ahead. Ken, I think you were going to comment on this.

Kenneth Mandl
Yeah. I was going to say I do like Jim's suggestion of types of users. I think with bulk specifically, we probably will not have patient requests, but there could be internal versus third-party requests, and perhaps there are… I guess I would look to Sasha to see if there are any methods for distinguishing among third-party versus internal, first of all, and then, among those third parties, whether there are certain types of authorizations that would allow more fine-grained taxonomization.

Raj Ratwani
Any additional comments on that? We have about seven minutes left here, and I want to make sure we can get as far as we can in terms of consensus on these.

Zahid Butt
I think one of the use cases for bulk FHIR is really the analytics and quality measurement use cases. Again, I think Ken may have bene implying that this is sort of a back-end thing rather than necessarily the provider directly interfacing in an API sort of way. So, the question is could this be an instance of a download section or something of that nature that might accurately capture these instances of either the initial load or the subsequent updates and loads, which will be mostly in a batch sort of way?

Kenneth Mandl
The back-end services may end up acquiring data that the health system slices and dices outside the purview of the vendor…of the developer.

Zahid Butt
Right, so it will be more like an instance of a nightly load, for instance, which would be the contextual count.

Jim Jirjis
Jim Jirjis here. Are we really trying to get out… If somebody makes a request, in order to prove you are not information-blocking, I am guessing there is going to be a process that documents the date, time, and reason for the request to make sure that it does not fall within one of the information-blocking exceptions. Do we believe that part of the request process where they fill in the reason for the request is really what we are after, Ken and team? Is it for treatment, payment, operations, CDS…? So, first of all, is there a capture of the reason, and second of all, terminology or some sort of high-level structuring of that that could be leveraged, and that is what we use?

Kenneth Mandl

I understand. I would say that aside from the back-end services, which will be the health system, the HCA, pulling that data out and slicing and dicing it in its own data warehouse or analytic engine, I would imagine that bulk FHIR requests are going to need some kind of justification and authorization, and that there could be an opportunity to include a taxonomy in that authorization as to what type of user you are.

Jim Jirjis

Or, do we even need type if what we are really after is reason? Maybe we need both in an ideal world, but I am just wondering if the reason is enough for Phase 1, and are the EMR companies/vendors on the phone far enough along with your specs for the 2023 capability that you can answer whether that is going to be captured? Sasha, maybe? To defend yourself against information blocking, there is some… HIPAA still applies, right? Someone has to have either patient permission documented or… And, for these bulk transfers, it is probably not going to be the patient, so there is probably going to have to be a reason. And so, reason may be Phase 1, and maybe Phase 2 is determining a more granular type of user terminology, unless one exists today, to your question, Ken.

Kenneth Mandl

I am making a note.

Raj Ratwani

Go ahead, Ken. I think the phased approach makes sense, and just as a heads up, I do not see Sasha in the attending list any longer, so she may have dropped.

Kenneth Mandl

I think Jim and I can clean this up according to what we all heard today in this extremely thoughtful discussion, but I will look to the co-chairs as to the process to get this over the finish line, which is rapidly approaching.

Final Remarks (01:26:32)

Raj Ratwani

Perfect, thanks, Ken. So, maybe we can just spend the last two minutes here talking quickly about that timeline, and Jill, ONC, and Urban, please jump in. Jill and I will be meeting later this afternoon to go through all of the recommendations and synthesize those a bit more. I think everybody has seen the current version of the PowerPoint slide deck, and so, if you have any final comments on those, please send them to us by end of day today. That is the deadline to get those back to us. So, you have had it, you may not have had a chance to look at it, but it has been with you for the last few days, so please send any final comments you have to us by end of day today so we can get those incorporated into the slides.

Jim and Ken, if you can, take a quick pass at cleaning this up as much as you can. I am not sure what your schedules look like, but if there is any way to do that in the next few hours, that would be ideal. If not, maybe we can talk offline about the timeline. And then, the plan is to have everything over to the ONC and Urban teams by tomorrow morning so they can do final slide cleanup and we end up with our final presentation, recognizing that Monday is a holiday and we would like this to go out to the HITAC early next week, by Tuesday, so that they have time to look at this prior to Tuesday's meeting. Jill, ONC, Urban, does that sound right?

Michael Berry
Sounds right to me.

Jill Shuemaker
I do not have too much to add. I wanted to just make sure on the timeline… I thought I remember ONC wanting to get the HITAC meeting slides by tomorrow evening, so is Tuesday morning okay?

Michael Berry
Yeah, the preferred, ideal state would be that we get the slides and the report to the HITAC members by the end of day tomorrow, so, if they choose to look at them over the weekend, that is great, but hey, we will see how things go. We are making our best efforts here to get it to the HITAC members as quickly as possible.

Jill Shuemaker
Okay, great. Thanks, Mike. Raj, I do not have any additional comments.

Michael Berry
Okay. Thanks, Jill, thanks, Mike. I think we can hit that. So, the main point for the task force is please get any final thoughts or comments you have on any of these measures to us by the end of the day today so we can make sure that gets synthesized and included. I want to thank everybody for their dedication and hard work to this. This has been fast and furious, and everybody has done such a great job making each of these meetings every week and providing such valuable feedback, both live during these meetings and offline asynchronously, so, thank you so much. There is no doubt that these are going to be impactful and this is going to help move things forward, so, we are right there at the finish line, and we will get through it, and we are looking forward to hearing everybody's feedback and then talking again next week at the formal HITAC meeting.

Jill Shuemaker
Thank you, everyone.

Michael Berry
Take care, everybody.

Raj Ratwani
Bye.

Adjourn (01:29:46)