NATIONAL QUALITY FORUM

+ + + + +

INTEROPERABILITY 2016-2017
PROJECT COMMITTEE

+ + + + +

WEDNESDAY
MARCH 22, 2017

+ + + + +

The Committee met at the National Quality Forum, 9th Floor Conference Room, 1030 15th Street, N.W., Washington, D.C., at 8:30 a.m., Rainu Kaushal and Mark Savage, Co-Chairs, presiding.

PRESENT:

RAINU KAUSHAL, MD, MPH, Nanette Laitman Distinguished Professor of Healthcare Policy and Research Chair; Department of Healthcare Policy and Research Executive Director; Center for Healthcare Informatics and Policy; Weill Cornell Medicine New York-Presbyterian Hospital, Weill Cornell Medical; Co-Chair
MARK SAVAGE, JD, Director, Health Information Technology Policy and Programs, National Partnership for Women & Families, Co-Chair
JULIA ADLER-MILSTEIN, PhD, Associate Professor, University of Michigan
JOHNMARC ALBAN, MS, RN, CPHIMS, Associate Director of Quality Measurement and Informatics, The Joint Commission
A. JOHN BLAIR, MD, CEO, MedAllies
JASON BUCKNER, Senior Vice President, The Health Collaborative
HANS BUITENDIJK, MSc, FHL7, Senior Strategist Interoperability Standards &

Interoperability, Cerner Corporation
SARAH DINWIDDIE, MSN, RN, American College of Physicians
MARK FRISSE, MD, MS, MBA, Accenture Professor, Department of Biomedical Informatics, Vanderbilt University-Vanderbilt University Medical Center
DAVID HIRSCHORN, MD, Director of Radiology Informatics, Chief of Informatics - Imaging Service Line
DAVID KAELBER, MD, PhD, MPH, MS, FAAP, FACP, Chief Medical Informatics Officer and Vice-President for Health Informatics, The MetroHealth System
TERRY KETCHERSID, MD, MBA, Senior VP and Chief Medical Officer, Integrated Care Group Fresenius Medical Care North America
TERRENCE O'MALLEY, MD, Physician, Partners HealthCare System, Inc.
FRANK OPELKA, MD, FACS, Medical Director, American College of Surgeons
WILLIAM RICH, MD, President, Medical Director of Health Policy, American Academy of Ophthalmology
ROBERT ROSATI, PhD, Vice President of Data, Research and Quality, VNA Health Group
ROBERT RUDIN, PhD, Information Scientist, RAND Corporation
THERESA (TESS) SETTERGREN, MHA, MA, RN-BC, Director, Nursing Informatics, Cedars-Sinai Health System
JASON SHAPIRO, MD, Professor of Emer Medicine, Co-Director of MS in Biomedical Informatics, Mount Sinai Medical Center
BRUCE SIGSBEE, MD, MS, FAAN, FACP, Past President, American Academy of Neurology
ALAN SWENSON, Technical Coordinator, Epic
STEVEN WALDREN, MD, MS, Director, Alliance for eHealth Innovation, American Academy of Family Physicians
MARIANN YEAGER, CEO, Sequoia Project

NQF STAFF:

POONAM BAL, MHSA, Senior Project Manager
JOHN BERNOT, MD, Senior Director
HELEN BURSTIN, MD, MPH, Chief Scientific Officer
HIRAL DUDHWALA, RN, MSN/MPH, Project Manager
JASON GOLDWATER, MPA, Senior Director
VANESSA MOY, MPH, Project Analyst

ALSO PRESENT:

VAISHALI PATEL, PhD, MPH, Senior Advisor, Office of the National Coordinator for Health Information Technology, U.S. Department of Health and Human Services

CONTENTS

P-R-O-C-E-E-D-I-N-G-S

(8:29 a.m.)

MR. GOLDWATER: We're going to do things a tad different today than we initially proposed the agenda, just because, again, it's really crucial for NQF, for Mark and Rainu to make sure that we have consensus from all of you about what the domains, subdomains and concepts need to be and that we're very clear on that so that we can then proceed forward in the development of a document that would be representative of your thoughts.

So, I know there were numerous discussions going back and forth, alterations, changes, discussions of changes.

And so, last night, while all of you were hopefully at dinner and enjoying yourselves -- was it good, by the way? Was it? Yes, see, I told you. Yeah, I have good ideas occasionally. Sometimes, not often.

But, we spent some time going through

all of the notes and discussions and created some slides that really talked about, you know, what you all were thinking with respect to domains, subdomains and concepts. And, we're going to go through those and make sure that we get consensus.

And then, once we're done with that, we only had about 16 measure concepts that were proposed yesterday. So, it doesn't really make a lot of sense at this point to go through a prioritization exercise because there's just not that many to prioritize.

So, what we're going to do is, once we get to a place where we have everything finalized is just have the larger committee, all of you, start talking about measure concepts into each one of these domains and subdomain categories.

And then, when we're done with that, we can go through and decide which ones you think, after further reflection are ones we should not be pursing further or ones that just might not

provide any value.

So, let's start and so we'll lead this part of the discussion because we really need to make sure we have this clear and we have a firm understanding of this.

And then, we're going to turn it back over to Mark and Rainu to lead the discussion on additional measure concepts for all of you.

And then, after lunch, we'll then turn our attention to the exercise that you all completed on reviewing existing measures and scoring them to determine which ones you believe were interoperability sensitive, trying to reach a consensus on what we would call a starter set of measures and those would be the ones that would be included in the framework.

So, the domains, there were -- based on our notes, there were three different iterations of the domains. The first is what we initially proposed, which was exchange, availability, use and usability and impact. The

second proposed domain structure was exchange with availability wrapped into that, use and usability and impact. And then, the third was exchange, availability, use and usability broken out as two separate domains and impact.

So, the question before all of you is which one do you think is most reflective of what you believe would be a good structure for an interoperability measure framework, keeping in mind, again, that the end user of this document will be those that will be taking this, looking at it and either looking at this as a framework for the development of measures or we'll be looking at this as a way to understand what needs to be measured.

So, with that in mind, I'll open up the discussion and ask people what they think would be the appropriate domains and hopefully get consensus, Julia.

MEMBER ADLER-MILSTEIN: A minor note that I think our group felt that usability came

before use. And so, just like I think they're laid out in a certain order so when we talk about it, usability/use.

MR. GOLDWATER: So, that would be -- and so, for number three, it would be exchange, availability, usability, use and impact. Okay.

Thanks, Julia.

MEMBER SIGSBEE: Yes, I would just put in a pitch for number three. I think if you look at usability, you know, that just -- you know, you know, the relevance it's, you know, how easy is it to use that information?

And, use is actually is the -- are the physicians or others actually taking advantage of the information available and the types of measures and how you test that are really very different.

So, I think there is a distinct difference between those two domains. And, I think there's value in segregating them out.

MEMBER SWENSON: So, not to

necessarily make things more complicated, but I think there should be a number four, which would be the one I would vote for, which is number two with use and usability split out.

So, exchange, usability, use, impact.

MEMBER BUITENDIJK: I was pondering that and I actually agree with Alan on that and that that's helpful. Availability can be put in the other ones, but I think that's split out is actually based on what we've seen so far, so it's quite helpful. So, I'll second that one.

CO-CHAIR SAVAGE: I would go with the third one. I think exchange and availability are distinct, especially at this point in time. I think use and usability are distinct at this point in time.

And, I think your earlier point, Jason, about the end reader of this -- of these reports, those are issues that are -- that's the way the current conversation is happening. People are thinking about availability as

different from exchange. They're trying to solve all these different problems.

They're trying to solve usability and use as related, but different problems. I think we help the report have the impact it needs by keeping them separate.

CO-CHAIR KAUSHAL: I would suggest a modification of what you just suggested, Alan, which would also incorporate, Mark, your comments.

Which is, I would do exchange and availability as one category and then usability, use and impact. So we'd have four categories with the first domain would include both concepts of exchange and availability.

MR. GOLDWATER: Any other comments?

MEMBER ALDER-MILSTEIN: So, I mean, I think if we go down one level and think about sort of where -- I think the question is where should availability fit?

And, I think our measures of use,

there was like an easy way to add availability to it. And, I just can't remember what the measures were for exchange and whether it sort of is similarly easy to add the measures.

Like, I felt like availability fit well within our usability measures. And, if it fits equally well, then I just -- I'm agnostic on where it goes, but if the subdomain fits better in one place or the other, maybe that should sort of help guide this decision.

Because, on our usability list, we could easily have put availability as a dimension of usability.

DR. PATEL: Yes, so to echo Julia's point, I think -- I mean, it could be -- I mean, we haven't gone to the subdomain level yet, but I could envision this as a subdomain within the -- like the usability piece potentially.

It doesn't address the contribution aspect of things that we talked about yesterday, but it would on the back end, in terms of like if

the information's not available, you can't use it. So, that could cover that part of it in the usability.

MR. GOLDWATER: Bill?

MEMBER RICH: I support Julia's comments about availability. If the data's not there, everything else falls out. And, again, we do more data exchange than anybody and it's -- oftentimes, it's not there.

So, I think that's a key starting point before you get to usability or exchange.

MR. GOLDWATER: What I'm hearing is, and correct me if I'm wrong, that it seems to be the domains that you're looking at are exchange, usability, use, impact, those are the four that people seem to be comfortable going with. Is that correct?

With availability either being wrapped into exchange as a subdomain or baked into the domain itself. And that, we can discuss later what that would look like. But, are those

the four domains everyone is comfortable with?

So, as I used to say to my statistics students when going over ANOVAs, which was always a blast, by the way, I would say understanding this is yes, this is no. So, yes. Terry?

MEMBER O'MALLEY: One of the issues is sort of the boundary issues. Should we have a measure in interoperability --

MR. GOLDWATER: Microphone?

MEMBER O'MALLEY: There we go. Could we have measure in -- should we have a measure in interoperability that looks at promoting the capability of interoperability at the boundary?

So, for those folks who are not electronically endowed and who cannot exchange electronic information now, should there be a set of measures to sort of promote their adoption of the basics?

And, that would -- and if the answer is yes, then availability then becomes an important domain to have separately. Because

then you'd say we're going to give you the capability because you're going to begin using standardized vocabulary even though you can't exchange it electronically. It's that sort of boundary issue.

MR. GOLDWATER: I think that's a good point. I would probably tell you when we get into the discussion of concepts and measures, then that's where we need to start bringing that up, but yes.

Bill?

MEMBER RICH: Not surprisingly, I'm confused. I thought we -- I thought with Julia's comments and others, I don't understand where availability, it looks -- listening to your statement, it sounds like it's gone.

Availability has to be there to have exchange. Is that what you were saying?

MEMBER ADLER-MILSTEIN: So, I wonder if we're now getting -- we're talking about availability in two different ways and I think

this came up yesterday, too.

There's sort of -- I think what was called yesterday contribution. Right? Like is the data being contributed?

And, then, there's availability that comes after exchange. Which I think of as like is it integrated in the clinician's workflow? Right? Such that like it could be somewhere in a system, but if it's not -- if I don't know where to go to find it, it's not really available to me or patients or whomever.

So, I don't know what happened to that first concept of availability in terms of just like, is it made available for exchange?

I think -- I was thinking about this second availability as is it, you know, is it encountered such that it could then be used? And, again, as I said, I'm sort of agnostic about where it goes, but I think they're two distinct concepts and maybe this --

MEMBER RICH: That helps a great deal

because my concept and the biggest barrier I see is the first instance where it's not being contributed and you don't have access to it.

(Off microphone comment.)

MEMBER SWENSON: So, I think that first one is the one that really goes into exchange, right? If it's -- if you're not contributing it, if you're not making it available, then you're not exchanging it.

And, so, within exchange there is what is being exchanged? How is it being exchanged? Which discrete elements, you know, to Terry's comments about the code sets and things. What is being exchanged can all go into exchange, how it's being done.

And then, usability also includes some of the availability stuff because it has to now be available in the system in order to be usable in the first place.

And so, that availability is kind of split between what's exchanged, how it's

exchanged and then what's usable.

CO-CHAIR KAUSHAL: And that was exactly what the first -- the exchange group was suggesting yesterday, that the foundational piece, the contribution piece would be incorporated under exchange.

MEMBER SHAPIRO: I think with that first, you know, pre-exchange availability, there's willingness to contribute and, you know, make available. But then, there's also whether not the data exists or if it exists in a format that's amenable to being contributed.

So, I think maybe we need to break it down into those two different categories.

MEMBER OPELKA: Yes, I really don't care how you split the baby, but availability, to me, exists in both exchange and usability.

So, it's got to be available to be exchanged. And, once exchanged, upon arrival, it has to be usable, has to be available for use.

So, I don't care if you put it in one

or the other, it has representations in both. So, if it says exchange/available and use and usability, we're going to drag some element of both exchange and availability into usability. It's just part of the equation.

So, I don't, to me, it just has to be part of our document that we recognize it's one thing to exchange it, it's one -- but it's another, is it available for exchange? And, then, once exchanged, is it available for use?

MEMBER WALDREN: Two things. So, one, I'm concerned about having availability in the domain list because, after a day of discussing it, we don't know what availability means. So, nobody else is going to know what it means.

But then, after I heard Frank talk, I mean, I think it has to be evolved into the -- into the underpinnings of exchange and usability. If we want to talk about it being different, I thought about availability more of being it's

available for exchange and integration being that it's actually integrated into the source system in a way that the user can actually use it.

So, I was comfortable with four without the parentheticals. But, knowing that we're going to put those in in the subdomains.

The final thing I would just say is that as a measure framework, I don't care about measuring if people are willing to exchange or not as long as we're measuring exchange. Because I know they're going to fail on that.

So, I don't -- I don't think that we want to measure somebody and say, oh, well, you know, they're doing -- they're halfway there. They passed pre-contemplation of making sure the data should be available for them and I don't think that's any -- a value to us. So, I wouldn't put that in, although, I think it is a real big issue currently to discuss.

CO-CHAIR SAVAGE: So, it would help me to -- maybe to use a use case and to understand

how the domain would apply. And, the one that I've been primarily concerned with is patients and family caregivers having access to their information.

So, it's not -- as it started out, they were not in the system. I mean there was a -- we were trying to actually build a connections so that patients could have a portal in to the electronic health record.

Where -- is that -- where does that sense of availability fit within the conversation that we're having right now? So, I ask that as a question as a use case to understand.

I'd also just add a point that I think we are having some -- we're having a good conversation about what availability means. But, I think there is consensus that it's an important concept. So, even if we're having -- if we're not quite so sure how we want to define it, we know it's important.

MEMBER FRISSE: I just keep going back

to the only way I clarify some of these issues is by differentiating obligations and measurement quality of what you must contribute before you start looking about what's available for everybody else.

Because there's -- and maybe that just comes in there because part of the whole notion of this availability and exchange is that people share what they're supposed to share. And, I'm not sure where we're captured that.

But, sometimes that's, I think, the root cause of some of the confusion I have. Might just be me.

MEMBER SWENSON: So, looking at the measure concepts from yesterday, from the availability group, and every single one of these can either go into exchange or use and usability. I mean, they're all the percentage of visits or encounters available to the stakeholder at time of decision, that's exchange happening. The patient, family, providers having access, that's,

again, exchange happening.

Providers receiving and integrating information into the record, that's kind of exchange happening and also usability now happening.

So, all of these concepts are about exchange actually happening. It's not about the information sitting there ready to be available or even available to be used, it's all about the exchange happening to make it now usable.

So, I mean, availability is already covered in the fact that something is being exchanged and then is being used. It has to have been available.

MR. GOLDWATER: Before I get on to Terry and Vaishali, let me just sort of, I guess, recap to where we are right now before those two discussions happen.

So, it seems to be that we seem to falling out under what would be the fourth, even if we got rid of the parentheticals, exchange,

usability, use and impact.

And, the availability contribution of data would fall under that exchange domain. Availability and integrated use of data would potentially fall under usability, depending upon where the measures concepts fall out of.

Does that seem acceptable to everyone? Thank you, Julia, I appreciate the pronounced nod. She would have gotten an A in my class easily.

All right, Terry?

MEMBER O'MALLEY: Just to respond to Mark's use case of patient and family access.

So, if you think about patients and families who don't have basically the electronic infrastructure to send information and not using coded data, but they might be able to exchange some text blob or anything using a portal. You know, maybe they're entering it themselves.

So, in a sense, you can think of an exchange as being the way that they're moving

information they have into somewhere else. Once it's in the portal, then basically that information is not terribly usable in the sense of electronic exchange. Someone's got to go in, read it, reconcile it and reenter it basically. So, it's not going to be automatically in.

So, there would be the next set of sort of interventions that you'd like. You'd like to somehow make the information that the patient and the family could get into your system ultimately more usable once it arrives. And, that means you're going to do stuff front down.

So, I'm, you know, I think, Mark, that it's in the structure.

MR. GOLDWATER: Jason and then Frank and then we'll see if we can move on.

MEMBER BUCKNER: So, I'm going to nod my head as well up and down for --

MR. GOLDWATER: Great.

MEMBER BUCKNER: -- I like that. I just think that on our exchange, we need to

consider a broad range. So, it's availability, it's contribution and availability twice. Right? Well, it's contribution, availability and acceptance and availability.

So, that exchange category is broad because you don't want to penalize somebody who is accepting data but the data's garbage and so you can't use it and you don't want to penalize on the opposite side as well.

So, it's really, the exchange is pretty broad and I think that's the right thing to do.

MR. GOLDWATER: Okay, great. Frank?

MEMBER OPELKA: So, I'm trying to think of different use cases that justify one or the other. And, you know, I think ultimately, that's what we're looking at interoperability to do is to meet some use case that's at the end of all of this.

So, if I'm a payer and I want to know, in my instance, surgical site infections for a

given procedure and I'm going to want that information. So, I want to know that the primary data source can generate that particular element, that question, that use case. So, that's the first piece of availability.

Then, I want it exchanged to me, the payer, and I want it in a format such that I can get it from every other institution in the country and I can aggregate it so that I will ultimately have use of it.

So, when it comes across, not only does it have to be synthesized on the front end before it's exchanged, it has to be decomposed on the back end so that I can use it. It's available for me to decompose it so I can reuse it and reapply it.

And, those are the elements of usability. You could do the same thing with a research question.

If I was looking for a specific drug in a blood pressure, can this primary data

source, whatever it is, can it synthesize what I want and make it available? Can they exchange it? Does it come over in a format I can use it? Can I decompose it and reconstruct it because it needs to be available to me in the necessary data elements once I receive it on the research end?

So, to me, those are the reasons. That's what describes, for me, what availability is, that it goes back to the individual use case. Exchange is just moving it, but first, you have to tell me, does the primary data source have the ability to create what I need to be exchanged and does it come across once exchanged, in a way that I can make it available for whatever use I want to apply to it.

MR. GOLDWATER: All right. Mark?

MEMBER FRISSE: I just throughout this have been struck, and it's a good thing, by how much some of the conversations we're having really just strengthening existing meaningful use Stage 2 and 3 requirements and addressing some of

the limitations on what we can do. There's an overlap there and I'm sure that'll be all integrated down the road.

Because, to the extent we just make the existing regs that everybody's facing more realistic and eligible the, you know, the more powerful our work will be and the overlap is quite significant.

MR. GOLDWATER: John?

MEMBER BLAIR: Yes, following on Frank's comments, I'm just thinking about that on the data source and what's coming in and how good it is or whatever and usable, are we going to have the concept of minimum necessary?

Because, there's data that comes across that we have providers all the time that would like it better that are actually using it.

So, where is that? I mean, is there that concept in there? Otherwise, we'll have the bar so high we'll never move anything.

MR. GOLDWATER: Right. And, Terry

and then Bill and then we'll have to move on.

MEMBER O'MALLEY: And, again, follow on to Frank and John's comments, it almost -- we're talking about preconditions for exchange. That may not be in a domain, but it probably needs to be a subsection and that has to do with standardized coding and standardized transmission, all of that.

MR. GOLDWATER: A brief interjection. I mean, I think after we get done with this and we move into the subdomains, now that we've agreed on what the domains could be, if you notice that there's other subdomains that are going to make this a little bit more finite, that's fine.

I'm not going to cut you off, John. I'm going to be like now just stop talking.

So, let's move on now. So, again, just to review, we've got exchange, usability, use and impact. So, the fourth one with exchange talking about availability and contribution, usability talking about availability and data

integration.

So, thank you all very much. John?

DR. BERNOT: I just wanted to go back for the Group 2's discussion -- or sorry, the Group 3's discussion about use and usability. We thought there may be some confusion with those two names and we had proposed something perhaps application or applicability or something for the use domain.

I just wanted to bring that up to see if anybody had a better name for that than those being so close.

MR. GOLDWATER: John, I'll take the silence as nobody can think of anything yet.

(Laughter.)

MR. GOLDWATER: Oh, Tess, go ahead.

MEMBER SETTERGREN: Well, maybe it, I mean, it feels like it needs to be sort of an action word versus -- I mean, used as an action word but it will be confusing.

So, maybe if the word is just action.

I mean, you're taking an action, whatever that might be or it's a computer action that's been programmed in.

But, I agree that, if we have usability and use, people are going to get confused about what's what.

MEMBER SIGSBEE: It's actually far more than just an action. Is the physician or whoever actually making use of that information for a medical decision making for understanding that patients, for diagnosis and for treatment.

So, I think it's more than just action, but is that information being integrated into that kind of a process?

DR. PATEL: Yes, I was just going to echo Bruce's point. It's about the medical decision itself. It may not actually lead to a specific action. It could be they don't decide not to do it as something because they receive some information that said, okay, don't go ahead and do something.

So, I'm not sure action is the right word either. I don't know, I mean, I personally like use, but, you know, there may be something else out there.

MR. GOLDWATER: So, before I get to Steve, I mean, this doesn't have to be decided on now. We can, you know, gel on this throughout the day and then I think as we get to the end if we have a better idea of the a and that might come forth as we're trying to whittle out subdomains and measure concepts, something might come to us.

Steve?

MEMBER WALDREN: I don't know that it's all that helpful, but when I think about these things, I think about use and utility.

So, use, can I actually do something with it and utility, can I do something useful with it?

So, is it usability and utilization? But, utilization is pretty close to use.

MEMBER SETTERGREN: I just want to add to something that I -- what we've been hearing about in terms of the use of the data. And, it's not just medical decision making, there is lots of other clinicians involved in the care process who may use the data or the information in many different ways. And, that also includes the patient and family.

So, whatever we end up with, I just think, even though use is probably the broadest and simplest, I think when we start communicating this work, people will get tripped up on those two words.

MR. GOLDWATER: Why don't we move to the subdomain discussion and then, again, I think as we sort of start fine-tuning this a bit, maybe some other idea for use might come out.

So, for exchange, now, with respect to Steve and his group, initially, they're subdomains were who, what, here, there, why, fairly broad and I think we tried to interpret

what you meant by that through the notes that we had.

Because, if we come forward with a framework and one of the subdomains is who, that might cause a bit of confusion.

So, the subdomains we initially proposed for exchange are stakeholder involvement, which is what we viewed as the who, the method of exchange, timely exchange. And, then, when we got to what, we honestly could not figure out how to reframe that. So, we're going to sort of put you on the spot and ask you to do that for us.

So, looking at the subdomains for just exchange and not availability at the moment, because we'll find out where we want to fold those in, but you know, the exchange subdomains are what are people's thoughts about those? Are there ones we need to add? To lead, Steve, how would you and your team sort of rename what?

MEMBER WALDREN: Yes, so, if the team

has thoughts, that's great. I mean, I think the what really goes around the content of exchange and to deal with its richness and its completeness.

So, you know, is it -- so, you know, we can talk about it being content quality or content completeness or content richness or content robustness, something in that nature. But, I don't know if my team can bail me out here.

MR. GOLDWATER: Rainu?

CO-CHAIR KAUSHAL: Yes, I think where we -- some of the concepts that we were discussing, just to build off what Steven was saying were the completeness, the comprehensiveness, the longitudinally of the data, the breadth of the data. So, I think they're all characteristics of the content of the data.

And I would also add that I think that when we get to the breadth of the data, we start to touch on this availability question a little

bit. And, I know we're putting that -- tabling that for minute. But, I would just mention that because that was where -- that was one place where we starting thinking about availability of data.

MR. GOLDWATER: Alan?

MEMBER SWENSON: I mean, just along those same lines as the last comment there, I think that last one is where a lot of the availability stuff goes in of the content, what is being exchanged, the code sets that are being used, the content that's being there, a lot of that, the discussion around the important stuff of what is available goes into what is being exchanged.

MR. GOLDWATER: Steve?

MEMBER WALDREN: So, what if it is information availability or data availability? Because then we could talk about it, is it available semantically and longitudinally and all those different things.

MEMBER BUITENDIJK: From that

perspective, information availability or availability in general, I could also see it that under stakeholder involvement. Who can I get it from? So, is it available from different sources, et cetera, et cetera.

So, and, as I go through the different areas, I would actually be careful calling the last one information availability because I think it's spread out across the first three.

As well as we get additional measures out there, I would suggest that the fourth remains a little bit more generic or drop it.

And, that's -- looking at the other three is that various aspects of availability seem to fit nicely in there as well. So, it's not to get rid of availability, clearly not, it's just do we need that special subdomain to do that?

So, the topic that was raised on that, it was there before of quality, I could see perhaps something like that more where -- because one of the questions that I was trying to figure

out is that where would you put a question of the level of structure, the level of standard use? Are we only sending a narrative or are we also sending structured data with it, et cetera? Are we using the same syntax?

Where do we fit that in? And, it seemed to fit a little bit better under quality than somewhere else. But, again, I don't think we're going to lose any of the measures per se, just what's the name of the label?

MEMBER FRISSE: I want to express my appreciation for all the work you folks did last night, first.

I wonder what people think about item four under availability, social determinants of health? Because, to me, that is in part a what and in part a who.

When I went down to look at the rule, it's the same thing. It's absolutely the right thing to do and I'm just not sure if that's the right way to put it for now. So, that's

something to think about.

MR. GOLDWATER: I think it's a good point, Mark. Before we get into that, let's try to see how we want to rename the fourth bullet under exchange.

CO-CHAIR KAUSHAL: Some of the phrases we were using yesterday in our subgroup, none of which we settled on were things like characteristics of the data, content of the data.

But, I think something like that gets closer to these concepts of what's in this data? What is the quality of what's in this data? How is it formatted? How is it structured? And, even gets a little bit into availability. So, I would throw that out there as a concept.

Steven, I feel like there's one other phrase we were using yesterday and I can't get my head around it.

DR. PATEL: So, I was just going to say maybe format of the data. Does that capture, you know, whether something is structured versus

a scanned PDF? You know, or format in content or something like that.

Because, yes, I mean --

CO-CHAIR KAUSHAL: I think format's not broad enough to describe the multitude of concepts.

I think, you know, I think content or characteristics gets closer. And, I'm not opposed to the concept of using the quality of the information either. I just think it could get a little confusing when we're starting to think about impact and domains under impact, subdomains under impact.

MEMBER O'MALLEY: So, I think the piece about the data which is really fundamental is how, you know, is the data -- are the data structured in a way that they can be used interoperability? Which really gets back to Hans's point about, you know, really being standard spaced.

You know, because, if it's not, then

there, you've got text blobs which are, again, they're useful, but they're not going to get us all the way to full interoperability.

But, the data, the use -- and this almost gets back to the usability of the data. They're increasingly more useful the more they are -- the data elements are structured. They have value even if they're unstructured, but the value chain goes up with structure.

MEMBER OPELKA: This, I think, is in the same line of what Terry was just saying and I popped my tent because of what Rainu was just saying.

I'm trying to figure this out in my head, but where does it go in the domains that we address issues of content, of quality, of accuracy of the context? Because, contextually, it's also very important.

And, then, to Terry's point, to make it truly interoperable, it's got to be by standards with agreed upon value sets.

And, you know, there's a mapping function that has to be demonstrated, has occurred, so that as that value set is applied and the data comes across, we find it in a usable format.

But, I'm not sure where that has to be. If you put that in use and usability and you're exchanging the data and these elements are covered in context, fine. Somebody's going to get a great score in exchange and a bad score in usability and that does the trick? That will actually drive the change we need? I don't know the answer to that.

MEMBER BUITENDIJK: Yes, building on some of those comments that Rainu and some of you have made as well, I would suggest perhaps instead of the information availability, use the term content and under that, there are subdomains of be it quality, be it level of structuredness or some of those other things.

Context, I'm not sure -- I agree with

the concept of context, but I'm not sure that it's clear enough as a subdomain header versus content. Compared with the other ones, it dives into what's actually in there. What's in the exchange? What are we conveying?

So, my proposal would be to change information availability to content and then list the other ones under there as we see fit.

MR. GOLDWATER: So, what I'm hearing is to change that to content and then there may be measure concepts. That might reflect what those different elements of content are.

MEMBER SHAPIRO: I just want to echo what Hans and Frank just said because I think, you know, a lot of the concepts that Rainu mentioned a little while ago, I think fall under data quality and they're currently listed under use and usability.

However, if you don't have a level of completeness, the exchange probably wouldn't take place.

So, I think that moving it up the chain and having these measures of completeness and I think timeliness falls under that, which is separate from whether or not the data is structured or not. But, also is potentially a requirement for the data to be fit for use before it would be exchanged.

CO-CHAIR KAUSHAL: I wonder if it's data content or data content and quality as the subdomain. I like this concept of pushing it earlier and I also like the concept of having sub-subdomains. But, my only suggestion would be to phrase it as data content and quality.

MEMBER ADLER-MILSTEIN: So, I think this conversation has prompted for me -- because it now feels like a lot of these concepts are moving upstream -- and, I think, for me, how I thought about the difference between perhaps the first two and the third bucket is that there's a difference between sort of who exchanged -- who makes decision about exchanging and integrating

data into systems and the users. Right?

The users are not the same people. And, so, I think that, for me, is why it is important to sort of separate these two pieces because the usability and use perspective might be different than the people who -- from the perspective of the people who are making the decisions about how to exchange and manage information.

So, I think even though we're seeing a parallelism in the concepts, I think they are different and we might want to measure them differently because of this distinction between who's actually managing the data upstream and making it available and who's actually using it.

Maybe that was obvious, but that just sort of struck me as we were having this conversation.

DR. PATEL: So, I think to that point, I mean, the concepts that we had put under usability, which, you know, relate to I think the

first five or six items there which we were calling -- what was it, was it data quality or information quality or whatever -- really relate to once someone gets the data is the end user, you know, what might influence the end user in actually using the data or not?

So, if the data is not timely, if it's from two months ago, then they're not going to use it. It's old data. Or, if the data could be somewhat complete but maybe it's not -- it's missing a piece of information that they really were looking for.

So, you know, it may be that some of these concepts do have value upstream. But, I do think that they really belong where they are from, you know, the end user perspective and, you know, trying to understand why information that is received is or is not subsequently used.

MEMBER O'MALLEY: So, I like Jason's concept of fit for use because the information has to be fit for use because it really gets to

the point that it's the end user, it's the receiver of that information who really defines whether it's got the adequate quality, the freshness, completeness, format.

So, just maybe building out on fit for use as a concept. Because, this is an area that's going to be extraordinarily variable, depending on who the trading partners are.

But, the one thing that'll be constant is that, whatever information arrives and whatever format it arrives in, that it's actually usable by the person who gets it.

MEMBER SHAPIRO: Yes, I agree with that Julia and Vaishali said. You know, I think all these sort of data quality factors will have a big impact on usability for the end users.

I think it's incumbent upon the people making the decision about what to exchange, though, they're the ones that are going to influence whether it's usable or not.

And, another thing I think under

usability that we talk about but I don't see there's the idea of workflow integration. Because, I think lack of that, which I've experienced painfully as a user for a long time, is one of the biggest factors in making the data, even if it's available and exchanged, unusable. And, that's something that I think should be in there somewhere.

MR. GOLDWATER: Okay. So, what I'm -- I think what we've heard in trying to rename the fourth bullet, the last discussion which I didn't really hear any strong objection to was data content and quality, not information availability, but data content and quality. Is that sufficient for everyone?

I know a lot of what you were talking about in relation to that I think is important, but I think those would probably be identified as concepts of things to measure. This is just sort of the general topic category of where those concepts would fall under.

So, are we in concurrence that data content and quality is acceptable?

DR. BURSTIN: Just a quick question. Does that capture Terry's point about fitness for use? I think that's a really important concept and I'm not sure that's just the availability and quality of data.

(Off microphone comment.)

DR. BURSTIN: Okay.

MR. GOLDWATER: Yes.

DR. BURSTIN: But, then it's probably a --

MR. GOLDWATER: I think that that's probably where that's going to go, I think, yes.

DR. BURSTIN: Maybe that's what you can call use?

MR. GOLDWATER: Yes, maybe.

MEMBER O'MALLEY: But the usability has to circle back and actually inform the exchange. So, you know, that may ultimately be the criteria applied. But, it ought to be

applied at the exchange phase, not at the input.

It'll be an iterative process, be constantly improving and people who try to use the data will say this is garbage and they'll go back and they'll have to fix it, but it'll be fixed at the exchange level.

DR. BURSTIN: And, some of this could be that it -- we're looking at the domains in a linear matter right now and it may be that if they're formatted in a circle where they're, you know, each depends on the next, it might be easier to make that point.

MR. GOLDWATER: Okay, so turning now to availability -- oh, Hans, go ahead.

MEMBER BUITENDIJK: Yes, I just want to add one comment to that. And, that is that I think that on the sender side, on the party that provides on the quality, there's still an aspect of is it the right information that you're sending?

So, that aspect of usability, I can

clearly see is it usable on the receiver side, clearly. But, on the sender side where exchange starts, if we look at the aspects of try to avoid it, but using a CCDA, but sorry, I have to -- sending too much or too little based on the provider or the initiator sending that information I think is a part of quality of is the sender actually providing the right set of data as opposed to something that is just not useful. But, it's too much or too little, whatever it is.

MR. GOLDWATER: All right, thank you, Hans. Moving on to availability.

So, we have agreed that availability would be folded into both exchange and usability, depending upon the circumstance. So, what I'd like us to do now is, these are the subdomains the availability group came up with, so -- oh, go ahead, Mark.

CO-CHAIR SAVAGE: So, just as the reporter for the group, I just, you know, those

were the three where we actually had some time to develop measure concepts. But, we had a somewhat longer list. So, just so that you've got a complete record, I'll just add the ones that we mentioned that were -- had some priority.

Payers and purchasers was a subdomain that we identified. Non-clinical settings and non-clinical providers, research and then, lastly -- we didn't find a good name for it, so I'll just use one that maybe consumer mediated exchange which wraps up as well, Personal Health Records, PHRs, and patient generated health data.

But we were -- it was the idea that there's a lot happening in the wearable space, mobile access, smart phones, it's really shaping things.

And, so there were others, I don't want to add those, but those were the ones that got a number of checkmarks as we went around the room talking about what was important.

MR. GOLDWATER: Okay, so, looking at

those then, and just sticking with exchange for now, which one of those subdomains do you all feel would be applicable in the exchange domain?

Not use and usability now, but those that would be in exchange? Alan?

MEMBER SWENSON: I mean, almost all of those are stakeholders. I mean, most of those just fall under stakeholder involvement, all but social determinants of health. I mean, that's the one that I'm not sure social determinants of health, but the rest of them all fall under stakeholder involvement.

MR. GOLDWATER: Steve?

MEMBER WALDREN: Yes, I would agree with that. And, I would say that social determinants goes to data content because you -- and quality.

So, if the content includes, you know, a written richness or fitness, then you have both the structure semantic piece of it. You have the longitudinal access. You have the breadth

access. You could have all those under data content and quality.

MR. GOLDWATER: Okay. Rainu?

CO-CHAIR KAUSHAL: I would agree with that, that I think of social determinants as part of the breadth of available data and would put it under data content and quality.

And, that we purposely chose the concept of stakeholder involvement, not just stakeholder provision of data to get both at who's providing and who's using the data?

So, in our concept of who, it was, you know, both providers and users of data.

MR. GOLDWATER: Mariann?

MEMBER YEAGER: Hi. I would wonder if it would make sense to put the patient-centric data sharing and PHR under exchange? It's one of the modalities really.

MR. GOLDWATER: Okay.

CO-CHAIR KAUSHAL: So, just a clarification question. Do you mean that under

the subdomain of method of exchange?

MEMBER YEAGER: I think so.

MR. GOLDWATER: So, what I'm hearing is all of the subdomains that were proposed under the availability category already fall under the subdomains under exchange which requires no addition work. Those basically all just fold under. Is that correct?

You all are rapidly becoming my favorite committee. Don't blow it.

Bruce?

MEMBER SIGSBEE: I don't disagree with that, but also, if you look at some of these, they obviously fall under use as well.

MR. GOLDWATER: True.

MEMBER SIGSBEE: So, I think there is duplicate because, you know, not only is information being exchanged also within the system, but an awful lot of information is being generated and between different providers, et cetera.

And, so, then is that information , you know, used.

MR. GOLDWATER: So, I think some of it -- before I get to Mark -- I think some of that'll be teased out in the concepts. You know, those'll be reflective of exchange, those'll be reflective of use and usability.

So, Mark?

CO-CHAIR SAVAGE: Just to understand what does fold under mean? Does it mean that they are implicit in and thus not named? Or do they remain, I guess, the concept mentioned earlier was subdomains of subdomains.

MR. GOLDWATER: So, we don't --

CO-CHAIR SAVAGE: What does that look --

MR. GOLDWATER: We really don't --

CO-CHAIR SAVAGE: What does that look like?

MR. GOLDWATER: -- we really don't have subdomains of subdomains because then that

really gets confusing.

So, what we would do is, in the documents, as we're defining stakeholder involvement, these elements would be mentioned.

MEMBER O'MALLEY: So, go back to Helen's comment about the fact that we've got a linear progression when we're really talking about a circular iterative process and maybe displaying it that way.

And, then, you might be able to see where the connections are between these domains and they skip another domain. But have their own box, it makes perfect sense.

So, I would put in a plea for formatting our -- sorry.

MR. GOLDWATER: Okay, so, you are my favorite committee except for you.

(Laughter.)

MR. GOLDWATER: No, just kidding.

So, we will try to get a circular diagram after lunch because I don't know if we're

going to have time before then. But, really more or less I think Helen's right, just see sort of the interconnectedness of this which I think will also help to understand some of the measure concepts.

Bruce, did you have anything else you wanted to contribute? No?

We have divided up use and usability as two different things and we're still trying to see if there is another way of naming use.

So, out of those domains, subdomains that have been listed, which ones do you believe would fall under use as it is currently named and those that would fall under usability?

Julia?

MEMBER ADLER-MILSTEIN: I can tell you what the committee thought, it's the last two that we put under use and all the ones above it that we put under usability.

And, I think, given our discussion earlier today, we should add accessibility under

usability because I think we essentially folded that concept in and we explicitly left it out yesterday because we thought it was covered elsewhere.

So, if usability can be the first -- yes, maybe you can separate out the human use and computable because those are the two use concepts. And, then the other set, that was what was proposed yesterday. So, maybe we can iterate on that.

CO-CHAIR KAUSHAL: I would, if we could order the columns in the way that we were discussing earlier so that usability came first and then use. That would be terrific.

MEMBER YEAGER: And, I apologize for asking this, can you clarify what you mean by accessibility? I think I missed that part of the conversation.

MEMBER ADLER-MILSTEIN: Yes, so I think it was back to what I think Jason brought up about for the user, is the information in their

workflow such that it's accessible to them at the point that they are doing whatever they need to do.

MR. GOLDWATER: So, we're sort of reformatting this. Are there any other subdomains under either use or usability that you think are not covered yet that we should add?

DR. PATEL: So, one question. So, Julia, to your point, in terms of accessibility, do you think integrated within workflow might be -- I mean, I know that's like one thing.

I mean, Jason brought that up and it's something that we've heard so much and I feel like that term, you know, is pretty well known and that might be worth calling out separately as opposed to accessibility which, you know, is open to interpretation exactly what that means. So, I don't know.

MEMBER ADLER-MILSTEIN: I mean, I think the only challenge with that is that workflow is a very clinician-centric as opposed

to patients who don't necessarily have a workflow.

DR. PATEL: Yes.

MEMBER ADLER-MILSTEIN: So, that's I think the only --

DR. PATEL: Yes, I mean, I guess the concept would be like available when and where it's needed. But, how to capture that in like one word or two words is tough. It applies across stakeholders probably. But, yes.

MR. GOLDWATER: Terry?

MEMBER KETCHERSID: Yes, if we're not excited about use and action, a word to think about maybe over lunch is consumption. So, I'm a user and a nurse, I'm a physician, I'm a -- I either consumed it, made a decision or I didn't.

MR. GOLDWATER: Terry, did you mean that to be a put of humor that we're going to talk about consumption over lunch?

(Off microphone comment.)

MR. GOLDWATER: I mean that was pretty

clever, honestly. I mean, that's the best joke I've heard in the last two days.

(Off microphone comment.)

MR. GOLDWATER: Right.

(Laughter.)

MEMBER BLAIR: Yes, just even if workflow is provider-centric, why wouldn't that be in there? We're trying to cover everything with each of these? And, even -- and also, workflows, even for patients for some of the applications?

MEMBER SHAPIRO: I mean, I don't -- do we have to keep it to one word? I mean, we could say accessibility/workflow or we could just call them out separately, accessibility for patients and workflow operation for clinicians.

MEMBER ROSATI: Kind of stuck on, what's the word, I think maybe it's deployment? Because it's about actually putting it in place. Isn't that what, you know, regardless of whether it's in a workflow or some other computer

algorithm. Just a thought.

MEMBER WALDREN: I was going to say again about accessibility just to make sure that we understand that outside of us in the computer world, accessibility means something like for those with disabilities. So, maybe we should keep that in for that particular reason. But, that's people may see when they see the word accessibility.

MR. GOLDWATER: Now that we have this reformatted, thank you, Vanessa, looking at usability, any other subdomains that you feel should be included or do you, by another node, do you think there are a couple that could be folded into one another? How would you, I guess, how would you like to format this as we move forward?

Frank? Turn your mic on.

MEMBER OPELKA: Thank you. So, I'm sorry I had to step out briefly for a call, and I missed some of the discussion on this. But, back to the point that, I think it was Terry that

brought it up, was fit for use and we said it was in usability. Is that on here? And, where is context?

Because, at this point, it's going to become critically important.

MEMBER O'MALLEY: So, I'm just struck by the fact that the last bullet under exchange is really the content of usability. And, I'm wondering if we take the same concepts and just say when we say that data quality and content, this is what we're really talking about, relevance timeliness, completeness, et cetera.

And use that as sort of the data quality and then we get our usability metrics based on the quality of the data that's coming across.

So, it seems to me that we're really talking about the same content, same construct on each of those.

MEMBER ADLER-MILSTEIN: So, I think to Frank's point, to me, fit for use is all of

these things. So, this would not be fit for use unless it's relevant, timely, complete. So, I almost see that as like another way to title the bucket and that these are, again, the sort of subdomains within that.

I think to Terry's point, you know, it's sort of a question of like from whose perspective do you assess this from. And, I think in the exchange bucket, there is the potential that that could be.

So, I take timeliness as an example, right, I could say like that transaction was timely, like it moved from Point A to Point B in a timely fashion.

But, from the user's perspective, was that data there in a timely fashion? That would be a different set of criteria to evaluate timeliness.

And, so, again, I agree. I think the concepts should go under both places, but I want to be sure there's a place for both, you know,

sort of two different perspectives on what it means for something to be timely.

And, I think this, again, for me, this bucket is all about the user. Did we meet the user's needs for, you know, for these dimensions? So, I hope that's --

MEMBER WALDREN: Yes, that's what I was going to say. I think if we think about exchange being, going back to the notion we're talking about use cases, that a more general use case and more usability is really more of a clinical health use case.

Because, again, from a timely exchange perspective, it's like, okay, well you could talk about transit time and those type of things but depending on the clinical relevance, you know, one day is too long where another place three weeks is not too long.

So, I think if we think usability being more of the clinically relevant piece of it, and exchange being more kind of the nuts and

bolts. That may be the way we can tease that line out.

CO-CHAIR SAVAGE: So, on that last point, though, I would -- I hope we're thinking of usability across all of the end users. So, usability from a patient's perspective, usability from a non-clinical provider's perspective as well. And those time frames may change. The completeness may change, et cetera.

MEMBER YEAGER: But, don't we want to measure what was actually exchanged and relevant to a use case to have a sense of, you know, market penetration? Or is that captured elsewhere?

And, I understand the quality and completeness of it are attributes of usability. But, don't we want to at least measure the volumes of based on different types of data?

MR. GOLDWATER: Thoughts?

Terry?

MEMBER O'MALLEY: Well, to respond to Mariann, yes, I think quantity is going to be one

of those qualities of the data. You know, is it sufficient or not for the work to be done?

And, the comment -- but I think that comment comes under the next part. I thought it was very helpful -- Julia's point -- that really, usability is the receiver's set of issues. This is what, as the receiver, this is what I want to see when I get it.

Exchange is really the work that the sender has to do. And, I thought that was, in my mind, that makes a useful split to separate them out that way.

MR. GOLDWATER: John?

MEMBER BLAIR: Yes, I definitely think you want to have quantity in there. It's a crude measure, but if you have none, you don't have exchange. And, it's dependent on all of these things.

It's dependent on the efficacy of the network. It's dependent on usability at the edge. The quality of the content, standard, all

of that.

But, I mean it's a baseline must have once you know you have the volume, you can start to dissect out what that is. But, if you have no volume, then you have no exchange.

MR. GOLDWATER: And, again, that's something that could very well be brought out as a concept that would fall under, you know, several of these domains.

MEMBER OPELKA: So, I'm piling on the quantity comment, but I want to put it in the context of what Hans said earlier, not too much, not too little.

So, they can provide all the data and then I have nothing I can do with it because it's -- it came as a complete data dump, and I'm swamped and overloaded.

What data are needed for what particular use? And, not too much more and not too much less.

MR. GOLDWATER: Jason?

MEMBER BUCKNER: Yes, so I think the quantity is a good one for exchange, not usability. I think it's easy because there's existing measures out there. So, that's, to me, that's not a big deal to add in all that exists today. So, that's a no-brainer to me.

MR. GOLDWATER: Bill?

MEMBER RICH: I'd like to re-emphasize what Terry and Frank discussed. If you look at the next step measure concepts of providers receive and integrate complete electronic summary of care.

I'm going to speak as a clinician now, and I can't use that. If I want to know blood pressure, hemoglobin, A1c to make a clinical decision to treat, not to treat or observe a diabetic, I don't -- I can't go through a complete summary of care. It's overwhelming.

And, as a busy -- as a clinician trying to make these value judgements and decisions to treat, not to treat or just observe,

we have to realize whether it's quantity or quality. I don't know.

But, we have to understand what's important from both the patient side and the provider side, no matter what that provider is.

So, you know, we're talking some semantics now, but let's keep in mind what we really want to do. We want to improve care.

And, a lot of the things that could be accomplished by a checkbox or something that's overwhelming like a complete summary of care, which, you know, I can't use.

MEMBER BUCKNER: Yes, Bill. So, we talked about that quite a bit and I think our intent was relevance nails that topic. So, what's presented to make it usable needs to be relevant to the audience that is different each time. Right?

And, for you, getting those blood pressures and not all this 30 pages of other noise, that's where relevance comes into play.

(Off microphone comment.)

MEMBER BUCKNER: Yes, absolutely, yes.

MR. GOLDWATER: John?

MEMBER BLAIR: Yes, I agree with all of these things. And, they all need to be there ultimately.

But, we've talked a lot about a step-wise fashion of getting there. So, it's connectivity, it's transactions, it's improving the content. It's proving usability.

So, I think we understand we need all of these things, but we also need to start and then move on. Or move up the ladder.

MEMBER O'MALLEY: A comment on that to both Bill and John's comments.

We actually ended up sending full CDA documents to a home health agency and they lasted three days before they said stop sending these documents.

(Laughter.)

MEMBER BLAIR: Same here.

MEMBER O'MALLEY: Because before, they never got any information and now, they've said, we don't have staff who can read this stuff to parse the data out so we can use it in our non-electronic system. Stop, just fill out our form, and that was it.

So, it just -- be careful what you ask for.

MEMBER BLAIR: Yes, and so, we had the same problem and sent out a staff of ten people for a year and worked in those on those sites to show them how to parse that and use it and now it's used.

So, again, we're not going to solve everything immediately. But, you have to take -- I mean, if you don't start a step wise, yes, half the people will not use this at first. And, then half of those later will use it.

But, you've got to start somewhere and move forward.

MR. GOLDWATER: So let me recap sort of I think where we are.

So, we have exchange, usability, use until use is renamed, and impact.

Looking at the subdomains for all four of those domains, are there any either objections to any of them or are there any that people would like to add that are distinctly different from what is there that would be independent of a potential measure concept that we will get to next?

Hans?

MEMBER BUITENDIJK: Not an objection, but a concern that, with usability, the more we get into format and presentation, there is the element of, as data comes in and I look at, for example, med reconciliation, problems with the reconciliation, et cetera, that I can understand that part.

The further you go beyond that, the more we get into, I don't care whatever came in

probability or not, is the system usable enough for the intended audience?

And, I think that might just drift a little bit too much outside of interoperability and too much into just regular HIT use.

So, I think we just need to be aware of that, that we're careful. What are trying to achieve and are we making interoperability too large?

And, during our group, we had the conversation, we said, well, we really did not talk about what interoperability really is. We highlighted the definition, but we have to be careful that before we know it, it's everything and I don't think that is helpful either to solve problems.

It's, at times, easier to isolate a few and then move on.

MR. GOLDWATER: There's an important -- which we'll -- in the next discussion, when we recount the measure concepts and then start

developing more is to be mindful of that, to narrow the frame of it.

Terry?

MEMBER O'MALLEY: So, as the editor of the impact list, which was a victim of another form on inoperability called illegibility, I have a few additions that I would add to this list for consideration.

And, it really drives out of what we've already talked about in exchange and usability, and that would be a section under sort of the efficiency and ease of use of data. We should be able to measure that and that ought to be an impact of interoperability. So, I would suggest adding that.

And, the other one has to do with sort of, again, data, data quality and quantity. And, that sort of is, is it sufficient for us? We should be able to see that, for example, when patients go for registration at a different site, all of their demographic data and current med

list are there and doesn't have to be repeated.

So, that would be a patient experience of interoperability where their data preceded them. And, that would be interoperability. That would be a good thing.

So, I would add those two sections under impact.

MR. GOLDWATER: To recount, efficiency, ease of use of data, and what would be the other one?

MEMBER O'MALLEY: It's sort of the data content and quality.

MR. GOLDWATER: Data content and quality.

MEMBER O'MALLEY: Yes, stealing from exchange. Reusing.

MEMBER RICH: Sorry about this, I'm going to put on my hat now as someone that runs a registry.

It calculates meaningful outcome measures to patients and family. They're

publically reported.

We just passed a law, the 21st Century, and a big piece of that was data blocking.

So, where is availability now? Since this is a major concern of people that measure quality, it's a major concern at CMS, CCSQ. And, those of us that are really making publically available outcome measures for families and patients to look at, where is that?

If it was big enough to actually get a bipartisan bill passed, then where is it here? Is it timely exchange?

DR. PATEL: (Microphone malfunction) -- that point, but to the earlier point about ease of use and kind of data quality, I feel like that's under really usability. You know, whether something is easy to use or not really relates to the usability as opposed to an impact of interoperability downstream impact of interoperability.

MEMBER KAELBER: I would just -- I don't think it's going to capture, but I would propose a subdomain for impact of actually quality of care provided to patients. I mean, it sort of falls into, you know, like a patient safety thing.

But, again, when I think, hopefully, if this actually all works well, that quality of care will be improved for patients.

MEMBER O'MALLEY: Just a follow up on the efficiency data use under impact. You know, if you think about the buckets of the sender under exchange, the receiver and usability uses, again, sort of how the systems uses it.

But impact is really the impact on the system operations. It's not on the impact of the individual user necessarily.

So, if we think of impact as being -- so, what does interoperability do to the entire system of care? Because now we're starting to bring it together, and we're getting data from

places that we never got it before. Does that have an impact that's -- and it is positive or not?

So, it's -- I really think of impact as more of a system level measure, you can drive it down to a practice or an individual, but it's really the concept is that this is the high level impact of interoperability on the system of care.

I don't know if that helps, but --

MEMBER SIGSBEE: I would like to just take a moment and expand on Bill's comments, because I think it's really critical. If there's one organization that should understand the importance of measurement, it should NQF.

And, now, over 18 medical specialties are using similar technology to really extract that quality data and data blocking through multiple techniques remain a real barrier to being able to effectively access that data.

I would see -- I, you know, it's sort of under human use, under use. But, I think that

it is so important that I would really argue that it should be explicitly stated under use.

Is, can you actually, you know, there's the impact of those quality measures but can you, through the mechanisms of the technology available actually access the clinical record and extract that data to then put it through the process of determining denominator, numerator performance. And, then, that impact on clinical care?

So, I think it's really a critical issue when for those of us who are heavily involved in registries at this point remains a real problem.

And, so, you know, I think a measure of interoperability is really for our ability to reach in and be able to extract that necessary information.

DR. BURSTIN: Some of our side bars up here were about whether there needs to be a subdomain about data flow or something like that.

Because I think, again, the importance of having a subdomain is you think there's a measure around it. So, if you think something about data flow or blocking is important because, logically, it leaves you to come up with a concept or a measure around it.

I agree, I think it needs a home and I'm not sure exactly where.

MEMBER BUITENDIJK: A couple of thoughts on the impact section that, one is, I agree with the additions that Terry suggested, but to maybe a couple of twists to that.

One is that the efficiency and ease of use of data, efficiency can also be part of costs, cost savings or cost can be a form a efficiencies.

So, perhaps that's a way to combine that there.

Data content and quality, one of the things that we talked about data quality particularly is that, if I now am on the receiving side, did I now achieve a complete patient

record? Did I get that or from a research perspective, do I have the right set of data? Which is not necessary from the sender side when I send what I have, but I need to get it from multiple sources. So, that's a part of the conversation under data quality.

So, I think there is a place for that under impact to make sure that I now have a more complete -- and I can measure that I have that.

Under patient safety and the comment that was also made earlier is that we went back and forth a little bit with patient safety and health outcomes.

Patient safety is where we dove deeper into some use cases to identify that. But, is patient safety really a part of health outcomes?

And, then, the other chain of health outcomes becomes all the other measures that we could consider that are impacted.

Patient safety is more on the what's going wrong or the absence thereof it's going

right. But, the other part is what's going right and what's going better?

So, perhaps health outcomes might encompass patient safety.

And, lastly, is that one that we talked about and did not get into any use case or refer the discussion, but that sounded interesting is the adherence to quality guidance.

Does the fact that I now have the data allow me to adhere to quality guidance or to process guidance that is out there better than what I used to do before?

So, it goes into the quality of the process. So, it's effectively one addition perhaps combining cost saving and efficiency in some fashion and then a little bit of an adjustment in the name.

So, and there was one appropriate patient flow follow up, coordination of care. How are they -- which term is better? Which one is more encompassing?

Because this is one part that we went -- delved deeper into the use case and some measures, but is it really going to be about coordination of care ultimately as we dive deeper into the conversation?

MEMBER HIRSCHORN: Just to reference back to the comment before about information blocking, the -- many vendors who can say, well, we don't block information, we just charge you a million dollars if you want to get your information. And, I've bumped up against that where, you know, where I've, again, as a programmer and I go into our systems then take the data that we need in order to take care of our patients.

But, I've bumped up against another information system in a different department, that information that I needed and I said, can I query it? And, after they got off the floor gasping for breath saying you want to do what to our system?

I said, well, I need this information to take care of our patients and they said, well, you know, we'll build you interface, charge you, you know, tens of thousands of dollars for it and then hundreds of dollars every month to get access to one data field. You know, that, in any other context, I would just query it and get it.

And, I looked at them and said, this is robbery, you know, and it's not just a lot of money, it's prohibitive. It basically is information blocking because, if you make it cost so much, then you're essentially saying, no or, you know, I'm going to hold you over a barrel and just take you for every penny you've got.

So, I don't know how you build that into, you know, into measures. I don't know how you build it into regulation or legislation, but to say that when you charge so much for something, it's another way of saying no.

And, I don't know if that can be taken into account under the cost category of saying

that there's just something that can cost a little more versus it's so costly as to be prohibitive as to constitute information blocking.

MEMBER WALDREN: So, just a couple of quick points. So, on the impact on the appropriate patient flow, maybe we could talk about it being appropriate care which gets a little bit broader which, I think gets into some of Hans's and the points over here.

The other thing on the information blocking, so one would need to do a fair amount of definitional work around that. But, I think one thing we could do is think about an addition domain, a subdomain under exchange which is non-technical barriers to exchange.

So, you could talk about business models and other things that deal with that piece of it where information blocking could fit underneath that.

CO-CHAIR KAUSHAL: I'm struggling

with some of the subdomains that we're placing under impact because they seem -- when I think about impact, I'm thinking about the impact on the clinical care that we are delivering.

And, if that's the context of impact, then, for me, the categories that might fall under there are patient safety, quality outcomes and processes which I think there is some reference to, cost saving and efficiency is a combined domain.

Care coordination which includes patient follow up but also things like readmissions and so on.

And then, I really wonder about these additional three bullets as, Steven, as you suggested, as fitting in some of our other domains.

So, the blocking piece, I think, fits under exchange. It's something that we talked about yesterday and I think that there's a measure that we even suggested yesterday around

there.

The propagation of misinformation, it could be part of the data content and quality under exchange. It could be under usability or use, but I'm not sure -- and it may remain under impact in the category of patient safety. But I think we need to tease that apart a little bit more.

And, then, like efficiency and ease of use of data feels to me more like a use subdomain. So, I'm struggling with what we mean by impact and if what we mean by impact is clinical impact, then, the subdomains don't -- they feel to me like they're at various levels, and they don't feel complete yet.

MEMBER ADLER-MILSTEIN: So, I very much agree with that point and I think it's sort of a means/ends thing, right, like data content and quality are a means and, to me, impact is the end.

What is the end result of having that

content and quality?

And, so, I very much agree with, I think sort of focusing it on traditional domains of quality.

But, I also feel like an impact we're talking a lot about clinical and medical outcomes. And, I don't see sort of the patient-centric outcomes, right, in the sense of like what if I, you know, get information that makes a decision that makes me exercise more?

Like, I think those are outcomes that are really important to put in here that I don't see. So, I think it's something around just health behaviors or, you know, whatever that construct may be where patients feel like they're living healthier lives, even if it's not a, you know, safe, effective, sort of clinical outcome that led to that.

So, those were, I think, the first two points around ends and patient-centric impact.

And, I think in terms of the data

blocking, I very much agree that it needs to be in here. I guess I had always seen it under stakeholder involvement. Right?

If you are engaging in blocking, that would be a lack of involvement. And, so, I think, to me that -- I had thought of that as sort of a measure concept that might be under that. So, I don't know if that helps solve the problem.

And, I think if you actually look at the definition of information blocking, charging prohibitively high fees is actually one of the forms of information blocking.

So, I think we tend to think of it as like an active thing, but, if you look at the true definition in the ONC report, it actually encompasses a lot of these behaviors. So, I think we can rely on that definition for the measure.

MEMBER OPELKA: Yes, so, in this couple of threads that are moving around right

now, two comments.

One, first to the data blocking and what we have under exchanges, I think somewhere it fits under exchange and under the current statute that was referred to in the CURES Act.

It's now a federal crime for a delivery system not to provide all the patient information requested by the patient in the form you currently have it in.

So, some way, we need to be able to make sure that that interoperability exists and there isn't data blocking associated with that.

Because moving that information out from underneath the restraints that have been put on and constraints by the HR into a patient cloud will actually get rid of a lot of the data blocking problems that are out there. So, that's one.

But, I think there's details that need to be worked out in that arena.

To this question of impact, I was

having the same problem that Rainu was talking about. Listening to Terry make his arguments about the efficiency, ease of use and so forth.

And, so, to me, I'm not clear where impact should be. If this is interoperability impact, there are elements of interoperability impact that I believe are properly pointed out in this list.

If this is clinical impact, then perhaps we're short on this list and we need to be a little bit more encompassing.

If impact needs to have two categories to it, that's something I would like to hear from everyone else. But, when I look at something like cost savings, what aspect of impact are we talking about?

Is this, you know, the triple aim that cost of care was improved because of interoperability or was this that the cost of running a data system for me to deliver better care was reduced because I didn't have to exploit

-- I wasn't exploited by everyone trying to leverage data. I got data in a more usable format.

MEMBER SETTERGREN: I already have my microphone on, sorry. I guess I was anxious to talk.

I'm listening to what Frank said and I'm also thinking that, from an impact perspective, when I think about impact, I think about actually the quadrupling. So, that adds the caregiver experience.

We don't really have patient experience included in this and I think there is an impact on patient experience.

And, so, it might be useful to think about the quadruple aim as we look at what impacts might be actually measurable and really directly related to interoperability.

And, the only other thing I was going to ask about was, you know, somewhere in here, we've sort of alluded to it, but as we figure out

what to do with all of the data quality components, I really want to see data standards in here spelled out somehow.

Because I think it's a really critical component of interoperability and we talk about it in more general terms, but I'd like to see standards.

CO-CHAIR SAVAGE: So, just a thought listening to some of the previous comments that it may be useful under impact to add a subdomain about stakeholders or users as a placeholder to think about what's the impact on different users?

So, there would be a clinic that would be -- there would be a clinical impact, the impact on clinical care.

But, there's also an impact on patient experience, that kind of thing. And, so, that may be a -- just, that may be a useful subdomain.

DR. PATEL: I think to Mark's point and Rainu's point, I think, you know, adding either the stakeholder component to it and I

think we had talked about this yesterday like a matrix of kind of users, use cases, and the benefits that might accrue, like the impacts might be different for across different use cases and users or end, you know, the stakeholders.

So, that might be a useful thing to put in here. If we wanted to specifically call out as examples of impact on consumers, you know, you could think about shared decision making, patient engagement, you know, using those kinds of broad terms that could I think encompass as examples of, you know, calling out.

Because we have some of the clinical pieces here, patient safety, costs, care coordination and, you know, I think the ones that Rainu called out were the ones that I think we were thinking about.

I mean, originally, in terms of ONC's interest in the impact area, it was primarily on clinical and care processes, which would encompass like shared decision making on the part

of patients and things.

But, I think Frank brought up a good point that, you know, we could think broader than that. But, and maybe that could be captured by that kind of matrix type of approach.

MEMBER SIGSBEE: Just to under impact, just a suggestion, we could put in patient family engagement as an impact as of interoperability. And, you know, pick up on some of the things that Julia said.

In terms of data blocking, we've also found that, in some systems, the, while you can extract a complete record, it's so complex that, for something such as a registry, the time for the practice to do it is also a form of blocking.

MEMBER RICH: You know, one last thing, this is -- the data blocking is not a small thing. Anyone in an academic medical center or maybe 95 percent of them or in an ACO that's reporting, you know, non-outcome ACO, the 32 measures, even in the academic departments that

want to measure the performance of their faculty and the people on staff, complication rates, outcomes are unable to do so because of the vendor that serves a lot of these institutions.

Rulemaking will be coming probably this spring, Helen, for the 21st Century CURES Act. Wouldn't it be nice, since they're going to have to address the issue of interoperability and data blocking, that one of our measure concepts address that so it's in place for the Secretary when the rulemaking is done?

MEMBER BUITENDIJK: From an impact perspective, if I can see in the -- and support Rainu as well, on the comments to solidify some of the impacts as we talked earlier.

But I'm not convinced that patient family engagement would necessarily be a separate subdomain rather than, in light of the conversation that we had, do we have a series of stakeholders that we identify across the different domain, spaces, and areas?

And, each one of these, if we generalize patient safety to health outcomes, what -- which are the ones that, for each stakeholder, we translate into a measure concept?

If you go down to the appropriate patient follow up and we talked about perhaps there's more coordination of care, if you look there at the patient involvement as a stakeholder, what would that mean for that stakeholder communication environment to improve on coordination of care?

Perhaps increased engagement, perhaps a less data collection at time of registration because you can just validate what's there.

So, there's a number of things there that I think, as we go through the different stakeholders against each of the subdomains, a number of those will start to fall out rather than creating a separate subdomain because, then, we would have to create a separate subdomain for each of the stakeholders to identify what's

there.

So, I think we can achieve the same goal by just making sure we run through all the stakeholders. So, I can see some consolidation there and the -- generalizing some things, but I'd be cautious about putting stakeholders in as a subdomain rather than a list to run through to make sure that we address the right measure concepts.

MEMBER YEAGER: I think just building on the comments that were previously made that the outcome is going to be dependent on the use case and looking at above and beyond just clinical care.

So, it could be the provision of benefits you have to -- that the Social Security Administration, they need access to clinical data to make a determination if someone's eligible for disability benefits.

It also could be access to services in the case of Veterans need to close up referral.

So, I like the idea of having sort of a more generic concept on the impact based on use case.

MR. GOLDWATER: All right, let me -- let's take a moment and sort of go back and just sort of assess where we are and then make sure that the terminology here is clear because we're going to have to define this.

So, under the exchange subdomain, what we have now is stakeholder involvement method of exchange, timely exchange, data content and quality, data flow and then data blocking, although we had data blocking worded as non-clinical barriers to exchange.

Do we -- is that the more appropriate term to be using rather than data blocking?

(Off microphone comment.)

MR. GOLDWATER: Yes?

PARTICIPANT: Yes, does that mean non-clinical barriers to exchange that are not data blocked, so I think that's the issue.

DR. PATEL: Yes, I mean, yes, I was about say that data blocking is just one of many issues that --

MR. GOLDWATER: Right.

DR. PATEL: -- you know, are, you know, policy-related issues that might be preventing interoperability.

MR. GOLDWATER: Okay.

DR. PATEL: So, that are non-technical, like you could --

MR. GOLDWATER: So, do you want --

DR. PATEL: -- just call it non-technical barriers to interoperability?

MR. GOLDWATER: Non-technical barriers to interoperability? Is everyone satisfactory with that?

MEMBER BUCKNER: So, I'm okay with that, but data blocking carries a connotation that people know.

MR. GOLDWATER: Right.

MEMBER BUCKNER: And, it's a term that

means something. That doesn't mean anything to people.

MR. GOLDWATER: Okay, so do you want --

MEMBER BUCKNER: That's my concern. It's more accurate, but --

MR. GOLDWATER: So, do you want data blocking in as a -- is that --

(Off microphone comment.)

MR. GOLDWATER: That's what the group concurs with? Fine.

All right, under usability, are there any other issues under exchange that have not been touched on yet?

All right, moving on to usability, we have relevance, timeliness, completeness, coherence, validity, accessibility and then format and presentation, although there was a discussion as to whether format and presentation should be deleted from my notes.

Do you keep those as they are? Do

people want to add, delete, or are those acceptable to move forward from?

DR. PATEL: I guess I would suggest that, I don't know if, again, this is the debate about what the impacts and the ease-of-use piece. But, I feel like ease-of-use relates to usability unless -- because it's from the user perspective. You measure ease of use from an end user perspective, not at a system level.

So, you know, and I think all those subdomains there relate to ease-of-use. I mean, we would could put ease-of-use and then have these as sub-subdomain measures of ease-of-use like relevance, timeliness, completeness, you know, all affect ease-of-use. But --

MR. GOLDWATER: So, is the suggestion then to wrap up ease-of-use as a subdomain in which relevance, timeliness, completeness, coherence would fall under those? Or leave those as separate?

DR. PATEL: They're for the same

thing, you know, I don't know. Yes, I mean, I feel like some of the domains have covered what ease of use would -- yes, ease-of-use and usability are kind of the same thing. So, I don't know if -- yes.

(Off microphone comment.)

DR. PATEL: Yes, it's not -- yes, it's not --

MR. GOLDWATER: Mariann?

MEMBER YEAGER: And, efficiency just seems like more tied to accessibility workflow.

MR. GOLDWATER: Okay, so, we're not on impact yet.

MEMBER YEAGER: Oh, sorry.

MR. GOLDWATER: We're still on usability, so let's get to usability and then we'll move on to use. Then we'll get a -- I understand everyone's excited, so am I, but usability, again, are we all comfortable with those subdomains as they are listed? We're good, yes? Yes.

Use, we have two, human use and computable. Are we acceptable with those? Bruce is giving me the thumbs up. At this point, I'm just inclined to look just at him.

(Laughter.)

MR. GOLDWATER: All right, any others?

(Off microphone comment.)

MR. GOLDWATER: Okay.

(Laughter.)

MR. GOLDWATER: And Frank with the first bad joke of the day.

All right, so, impact, we have patient safety, cost savings, appropriate patient follow up, propagation of misinformation, efficiency, ease of use of data, data content and quality, patient family engagement and health outcomes which we will have to define a little bit.

Alan?

MEMBER SWENSON: So, I mean, this one needs to be cleaned up from some of the

discussions. So, patient safety should be removed because that's under health outcomes. Right?

A health outcome is the safety of the patient. Right? I mean, that's --

CO-CHAIR KAUSHAL: I think of them as --

MR. GOLDWATER: Go ahead.

MEMBER SIGSBEE: And, yet, outcomes are the medical care and the impact on that patient's course.

So, I think there, you know, particularly when you look at hospital care, or even office care, they're two very different issues.

Leap Frog group has looked primarily at safety, not so much health outcomes.

CO-CHAIR KAUSHAL: Yes, I think of them as distinct domains as well. I think of quality as the overall quality of care delivered, the adherence to evidence-based guidelines, the

impact of those processes on the actual clinical quality that is delivered.

And, I think of safety as distinct in terms of errors and other types of events that, inadvertent or advertent, that affect a patient and their safety.

The reason why I would -- and I agree, I think people often lump this.

The reason why I would keep these separate for interoperability is because I think there's pretty good literature that you can achieve gains in safety pretty rapidly from interoperability.

Certainly, from the use of clinical decision support and e-prescribing decisions part.

But, that the quality gains can often take a longer period of time. And, so, my suggestion would be that we keep it distinct because the effects happen at different times after the introduction of interoperability.

MR. GOLDWATER: Alan?

MEMBER SWENSON: Sure, I mean, I'm fine leaving them separate. I still think a gain in patient safety would be a health outcome. I mean, that's fine, we can leave them separate, but cost savings and efficiency needed to joined together, I think. So, we can get rid of the efficiency, ease-of-use of data, because ease-of-use of data is already in usability and then efficiency is cost saving.

Appropriate patient follow up, I think we had said that should be --

DR. PATEL: Care coordination.

MEMBER SWENSON: -- coordination of care, care coordination.

And, then propagation of misinformation, I think we wanted to move that into data content and quality was part of the discussion. So, under exchange, so that one can just be removed from the list here as well.

MR. GOLDWATER: Terry and then

Vaishali.

DR. PATEL: Yes, I was just, I think, echoing some of the points that Alan just made. You know, patient safety, cost, care coordination and then I think -- I don't know what the health outcomes piece, we want to call it impacts on quality of care or maybe that's health outcomes might be better because it could be broader across different stakeholders.

So, but, and, unintended consequences, Rainu, would you see that as falling under all under patient safety? You think?

CO-CHAIR KAUSHAL: I think there's the unintended clinical consequences that could fall under safety. But I think there's also unintended user consequences and I don't know if there's a concept there that needs to be pulled out under use or perhaps even under usability.

And while I have the mic, sorry Jason, I'm going out of order, can I push us on this

term health outcomes and are we talking about health outcomes or are we talking about processes and outcomes? Are we talking about quality processes and outcomes?

I think that what we're talking about are -- include processes and outcomes and I think that I'm more accustom to seeing the phrase quality in front of that rather than health.

So I'd throw it out there for a question.

MEMBER O'MALLEY: So, all of these edits are great. I'm just coming around thinking, these are really, really high level buckets. And what we want to do is to create a place where someone who wants to develop a measure can come in and find an overarching concept that says, yes, I can work in this space.

And, so, under health outcomes, you should have quality, safety and, you know, and if they can't do their cost savings under health outcomes, they'll go to the cost savings thing.

So, a couple other pieces to add to this, just you think of, you know, the triple aims. So, population health, are we going to put that under health outcomes or is that a separate domain to attract people to work in?

The unintended consequences I think is an important bucket because we -- that's not anywhere and we should be looking at the impact of interoperability on that.

And I think that was -- oh, and then, broaden out, as was previously suggested, broaden out the patient and family engagement. You know, make that a sub-bullet under stakeholder engagement. So, sort of a broader integration of stakeholders.

Thinking about the grid of stakeholders potential impacts and use case. So the construct we used before.

MEMBER OPELKA: Yes, I guess I'm still confused as to this is the broader patient impact and not the interoperability, per se, impact, in

my mind.

Because to me, cost savings and efficiency are different. And I don't combine them.

Efficient interoperability and cost savings in clinical care are two different things. And efficiency and cost savings don't go together if you're talking about the bigger impact.

I can save money and provide cost savings care by being effective as much as I can be efficient. Or by being appropriate as much as I can be efficient.

Because there are so many things that drive cost savings, if this is the bigger picture of measuring interoperability's effect on cost savings, it's more than efficiency. There are lots of things to it.

And if efficiency is measuring interoperability efficiency, to me, it's its own bullet point of all those things that we're

looking at in all of the other subdomains.

And can I get rid of all these resources I'm currently expending to get any element of interoperability.

So, if I meet all these other targets, I should be able to measure an impact of data efficiency of using all the electronic environment I have and be able to measure that.

So, again, I'm hearing one aspect of the larger picture of healthcare overall impact; and another aspect of what are the more specific interoperable aspects of this subdomain?

And it's very confusing to me and I think anyone who's going to be reading this from the outside is going to be wondering the same thing.

DR. BURSTIN: We have to hone in on this issue Frank raises and carve --

CO-CHAIR KAUSHAL: So, is there any disagreement that what we're talking about in impact is actually clinical impact --

DR. BURSTIN: Of interoperability?

CO-CHAIR KAUSHAL: -- of interoperability?

I mean, because what -- I think that there are important other subdomains that consist of -- within this broader context of interoperability but that we've been able to better place them into other domains.

So, is there consensus on that point that what we're talking about is clinical impact of interoperability?

CO-CHAIR SAVAGE: This is Mark. I think that's probably the focus right now. But there are things in play right now and coming where it may -- where the definition of clinical may become important.

There is care that's happening outside clinical settings. So --

CO-CHAIR KAUSHAL: The health impact. So, impact -- health impact.

CO-CHAIR SAVAGE: Yes.

MEMBER BUITENDIJK: Actually, building up on the -- on this point as well, I think, and I want to confirm, is that stakeholders was removed from the list and I agree with that.

But that also I think helps clarify that we have the opportunity that, as we put every one of these subdomains against the different stakeholders, we will find, I think, the opportunity that, under cost saving efficiency, that we can look at different stakeholders and what they get.

So, a clinician has efficiency opportunities in their efforts that come out of that. But also, if you look at the healthcare provider organization and want to drill down to the IT aspect of it, I think we have the opportunity to look at the pure interoperability efficiency if we so want to.

But by running through the different stakeholders that are there so, again, care

coordination by looking at both the clinician as well as the patient and the family, I think we can identify a number of measures that highlight that specific benefits that they receive from the fact that interoperability is in place.

So, I'm okay with this list because I can see that there's a discussion around health versus clinical, but I would not want to focus this list only of subdomains -- of all the subdomains of impact on the clinical impacts only. I think that will be too limiting for what we're trying to achieve.

But they certainly should be part of it. And if that means we need to change health outcomes to quality outcomes, to clinical outcomes, then not a problem.

MEMBER SIGSBEE: I just want to comment that the term efficiency is a little clouded by the payers use of that and they use it indicate the total cost of care. And, certainly, as a clinician, I think more how easily do I get

through my day.

So, I think we have to be careful about using that term.

MEMBER RICH: Is value a better -- it's a different term but is it --

CO-CHAIR KAUSHAL: Bruce, just to push a little on that, what are the concepts of efficiency? Or are there any concepts of efficiency that you would include in this domain? Bruce, that was for you.

MEMBER SIGSBEE: Well, the -- if you're talking about cost savings then it should be just be cost savings. You know, efficiency is with all the information exchanged, the impact is, is that I can find the information I need, make the decisions I make, take care of the patients in less time and do it well.

So, you know, that would be from a clinical standpoint how I would look at this.

CO-CHAIR KAUSHAL: I'm sorry, I'm going to keep pushing you a little, Bruce,

because I'm trying to understand this concept. If we did clinician or end user productivity, does that get closer?

I mean, it feels to me like there's a distinct concept on the efficiency with which a healthcare provider, for example, can provide clinical care in the context of an interoperable environment.

And I am also hearing you about the ambiguity of the term efficiency.

MEMBER SIGSBEE: Actually, I think productivity is a -- and this refers not only to, you know, physicians, but nurses and what they're doing, home health care providers and even patients and families who have access to this.

So, I think, you know, not so much the latter, but productivity has some real value here. If you think of a home health provider, are they getting the information they need to assess and appropriately take care of that patient?

Or do they have to work at it and multiple calls and several visits to really try to sort it out?

MEMBER RICH: I think that I'm going to put a measure developer hat now.

If one of the intentions of this exercise is from the subdomain to stimulate the creation of measures, there are certain assumptions that we make in measure development, patient safety, cost and, actually, health outcomes doesn't mean anything to a measure developer. That's a very broad term.

But to go back to Rainu's first comment, is quality outcomes. That affects health, but that's a very definitive way of addressing measure development.

So, cost savings and health and quality outcomes, quality outcomes also includes processes of care, systems of care and outcome measures.

So, I'd go back to your first

construct and that will actually guide measure developers. That is a term that they're used to seeing is quality outcomes.

Just a comment.

CO-CHAIR KAUSHAL: Julia, you made a comment about labeling this domain as health impact. What is your sense of this question which is, is it health outcomes? Is it quality outcomes? What resonates with you?

And I would ask a sister question which is, would you include processes or not?

MEMBER ADLER-MILSTEIN: Yes, so I mean, you know, I think there's so many existing frameworks that we use like domain, you know, IOM domains of quality and, you know, processes versus outcomes.

And I mean, my sense is, when we get to the measure piece, we're going to have all of those types of measures and so we're just going to need buckets for them because there are some processes that will be improved by

interoperability. There are some outcomes that will be improved interoperability and those, I think, could fall across patient safety, cost savings.

I mean, so, you know, I guess, I'm just struggling because I feel like we're sort of taking existing constructs and then breaking them up in new and different ways and I'm just not sure how useful that is.

So, I wonder if we want to go back to some sort of standard frameworks that capture like a full set of dimensions of quality and include both processes and outcomes.

To me, that is like a more comprehensive and logical way to think about this bucket. And I still feel that data content and quality is not right for this bucket.

CO-HAIR KAUSHAL: Yes, so, I would make two suggestions. One is allowing data content and quality to live fully in the exchange domain.

And the second is renaming health outcomes as qualities so that we're including all of the subdomains of -- subset of domains, I guess in this case, of quality underneath that.

Are there any objections to that?

DR. PATEL: I have a minor point to make. Maybe quality of care, just to make it clear that's, well, impact on quality of care. I don't know, usually quality of care is usually --

CO-CHAIR KAUSHAL: I might actually suggest that we keep it quality because I think that if we do quality of care, we're talking about the quality of the healthcare delivery processes.

And I think it gets us further away from the concept of impact on actual health of the patient.

DR. PATEL: Okay.

CO-CHAIR KAUSHAL: That would be my sense.

Vanessa's making the changes so speak

now or -- I would take health away from there. I would just keep it quality.

(Off microphone comment.)

DR. PATEL: Yes, and unintended consequences. I don't know if that was another bucket.

MR. GOLDWATER: Frank, go ahead.

MEMBER OPELKA: Well, I wasn't trying to preempt anybody, but to me, we're just off the mark on this.

To me, the impact of interoperability, the impact I'm trying to measure is, do I have the right data at the right time for the right reason for the right patient? That's what I'm trying to measure.

And then, when I look beneath that, I want to reduce the clinical burden. I want to know that I measured and reduced the clinical burden to the team.

I want to reduce the time. Right now, physicians are spending two hours of their day

completing EHRs in a 10-hour day and 8 hours seeing patients. That's two hours patients aren't being seen. And that's actually getting worse, not better.

So, what is the digital value to the stakeholder? Whether it's the patient, we ought to measure the patient value that the patients see. We ought to measure the provider value and we ought to measure the other stakeholder values as subvalues underneath those two first.

Because that's what it's all about, that clinical care.

And then you can say, well, does this digital interoperability enhance safety and quality? That, to me, is the question that we're -- that's the impact question we're trying to answer.

Does this digital interoperable environment enrich productivity or did productivity get worse because we don't interoperate? And all the rest of this then

falls underneath it.

CO-CHAIR KAUSHAL: Sorry, I'm going to ask Frank a follow up question.

So, Frank, we have productivity. We have safety and quality. So, I'm -- what would you change in what we have up here in terms of the subdomains? Is it that you've -- well, let me just ask the question.

MEMBER OPELKA: All I'm saying is, it's not -- the conversations keep floating back to the broader picture of patient quality.

I'm saying specifically, explicitly, did you measure that interoperability influenced quality and safety? Because there's so many other things that influence quality and safety that have nothing to do with interoperability.

So, if all you do is measure safety and quality, you're not going to know if this was a cause and effect.

To what extent did -- is the right data available at the right time for the right

reason that serves safety? That serves costs? That serves productivity?

Those are the things you want to measure. If you're not measuring that and you're measuring more globally what these things are, there's so many other things that do this, you'll have no idea whether it was interoperability that created the effect.

CO-CHAIR KAUSHAL: So, Frank, how about if we change the name of the domain to impact of interoperability?

(Off microphone comment.)

CO-CHAIR KAUSHAL: Yes, I think that in shortening the domain names, we lost that concept. So, if we did impact of interoperability and chose measures that are sensitive to the impact of interoperability, would that address -- yes, okay.

MEMBER O'MALLEY: So, I like the list, I like that change. And, then, in sort of the next level down then, as you build all of these

potential subdomains across all of the stakeholders and then, you take the value proposition under each of those remaining cells and you get a whole series of metrics that start to fall out.

So, I find this a very useful construct the way it is, understanding that sort of the next level is going to be a stakeholder use case specific drill down which gets us very complicated in a hurry.

MEMBER FRISSE: I really like the way Frank brought the interoperability context back which was the primary motivation of this.

And, as I'm looking at this now, there seemed like some things that you can measure from the outside quality that we do, for better, for worse.

There are other things like productivity which is one of the scariest topics in the world to me. Where, it seems the role of any criteria would be to help people take a

uniform approach maybe to measuring that. Is that inferred.

But, to me, to be able to critique how these things affect cost and productivity is a good thing. So, you give these out to delivery organizations and everybody else in the chain, patients, how do these standards help me be more efficient and communicate with my provider, for example.

But they're -- a lot of them aren't necessarily external criteria you impose for certification, let's say. But rather, they're just kind of guidance for how people can make a case or whether it's working or not.

We use them both ways, right? Have I got that right? Wrong?

MEMBER BUITENDIJK: I completely agree with Frank's suggestion that we want to make sure that we focus impact of interoperability. And I thought that the entire framework is meant to focus on interoperability.

But if we need to make it more clear here for this domain, should we change usability to interoperability usability? And should we change use to exchange data use?

In other words, is that, all these areas are around interoperability. Now, we can make it more clear in the titles, but we had a similar discussion in some ways with usability and use.

So, we want to be careful that we don't drift into the area beyond interoperability where just the data is there, however it got there, whether it's manually entered or not or otherwise derived.

But we also want to just focus on -- primarily focus on the interoperability aspects of the usability and use and exchange is pretty clear.

So, just a question from that is that, are we -- while I completely agree with the intent that we -- that's what we want to focus on, do we

want to change the other column headers as well to reinforce that point to avoid that confusion?

Otherwise, somebody might do the same thing with usability and use.

CO-CHAIR KAUSHAL: So, could you give the two suggestions again for both usability and use?

MEMBER BUITENDIJK: So, usability would be interoperability usability, so do that in front of it.

Yes, that's part of the exercise.

And then use would be use of exchange data. Now, personally I think that that message that it's focused on interoperability has to be in all the text in front, during, after all these things which makes me wonder whether we need to change those column headers.

But I'm just putting it in to make sure that the issue that we're trying to address for impact is no different than the issue for usability and use.

So, if we want to keep it shorter, go back to what we had. If we want to make it abundantly clear, something like this would work. And I'm fine either way.

MEMBER HIRSCHORN: Yes, we had this in our discussion. I think it would be the earlier -- the first three categories -- the first three subdomains, I think it's more obvious what you're talking about.

Because the last one we were, you're saying, yes, what was the point of all this? The whole point of this was impact. Yes, but impact is multifactorial. You know, and so, you know, so, this is inherent -- it's inherent just to what you call the last subdomain.

Of course, it's impact of interoperability. That was the point of all of this, is that the -- whereas, the other ones, it was clearer that you were talking about interoperability.

Exchange, it was clear you were

talking about interoperability.

As we move down the spectrum, it becomes less clear, so you want to put in the word, you can put in the word. But, when you get to the end, though, yes, you have that inherent problem that you're saying, no, just the impact.

Gee, that's seems very broad, you know, so it's the impact of interoperability.

And, you know, and it's obvious that it's a -- that there is lots of confounding variables and that when you try to attack these categories of patient safety, cost and productivity, care coordination, quality, there is, you know, none of these things are solely affected by interoperability.

And so it's going to be tough to measure in the end to say what was the contribution of interoperability to this?

That said, you can put in, and I would expect you would put in, you know, aspects into the measure to take into account, where did this

information come from?

Again, we have this discussion over and over again in our group session of saying, you know, if it was data that it had anyway, well, then, it's not a function of interoperability.

If it's data that I did not have anyway, that got to me, again, from either external it came in or it was even internal, but just wasn't interoperable. Then, that is the impact of interoperability.

So, it's going to behoove the measure to take into account where did the data come from in order to understand its impact on -- that said, just in terms and its impact.

So, you know, that's the nature of the beast. You know, if you want to -- if you want to measure impact, you have to then, you have to track where did the, you know, where the different -- what was the contributing factor? Did interoperability have an effect on this or not?

But I'm going -- you have to do it because, otherwise, what's the point of all this if you can't measure an impact that it had?

MEMBER ROSATI: So, just a -- first a comment about quality. You know, this discussion about what should be the term here made me think about, you know, the quality aspects of this are impact on process on patient outcomes and patient experience.

So, I mean, if that's all captured within that one term being there, I think that's sufficient. But, we've got to realize that there are multiple components here of quality.

The other piece of what I thought about as I was sitting here is there's two big impacts that are missing, although it may be hard to quantify.

One is innovation because by doing this data integration and the ability to exchange information could change the way we deliver care. Right? So, that's one important piece.

The other big global issue is about the ability to do research which is being left out of this. Because, you know, via the, you know, the capacity that we're building here, we can do far more.

So, I just to make sure those don't get left out.

CO-CHAIR KAUSHAL: Can I ask a few follow up questions to flesh that out some more?

So, first, for the first set of considerations, we had, at one point, patient centeredness, patient engagement as a separate subdomain.

Does the group generally feel like that should come back in as a distinct subdomain or should it be under quality? My vote would be to include it as a separate and distinct subdomain. But, what does everyone think?

MEMBER O'MALLEY: I think, Rainu, I'd favor leaving quality as the larger subdomain and then under that have stakeholder -- individual

stakeholder impacts. And I think they're a little different, but we have to specifically call out patient family. I mean --

CO-CHAIR KAUSHAL: So, that sounds great. So then, Vanessa, could you, in parentheses after quality, put in including outcomes, processes and patient experience?

MEMBER ROSATI: Can I just, to answer your question, though, I would -- I think of engagement as being broader than quality in the work that we do.

It applies for one who is healthy and not even receiving care, but wants to navigate the health, navigate the system.

So, I'm for listing it separately. I've thought mostly about it as an issue for patients. But, I'd suspect as well that engagement may apply to other types of users as well when they have more information, more engaged with what they're doing.

CO-CHAIR KAUSHAL: So --

MEMBER RICH: I'd like to comment and support the suggestions of Rainu and Hans and others.

Sitting here as a measure developer, all of a sudden, click. And, this is going to have to be looked at, interpreted and stimulate thought by people outside this room.

And if you look at the impact of interoperability, sitting here, I know extant outcome measures. They're going to look -- that are dependent upon the acquisition of data from ASCs where there's not a lot of electronic data, OPDs, ASCs, patients' primary care docs.

And actually, they incorporate three or four of those and I can think about three or four measures now. And that's what we want to do is to get people think of these constructs, think of measures, maybe extant measures where they're dependent upon interoperability of data from different sources.

So, I'd really strongly think that the

edits made by Rainu and Hans have really clarified things in my mind, but maybe I need another cup of coffee.

CO-CHAIR KAUSHAL: Jason, I think, I know that there's a lot of tents up, I do want to bring it back to three things that have been mentioned just to try to reach some more clarity about them.

The first is, I think Mark is suggesting that we keep patient experience as a separate subdomain. And, I think we just need to make a decision. And, it's patient engagement rather than experience, sorry, or patient centeredness or engagement.

So, are there objections to doing the patient -- what phrase do you like, Mark, engagement centeredness?

CO-CHAIR SAVAGE: Engagement is the one that we have used. It seems to resonate the most and be the broadest.

CO-CHAIR KAUSHAL: So, could we do

patient engagement as a separate subdomain, in which case you could remove patient experience from quality?

Or you could keep it there, frankly, I don't think it really matters.

And then, Bob, you made two other points that I think we need to discuss.

One was whether or not we're including innovation as a category under impact of interoperability.

And whether or not we are including research and research use cases as an impact.

And I think that if people could address those two questions first, then we can go back around and solicit more comments.

MEMBER ALDER-MILSTEIN: So, I think we'd envision that as a use of exchange data, so research would be a way that you would use the data that would then lead to the impact.

So, to my mind, this is not an impact category, it's a use category because research in

and of itself is not useful and that's what leads to the impact.

CO-CHAIR KAUSHAL: Do you want to include it under use then or not?

MEMBER ALDER-MILSTEIN: Yes, so I think we had had it as subdomains under the human and computable. But --

CO-CHAIR KAUSHAL: Okay.

MEMBER ALDER-MILSTEIN: -- we can add it explicitly and I think innovation similarly like innovation for innovation sake is not valuable but if innovation leads to impact.

So, I guess, for me, those -- both of those concepts are really important and we had thought about under use and I think they could be their own bullets or under existing bullets.

DR. PATEL: So, I would agree with Julia. I think these are like use cases in a sense like, you know, how interoperable data is used for research, you know, secondary use, for example, research purposes.

And then, one can measure the impact of that downstream in the impacts part of it.

So, we could list these as examples in terms of use cases or under the use section. But, you know, I don't know. Yes, so that might be covered underneath there.

The other piece of it, it might be worth bringing up the results of the environmental scan and literature review because that also had in there domains on like the impacts of interoperability to make sure that we're covering the main findings from that, you know.

Or, I don't know where that is brought in, but just to make sure we're covering all the domains.

CO-CHAIR KAUSHAL: So, I think the suggestion is, and I think we should decide what we want to do with it, is either to include research and innovation under the use domain or to remain silent on it because we think that it's going to be included in some of the subdomains

under use.

So, what are peoples thoughts on that?

MEMBER OPELKA: Well, I mean, this is -- there's a lot of conflict going out here with several conversations at once, I think.

I can add to the list, if we want to add to the list. If we want to put research on, that's only a small segment. Registries is a much larger impact for many, many more lives in real time and that's not on the list.

I look at all of those as part of the accessibility of data. And once it's accessible, it has multiple uses. Research is one, registries are another.

And other aspects of quality of care. I think these are very traditional, stale quality metrics that are up here. And, it's not where the world's going. The world is looking at more complex measures and so, if we were to just focus on process and outcomes, that's not going to be good enough in very short order.

So, where I would just put quality and like leave it for a broader umbrella. Because, you don't have appropriateness. You don't have complex compound measures that can be put together across an episode longitudinally. You're not dealing with patient activation, patient engagement, PRO-type measures.

You're not looking at clinical decision support activities. You're not incorporating practice guideline activities.

There's all sorts of things that open up once you get data liquidity going. And so, that's the innovation world that's out there and it's waiting to happen. It is burdened by a lack of data.

The interfaces that are developing are the interfaces outside the EHR world. It's what's happening in the clinical registry world that all the action's going.

Where do I get that data moving and how do I represent this on here?

So, I looked at all of those as elements of the uses and the usability but, if we want to parse it and list them out, we can do that, too. To me it's six of one, half a dozen of the other.

In a broad sense, I was just looking at creating data liquidity that then is available to be used for the good purpose of quality, cost containment and so forth in the triple aim.

MEMBER BUITENDIJK: I agree with Frank's statements in that looking at the list on the impact side, that quality should not be limited to. But at least it's stating including outcomes. So, it's not limited to that.

And I think that's where I would see the effect of innovation and research starting to pop up and in a number of other areas as well, patient safety and any of the other ones. I should see that pop up.

If we want to put it, I think, use of exchange data is a more appropriate place to

highlight it.

But I'm not -- I'm fairly silent on whether it should go there. I don't think it should go under impact.

Regarding the question that Rainu asked about for or against patient engagement as a subdomain, I remain from a perspective that I believe that, as we apply the stakeholders to the other four categories, five categories that are there, the subdomains that are there, that we can get to all the aspects that patient engagement entails including care coordination, at least from a patient perspective involving the patient, their care team, their caregivers, et cetera.

From a quality perspective, from patient safety perspective, from a cost savings perspective, I think we can get to all those areas without having to call out patient engagement separately.

So, I still am on the thought that it does not need to be separate subdomain without

compromising the ability to get to the information we need to.

MEMBER ROSATI: Just want to make sure we don't mix together patient experience and patient engagement.

The reason is, because, the patient experience piece which I think can be addressed by interoperability is the complaint you often have, that I've had to provide this information seven times already. So, that's an experience and it doesn't necessarily get them any more engaged in terms of their health.

So, I just want to make sure we think of it that way.

The other part about, you know, I tend to agree that, you know, where do you put research? Is it usage or is it impact?

I guess it could be in the usage category. I think impact and innovation has to be in the impact category.

And so, just back to because I

suggested it, wanted to make that clear.

MEMBER FRISSE: I keep going back to the things that are on the outside in the primary charge which is to understand how interoperability can both strengthen existing meaningful use metrics and create new ones.

And I'm going to take a parable analogy and I may be banned for this.

Transportation sells, cars are the series of products and processes that we use for that. When you get a car, you have the specifications inside the car, some's required, certain safety standards, some are optional.

You have value-added products that meet certain standards that you can add to your car. Right? And then you've got that whole production process.

And then on the inbound, you've got the suppliers who have to meet certain standards and criteria.

And to me the critical thing that some

of you have emphasized over the last two days is the extent to which these emerging technologies in home health care must be thought of like new value-added products that must meet certain standards for that interface.

And I still think that's where we need to go.

But in the middle, the efficiencies, the productivity, those sort of things, I think people will figure that out, and unless we have some compelling reason to have some approach, recommended approach to measuring some of these things, it's certainly essential to the output.

But if you -- the real question is, what are we measuring when it comes out and what are measuring for these new components when they come in?

Which kind of gets you back to data liquidity and a few other things that people have mentioned.

DR. PATEL: just to put in a plug for

keeping patient engagement and kind of shared decision making as a separate item, I think we want to make sure, once this is published, just to think about the audience.

It's not just going to be clinicians and -- but, you know, we want to make this relevant for consumers as well and making sure that there's something in the impacts that can be visually seen as opposed to having it under a rubric of underneath one of -- as a sub-subdomain, I think is important.

MR. GOLDWATER: Okay, so after all of the discussions which have been great, so there's two more things I think to decide on before we can close this.

So, the first is under quality, do we want the parenthetical or do you want that removed?

And, two, do you want to keep patient engagement where it is, move it somewhere else or eliminate it?

So, let's start with the first, which is quality. Rainu, go ahead.

DR. PATEL: I'm agnostic about whether or not we have the parentheses after quality. I think it's cleaner if we actually take them away.

And I would advocate that we keep patient engagement a separate subdomain.

I do agree, Hans, that the stakeholder involvement will start to incorporate the patient perspective and it goes through the other domains that we're talking about.

But I do think that there are distinct and unique metrics that we can develop around patient engagement that are broader than patient's experience with the processes of healthcare delivery.

And so, I would advocate keeping it separate.

MR. GOLDWATER: Go ahead, Mark.

CO-CHAIR SAVAGE: So, I would

advocate the same way and agnostic about quality leaning towards just keeping it as quality, but agnostic and I would keep patient engagement.

MR. GOLDWATER: Okay, so, let's propose removing the parenthetical from quality and leaving that as its own subdomain and leaving patient engagement where it is.

Bruce, I'm looking to you for approval. Yes? No? Good?

Terry?

(Off microphone comment.)

MR. GOLDWATER: Patient and caregiver engagement? Okay.

MEMBER O'MALLEY: And, my question is, is engagement the right term? I'm all in favor of patient and caregiver, but it's, you know. It's a start, okay, it's a start.

MEMBER RICH: Friendly amendment to what Julia said. Family caregiver, because, in the conversations, people often think of the care team as being the caregivers, the clinical care

team.

MR. GOLDWATER: All right, so we will leave quality open and we will do patient and family caregiver engagement under impact and interoperability.

And should the -- what's that?

(Off microphone comment.)

MR. GOLDWATER: You have something again?

MEMBER O'MALLEY: Patient or individual. No, again, are we talking about -- I'm sorry, but this is, you know, you're --

MR. GOLDWATER: I'm just --

MEMBER O'MALLEY: -- parsing, you know, if we're going to parse it, then let's parse it.

MR. GOLDWATER: Go ahead.

DR. BURSTIN: Meaning person, family, we'll figure that out.

MR. GOLDWATER: Go ahead.

CO-CHAIR SAVAGE: So, the National Partnership has wrestled with this issue many

times. There are entire communities who feel very strongly that it should not be patient, that it should be person.

What I will say is that in all of our experience, we have settled on the use of patient because it speaks to the most people and we drop a footnote that says, we understand that there are different uses. I would keep patient here because this is the broader audience.

MR. GOLDWATER: And we'll drop the same footnote in the report. I mean, literally, we'll follow the same example on it.

All right, Bob, you can close us out.

MEMBER RUDIN: You're going to hate me, Jason.

MR. GOLDWATER: I promise I won't hate you.

MEMBER RUDIN: But, so, I've been mulling over the usability, so I have a comment on the usability one.

MR. GOLDWATER: Okay.

MEMBER RUDIN: Is that okay?

MR. GOLDWATER: Of course it is.

MEMBER RUDIN: So, first, like title now is a little confusing to me. Do we mean usability of exchange data to make it consistent? Is that -- that's one question I wanted to put out.

And the other one is, I think we have bunch of variables there, domains that some of them, I think, could fit under the domain of actually data content and quality from the -- but, within the context of the receiving end.

So, I wonder if, instead of trying to bullet out all of those, which I think there would actually be some additional ones we could think of from like just usability literature.

Like, for example, we don't have things -- we also are missing things like if the patients are the receivers, what about health literacy aspects?

So, one aspect might be, if we have

like something about data quality and we do have timeliness essentially in the first two domains also. So, I want to point that out.

So, if we have something like data quality from the -- in the context of the receiver, and then, data understandability would be another one which takes into account something like health literacy.

And then, I know we talked briefly about integration into workflows. And that does sound clinician-centric. But you could -- we could say integration into workflows or patients like, you know, peoples like routines to make it more general.

Because I think there's a difference between what the data is that's being presented, whether it's presented in an understandable fashion and then how it's presented which gets us back to integration into workflow. It might be a way to consolidate those into, I think, some more coherent buckets.

MR. GOLDWATER: Let me make sure I'm understanding what you're suggesting.

So, instead of adding to that interoperability, usability list, creating higher level subdomains where those things would fold under?

Okay, so, data comprehensibility is one.

MEMBER RUDIN: Data quality.

MR. GOLDWATER: Data quality.

MEMBER RUDIN: And integration into routines.

MR. GOLDWATER: Okay.

MEMBER RUDIN: Work routines or people's lives.

MR. GOLDWATER: Any thoughts on that or any dissent, I should say? No?

Yes, Frank?

MEMBER OPELKA: Yes, I'm not sure I'm following where they're going. You've got data content and quality under exchange.

And in terms of productivity, I thought that was really a workflow issue and it's all stakeholder productivity, it wasn't, you know, it's patients aren't excluded.

So, I thought workflow was covered under productivity but I'm not sure where you're -- there are a lot of changes you just mentioned and I'm not sure where they're all going and if they aren't already covered.

MEMBER RUDIN: It's the question of how the data would be used. So, for data to be used, there's something about the data itself. So, not the -- not how it's produced, but how it's packaged in the form where from the end user perspective.

And then there's the question of, is it like the selection of which types of data when it's presented. Because there's the question of, is it understandable? Like, are you showing something to a user who doesn't understand that data needs to be interpreted for them in some

way?

MEMBER OPELKA: So, I'm getting post-availability stress syndrome again. And, all of that's covered there. Relevance deals with a lot of that as well.

So, that's covered under relevance. If the data aren't relevant that's been exchanged, it's -- we're assuming availability and relevance is part of that.

MR. GOLDWATER: Jason?

MEMBER BUCKNER: Yes, and that's my thought, too, Frank, as well as coherence. Is it understandable? I think that was the intention of the word coherence there. Is it valid to you whatever a use case is?

So, you know, I'm a little confused on what the change would actually be that you're proposing, Bob.

MR. GOLDWATER: Alan?

MEMBER SWENSON: So, it seems, and I mean, Bob can obviously clarify it, at least how

I'm understanding it is, that you're just suggesting that there is some room for consolidation and clarifying of terms, not that relevance and completeness and coherence aren't already covered, but that some of those things could be bucketed into one item rather than having so many different subdomains?

MEMBER RUDIN: Three domains, one would be data quality, one would be data understandability or comprehensibility to the end user and then the third would be integration like how effective it integrates into people's routines. I think we can merge all the ones that are that there into those three categories.

MR. GOLDWATER: Does that make sense?

DR. PATEL: Yes.

MEMBER BUITENDIJK: I think, by and large, that clarification is helpful. When we get to understandability, then we need to be careful that we just look at the content part of the interoperability, not the way that it

actually physically appears.

So, I just -- that frequently, we, we not necessarily meaning this group but in general, is that we get confused about human readability aspects of things. And which it goes to understandability.

And you only achieve that after the computer applies some transformation to make that happen.

So, I think we just want to be careful that understandability does not get over interpreted into how payloads are actually transmitted.

MR. GOLDWATER: Why don't I suggest this before we get to Mark, the next part of this is going to be teasing out measure concepts related to all of this.

If there's a sort of we see them grouping together in the categories that you're mentioning then maybe can think about how to roll them up.

Mark, did you have anything to say?

(Off microphone comment.)

MR. GOLDWATER: With that, we're taking 15 minutes.

Thanks.

(Whereupon, the above-entitled matter went off the record at 11:01 a.m. and resumed at 11:25 a.m.)

CO-CHAIR KAUSHAL: All right. I'm going to suggest that we go ahead and get started in the interest of time. Because the next step that we have in front of us will, I am sure enga -- have a lot of discussion and be quite involved.

So, what we're doing, now that we have our domains and subdomains, is to start thinking about the measure concepts. So this was the work that we did yesterday afternoon.

And what we're trying to do now is to flesh out a longer list of measure concepts. And we, Mark and I, talked about different ways to structure this.

And we were thinking that maybe we should start with one of the domains in the middle, like usability. And then go back to exchange. And then go forward.

But we've decided we're just going to go in chronological order. So, we're going to start with exchange and with the measure concepts associated with exchange.

And the goal of the next 10 or 15 minutes is to just generate a number of measure concepts around exchange. Vanessa and the team are still putting up the measure concepts that were developed yesterday.

Steven, I'll turn it to you to go through the four or five that were developed yesterday. We have included in here some of the availability ones now.

So, if you want to speak to the ones that our group did. And then maybe Mark, I'll turn it to you to speak to some of the ones that the availability group did.

MEMBER WALDREN: Well sure. So underneath stakeholder involvement, we had two measures. So one was the notion of those patients that were shared, what percentage had their information exchanged.

And a sub-measure would be that if you cap -- if you were capturing the type of organizations you were exchanging with, and you'd be able to understand, are you exchanging with key categories of organizations actively.

So it's this notion that there's certain types of exchange that we want between different types of stakeholders that we want to push forward. And some of the ones that we talked about were dental and behavioral health.

And of course patient exchange and engagement would be one of those subcategories as well. So that's one measure.

The next underneath the stakeholder was this notion that the front line folks are being actively participating in exchange. And

it's not an organizational level only exchange.

So what per --

(Off microphone comment.)

MEMBER WALDREN: Oh, sure.

CO-CHAIR KAUSHAL: Could I ask you to phrase a few more of those concepts so that Vanessa can get them onto the slide? The things that you were just describing.

If you could phrase it as a measure concept. Am I making sense?

MEMBER WALDREN: Yes. And the first one is on the first one. So, of those patients that were shared. And I would say the next one is which key categories of stakeholders that you're actively engaged in exchange.

So, I don't know if that's clear enough. Okay. So then I'll just read off this list here. So the next one was this notion of are you using nationally recognized standards for your exchange.

We -- didn't -- we talked a little bit

about timeliness. And I think more of ours was -- I think there needs to be a conversation about how the timeliness works in the next layer. So, I don't know that that makes a whole lot of sense for us.

So the other two are, I think, are not ours, are they? I'm sorry. Let me go back to look at my list. Yes. So that's it.

CO-CHAIR KAUSHAL: Sorry. I think it would be useful if we could put back up the subdomains that we just discussed. Oh, they're up there. Okay. Sorry, I didn't see that.

So, Steven, in looking at -- just because you had the unfortunate luck to be scribe yesterday, in looking at those five or six subdomains, are there additional key concept measures that you might include here?

MEMBER WALDREN: So, underneath the method of exchange subdomain, we did talk about this notion of the different types of exchange and a volumetric. But we didn't get to the con

-- to the point of a concept.

But, we talked about this notion of how many, you know, pushed messages are you doing? How many pull messages? How many networks are you connected with?

Kind of in the method of exchange we talked about the notion of, are you actively training your front line staff in how to use those methods of exchange? So, for example on the push, are you teaching them how to actually do it?

CO-CHAIR KAUSHAL: So Vanessa, just to translate a couple of these. I think that the latter was this concept of, could we call it non-technical support, or support and training?

MEMBER WALDREN: Support and training, yes. So we talked about configuration as well. So, support and training, I think, is fine.

CO-CHAIR KAUSHAL: Support and training for the exchange. And then

configuration as a separate concept.

And maybe what we do, you know, I'll defer to the group. But maybe what we do is throw up some of these key areas that we're thinking about.

And then figure out how to translate them into measure concepts. So, would it be okay, Steven, if we just threw up configuration and then figured out what we're talking about there?

MEMBER WALDREN: Yes. Yes.

CO-CHAIR KAUSHAL: And I would also suggest that we throw up --

MEMBER WALDREN: You're the chair.

CO-CHAIR KAUSHAL: Data -- just trying to us. I would also suggest that, you know, we've talked about various aspects of data content and quality.

Some of the things I think we've talked about are data -- so this, Vanessa, would be another separate area around which we'd want

to develop a measure concept.

But we've talked about data completeness, data comprehensiveness, data sources. Comprehensiveness, sources, or breath maybe was the word we were using.

Steven, I'm going to keep -- I'm going to put you --

MEMBER WALDREN: Yes. No, no. No that includes -- we talked about the notion of -- in that particular bullet the notion of the social determinants.

There was discussion around police, and David had brought up, you know, about police reports and other things like that. So, that was the intent of the breath.

On another bullet we talked about the level of structure. So we talked about the syntactic and semantic richness of the data.

Yes. So I would say the semantics. Set up system of that. Awesome.

In another bullet we talked about the

level of automation. So, how much of it is the system that's generating the exchange versus a user has to go through the process of initiating an exchange.

I would add in one more bullet I guess. We talked about coordination with trading partners. Which I think this gets to the potential of, and sorry, I was out.

If that fits underneath the data flow or data blocking. But, it's this notion of doing the business and work of making sure that you can actually do the technical exchange.

We did talk about incentives in place for exchange. But I don't know if that makes sense.

CO-CHAIR KAUSHAL: Terrific.

MEMBER WALDREN: Yes. So, I would say on that particular bullet, where you have the technical elements of exchange, I'd put non-technical. So, I'd just put non hyphen. Yes.

And why not just leave it at that.

And we can talk about -- I mean, we can talk about incentives being part of that as well, if we want to go into that route.

Yes. The only other thing I have on the list here, I wouldn't put into this particular one. But, it's this notion of fit our need. Does it actually fit a need or -- but I think that more goes into usability and use.

CO-CHAIR KAUSHAL: Let's hold onto that one for use, I think. So then -- terrific. This was really helpful to get us started.

So, I guess here, let me offer up some questions for now to the group as a whole. Looking at this list, are there additional domains that need to be included?

Or I guess we're talking sub -- concepts, thank you. Are there additional concepts that measure concept areas that need to be included?

And are there suggestions about how to take some of these areas and phrase them more

granularly as a measure concept? Helen?

DR. BURSTIN: I just want to mention, I think, we added data blocking. And I don't see a concept here around data blocking.

And I think that would be really important.

CO-CHAIR KAUSHAL: And Mark, I should also turn it to you. Because the availability group had the last two bullets on this.

And I guess my question for you is, are those issues sufficiently included? If you could just go back for one second.

Would it be sufficient to flesh out the -- there's a concept around key stakeholders. And is it sufficient to say key stakeholders are involved both in providing data for, and utilizing data from an exchange?

Or, you know, something like that that, you know, providers and users? Or were there additional concepts that you all had under availability that you feel like needs to be

included?

MS. BAL: Sorry, Mark. Just clarification. Unfortunately there was a lot of ideas. And so we actually do have it on two pages.

If you want, we can move these two to the other page so you can see all six of them together.

CO-CHAIR KAUSHAL: Poonam, my sense is that all of them -- you can go ahead and flip to the next slide.

But my sense is they all follow a similar theme. Which is it's about using, or providing data, and it's different people. Different stakeholders doing it.

Which is why I was wondering if we could summarize it as stakeholders providing and using data?

CO-CHAIR SAVAGE: So I think then yes. You could generalize. We did it that way because we were working with individual user groups.

You could generalize it to say that that's the -- that needs to be the case. Everybody needs access to the health information that they need.

I'm going to pause for a second and reflect on the social determinants of Health One to see if it's the same way.

CO-CHAIR KAUSHAL: I think that the -- I think the concept, if you could go back for a second. I think that the concept this morning, earlier in the morning when we discussed this, was that social determinants could fall under data breath.

So data sources, completeness, comprehensiveness, and breath. That social determinant information is another type of data source.

CO-CHAIR SAVAGE: All right. So, I'd say logically, yes. As somebody who's trying to move the needle in the area, this is an area where it's important to call it out and name it. So

that people are actually thinking about it.

Sort of like how we keep -- we are now saying, we don't just mean clinical care, we're also thinking of -- we're thinking of care in the patient's home. Because we need to call that out.

At some point it will become routine. Social determinant is not routine yet. So that's why I think there's value in lifting it out and naming it.

CO-CHAIR KAUSHAL: So, that's one suggestion then. We should go around the room. Vanessa, maybe what we do is after data sources, we specifically call out, in parenthesis, social determinant.

And one other suggestion, which is key stakeholders providing data and using data in exchange. And again, there in parenthesis, perhaps calling out patients and families and care givers. So, including patients and families and care givers.

Yes. Let's do it.

CO-CHAIR SAVAGE: Okay. Mark?

MEMBER FRISSE: I'm not sure this makes the list. But it's to me something about questions you ask about the process as you do it.

And it's a snake hole. And that is, how do you authorize other users in the family and delegate? Again, that's more of a question about the exchange per se.

But I always wonder about that. And I don't think -- and in all the background of all these other technical requirements, one would be clearly authorization and then ideally delegating tasks.

So, I don't want -- I don't think it belongs out here in the front. But nevertheless, I think it's important.

CO-CHAIR SAVAGE: Terry?

MEMBER O'MALLEY: Thanks. Just thinking on social determinants. And sort of -- that's an issue that extends well outside of the

current electronically enabled healthcare system.

Because getting that information is more likely to be derived from people who are not on electronic health systems. Is that fair to say?

CO-CHAIR SAVAGE: Two observations that bring it much closer in time, even to the present. I'm -- as I mentioned yesterday, I am going to site visits, ten different communities. They are bringing in data from non-clinical settings into clinical EHRs.

The second thing I'd say is that the 2015 addition of Certified EHR Technology has a criterion that's been -- was announced back in 2015 that went along with patient generated health data. You can bring in non-clinical data. And it named eight different fields.

So, yes, it is more forward looking than many things. And yet it's a -- it's eminent.

MEMBER O'MALLEY: So, my comment on that then is, do we need to explicitly call out the fact that we're going to accept, as part of under the data quality piece and data breath, are we going to accept sort of electronically transmitted non-standard space information?

You know, will we take a fax? Will we take a pdf? Will we take a secure email from someone that actually has a list and a text blob of social determinants?

Is that sort of in scope? Out of scope? How -- you know, for a measure? Are we going to put a limit on that? Or are we just going to say, let's leave it blurry and let it sort itself out.

CO-CHAIR SAVAGE: Speaking for myself, I'm not sure that that's just specific to social determinants of health. There's a lot of -- right.

So, I -- and it was mentioned yesterday, do we -- you know, the notion of a pdf

is better than nothing.

I think when we're looking at what measure is developed, to meet the needs of the measure concept, some may -- some measures may actually look at that. And others may not look at that.

I think that's probably at the actual measure develop is where that may come in.

CO-CHAIR KAUSHAL: Can I ask a question? If we did data sources both clinical and non-clinical, does that start to better incorporate the multitude of non-clinical data sources?

CO-CHAIR SAVAGE: Yes.

CO-CHAIR KAUSHAL: So the -- after data sources, Vanessa, to take out social determinants. But instead say, both clinical and non-clinical. Or we could even call it social data sources.

But, -- do non-clinical for now. And then we can fuss with it later.

CO-CHAIR SAVAGE: Bill?

MEMBER RICH: Yes. Just I agree with the multiplicity of inputs for social determinants. And to go back to Mark's point, it's one I raised yesterday.

And that is, it's very, very sensitive when you deal with the elderly or people with multiple chronic conditions. A lot of family members make inquiries all the time. And Bruce must deal with this also.

And it's very hard to kind of figure out the rules under HIPAA. Who you can talk to and who you can't.

So, I just want to reflect that it's actually a very complex issue. But one that's really needed to deal with people with multiple conditions.

One question. I don't understand the bullet, percentage of applicable standards being used where an applicable standard is one that is nationally recognized and its domain is part of

the exchange occurring at the organization.

Help me. Yes.

MEMBER WALDREN: I thought that was much clearer them availability. But I guess not.

(Laughter.)

MEMBER WALDREN: So, this is me being super wordy, trying to put it into one sentence.

So, the intent would be that you first need to -- so there's going to be this set of nationally recognized standards. Right?

And you can define what that means. You can say there's the ISA. And say okay that's -- has enough gravitas to say that it is. Or, is it, has to be something else. But -- so, we didn't get into that space.

The next though was saying okay, well, what if you never exchange medications? Should you be dinged for never using RxNorm? So the intent was saying, is it applicable?

So there the intent was that if you exchange something in the domain of that

particular standard, then it's applicable. So that was the intent of the second part of that sentence.

So you can see that if you were trying to implement this in a very piss-poor way, you could have a survey that said, for RxNorm, one question, do you exchange medications information? If you checkmark that as yes, then it's applicable to you.

Do you use RxNorm? Yes. Okay. Then you would be in the numerator. If you didn't, then that would be in the denominator. That was the intent.

MEMBER RICH: It's a really broad statement. And maybe a narrow example would be appropriate. As you're dealing with this exchange of data, it's in all different forms.

And what is a standard form? I don't know. That's a recognized one.

But that language you're reading, it could be broadened to apply to many, many

different data sources. And an inability or unwillingness to transmit that data.

So I think that a further definition or example of a national standard, I think would help. Because I think anyone that reads that will be more confused than I was.

CO-CHAIR KAUSHAL: I'm really -- there's a lot of tents up. I'm going to do a time check to get a sense of how it's going to help us to proceed.

So we have about 45 minutes. We have -- and we can take some time out of the afternoon. We have three more domains that we want to cover.

And there are some new concepts that have been introduced in this that we haven't really fleshed out at all. So for example, data blocking wasn't something that we talked about a measure concept for yesterday.

So, I guess I'm polling the group to see, would we like to spend another five or ten minutes on this domain? Particularly fleshing

out the newer concepts in this. Or do people think we should move onto the next one and come back if we have time?

Five to go -- great. So keep going.

CO-CHAIR SAVAGE: Yes. Frank?

MEMBER OPELKA: Hans is speaking for all of us with our tents up.

CO-CHAIR SAVAGE: Hans?

MEMBER BUITENDIJK: Oh, I thought Frank was first.

MEMBER OPELKA: No. It was a commentary.

CO-CHAIR SAVAGE: Sorry. Misunderstood.

(Laughter.)

MEMBER OPELKA: Yes. So when I look at this exchange, to me it's more like this is a send/receive question.

I'm interested in what are all the data sources that you have that may want to have send and receive. And what format are they in?

So what version of HL7 are we working with?

And then, are you capable of send/receive messaging? And how are you capable? Are you capable through CVAs? Are you capable through Fire APIs?

Are you able to deal with open source SOHA? What other architectures are there that we can exchange data? So this is more on the technical side of things.

And then when you get down into some of these more descriptive elements of the actual and use cases in exchange, I look at -- if we look at EHRs, there's 50 thousand some fields there.

We don't need to exchange. And shouldn't be worried about exchanging 50 thousand. What's the top thousand? And what are those elements that are -- that we can prioritize?

And we ought to say that those things are commonly needed, commonly exchanged. Such

as the patient's identification. Such as the social determinant to help whatever those things are.

But, first understand these structural elements. Who are you? And are you capable? And can you talk to multiple different data sources?

Not just EHR to EHR. Because this world is much bigger then that now. Can you talk to these other data entities that are important?

And then what are these top areas that we want to exchange? And can we list all of those?

Because I look at some of these that are on here, and I think to me they're -- many of these belong in other categories. They're not specific to the exchange function.

CO-CHAIR KAUSHAL: Can you pull out, Frank, a couple of those that you think actually belong in a different category?

MEMBER OPELKA: Do you --

CO-CHAIR KAUSHAL: This is a whole list right now.

MEMBER OPELKA: Oh. Well, then it's been edited some. Okay. I'll look at it while Hans is going.

CO-CHAIR KAUSHAL: And Frank, the other thing I'd ask you to look at is, I feel like we have some of the concepts that you are suggesting. But in various sorts of orders.

Like I think yesterday when we were doing this, we were talking about having the stakeholders first. And then things about the data next, and so on.

And so, it would be helpful to know if it's just a question of ordering? Or whether it's a question of entire concepts being missing. Or misplaced. You know, all those issues.

So, Hans?

MEMBER BUITENDIJK: Building on that, is that there are, I think, two that can be combined. If I understand the discussion

correctly. And two that can be partially combined and partially moved.

Data sources and key stakeholders. Those sound very similar depending on who I'm hearing talk about that. But they still seem to be very similar.

In that we're trying to find out if all the different places where I can get data from that are interesting to me because of my patient population. Am I connected with them? And in what way?

So, I think if we can combine data sources and key stakeholders on the part of -- and then I would -- I'm actually reading the first comma after data sources to be a semicolon.

And it says that I'm looking at completeness, comprehensiveness. How many of those am I electronically engaged with? And how many am I paper or otherwise engaged with?

That's what I'm trying to get to. All the providers that are referring to me. Or the

providers that I'm referring to as an example.

So I think data sources and key stakeholders part one, can be combined that way. Key stakeholders part two --

CO-CHAIR KAUSHAL: Hans, I'm going to have you hold just for a second. Because I think this is an important concept.

Vanessa, I actually -- I think what Hans is suggesting is to change this bullet into data completeness, comprehensiveness and breath. And take out sources from here all to --

MEMBER BUITENDIJK: No. No, I was not suggesting that.

CO-CHAIR KAUSHAL: Oh, you weren't? Okay. I'm sorry. Because I misunderstood you.

MEMBER BUITENDIJK: No. I think this way -- this way is actually clearer, I think. Because I'm looking at the parties that I'm interacting with, given my patient population.

And of that population that I'm -- the partners that I'm dealing with, how many of those

am I electronically engaged versus paper or otherwise?

So, am I complete -- is it the complete set? Comprehensive? That's how I started to interpret the data sources. And then if that's indeed what was meant with data sources, I can combine key stakeholders and data sources in that way.

CO-CHAIR KAUSHAL: Oh, I see. So you're suggesting combining key stakeholders with data sources. Would you still have a separate bullet on key stakeholders to get to the concept of use?

MEMBER BUITENDIJK: That was part two. I would suggest that's more on the use. I'm now sitting in the use domain as opposed to the exchange domain.

So that one I would make sure it's addressed in use. So key stakeholders goes partly up and partly out.

CO-CHAIR KAUSHAL: Okay. So, can you

-- Vanessa, can we do this? Can you just do a strikethrough for a second? Because I think we need to discuss this.

But do a strikethrough of that. And then under data sources, instead of all, just change the word all to key.

And I think that what we should do is react to this before we continue around with the people who have their tents up.

MEMBER BUITENDIJK: Yes. And then I have a second one to do something similar. But, we'll come back to that after they respond.

CO-CHAIR KAUSHAL: Okay. So perhaps we can start with this. Comments, reactions to this?

Okay. We're great. Go to point number two.

MEMBER BUITENDIJK: Okay. On the level of structure, syntax and semantics, and the percentage of applicable standards, et cetera. If we were to say level of structure syntax and

semantics according to applicable standards.

Would that combine sufficiently? I think within that, we can deal with for a particular capability, are we using the appropriate semantic standards? Syntactical standards and otherwise?

I'm curious whether if you do -- according to applicable standards, would that catch the essence of both? That bullet and the last bullet?

CO-CHAIR KAUSHAL: So then do a temporary strikethrough of the last bullet. And Tess, you've talked a lot about standards over the last couple of days.

So I'd love your sense of whether or not this suffices in your mind.

MEMBER SETTERGREN: I think as a broad concept that probably would cover what we were talking about in the group. Steve may disagree with me.

Because we really got into a little

bit more detail. But I also think we have the opportunity with, you know, as we flesh out a little bit more, what we mean by the concepts to measure.

That maybe we can add some to this to add some clarity.

MEMBER WALDREN: So, I mean, I would be comfortable with the change. I think the one thing though that it eliminates is the measure of semantic exchange where there's not an applicable standard.

So, if -- you know, so again, I mean, and we talked about applicable standards. So if it's not nationally recognized, so, you know, for example, the API.

So let's say that you as a vendor put together an API. Well documented. Highly, highly structured. More structured then any nationally recognized standard.

But there's not a national standard for that particular data source. We would --

we'd miss that in this.

But I'm comfortable with that. But I can see that as a miss.

CO-CHAIR KAUSHAL: So Steven, how about if we do according to applicable standards if available? Or according too available applicable -- you know, something like that.

Available -- applicable standards if available?

MEMBER WALDREN: Well, I'm fine with it as is.

CO-CHAIR KAUSHAL: As is. Okay.

MEMBER WALDREN: But I'm -- that was my only point. That -- and again, we didn't put national standards.

But, again --

CO-CHAIR KAUSHAL: It's okay.

MEMBER WALDREN: It's a small problem.

CO-CHAIR KAUSHAL: Okay.

MEMBER WALDREN: So, I'm fine with it.

MEMBER BUITENDIJK: And in that situation, is that where -- let's say is that the API in Steve's example is using Fire, everything else. Got there. But for the semantic part it uses a local coding system.

Then I would hope that the measure that we define for that would ding that particular part on, well, it's great. Eighty percent there, but 20 percent missing because it's semantically not exchangeable. Because we now have to figure out what it means.

I think we still could get there. And on the national, yes. It should be national standards. Otherwise, you and my standard might be completely different. And that's not what we want.

CO-CHAIR SAVAGE: So trying to move on to stay on time. David?

MEMBER HIRSCHORN: There was a point up there about giving patients access to their information from the EHRs. I'm trying to

remember what slide that was on.

That was on the next slide, or if it got --

CO-CHAIR KAUSHAL: The slide is now gone. It was -- it was the next slide after this. It was one of the availability measures.

MEMBER HIRSCHORN: Okay. So that's where I was and my comment was pertaining to. So, am I jumping ahead going there?

CO-CHAIR KAUSHAL: Why don't you go ahead and make it.

MEMBER HIRSCHORN: Okay. I just wanted to point -- to reiterate the point, as something that we see from the medical imaging community is that not all of your data is in the EHR.

And you know, the imaging reports will be, but the pixels are not. And to not forget about that part when you're making data available that it's not all in EHR. There's other sources.

The EHR will say sure, we integrate

with your imaging system. We have a seamless link. Yes. But when another party says I want data, or a patient says I want all my data.

Then EHR says well, here's all your data. And they say what happened to my imaging data? And it says well, I integrate with it.

I said, no. But I asked you to exchange it. So, I don't exchange it. That's not my data. That's someone else's that I integrate with. But that's not mine.

You know, so to not forget that there's -- there's always been this distinction in the silo between your imaging data and everything else.

And I'm sure there may be other exceptions to the rule as well. But I know that imaging data is a big exception to that. That it's not in the EHR. The EHR plays nicely with it.

But when ask the EHR to exchange information, it says that's not my job. Because

that's not my data.

CO-CHAIR KAUSHAL: Yes. No, I hear you. One -- what we could do, is under data sources, have a third qualifier. And that be images in specific.

I think you know, the things that I think this relates to, it's images and EKGs primarily. Maybe some biopsy specimen too.

MEMBER HIRSCHORN: Well a lot of EHRs will put EKGs in as pdfs or something else. You never know if they'll take that in.

But they won't take, you know, petabyte of imaging data.

CO-CHAIR KAUSHAL: So maybe in the interest of time, Alan, are you reacting to the -- great. Go ahead.

MEMBER SWENSON: Yes. Well, it just seems like some of this is already covered --

CO-CHAIR KAUSHAL: Give us a solution.

MEMBER SWENSON: Under completeness.

Right. I mean, if it's available, it should be exchanged.

If it can be exchanged, now there's some of that is an issue of there aren't necessarily standards to do image exchange. And there are standard bodies that are working on that kind of stuff.

But if it can be exchanged, it should be exchanged under the completeness.

MEMBER HIRSCHORN: Okay. I mean, the standards certainly exist. They haven't been implemented.

CO-CHAIR SAVAGE: Vaishali?

CO-CHAIR KAUSHAL: So -- I know that there's several tents up. It's noon. So, I would ask you if it's a can't live unless I make this comment, type of comment. Or if it's something -- oh, there we go. I'm getting more tents.

And I am going to make a request on behalf of Helen, who doesn't even know I'm doing

this. Which is, data blocking doesn't -- hasn't been fleshed out yet.

And so, if you're making a comment and it feels important, great. Do it. And if you have a comment to make on data blocking, let's do that.

And then maybe we can wrap up in the next three or four minutes.

DR. PATEL: So just this is more of a question to be raised. You know, when we in ONC measure exchange, we look at key concepts that relate to sending, receiving, being able to query or find data and integrate data.

So those four key concepts are how we've been measuring exchange. And so, do we think that that is -- exchange is adequately measured by the -- and by that first measure?

So of those patients where care was shared, the percentage of patients who had their information exchanged? I just -- raising a question, do we think?

Because that's the only real measure that I see of exchange. Actual exchange. A lot of these other pieces are more contextual.

So, in terms of, you know, also going to John Blair's point earlier. Like, you know, in terms of volume. Looking at pieces of information. Making sure that there is information that is flowing.

I just want to make sure that we're all comfortable with the fact that that is the only measure of actual exchange activity.

CO-CHAIR SAVAGE: Mariann?

MEMBER YEAGER: I was going to comment on data blocking.

CO-CHAIR KAUSHAL: So, I'm going to ask for --

MEMBER YEAGER: Would you prefer me to hold that?

CO-CHAIR KAUSHAL: Yes. If you could just hold it just one second.

MEMBER YEAGER: Okay. Um-hum.

CO-CHAIR KAUSHAL: Any comments to -- Jason?

MEMBER SHAPIRO: Yes. You know, it might be implied that if it's exchanged it's accessed and used. But, maybe that should be made explicit.

Because we know that usage, even though the exchange might exist, is often very low.

CO-CHAIR KAUSHAL: So, one -- maybe you have a suggestion. I was going to proffer a suggestion.

It strikes me that the phrasing of this measure concept is much more granular then some of these other areas. And maybe we just roll it back up.

And we do, you know, something around availability of info -- of exchanged information. Or some other type of volume measure. Yes? Can somebody take this?

Can you take this and run with it? I

got a nodding head. So, I --

I think that the -- I think there's two concerns. I think there is one concern is, is that this is the only measure now around volume of data that is being exchanged.

And then I think the second concern is, is that this measure as stated, doesn't get to whether or not that is actually available data once it has been exchanged. Is that what you were trying to say, Jason?

MEMBER SHAPIRO: But it's actually -- it actually winds up getting used. That it gets accessed and used.

MEMBER ADLER-MILSTEIN: So I think if we do the data sources measures right, that's where this comes back in. Like completeness will be a measure of exch -- a volume of exchange.

I just think if we phrase that one so that it feels like that. But I think that something other --

DR. PATEL: I thought completeness

was more like whether the information being sent was complete. Like, I think Jason, you had brought up an earlier point that like when you've done a data run, like some pieces of information are just not complete.

So, I --

MEMBER ADLER-MILSTEIN: But isn't a measure of exchange --

DR. PATEL: Is that a measure of exchange? Or that's just a measure of like the -- I don't know. I mean, I guess complete -- you know, just figuring out what the completeness means, you know.

MEMBER ADLER-MILSTEIN: That's what it means.

CO-CHAIR KAUSHAL: Let me make -- let me make two suggestions. And then we can decide that we don't like them.

One suggestion would be replacing the first bullet with volume of health information exchange. And leaving it agnostic as to how

we're going to measure that.

And then the second would be, we have eliminated the concept of key stakeholders who are potentially using the data. So, maybe in -- maybe that just goes over to use or usability. Or maybe there's a bullet here around, you know, potential key stakeholders who can use.

So, let's do this, Vanessa. Do a strikethrough on the first one. And just replace it with volume of health information exchanged.

And then for -- Vaishali, you have a comment on the second, the user piece.

DR. PATEL: I forget where -- I did have a comment. And then I forgot.

The second part of what you were saying was that --

CO-CHAIR KAUSHAL: I think --

DR. PATEL: Oh, the usage. Oh, the usage piece.

Is that then as we know from, you know, a lot of the research that your team has

done and others. That, you know, information of this exchange is not -- is actually pretty rarely used at this point.

So we do want to measure those as two distinct concepts. And I think the usage one will go under the usage bucket.

And there here is where you'd want to measure whether the piece of data was exchanged or not.

CO-CHAIR KAUSHAL: Okay. We're getting nods. So, we'll take that. And then should we -- let's do a quick run through on tents. And then we're going to break for lunch.

So, that should be an incentive.

CO-CHAIR SAVAGE: Okay. Mariann?

MEMBER YEAGER: I'll be concise. So, I was hoping to provide a little more context around the concept around data blocking.

And we typically look at that in terms of discriminatory practices. So, one example would be, the number of instances or percentage

of the time that data were unavailable due to unfair or unreasonable conditions that would limit exchange or entrap ability from another data sharing partner.

That will be -- and that -- differentiate that from barriers or technical limitations that impeded exchange. So, I think image exchange is a wonderful example where there are international standards.

They've been deployed rather broadly with PACS and RIS systems. Not really have a recipient on the other end.

So, in the nascent stages of enabling nationwide image exchange but can't do it today, the data exists. It's just not accessible.

So is that data blocking in our world? It's not nefarious. It's not discriminating and imposing unfair practices. It's merely an impediment.

So, I wonder if that would be helpful to distinguish the two.

MEMBER RICH: Can we just defer to the ONC definition of data blocking? I think that covers Mariann's.

It's not the same. You're right Hans.

MEMBER YEAGER: Their definition would apply. But this would be a way to measure the number of instances or percentage of time.

And also getting a little bit more granular on what it means. Because it's a governmental definition, it's rather broadly writ.

But if we can get into, it's around discriminatory practices where you treat one trading partner a certain way, and you treat another trading partner who's similarly situated a different way. And it's fair and unreasonable conditions.

So, in that it's sort of subjective. This measure to me, feels subjective. Because you're asking the party who feels that they were discriminated against to report the instances of

that. Or you know, like, you know, percentage of time or what's occurred, but.

MEMBER RICH: To help facilitate this, it may be a good idea. I totally agree with what Mariann said.

And Hans did educate us. They're different between the ONC and the 21st Century Cures. Since we don't know what the regs, how they're going to define it, maybe if you just leave it open as it is.

Take Mariann's as an example in a footnote or something like that? I don't know. I'm just trying to further the discussion.

CO-CHAIR KAUSHAL: So, I think the way that it's now with the parentheses works well. It's just a couple of examples.

And I think it's still open for discussion.

CO-CHAIR SAVAGE: David? In a nutshell, hopefully.

MEMBER KAELBER: Yes. I guess it's

sort of more like a point of order question. I mean, I find the discussion really helpful.

But I'm trying to figure out like, it's hard for me to see where does all this go like in the next couple of hours? In the next couple of weeks?

It's hard for me to sort of figure out, do I really want to be knit picking with all these different words? I don't know if you guys can comment on that now?

If that's something like when we come back from lunch? But like just so that I can sort of participate fully and add value.

CO-CHAIR KAUSHAL: Yes. I -- no, I -- here's my reaction. And then Jason and Poonam, I'll turn it over to both of you.

My reaction is that we're getting too detailed. Because we are trying in the next hour or so to -- well, it needs to be next 15 or 20 minutes to get through three more domains.

So, it would be good to get your lay

and Poonam's lay of what the rest of the afternoon should look like. But, yes, I agree. I think we're too detailed.

MEMBER KAELBER: I'm also just trying to understand. I mean, how does this process that we're doing right now, how does it fit into sort of what the rest of this committee is doing? Not just today, but sort of over the course of the committee?

MR. GOLDWATER: No. I think the point of this particular exercise is to establish some higher level measure concepts related to the domains and subdomains that you all talked about that indicate an either current gap that exists in the ability to measure interoperability.

Or something that could be done better. And that when a developer is able to look at this, can take this and create a measure from it.

So you do want to avoid being overly prescriptive and overly detailed. You're trying

to provide a high level concept that sort of identifies as, as we talked about yesterday, sort of a general population, a general framework that somebody could take a build a measure from.

And so, when we get back from lunch, you know, we'll spend the remaining hour or so going through those concepts.

And then turn our attention to actual measures that you've evaluated to see when the framework is released, there's a list of concepts under all of these subdomains and domains. And then there's a list of measures that you viewed as being interoperability sensitive that people could use.

How it will inform the rest of this committee's work is, once this is done, you know, our job then is to go back and create a report that's reflective of what you all have discussed.

And to share it with you to ensure the fact that we're representing what your points of view are. And that we are getting close to a

point where we are reflecting your ideas, your concepts, your decisions about what is important to be measuring interoperability and how to do it.

And that by the time we get to the end of the project, we have a very firm framework that will be released for people then to take and start building measures from.

CO-CHAIR KAUSHAL: And Jason, can I have your sense of the rest of this afternoon and how much time we can spend on the other three domains?

MR. GOLDWATER: So I think Poonam and I just had a sidebar off of this. So, we were going to have a discussion, sort of the criteria for developing measures.

And I think we're probably going to eschew that for today. And spend, you know, the next hour and 15, hour and a half after lunch going through and finalizing the measure concepts.

And then spending, after a short break, the remainder of our time together going through the measure exercise and the measures that we develop. Because I think from our team's standpoint that's what we really need to make sure that we can go back and create the report.

And I said this yesterday, and I'll be reemphasizing it. That we have to create something that's reflective of what you've discussed.

Not anything where we are thinking about, well, what should we put in here? If we have a discussion about what should we put in here, then something's gone wrong.

We need to make sure we have everything that we need.

CO-CHAIR SAVAGE: Hans, is it something that needs to be said?

(Laughter.)

MEMBER BUITENDIJK: Otherwise the

card would not be up.

CO-CHAIR SAVAGE: Thank you.

MEMBER BUITENDIJK: No, a very short note. It's not on the list itself. But the domain space that I think from the conversation some of the examples that we had that, and it might be appropriate for the report more than that it reflects right now.

We use the term exchange. And with the examples that are being used that frequently it mostly seems to them imply that data is actually moving from one place to another.

There isn't a concept of access. Which I think is very much to be part of exchange. But not to lengthen the names here, where data remains where it is and it's accessed by means of API use or otherwise.

Imaging and other ones maybe prime examples for that. Where you just don't want to move that much data all the time to everybody and duplicate it.

So, I just want to make sure that through our conversations that to use the term exchange interchangeable with access as well.

And that we don't care whether it actually physically moves all the time or not. Whether I copy it or not. That should be immaterial.

And that might be helpful as we dive into the measures. To make sure we're not going to be stuck on just copying data.

CO-CHAIR KAUSHAL: Great. So, I think what we've done is we've added the word access right up top.

Frank?

MEMBER OPELKA: Yes. I was listening to the conversation earlier. And to me the conversation became confusing when we said, we only have one measure. Of one particular type.

None of these are measures in my mind. These are concepts. And within the concepts, there maybe multiple measures.

So, when I looked at one of these that was accused of being only one measure, I saw five or six. And it struck me as why are you only thinking of that as one?

So, -- and I don't necessarily know that volume is the right fix. I understand the fix that's being intended there.

But, somewhere along the lines of a concept, not a measure, for the reasonable availability of data to be exchange in an established format with an appropriate stakeholder.

And again, we keep getting stuck in this rubric of EHR to EHR. It's a bigger world. And just dealing with radiology and imaging, that's one demonstration of a bigger world.

But, there's a lot more care that will be directed from registries. So how are you talking EHR to EHR in volume exchange? How are you talking with imaging?

How are you talking with registries?

How are you talking with mobile devices? How are you talking with other service oriented architectures that are out there? There's a whole world that's emerging, taking care of patients.

And we've got to know that we have access or exchange for that entire environment. And there alone on just once concept, you could have five or six measures.

CO-CHAIR KAUSHAL: So Frank, one question for you. Which is instead of saying volume of health information exchanged -- I think that some of your concepts about non-clinic -- non-EHR data sources is included in the phrasing we were trying to capture around data sources.

And that can certainly be tweaked. I also think though that the point that you're making about volume of health information exchange being too narrow or too imprecise is accurate.

So, what I'm wondering about is there

something -- is it some sort of quantity of available health information being exchanged?

Is there some -- is there nuance there that we should quickly try to incorporate? Or what would you suggest?

MEMBER OPELKA: So again, I'm not trying to write the measure. I'm trying to write the concept.

So the concept was, a reasonable or avail -- or appropriate data for exchange. When you write the measure, you can narrow it further to define what is reasonable and appropriate.

So, I mean, volume is okay. It's just a bigger term. I was just trying to narrow down volume conceptually so that whoever the measure developer, he or she is, when they're looking at that, they're going to say, I need to define that what's reasonable in this particular exchange that I want to measure.

CO-CHAIR KAUSHAL: But -- self too. Volume of reasonable an appropriate health

information data exchange.

Don't do that. Okay.

MEMBER BLAIR: Yes. I think that they're separate.

CO-CHAIR KAUSHAL: Go on.

MEMBER BLAIR: They're se -- I think volume is one. It's a crude measure. Now obviously reasonable and appropriate, you want that. And the more reasonable and appropriate of the volume.

But we're talking about step one, step two and moving on.

CO-CHAIR KAUSHAL: I got it. So these are two separate bullets Vanessa. Okay. Terrific. Thank you.

MEMBER SWENSON: Isn't reasonable and appropriate already covered under usability? Like we're now talking about the volume of get the information exchanged. And now, is it usable?

Like those are already parts of

feasibility.

CO-CHAIR KAUSHAL: Hans is shaking his head no.

MEMBER BUITENDIJK: I don't think so. Not that there is not part of it in usability. But this is on the side of the sender deciding effectively how much am I going to send to the other party.

So, are they providing you with the right amount of information or not? And then on the other hand, there is the confirmation that yes, I did or I did not send it.

So, I think there's two parts to it.

CO-CHAIR SAVAGE: So, many cards went down. I see two cards up. Jason, is this something that you want to say?

MEMBER BUCKNER: Well, my cards up isn't it? I pulled that from Hans.

(Laughter.)

MEMBER BUCKNER: Now, I think my comment -- I was trying to wrap in what Jason was

saying. And I really like the first one that got zapped out.

And I think that's where we're kind of landing. Is, measuring how much happened with the volume is important. And it's an easy one to do.

But, that other one is like, how much of your patients that you -- where care was shared, are you getting? Right? So of the ecosystem of data out there, how much of that are you grabbing?

And so, again, I don't want to dive too far into measures. That volume is a high enough level concept that you can spin off that first item and several others from it. Great.

I'm not the wordsmith here. But I want to make sure that it represents more than just, I sent five million records.

CO-CHAIR SAVAGE: Okay. I see John and Terry. And then we'll call it a cl -- lunch time. Terry?

MEMBER O'MALLEY: Okay. I have two comments. One is, it's almost time for lunch.

(Laughter.)

MEMBER O'MALLEY: And the other one is, in a sense reasonable and appropriate is defined by the user.

You know, do you have the information that I need? Because if you have it, then it's reasonable to expect you to have to exchange it.

But, the goal for the sender, and this is a -- so it's a sender metric, it's in a sense, what percent of the information do I have control of that is available for exchange at this point? Because it meets standard. It's in the right format. I can get a hold of it.

I don't know if that helps or not. But it's focused on what the sender has control over here. Recognizing that the receiver helps define what's appropriate and reasonable.

CO-CHAIR SAVAGE: Real quick. Vaishali?

DR. PATEL: Yes. Quick. So, I saw -- I liked that first measure that was crossed out. However, I thought that was more of a specific measure as opposed to like a measure concept.

And so I do think that that would be an example of a measure that we would want to propose. But -- and I think to Terry's point, you know, this -- the exchange measure is really from the perspective of the sender.

So, I think just being able to measure the information that is shared from the perspective of the sender would -- should be the focus here.

MEMBER RUDIN: If we try to measure reasonable and appropriate from the sender, we could probably do a reasonable job, like a decent job. But it won't be perfect.

And I think that's okay for this. It's good enough. And then we have a separate measure that's, you know, better for the -- in

the usability case.

CO-CHAIR SAVAGE: Last word Terry.

MEMBER O'MALLEY: Lunch.

CO-CHAIR KAUSHAL: So, I think what we're going to do is ask people to bring their lunch back to the table so we can keep working.

(Whereupon, the above-entitled matter went off the record at 12:23 p.m. and resumed at 12:34 p.m.)

MS. DUDHWALA: So I think we're going to go ahead and move into Usability. The domain of usability of course has changed a little bit. But I'm going to turn it Julia to you to talk about what your group did in terms of their thinking yesterday about concept measures, and yeah.

MEMBER ADLER-MILSTEIN: Sure. So I think the first measure concept is really about again, capturing the user perspective, and so for each of the dimensions essentially assessing the user perception of whether that data was

accurate, timely, complete, relevant, coherent, valid, accessible, etcetera for what they needed to do with it.

So again, this will have to be specified by use case, by stakeholder type, etcetera. And then for completeness, we felt like there were two other measure concepts that were just a little bit easier to define, so we added those as well. So the percent of users who had a minimum data set present for the decision or action for that user, and the percent of structured data elements present for a given decision or action.

So we have sort of one that applies across to all the domains, and then on completeness two more additional measure concepts.

CO-CHAIR KAUSHAL: So questions for Julia and clarification questions, and then comments?

CO-CHAIR SAVAGE: Bob.

MEMBER RUDIN: I think we've discussed the kind of difference between concept and measure. To me, the second two seem like pretty specific measures rather than concepts, and I just wonder if -- I mean clearly the concept seems like completeness; is that correct?

MEMBER ADLER-MILSTEIN: So I think the way that we thought about it is you would actually need to do quite a bit more to get to a specific measure because like what is the minimum data set, what is the decision action? So I think it's actually not at the level of a measure, but it is perhaps a bit more. I mean if you looked at the examples you were given yesterday of a measure concept, this is actually closest to what that was. I think on the prior slide and our first one is perhaps higher level than we were supposed to be, so I guess that's how I thought about it.

MS. BAL: So just clarification. That's correct. These are actually measure

concepts. The other ideas that we had are a little higher, and we obviously -- the team needs to strategize on the best path forward. But you know, keeping time in mind, we'll come up with exercises to get those a little more in concept form.

But this is actually what a measure concept is. It's very -- it's still very high level, very obviously no numerator, denominator or testing or anything of that sort. But at least having the definition is what we mean by a measure concept, if that provides clarification.

MEMBER RUDIN: So actually this does seem like at least either a numerator or a denominator to me. So my earlier comment on this topic was also may have been some confusion on what's a domain versus what's a concept, and so for like for all these, the accuracy, timeliness, completeness, I kind of thought those were very good concepts, and that we might think about some ways to lump them together for higher level

domains that might encompass, be more comprehensive in terms of the space. We can talk about that more if there is more time.

DR. BURSTIN: Quick comment on concepts. There was clearly some confusion yesterday around the idea. Basically, we'd like to walk out with something you could hand to a measure developer, and they would have enough specificity to have a sense of what to do with it. So some of those single word things we listed on the prior slide, for example, wouldn't cut it.

We're going to need to go back and forth with you to think about what that concept is. At its simplest thing is what's the measure focus and who's the target population. If we could at least be pretty clear on that, we can work beyond that. But otherwise it's really just an idea that needs more fleshing out.

CO-CHAIR SAVAGE: Mark.

MEMBER FRISSE: What I liked about the

last two bullets is, and I'm no meaningful use 3As, but there are requirements there for sending specific data elements in a structured document form to certain patients and providers within a certain period of time.

If I remember right, the thresholds are relatively low, and to me the goal of this exercise is to point out that like when I think about visiting nurse, for example, or all the other devices, all the home, the social determinants, it's to take the spirit of that and say how can we broaden the number of people, the types of tasks, the kind of data elements we need like nursing and those things, and just as I said, build on the meaningful framework so it's actually more effective.

So but those two, unless I'm wrong and others can comment, those have -- there's a strong precedent in meaningful use and you ask yourself what could I do for a VNA, what could I do for a nursing home, what could I do for post-

discharge care to build that out. That would improve quality.

CO-CHAIR SAVAGE: Hans.

MEMBER BUITENDIJK: Regarding the last one, I'm curious whether something may be missing there or whether it's something separate that needs to be addressed.

The focus area is on structured elements, and I know there's agreement that we need to focus on structured elements, particularly if you want to be computable decisions of sorts to do something actionable at the computed level.

But there is also the element of narrative that puts things in context or to have that information available, will not only add structure to that element. So how do we want to address that?

Should we address that here or just acknowledge that we assume that narrative always will come across and it will be augmented with

structured data and that needs to be increased, and this is enabling us to address that, or are we saying that we at times want to replace narrative with structured data, which is not always the right thing to do?

Frequently it's not the right thing to do. You need the narrative as well as the structure. So I'm just trying to make sure I understand the intent of the last bullet relative to narrative elements to it, that we don't want to disincent based on the measure, to not send narrative.

CO-CHAIR KAUSHAL: Julia, I'll have you respond to what the motivation was behind this measure, and then for the group to respond to this specific question that Hans is raising before we continue on.

MEMBER ADLER-MILSTEIN: So I don't think we thought about it like that. Sort of to me you're describing I think a pair of measures, and one is about do we have the right structured

elements there and the other is do we have the right narrative elements there. I think when we discussed it we just hadn't thought about it like that.

So we could either solve this by adding a paired measure, though I think that is a harder measure for me to think about how to operationalize. But I don't know. So I guess that's my reaction was, that I don't think we thought about it and it makes sense to me to add it as a complementary concept to the one that's there.

CO-CHAIR KAUSHAL: Terry.

MEMBER O'MALLEY: So I'm not sure if this goes under usability or exchange, but sort of a concept of citizenship of it sort of being a good --

CO-CHAIR SAVAGE: Terry, I'm sorry. I'm going to have you hold that concept for one second, because I want to finish the conversation about whether or not people think that we need a

concept measure around narrative data or not, a measure concept around narrative data or not.

MEMBER SHAPIRO: I definitely think that it's important to have a measure of narrative content. It serves a different purpose and that's the, you know, commodity that clinicians use to communicate with each other. The structured data is useful for a lot of things, but it doesn't do everything.

MEMBER FRISSE: This is Mark. I'd agree.

CO-CHAIR KAUSHAL: Okay, terrific. So Terry, you can keep going.

MEMBER O'MALLEY: Okay. Okay. So sort of a citizenship comment. As steward of the data, knowing that data that comes in to you may not be in a standardized, usable format but you may convert it, and repackage it and ship it out. And so kind of get to the concept that the whole system has got the responsibility for improving data quality and usability, just as a measure

concept.

I have no idea how we would go about measuring it or framing it, but just the idea of a shared responsibility within the ecosystem of data exchange to continually improve.

CO-CHAIR SAVAGE: Vaishali, did you have your card up to speak, or is it left on -- okay.

CO-CHAIR KAUSHAL: So I would ask for reaction to Terry's comment first. People feel like they can react to it, anyone? Okay. Terry, we're going to keep thinking.

CO-CHAIR SAVAGE: Frank.

MEMBER OPELKA: I don't have a fully baked concept, but what I was trying to contemplate is some key exchanged information that is subsequently used in clinical decision support or treatment plans. So measurement of things like summary of hospitalization or MedRec or something of that sort that we demonstrate was exchanged, and then ultimately demonstrate it got

used in a treatment plan or a clinical decision support environment.

MS. BAL: I'd say that's in our use bucket. It's on the next slide.

MEMBER OPELKA: Never mind.

CO-CHAIR SAVAGE: Steve.

MEMBER WALDREN: Yeah. So first I like the ones that are here. I think they're great. One deals with kind of the relevance and validity, kind of subdomains. So percentage of data elements presented for a given decision action were irrelevant for said decision action. It's this notion of what's the signal to noise ratio, that it's sending too much, it's showing too much to the user.

CO-CHAIR SAVAGE: Steve, is that -- are you saying put the word "relevant" in?

MEMBER WALDREN: I'm saying keep the one that's there already as is, but I would say also then add another one saying so of those elements provided, how many were relevant to the

decision?

So for example, if you're presented with a complete 20 page CCB as a follow up, you know, 95 percent of that may not be relevant to the decision that you're trying to make, as opposed to pulling out these are the medications that are different from what you have on your medication list.

Here's the assessment and the added orders that are not part of your care plan, as opposed to here's the 13 reviews of systems that were needed to make sure that the specialist got their documentation level appropriate for billing.

CO-CHAIR KAUSHAL: Stephen, can I ask you a question, which is -- is it truly a separate concept or I can hear John whispering his answer in my ear, so let me just ask the question and you can answer it. Do we care about the total amount of structured elements present or the total amount of narrative data elements present

and so on, or do we only care about those that are relevant, in this area where we're thinking about usability?

My thinking is this, is that when we're thinking about exchange, we're interested in total volume. But when we're thinking about usability, it seems to me that we're thinking about the usability of information that's being exchanged that is relevant for the decision-making that is happening at that time.

MEMBER WALDREN: So in theory yes, but I think in practice no. I think you need to have them separate. In 2005, we started the process to say what's a clinically relevant summary of care, and we're in 2017 and we still don't know what a clinically relevant summary of care is. So I would keep them separate just for practice.

MEMBER SWENSON: So I think on some of these, going back to the focus of everything being on interoperability. Like when I read the second one there, percentage of users who had

minimum data set present for decision actions. That has nothing to do with interoperability. Like that could have been based on data that was already in my systems.

So I think that that's as an idea, but it needs to be reworked somehow to the percentage of, you know, decisions or actions that were based on information that came from interoperability exchange data, but then we're getting to impact.

So really it's kind of those latter points of the structured elements coming in from outside and being present for a decision, not necessarily the decisions made because that's now looking at the either use or impact, you know, that second bullet as written and even some of the others as they're written currently really don't specify that it's interoperability data.

MEMBER FRISSE: In response, I would say I agree. That's why it's important to put a context on it. I'm going back to the meaningful

use Stage 2 and 3 requirements, where they say in transitions of care, or if you're seeing a new patient, you must get this information for ten percent. You must have these fields.

My central claim is that that's frustrating. People don't see quality, because the information's not coming from the right people or going to the right people. But if you just look at that again and put transitions of care and then ask yourself why is Meaningful Use 2 and 3 not working? It's because it doesn't go to home care, because it doesn't go to family, because it doesn't go to certain people.

I think we're in a position now to say the technology and the consumer maturity is robust enough that we can beef those things up to broaden the pool, if you will, and my central contention is by adding more people in and more data types, that's how we're going to get the better quality measures, not by just doing the same stuff among the same people.

CO-CHAIR KAUSHAL: Other than Mark, how would you -- how would you -- how would you reflect this on this line?

MEMBER SWENSON: I think it just needs to either be clear in how these are defined or in the wording of them, that when we're talking about the information being present and to be used, the denominator needs to be that information that came from outside.

I think that's one of the, you know, when we look at like meaningful use, that's one of the issues with how things are written in like transitions of care, is it essentially penalizes those that have everything inside and don't need to do transitions of care, and it benefits those who are smaller organizations and have to do transitions of care.

And so this needs to have the denominator only be those where the information is from outside in the first place.

CO-CHAIR KAUSHAL: Concepts that our

group was discussing yesterday was this concept that even within large supposedly integrated delivery networks, the exchange of information is not seamless. It can often be very fragmented and just as difficult as getting information from outside.

Is there -- is that an important enough issue that we want to incorporate something in these measures regarding that?

MEMBER ADLER-MILSTEIN: And if we added the words something like "available from outside sources," your question will be well what counts as an outside source? Is it outside of, you know, my information system, even if that other information system is within my hospital system or whatever, health system, or is it from outside systems meaning like outside of our organizational boundaries. I think we always go back and forth about what outside means.

MEMBER SWENSON: I mean I would, you know, say something about information that was

exchanged electronically or received through an electronic exchange, not necessarily outside information because it could be inside information from another system that had to be electronically exchanged in order to have it.

CO-CHAIR KAUSHAL: So sorry. I'm still struggling with this. So are you suggesting, Alan, that we rephrase which bullets? Is it the one on structured elements and narrative data?

MEMBER SWENSON: Yeah. I mean the last four really. I mean the fourth one is, you know, I already said exchange data elements that are relevant. So really the three above it though, as written, don't necessarily need interoperability.

CO-CHAIR KAUSHAL: So percentage of exchanged structure elements present. Would that work?

MEMBER SWENSON: Yeah, electronically exchanged.

CO-CHAIR KAUSHAL: Electronically exchanged. So Vanessa for the bottom three, the bottom four, just add in that clause, electronically exchanged. Okay, sorry. Keep going, Terry.

MEMBER O'MALLEY: So two comments. One sort of interoperability versus intraoperability. I think all of the concepts we've had here for interoperability hold for intraoperability, which I take to be the exchange of information within a unified "information system."

So maybe that will get us away from worrying about what people actually do with it internally to what they do between trading partners that are on different platforms.

And then the other question is so who's -- how are we going to measure, how are the measure developers going to measure what's appropriate or not? How are they going to ask? I think the issue of who defines appropriateness.

Is it the receiver of the information that defines it, or is it the fact that the sender and the receiver together have created a complete data set that has clinical value.

It includes what the receiver says they want to know, and it includes what the sender knows that the receiver doesn't know but ought to know? That gets a complete data set that's relevant. So how are we going to -- my question is, okay, how are we going to measure that?

CO-CHAIR KAUSHAL: Terry just -- oh, Jason if you can respond even better. I was just trying to understand the question. Go ahead.

MEMBER BUCKNER: No, I mean our group struggled with that, right. I mean I think at the end of the day, the last four measures are a pretty good stab at trying to do this in a sort of quantitative fashion.

The first bullet is the proof in the pudding, right? A survey of the users. Was the information useful and relevant and timely and

complete and all those things? That's the real measure, right. And so I think unfortunately, the survey was the best we could come up with, but to me that shows whether this is useful or not.

CO-CHAIR KAUSHAL: So from this, is there a concrete suggestion or is this more an area that we should continue to consider as we think through usability? Jason, you had your tent up before this. Did you have another comment? No.

CO-CHAIR SAVAGE: Hans?

MEMBER BUITENDIJK: I just have a quick reaction to Terry's comment. I want to make sure I understood that on what the implication may or may not be on inter versus intra.

I assume that we are still talking interoperability meaning across systems and not necessarily limited to between organizations' different legal status, and therefore that the

way that this is rephrased, as Helen suggested, can help us bridge between the two types of environments, easily you can go back and forth, if we're trying to make the distinction between interoperability versus intraoperability, I think we're going to potentially muddy some of the waters more than we need to.

Now we might in our measure development focus more on those things that happen to come from outside providers, because that's where right now the main focus is of interoperability. But as David also indicated, there's still a lot to be done inside organizations as well.

But they typically have more control to do the work that they need to do to make it happen, first as across individual separate providers. There are many more other obstacles in the way, that we need to figure out how we can address that and make it move forward.

CO-CHAIR KAUSHAL: So my suggestion

for us would be to table the intra versus inter, because then we have to define what is an organization, what is a system and I can see us leaving tonight at 3:00 a.m. instead of 3:00 p.m. So other comments about usability?

CO-CHAIR SAVAGE: Bob.

MEMBER RUDIN: I hope we can do better than survey-based measures for these -- the top one. There's these important concepts, and I would hypothesize that in at least some use cases, we would be able come up with measures that wouldn't only be based on perceptions. Perceptions would certainly be part of it for some of them, such as there's probably some cases where data's there and you know it's not designed for the patient to understand.

So it wouldn't -- I guess coherence is the closest word. I think coherence would be part of like what I was talking about earlier, which would be like understandability, interpretability. But you could -- you could

know if something was designed for a patient to consume versus not designed. That's something that seems to be more measurable.

And some of the other ones like I'm a little confused about the difference between accuracy and validity in this context. Like validity might be like using a valid measure of something. But my main comment is can we -- can we not limit ourselves to perception and think about more measures that we could quantify throughout --

CO-CHAIR KAUSHAL: So I think that -- one second Julia. So I think Bob what you're suggesting is to change this to accuracy, timeliness, completeness, relevance, comprehensibility, maybe strike validity, accessibility and format presentation of data?

MEMBER RUDIN: I think we could lump a lot of these together, like accessibility and format presentation of data. They both have to do with the same idea of getting it --

CO-CHAIR KAUSHAL: Accessibility.

MEMBER RUDIN: Like yeah, getting it to the right place in the context, and coherence I think gets at this concept of understandability. The other one is accuracy. Well, accuracy and completeness and relevance I think have to do with sorting the data that comes.

So it has to do with slicing and dicing the data in a way. It has to do with something about the data you choose and like something about the data quality. So this was a comment I had earlier.

MEMBER ADLER-MILSTEIN: So the discussion we had in our group yesterday is that some of these will have objective standards against which they can be measured. So for example I think you're saying you can assess coherence. We can use scales to assess like readability or understandability.

So I think our idea was that in cases where there was some kind of an objective

standard that could be used to assess that dimension, that that would be part of the measure construct. But that there were some of these where that might not exist, or even if it did exist it might not travel with what the user perceives that concept to be.

And so we felt very strongly that there should be perceptual measures in addition to where possible these more objective measures, and I think for completeness it seemed more obvious what these objective measures were. I think you're therefore introducing other dimensions that may have these objective measures, and I think we just sort of ran out of time to really go through each dimension and say like if we wanted to measure this more objectively, what would that measure concept look like?

CO-CHAIR KAUSHAL: Well Vanessa, maybe what we do is rephrase this as measures and/or perceptions of, and Bob, why don't you

take a stab at the way you've described this now a couple of times. Why don't you give the three or four areas. That's fine, Vanessa. Just keep going with that, and Bob's going to finish the clause for you.

MEMBER RUDIN: Right. I will finish the clause. Okay. So I would say concisely would be data quality, data comprehensibility and ability to integrate into routines, which we can think about maybe a better way to say that, because I'd want that to encompass all users, not just clinicians, not just patients.

So my -- what kind of brought me to this is while I like this list of concepts, I don't think it's necessarily comprehensive. So I was trying to think of a framework that could get at -- that would cover all the different domains of usability and would be exhaustive. I think that part of it is you have some data and there's some qualities of the data.

You have how something about the

cognitive relationship between the user and the data in their context can they understand it, and then you have something about their work flow.

So if something is understandable to the -- if the right data is there and it's understandable, but you're not somehow getting it to them in their workflow, with the right alert or in the right way where it's not overly burdensome, we would want to capture those types of integrations in here. I don't see that in here anywhere.

CO-CHAIR KAUSHAL: So for the people who were in this work group, how do you feel about this way of summarizing what used to be bullet one, and what feels to me like the important changes, changing the longer list into data quality, comprehensibility and, you know, ability to be used or integrated, something like that?

DR. PATEL: So when we met yesterday, we basically were looking up dimensions of information quality and pulling from basically

the usability literature, you know, these different dimensions and obviously it wasn't a comprehensive literature review. We were looking up on Google, you know, a couple of articles. So by no means is this list meant to be the be-all end-all list.

I think what it represents is this concept of information quality. So but I don't know if we want to confuse people by having information, the term information quality in both the exchange bucket and the -- yeah, if you think it's okay, then we could just kind of revert back to a broader, the concept, which the original concept was information quality and then, you know, we just pulled these different dimensions.

MEMBER RUDIN: Can I just quickly say, I think it's okay because it's in a different context. Like if you're looking at information quality from the perspective where you're not sure how it's going to be used, like on the first domain, that's fine. But now you do know.

You're in the context here. It's defining in terms of the consumption of information. It's a different definition. I think it's okay as long as we make that clear.

DR. PATEL: So we might have to go back up, you know, like when we make the change here to make the change on the overall, the domain, you know, the subdomains, to make it just consistent.

MEMBER KETCHERSID: Yeah. So I kind of hate to do this, but you know, Alan and I have been reading what was just on the slide. Oh, there they are, the bottom and doing the math, and there may be a wordsmithing opportunity here, right?

We've got -- so in exchange, we're bringing in the kitchen sink. We're incentivizing bringing in the kitchen sink, and now in the last four here we're asking what percentage of the kitchen sink was used?

So now I'm motivated not to send you

the kitchen sink, right, because I want those numbers to be high. So it's really not the -- from a usability perspective, it's really not the percentage of what actually came in electronically that's being used to do A, B and C. It's something else. It's relevant. Throw the term relevant in there somewhere. I don't know. But that's --

MEMBER SWENSON: So and I guess what I wonder is if those bottom four are now covered under the top one anyway, ability to integrate inter-routines. I mean is, doesn't that cover essentially what's in the bottom four, and those are now measures that you can create under the context of integrating inter-routines?

CO-CHAIR KAUSHAL: Responses. Steven, I don't know if you're -- you've had your tent up for a while. Are you responding to this? Bruce, are you responding to this? David?

MEMBER WALDREN: I wasn't but I will, that my concern if we try to lump them all

together that we have the privilege of having these conversations, and we've been having these conversations for a day and a half, because I kept inserting. So when somebody says oh, information quality, it's like oh, well what do you mean by quality or, you know, and how is that different?

So I'd be hesitant to lump them more, although I think I could see where that makes sense, just because people won't have that context that we've had. But I do have another point about the second bullet there.

CO-CHAIR KAUSHAL: Let's hold onto that, the new point for just a second. So I think that there's been -- there's two things that I think we need to consider.

One, which I think Steven I very much agree with you, that eliminating the granularity of the ensuing four bullets after the top bullet would be an important loss of information. But maybe we do make them as sub-bullets of the first,

because maybe that's what they really are.

The second comment though, that Terry made, was that there's an opportunity to gain given that we're talking about percentages. So people may be reluctant to give, to exchange more information because then their percentages would naturally go down.

So is there a way that we can phrase these -- the last four bullets to get rid of that issue? Can we take out percentage? Is there some way to do that? Terry's going to answer our question.

MEMBER KETCHERSID: Well no. English is not my forte. I'm left-handed. So it's almost as though, you know, for each of these decisions being made, there's a certain number of data elements that are necessary to make those decisions, and what we're really driving at is the percentage of those elements that came in electronically.

Some of them are already resident in

the host system. It's the percentage of the attributes I need to use to make a decision that came in electronically, not the percentage of electronically brought in data elements that were used to make the decision. So the denominator is different.

So for each of the last three, right, a given decision or action, a given decision or action, a given decision or action, there is a certain number of attributes that are necessary for me to make that decision. I'm looking at a med list, I'm looking at a problem list, I'm looking at whatever. What percentage of those items came in electronically?

CO-CHAIR KAUSHAL: Yeah, that makes sense. So let's think about how to rephrase this. So Vanessa, here's the easiest thing. The first -- after the first bullet, the next four you indent. That's easy, and then so I'm going to take that one.

So the percentage, the percentage of

relevant structured elements, relevant -- let me -- so the percentage of relevant, structured elements that are electronically exchanged for a given decision or action. Does that work? No. Percentage of --

MEMBER O'MALLEY: I think percentage of the relevant elements, relevant being defined by the user's needs. So the percentage of relevant elements that came from an outside source electronically, that are available for the user becomes a metric. That's a very powerful metric, because the percentage then, you just want to up, up up up all the time. 100 percent is when you want, yeah.

So that sort of aligns the incentives very well. But it requires that the elements are relevant, and then there's got to be something about getting those elements relevant to the people who need them. But that's a slightly different idea. But I think we can --

CO-CHAIR KAUSHAL: And is there -- is

there a concept here of whether or not those elements, whether or not a clinician, for example, has that information already accessible to them, or whether it needs to be exchanged in order to be accessible. So you know, getting back to this concept of whether it's intra or interoperability.

MEMBER O'MALLEY: If it's intraoperability, then it's data that has come from outside that is relevant to the user, and the user can tell you whether they got what they needed or not. They're probably the only ones who can tell you whether they got what they needed.

CO-CHAIR KAUSHAL: Go ahead.

MEMBER FRISSE: As someone who doesn't study, again meaningful use but the ten years of dialogue almost fastidiously, it seems to me, just looking at the case of quality metrics, they're always context-dependent. You don't worry about a hemoglobin A1C, you know, for

a healthy young kid. You don't worry about maternal fetal care for a man, you know.

And that's why what's been effective measurements, the real stretch I think are again these things where you scope it down, and when you're talking interoperability, if you just start with the notion of a transition in care, again I don't want to beat the drum over and over, you immediately require that.

And whether it's all one giant system or not, who cares, because you're measuring the results. Meaningful Use 2 says you must have these data elements, and I'm arguing that if you look at some of the stuff we're doing, we're just talking about how you can expand the pool of people, expand the metrics you use, expand the number of devices and all and build a better quality framework.

Everything we've been discussing really fits in that. So in that regard, these percentages are about as good as you can do when

you do it in a high level spirit, because it's the old "it depends," you know. It depends on what specific disease or a group you want to measure. I don't know if you can do a general approach to this that's not going to just get people mired down.

But if you tell me nursing home patients instead of 40 percent, 100 percent have to have these things, two way. Or home visiting nurses have to have these things this way, and if you're a new vendor, you have to have these data standards and these functional capacities or we're going to say you're probably not the right way to do it.

That seems okay with me. But to go much more into detail with that or to get too broad, neither of those is going to work I don't think. My two cents.

CO-CHAIR SAVAGE: Steve.

MEMBER WALDREN: So one quick and one not so quick. So in the second to last bullet,

I think relevant should be changed to irrelevant, now that we're putting relevant in the others.

(Laughter.)

MEMBER WALDREN: Because I think that was the intent there. But my real issue is with the -- I think I'll move them around here so I can keep up. Right, okay, yeah. So now it's the first sub-bullet, looking at the minimum data set. I think the way that now it's been reworded, I think we lost the notion of being able to pull together the data set.

So this is saying that somebody sent you a minimum data set and then therefore you presented it to the end user, as opposed to there were data elements and multiple different exchanges that represent a minimum data set for that patient, and those discrete pieces of information were pulled together and the end user was presented a minimum data set.

I see those two as separate. I think the latter, it gets more into the notion of

usability, that you took disparate pieces of data from multiple exchanges that get pulled together and made into a minimum data set for a patient.

CO-CHAIR KAUSHAL: Reactions to that?

DR. PATEL: So I wonder if we could just add a phrase or something, you know, could be like across more than one source or something, that gets at the point that, you know, you're kind of aggregating or maybe aggregating is not the right term, but you know your different -- they could come from a variety of sources.

It's not just one piece of data that's exchanged and then you're looking at that one piece of data. But this concept that you were talking about. So maybe across data sources or, you know, something like that or --

MEMBER WALDREN: Yeah, percent of users. You've had -- well users is not that's sort of the problem now, that it's not really user-based; it's at the level of patients too.

DR. PATEL: Yeah, maybe not users but

--

MEMBER WALDREN: Percent of patients, where a minimum data set was aggregated across exchanged data and presented, put to the user for a decision action. That's wordy and all but --

CO-CHAIR SAVAGE: Bruce.

MEMBER SIGSBEE: I wonder if to some extent with this we're tying ourselves in knots and because, you know, thinking first as a clinician sitting there with the information available, do I know which was an opinion from some other system or was developed locally? I'm not sure that I really know all the time if that's the case.

And yet, you know, to access these domains is important. There are, as Mark pointed out, I think some transitions in care where this becomes a really important question. If somebody is discharged to a skilled facility from the hospital, do they get what they need to adequately take care of that patient, and it's a

pretty stark, easy to do type of testing.

I think these are fairly comprehensive or fairly high level concepts, captures pretty well everything. We can wordsmith it some more, but I think -- I get the sense that we're really, particularly for this domain, tying ourselves in knots a little bit.

CO-CHAIR KAUSHAL: I agree with that. I might suggest if Mark and Hans and Bob are okay with it, that we move on to use. But if you feel strongly that you want to make a comment, please do so. Go ahead, Hans.

MEMBER BUITENDIJK: An opportunity maybe to simplify and help out with that, in that sub-bullets 3 and 4. Sorry, it's 2 and 3. Is really what we're trying to identify there is that of the data that has been exchanged, how much of it is human readable versus computer readable, and maybe by elevating the concepts a little bit higher at that level, what we're trying to identify is that both are high.

It needs to be human readable; otherwise -- and so that you can always store it so that you as a human decision-maker can absorb the information. But you need to have a structure to enable for the computable use of it. So is it usable in those two regards, and then we can figure out how we divide up the definitions of the measure concept. So I would use those terms perhaps, rather than structured versus narrative as we get to usability.

MEMBER ROSATI: Just a quick comment, I'm sorry. Just a quick comment. You know, we focused on relevance and completeness. I just wanted to make sure we weren't missing timeliness. I know that maybe that's assumed that it's here, but I think timeliness is --

You know, it could be the best data in the world and it could be moving. But if it comes a week late, it's not going to be useful. So I just want to make sure that it's addressed.

CO-CHAIR KAUSHAL: That's a good

point, because we took it out of the exchange side of things as well. So I think we should include it back in the uber bullet. Bob, yeah.

MEMBER RUDIN: I think that's incorporated into integrating and to routines, because if it's not there at the right time in your routine, that's a variable. But I agree, it's an important issue that you might want to just --

CO-CHAIR KAUSHAL: How about if we do this? How about if we --

DR. PATEL: Yeah, I mean it was supposed to -- it was supposed to be in that information quality domain that we had it originally, you know, like the accuracy, the timeliness and all of that. So I mean I don't know if we want to have some bullet here that relates to information quality that might include the timeliness or --

CO-CHAIR KAUSHAL: What I was going to suggest, so there's two suggestions on the

table. One is to just incorporate timeliness into the list. The other suggestion would be to add ability to integrate inter-routines in a timely manner. Okay, in a timely manner. Terrific. Can we move on?

And so the reason I didn't comment on that is because I actually think that there is multiple lumpings that need to happen. So yes, I agree Hans that the structured and narrative data elements can be lumped. It's not an important nuance for this. The other thing that I think is that the phrasing now of our fifth bullet, percentage of available relevant structured elements that were electronically exchanged, it should be the phrasing of what will remain as three bullets here.

So if that makes sense, what I'm suggesting is that it's the percentage of users who had an electronically exchanged, who had -- who had a minimum data set, who had available relevant minimum data set information

electronically exchanged, right, being the first bullet.

The second bullet would be the percentage of available, relevant structured elements, structured and narrative elements that were electronically exchanged, and then the final bullet would be some iteration of that, if that makes sense.

MEMBER BUITENDIJK: Just to clarify, I did not suggest to lump narrative and structured together necessarily; rather, to change terminology to make it a little bit wider.

CO-CHAIR KAUSHAL: Just taking it out.

MEMBER BUITENDIJK: To be human readable versus computable, where we really would like to have both being driven up.

CO-CHAIR KAUSHAL: Got it, got it. My error there. So replacing the word structured with computable and the word narrative with human readable. Okay. Jason and Poonam, you guys can

take it from here to rephrase it. Let's move on to use. So Julia had to leave. Is there something --

MEMBER ADLER-MILSTEIN: I'm actually on the phone if it's helpful, but I think anyone from our group could speak to this.

CO-CHAIR KAUSHAL: Julia, you never leave. I love it.

MEMBER ADLER-MILSTEIN: You can't get rid of me.

CO-CHAIR KAUSHAL: Julia, could you please, if you can do it on the fly, go over the conceptualization behind the use concepts.

MEMBER ADLER-MILSTEIN: Absolutely. So I think we were fairly concise here, where we thought that there were two, you know, two uses. Once data is usable, it would either be factored into human decision-making or it would be factored into some kind of computable use, decision supports, you know, quality measures, etcetera.

So really that was as far as we got and, you know, I think there are a lot of integrated implementations. There's going to be a lot of different applications. But those are the two high level concepts.

DR. PATEL: Yeah. So I was on the committee and feel free to -- for others to chime in. So I think we had basically -- for there were examples with regards to the use.

We thought that the viewing was like a very basic crude measure of use, but that would let us at least know whether the piece of information that was sent was even looked at, opened and then there are a multitude of other potential measures one could look at for use that would be specific to the use case, and also the stakeholder.

And so -- but that would be as a starting measure on the human side of things. I would say the incorporation piece would be just to make sure that the information -- to better

understand, you know, make sure that the information is available for downstream use. It has to be incorporated. So that would be a measure of, you know, of assessing, you know, the degree to which information that is electronically exchanged and received from outside sources is incorporated, which could further downstream use.

And then for the discrete data pieces of the computable data, you know, the degree to which it's subsequently -- you know, there are again multiple examples that we talked about it. It could be used in quality measurements, it could be used for population management. It could be used for algorithms to identify high utilizers.

So there again, which is, you know, there are multiple use cases that would be examples of how information is used for computable, you know, in a computable kind of way.

Again, those would be very use case specific. So I don't know if it makes sense here to list just, you know, again, you know, have it be a little bit more generic and say you know, have the use be divided into the two, the human which I don't really see here, the human and then the computable, and then under the human there's this one basic measure of information being viewed.

The other incorporation, which enables the more -- the secondary use of the computable use, because it can't be computable unless it's integrated, or maybe that's more of a measure on the exchange side.

I don't know, you know, that the information has to be within the system and available for the subsequent use by either a human or, you know, for these kind of more secondary uses that are downstream like clinical decision support and the like so --

CO-CHAIR KAUSHAL: I don't know if

anyone else --

CO-CHAIR SAVAGE: David.

MEMBER KAELBER: I guess I'd just point out for the last two bullet points, that I think there's two important words missing, which I think indicate the problems with the measures, outside information. But then the challenge is, you know, I would say a lot of systems don't do a good job of using discrete -- their own discrete data for clinical decisions, or their own discrete data for quality metrics.

So now layering a whole external data seems very complicated on that. So maybe it's an aspirational measure.

CO-CHAIR SAVAGE: Is it outside? Is it electronically exchanged? Are those the same concepts?

MEMBER KAELBER: Well, I think the intent of the Committee I assume was that outside information should be added at least as a bullet point.

DR. PATEL: Yes, outside information, yeah.

MEMBER KAELBER: But again, that brings up the whole problem with the measures because, you know, maybe we should start by saying, I mean this is outside the scope of this Committee, but what's the percent frequency of discrete data even using clinical decisions for internal? That's probably not where people want it to be.

So now like laying on -- I think it might be problematic from that perceptive. But at least at the very -- I mean if we want to clarify it, it's outside information I think.

CO-CHAIR KAUSHAL: Well I -- so can I push on the outside a little bit. I feel like if we use the phrase "outside," we're going to have the same issue that we're just discussing about intra versus inter, because do you define outside as outside of the system, outside of an IT system? Do you define it as outside of an

organization?

That feels to me like it starts getting problematic. So how do you feel about using the word "electronically exchanged"?

MEMBER KAELBER: Sure, yeah. I think that -- I mean that, for what I'm talking about, that meets the same spirit. But I still feel like it has -- those two measures still have that underlying problem. I think a lot of systems don't do that well with their own internal information.

CO-CHAIR KAUSHAL: Right, right. So then David let me -- let me ask a follow-up question, which is is there -- well so I guess one question for the Committee, and then perhaps a suggestion, the question for the Committee is is it important, as part of measures of interoperability, to understand overall how much discrete data and for the quality metrics piece as well, the clinical discrete data and quality metric discrete data is being utilized.

So is this an important concept to incorporate, and if it is an important concept to incorporate, is one way to do it by using the percentage? So having the denominator be the percentage of discrete data that is used, and the numerator be the amount, the amount of exchanged discrete data? Does that make sense? Okay, that was clear in my mind. So, and it did make sense?

MEMBER KAELBER: It does.

CO-CHAIR KAUSHAL: Okay, good.

MEMBER FRISSE: You can't -- there's inside/outside.

CO-CHAIR KAUSHAL: The mic. Okay. So I think there's consensus that we're going to stay away from inside/outside, and we'll stay with the phrase electronically exchanged. Then I think that the next question is is David's concern about overall use of discrete data period, regardless of source, a concept that we want to address in this framework? Or does that feel out of scope. Hans.

MEMBER BUITENDIJK: That specific question, I think we still should leave it in, although I recognize that it might be in some areas more aspirational. In other areas, it's already there. ECQMs are God, it's time to move better in some of those areas, but not where we want to be.

So I think from that perspective, like a number of other metrics, it's good to be there and put it in that framework, to recognize that that's what we need to do. Clarifying comment on reconciliation and incorporation.

I think I'm okay with the general concept that it's attempting to address, but we want to make sure that it attempts to address and recognize that reconciliation and incorporation again gives an impression of copy of data.

And where it may be sufficient to reference the data or be aware on how to pull it together. A good example again is the images perhaps. In other areas it's that I may not need

to incorporate it to a foolish extent, as long as I can reference it and can include it. So incorporation should not always be interpreted as fully copy.

So again, it's as we divine the measures, we don't want to slant this in a direction that would force people to always copy and incent that behavior, but the opposite may be useful.

CO-CHAIR SAVAGE: Steve.

MEMBER WALDREN: I was going to say that in regards to the electronic exchange, we've also talked it being from multiple data sources. So one data source could be theirs or it could be some others. So just another phrase.

I'd be concerned about the ratio of electronic exchange versus discrete data used in from the original source, just because if you're a highly utilizer of your original source, that may make it a little bit more challenging. But I think if we look at this being more

aspirational, I'm fine with leaving it as is.

CO-CHAIR SAVAGE: Vaishali, do you still have a point or card down? Okay. Jason.

CO-CHAIR KAUSHAL: Sorry Vanessa. For bullet 3 I think what we've suggested is that we put in the phrase "electronically exchanged" before "discrete data," and the same with bullet 4.

MS. MOY: Yeah.

CO-CHAIR KAUSHAL: Great, thank you.

MEMBER BUCKNER: So I'm trying to find balance here with the inside and outside world. I don't want to discount that inter-system sort of transfer is not important. It is. But the reality is it's light years ahead of external sites.

So the folks integrating with long term care that are not part of their system or visiting nurses or other places, that's the gap. Like that's the huge, huge gap, and so I'm trying to figure out what the right balance here is,

because it's important in both places. But it's certainly more mature internal than it is external.

MEMBER FRISSE: If I could say, that's why I think again, I keep going down to inner-outer, you know. It depends and organizations are different. Kaiser has more. It depends on the use case, the transitions in care to organizations clearly, you know. Other things, it depends.

So and everybody wants to get down ultimately to a meaningful use case or two that have some segment of the population that drives interoperability and is interoperability-dependent. So what you're saying I think really addresses that point. You've got to focus on a specific issue to really add meat to the bones here.

CO-CHAIR SAVAGE: Okay, Terry and then I think we're done with the text.

MEMBER O'MALLEY: So I had a question

on reconciliation, which it's a little different process, a very different process of incorporation. Incorporation to me is you've got the data and you've folded it in.

Reconciliation means that you've reconciled any discrepancies between those two data sources, and I'm not sure that we've necessarily -- and I'm not sure what the frequency of reconciliation is. I don't know what the right metric is for reconciliation.

CO-CHAIR KAUSHAL: Yeah. I think that's a good point. For the Committee, were you referring to medications there in specific for reconciliation, or what was the thought process?

MEMBER O'MALLEY: It could be allergy lists, you know. There are a whole bunch of things that need to be reconciled.

DR. PATEL: No absolutely, yeah. I think when we met yesterday, I'm just -- I can't see like the writing on the board over there. I'm not sure this was a measure. I don't

remember this incorporation piece in what we discussed. So I'd have to look at the board. I don't know. This might have been a lost in translation kind of thing.

PARTICIPANT: We were talking about algorithms, we were talking about databases. There was at least some allusion to that.

DR. PATEL: Yeah. The data would have to be -- I mean incorporated for secondary, you know, for these downstream, yeah, for downstream use. But I don't think it was like as a measure.

CO-CHAIR KAUSHAL: So how about if we separate this into two, as a percentage frequency of incorporation of electronically exchanged information, and then the other one being when applicable, percentage frequency of reconciliation of electronically exchanged information.

PARTICIPANT: Sure.

DR. PATEL: I mean that's an example

of how the data could be used.

CO-CHAIR KAUSHAL: Okay, Tess, you're bringing us home.

MEMBER SETTERGREN: Just a clarification question on the first bullet point, which I thought I understood when we first discussed it, and now I'm reading it and thinking what does that mean? So I'm just wondering could we just say percentage, frequency of electronically exchanged information that has been viewed, because a patient may not make a decision or take an action.

DR. PATEL: Yeah. I think that was the intent, but again, it got lost in translation here, uh-huh.

CO-CHAIR KAUSHAL: Yeah. So Vanessa for the first bullet, we're going to end the sentence at or the clause at "viewed." Terrific. Jason, Poonam, can we go on? Yes, we can. Let's go on to impact. Somebody here from the impact group that can summarize?

MEMBER WALDREN: We started to take a couple of the use cases to run through the different subdomains, and the first two were fleshing out the ideas around patient safety. So we'll be looking at medication discrepancies among different medication lists. So as that occurs, how many times do we run into discrepancies that need to be reconciled?

A number of instances medication was not given. Who came out came from an outside health care facility. So trying to focus on fleshing out a little bit more some of these on patient safety.

The next parts, next two duplication, reduction of labs and duplicate lab imaging in a specific care setting was focusing on the cost efficiency topic to given that interoperability might provide better insight into what's already there, that it's not being ordered or that it's not being executed on.

Percentage of patients who pick up

their medication refill, or the next one referral to another provider is around this what we now phrase the coordination of care, making sure that patients do follow-up, that there is adherence to the provided treatment protocol plan, whatever it might be in that setting. So to look at those aspects. Can we see improvements there?

We had another subdomain that got folded in otherwise around malinformation being propagated. So we were looking at the number of times that a patient would identify errors on their records as it's being used, so that it's correct information there, and as well provide a system identified errors in the medical record.

So that would mean that for that data set, we would have improved intra or interoperability improve the quality of the record, then the misinformation, incorrect information that's in there. So those were the ones that we were able to run through, recognizing that probably a lot more concepts,

whatever is in the spreadsheets are in the health outcome side.

These were the ones that we had a chance to run through. Did I miss anything? Alan, Bob?

CO-CHAIR KAUSHAL: Terrific. So in looking at this list, it seems to me that we have several concept measures, measure concepts in patient safety. We have one at least in care coordination.

And so it seems to me that it would be a good use of our collective time to think about productivity, to think about some of the quality and some of the patient caregiver engagement, rather than doing a lot of tweaking of the existing ones. Take it away.

MEMBER O'MALLEY: To make a comment on this, we did this use case based. So we sort of made our grid of stakeholders and use cases and where the value was, which has the advantage of really granular, but the disadvantage of sort

of mixing the big buckets.

We might want to go back and redress this. Say for example, it's not just medication discrepancies; there's really discrepancies in the clinical record for anything. You know, but in particular there would be some subsets. So medication lists are big. Allergy lists are big. Past medical history, family history, things that patients and clinicians value and use.

So you can be very discrete about where, what discrepancies we want to look at. But maybe discrepancies is a better bucket than medication discrepancies. So that would be one. The number when -- of when medications aren't given, that's almost part, I would put together on sort of care plan.

So has the care plan been executed the way it was originally -- so did patients get the meds they were supposed to? Did they go pick up the meds they were supposed to? Did they get the testing in labs that they were supposed to?

There's a lot of sort of the plan of care and whether or not it's executed, and then you get to the duplicates, I think stand pretty much on their own.

And then the final is correcting errors within the system. So it's not only just patient-identified errors, but that's sort of everyone gets to look for errors. But so I'm wondering if we can't, in a sense, push these all up a level, more or less a level?

CO-CHAIR KAUSHAL: So what I was thinking was this, that these by and large, other than the referral one, are in the domain of safety, I think. I think they all are in the domain of safety. It does sound like it would make sense to think about other discrepancies as you're suggesting.

And then what I was actually suggesting was to move on to the next subdomain, which in this case is cost saving, and come up with a couple of measure concepts under cost

saving, a couple under productivity and so on, rather than spending a lot of time tweaking this set because we -- we have something that the staff can work with on --

MEMBER BUITENDIJK: And I think that that makes sense, to focus on the ones that are based on how we restructured. To clarify, is that the duplication, reduction, labs, imaging? Those were intended to be part of cost savings, efficiencies.

Now as we talked about particularly imaging and David will jump in there quite shortly as well, is that there is the patient safety aspect related to rounds of radiation dose, etcetera. So some of these might actually split into a couple of different areas.

If we -- if we talk about other areas, we have opportunity to further delve in, which we did not do a lot in the time that we had available, around which ones are more patient focused.

Referral gets a little bit to that. But another example might be the number of times that the patient has to start their registration form from scratch, as opposed to it's already filled out. They can validate and only focus on the changes that happen.

Intraoperability contributes to that, and that might be either -- initially the thought would have been on the care coordination, perhaps efficiency. But since the patient caregiver engagement is involved, maybe that's the right place to put it.

CO-CHAIR KAUSHAL: Is there a measure on patient caregiver engagement that you might suggest? We have the one that's referrals, which touches on it. Are there other measures, measure concepts that you would suggest for patient caregiver?

CO-CHAIR SAVAGE: The one that we've used, most ready for prime time perhaps, has been frequency of access to health information as a -

- in some ways it's a proxy for engagement. But when we did our national survey and we started looking at responses, and these were just the survey data, so it's perceptions, about people who knew that their doctor was using electronic health records.

We started stratifying by the frequency of their use. We found some interesting results, much more engaged in their care, much more interested in doing something to shape their health behavior. That's a measure that we've seen that's most relevant, most practicable, feasible I think to now.

I also had a thought on care coordination when that's the time.

(Off microphone comment.)

CO-CHAIR SAVAGE: So to pick up on Tess's comment yesterday about a longitudinal care plan, so the impact would be high for the percentage of people who have a longitudinal care plan available. I would say that that's

available not only to the providers, but to patients and family caregivers.

CO-CHAIR KAUSHAL: So that's an interesting one because it starts -- it crosses to the subdomains. So available for both patients and clinicians, and do you want to tweak, Mark, a little bit the bullet about -- great. Okay, Steven.

MEMBER WALDREN: So on productivity, I first thought about the notion of the amount time spent by users to find electronically exchanged data. You could generalize that to talk about the burden required. So burden could be the time amount, it could be the cognitive requirement to do that. Industrial engineering has a whole determination of what burden really is to an end user.

CO-CHAIR KAUSHAL: How would you phrase it?

MEMBER WALDREN: So I mean how to phrase it into a real measure concept I struggle

with. But it's this notion of the level of burden on the end user to access and use exchange health data.

So I mean if you want to create it as a measure of time, you could say what percentage of your time it spent looking for that information. So if you think of your direct patient care number, and then of that how many minutes are used up just trying to search for that?

CO-CHAIR KAUSHAL: And would impact on -- in the ambulatory setting on our views, for example, be too far from the intervention of interoperability to measure? Jason, I'm looking at you a little bit to --

MEMBER WALDREN: Well, I guess I mean

CO-CHAIR KAUSHAL: Go ahead, Steve.

MEMBER WALDREN: I'm fine with that, but I guess too I think about the future moving away from free for service in the ambulatory space. So I mean tying to that would be a little

bit more challenging.

CO-CHAIR KAUSHAL: Right, okay. So then how about we phrase this as what percentage of your time is spent -- what percentage of a provider's time, percentage of provider's time spent accessing and viewing electronically exchanged information?

MEMBER WALDREN: I wouldn't add viewing. But I would say --

CO-CHAIR KAUSHAL: Accessing.

MEMBER WALDREN: Accessing of -- I mean access is probably a good general --

CO-CHAIR KAUSHAL: So access, searching for.

MEMBER WALDREN: Yeah, searching for everything gives us, you know, that it wasn't available, yeah.

CO-CHAIR KAUSHAL: Electronically exchanged information.

DR. BURSTIN: Just a quick question on that. It seems like in some ways, just as a

clinician, it's the opposite to me that would be interoperability sensitive. It's the amount of time I don't spend hunting and pecking to find anything I need to take care of a patient. I don't know if there's a way to frame --

I mean I don't want to frame it too negatively, but the impact is can you see a reduction, the amount spent searching for data that one would ideally have available? How often do you spend looking for an old EKG? How often do you spend looking for an old chest X-ray report?

MEMBER WALDREN: Yeah, and I see those as both. I think both. One is the fact that the data was available, so you were able to find it and give it and access it and move it forward, as opposed to going out and asking external.

I guess what I was also thinking is the fact that going to that availability, host availability, usability thing is that it's in there, but now I've got to go search it out.

Maybe that's more of a usability measure and maybe we should use yours as the --

CO-CHAIR KAUSHAL: So Helen.

DR. BURSTIN: I mean it's complicated, but something like the percent of provider time spent searching for information that could have been available electronically, and you can define those. I mean you could even be fairly specific and talk about things like lab tests, you know, laboratory reports, radiology, EKGs, the kind of things that we're quite dependent on in practice that are just really hard to get otherwise.

MEMBER WALDREN: Yeah, readily available.

DR. BURSTIN: Readily available, right, something like that.

MEMBER O'MALLEY: Let me make just a comment on that, to extend it across the continuum. Nursing homes, for example, spend an inordinate amount of time finding the

immunizations. It takes a nurse an hour to get that information and it should be in front of them. Just a --

DR. BURSTIN: For information that could have been, that could have been available electronically, and we can list out. So for example laboratory, radiology, immunizations as some of the starter items. But it would be -- I mean as you think about back to the RVU productivity question, if you didn't spend that much time searching for some of those other things, you could be a whole lot more productive.

CO-CHAIR KAUSHAL: I should just not turn it off. We now have some patient safety measures, some productivity measures, some around care coordination, some around patient caregiver engagement. It is fascinating to me that we haven't touched the big bucket of quality yet, and before we go around, I'm going to make a suggestion that might help us streamline this, which is we have a quality guru here, and so could

you, Helen, get us started on the quality side with a measure concept or two?

DR. BURSTIN: You know, I think in some ways I'd I prefer to hear some of what's happening with people's ideas in their own setting. Part of the next exercise, if I'm correct, is that we'll then look at the measures we already pulled, the quality measures that we think have some high applicability, and then we don't have to redo them, because that's just a massive exercise.

Let's just save that for there, but I'd love to hear of their other concepts that haven't been captured here and we should be bring forward.

CO-CHAIR SAVAGE: Can I have Hans next?

MEMBER HIRSCHORN: Just to assemble that, on bullet No. 3 it says reduction of -- duplication and reduction of labs and -- and then you're missing a word, imaging, if it were to

end. So there's a little correction. But there's one other, you know, thing coming from my world. One of the things -- okay. The word "and" is now redundant, okay. You have an extra "and" there. That's okay.

Okay. There's also, and I pointed out that aside from and people, you know, doctors tend to think of "okay, well radiology, what is it?" You know, there's images and there's reports and there's images. But there's also something that's not really the same thing, and that's how much radiation has the patient received, to know regardless of, you know, because they may get the exam.

So they don't start telling in their mind how many millisieverts that is and, you know, how much that means for the patient. So simply knowing, you know, before I give this patient yet another dose of radiation, how much have they had, you know. That's not the same thing as having their imaging record. It's --

it is related.

CO-CHAIR KAUSHAL: Yeah. So the concept of radiation exposure?

MEMBER HIRSCHORN: Yeah, radiation, radiation exposure.

CO-CHAIR KAUSHAL: Cumulative radiation exposure.

MEMBER HIRSCHORN: Cumulative radiation exposure, which would take into account radiation therapy as well. I mean it's not even purely an imaging thing. But you know, simply have -- and a doctor may know of every CAT scan the patients have.

But they have no idea if that's too much radiation or not, or how much too much radiation is or, you know, how much radiation that even is, and that's a -- it's a separate thing unto itself.

CO-CHAIR KAUSHAL: So Vanessa, maybe what we do is just start rapidly listing some additional domains. If you want to go on to

another slide, I think that that's fine, additional concepts I meant, and this one is cumulative radiation exposure.

MEMBER HIRSCHORN: Yeah.

CO-CHAIR KAUSHAL: You can go ahead.

MEMBER HIRSCHORN: How much radiation are we giving patients? First do no harm.

MEMBER FRISSE: Simple point. I thought the idea of how many patients actually picked up their medication was creative. I don't know how you do it, you know. Filling, yes; picking up, a little bit more difficult I believe, but it's kind of an engaging idea.

(Simultaneous speaking.)

MEMBER FRISSE: That's right. So that gets a patient up to say -- the fill is easy, but there's some areas, particularly inner city areas, where half of them aren't picked up. So it's just creative. So there's a difference between fill and pick up is all I'm saying.

CO-CHAIR SAVAGE: Vaishali.

(Pause.)

CO-CHAIR KAUSHAL: There are several concepts here. Right there is the prescribing. There's the dispensing, there's the actual pickup and then there's the compliance administration. So is there a -- and all of those actually feel to me, in various ways, sensitive to interoperability in various aspects.

So could we do one around medication use and include all four of these steps, as an area to think about for measure development?

MEMBER FRISSE: Well, I defer to others. I mean the first two are kind of straightforward, I think. The Rx fill message and how much that's used, I don't know if that's -- I'd have to leave that to real doctors in the room. I'm not one anymore. In terms of the actually picked up though, I simply -- other than asking patients, that would take you more over the wire to the adherence story, you know.

So you can't adhere if you don't fill,

you know. So I'm just saying that crosses the line from what we've got through the traditional messaging, to the best of my knowledge.

CO-CHAIR KAUSHAL: But I think it starts to incorporate this concept of patient-centered communication.

MEMBER FRISSE: Which is what is kind of cool.

DR. BURSTIN: And it's actually interesting, because the available measures around that use completely claims data. So this is actually sort of a different take on it using electronic health data, as opposed to just the claims data from the pharmacies.

MEMBER FRISSE: But then I'm below the radar screen for generics a little bit. There's some glitches with that too, but it's a good thought. Good thought, yeah.

CO-CHAIR KAUSHAL: Yeah. So Vanessa, maybe we rephrase this as medication use colon, ordering or prescribing, I guess. Prescribing,

dispensing, filling and compliance or adherence I guess is the better word, adherence. And Jason and Poonam, if you want to explore some of those concepts, we can do that. So okay, next.

DR. PATEL: If you don't mind scrolling just back to the other slide, the original slide on this after you're doing typing? I think with regards to the patient engagement piece, I was envisioning the use. I think patients, there's a patient viewing their data or frequency of use in here, is that right, somewhere down here somewhere.

CO-CHAIR SAVAGE: Third up, maybe they're trying to tweak.

DR. PATEL: Right, frequency and impact of patients accessing use of their health information, their provider's EHR. So I would see the use of this in the usage bucket. So we had a measure in there about viewing data, and you know, Mark we've worked on these measures. So like you know, a patient is given access to

their data. Then you look at whether they actually logged in and viewed their data, and then what did they subsequently do with that and what impact it had. So did it have an impact on any sort of shared decision-making, for example, with their provider? Did it have an impact on, you know, how they managed their own health care differently, you know, or monitored their health.

So I feel like there are other impacts besides, beyond just viewing the data that really measure impact as opposed to usage. So maybe patient activation, shared decision-making. Those might be examples of things that I would say are on the impact side of actually using the data. So I don't know what you think of that.

CO-CHAIR SAVAGE: So I had -- we tweak it as everyone wants. I put use there because it's a broader term. It incorporates the examples that you've listed, and I listed use in addition to access in order to capture the impact piece and not just have it be in the use domain.

That was my thinking at least.

So we could -- you could say use paren and then some of the examples that you were just articulating as examples of use that have impact. So what are the examples that you mentioned?

DR. PATEL: Shared decision-making would be one. Another one might be -- well, medication adherence could be one, you know. They look at their medications online. They look at, you know, monitoring, being able to monitor, manage their health. Patient activation could be another piece that one could look at too, I mean potentially.

CO-CHAIR SAVAGE: One other would be changing their health behaviors.

DR. PATEL: Yeah. Changing of health behaviors would be a big one for us to look at, and that's something that we're planning to do, you know, with the HINS data so --

MEMBER SWENSON: Can I comment on that one, because that's the topic where my comment

was, is well, it was on that patient engagement one. I guess none -- those are all great things, great ideas for patient engagement if this were a work group on patient engagement.

None of those require interoperability, right? Getting, allowing the patient to see the information that's in, you know, my provider's EHR, I just log into a web portal provided by my provider's EHR and I can then manage my own medications and I can change my behavior. I mean none of that required interoperability.

CO-CHAIR KAUSHAL: That reminds me actually. So the other measure that I was thinking that maybe gets more at what you're talking about is reducing gaps in information exchange experienced by the individual, so they're no longer -- and this is a measure that we've -- at ONC we've done a national survey of consumers for a number of years.

And we've developed a number of measures that look at, you know, how, you know,

did you have to bring a copy of your medical record because, you know, your doctor didn't have it. The doctor that you were planning to see or a lab test result. Do you have to do a lab test result again? Did you have to, you know, all these things that a patient might experience because information was not exchanged between their providers?

And so that might be an impact for us to look at, is just reductions in gaps in information exchange experienced by providers. That's in some ways similar to the searching for information by -- on the provider side because, you know, the time spent searching for information should be the time spent just carting your information from doctor to doctor or, you know, having to do a test again because the doctor didn't get the test results.

So you know, just reducing the burden of the gaps in information exchange on an individual.

CO-CHAIR SAVAGE: So Alan, I would ask how you're defining interoperability, because the patient is actually -- the communication with the doctor's EHR is an example of interoperability in my mind.

MEMBER SWENSON: I mean if it's a patient portal provided by the provider's EHR, that's no different than two doctors accessing the same EHR, having access to the same information. That's not interoperability. They're just using the same EHR.

If the patient is now using the web portal of that EHR, that's not interoperability. That's just a product of the vendor.

MR. GOLDWATER: Just to very quickly, because I can see this sort of getting convoluted and then getting into an even longer discussion about this. So I mean interoperability certainly is, for the process of which information goes from an EHR to a portal or some other device in which a patient views. I mean that is something

to -- I mean actually look at as a measure of interoperability.

I think looking at patient activation or change of health behaviors, I'm sort of with Alan on this. I'm not sure how that's a measure of interoperability. That's a measure of other factors of which interoperability is perhaps one part of it. But asking the patient to change their dietary behaviors or exercise more, I'm not sure that interoperability is going to necessarily lead to that.

CO-CHAIR KAUSHAL: So could I make a suggestion of how we could phrase this? "Frequency and impact of patient's electronic access to end use of their health information," and take out "in the provider's EHR." And then we haven't completely addressed your question, Alan, about how it's happening and how we're defining it. But at least we're getting closer to, you know, not having a patient sitting next to a physician and looking at their information

and having it count, for example.

MEMBER SWENSON: Right. I just think, you know, a lot of Vaishali's examples of, you know, patient experience by reducing labs, by doing these other things, making things better for the patient, like that is -- there is a direct impact from interoperability on that. But just saying the patient has access to their medical record does not require interoperability.

I mean the patient may use interoperability for certain things. If the patient uses some third party portal that then pulls information from the EHR, then there's interoperability in use. But if I'm just accessing information made available to me by my provider, that's not interoperability.

CO-CHAIR SAVAGE: Tess.

MEMBER SETTERGREN: Thank you. A couple of things. So we're going to take the patients who pick up their medication refill from the pharmacy off, right, because we're going to

cover that in that very last bullet point that we added for medication use? Because honestly, I mean I'm not sure if we're -- what kind of impact we're looking for, but picking up their med refill doesn't necessarily mean they're going to take it. It just means they picked it up once.

Also, sort of to Alan's point, if we're going to say that patient -- if we're going to talk about patient's electronic access to a use of, we really have to add verbiage that indicates that some information exchange actually took place there, because you know, I mean with certain EHRs, they have most of their data. It doesn't depend on EHR access, you know.

We have them -- we have provided patients access to most of their data, and it requires no interoperability whatsoever.

(Off microphone comment.)

MEMBER SETTERGREN: The one Alan just talked about. The two above that, the patient identified errors --

(Off microphone comment.)

CO-CHAIR KAUSHAL: So we need to resolve this, because both of you, I think, are bringing up similar points. John.

MEMBER BLAIR: Yeah. So I'm listening to Alan, and this goes back to one of the first comments I made yesterday, as to who you are as a provider or whatever. If you're in a large, integrated delivery network, a lot of that information is there. If you're a small provider in a community, you do need that connectivity and interoperability. This is a perfect example, because you're talking about a PHR that's actually part of that system.

You're off that database or that system, so it's not interoperable. Whereas if you're on a PHR that is not part of that system, it has to have all those connections and therefore be interoperable. So it really depends on who you are, where you're coming from as to the interoperability or your need for

interoperability.

The example you gave is exactly the same thing I was talking about, with a doctor in part of a large system or a small office. Same exact principle applies.

CO-CHAIR KAUSHAL: So can I push on this a little bit? From a clinical perspective, having a patient use a portal, even if it's, you know, let's say a health system has EPIC. They're using EPIC's patient portal. I understand there's not exchange of information, but there is another user of that information.

MEMBER BLAIR: That's the same as two doctors on the same EHR, exactly what Alan was saying.

PARTICIPANT: Right.

CO-CHAIR KAUSHAL: So okay. So at least for --

(Simultaneous speaking.)

MEMBER BLAIR: It all gets into a database and whether they're connected to

different databases.

CO-CHAIR KAUSHAL: I understand --

MEMBER SWENSON: I think that for the measure there needs to be something that requires interoperability in the denominator. So we can say a patient has access to it where it occurred in multiple places and they're able to aggregate it into some place.

It's something. There has to be some measure of the denominator requires interoperability to have happened. Just having access to my information doesn't itself require interoperability.

CO-CHAIR KAUSHAL: So Alan, here's my question for you, and then I have a follow-up question. So my first question for you is this: is patient's use of a portal that is part of an EHR, is patient use of a portal an important measure of information use? Leave aside the interoperability piece, but is it an important measure of information use?

MEMBER SWENSON: Yeah, I mean critical.

CO-CHAIR KAUSHAL: And so your concern is that it's not electronically exchanged information because the database itself is static?

MEMBER SWENSON: Right. I mean there are a lot of important critical things in health care that we could be measuring, but we're focused on interoperability. Like patient engagement is one of the most important probably in health care, but if it isn't measuring interoperable exchange, then it doesn't have a place in this document, in this work group because I mean that's a separate thing.

Like patient engagement is important and there needs to be focus on it, but that doesn't mean that it's stuck in here if it doesn't involve interoperability.

CO-CHAIR KAUSHAL: So let's say, just completely hypothetical. You have a provider

with an EHR, and there is an opportunity to give another provider access to that same EHR. That would not qualify as interoperability, even though it's another user, because you're not shifting information?

MEMBER SWENSON: Right, because nothing was electronically exchanged between the two providers because they're accessing the same EHR.

CO-CHAIR KAUSHAL: Does anyone -- we have three people with strong consensus. Does anyone disagree with this?

MEMBER BUCKNER: I disagree. I mean, you know, yeah. So electronic moves somewhere else. But at the end of the day, you're not measuring electrons moving, right? You're measuring who can access information that can make changes to health care. So yes, data was sent from here to here one time.

You could measure the interoperability for the patient, potentially for

a health plan that looks at that data, potentially for a physician who look at that data, all that counts. So the audience, I think, is a relevant factor, even if it's from the same repository.

MEMBER BLAIR: But you didn't move the data in Alan's situation. That is a -- that's a patient looking right in that database, that same one that the doctor's on, just a different part of it.

MEMBER BUCKNER: So who gets -- who gets -- is it the first person who looks at it that counts for interoperability, because it got moved there in the first place, right?

Or it was entered natively. Are we making a distinction?

MEMBER BLAIR: Yeah I do, and that's why I said it yesterday, that a small doc on an EHR that's connected to 20 different things to get that information, that is interoperability. A doc in a large organization has all of the data

already there, that is not interoperability. Same exact situation here.

CO-CHAIR KAUSHAL: You've heard that there is discussion on this point, and I think we're going to put a pin in it because it's 2:15 and move on to the remaining tents. Bruce wants to say something on this topic though.

MEMBER SIGSBEE: I really do, because I think that there's a big distinction between just getting it to the database and something like my chart, which is the patient portal for EPIC, is that is a highly selective amount of information that is narrowed down by the physician often and then sent to the patient's availability.

So I think it's a semantic distinction that at least in that circumstance that really is important transfer of information to that patient's computer or device, and has the ability to impact it. That's something at least in a more generous form of interoperability is

something that we should look at, and I think it's a really important aspect of transferring information.

It's not just giving the patient access to whatever is there on the medical record. I can tell you from our personal experience it's a pretty small subset of what's there, and my physician on the other side directs what actually gets put into that portal. So there is a narrowing down, editing and transfer of that information.

CO-CHAIR KAUSHAL: Yeah, Bruce. I happen to agree. I think there's a curation of it and I think there's a timing of it, and I think it's an entirely different user, and I hear your perspectives too, right. So that's why I'm going to suggest if we can --

MEMBER BLAIR: I've got to have one more.

CO-CHAIR KAUSHAL: Go ahead, John.

MEMBER BLAIR: Okay. So I agree that

this is what you want and this is what we would like it all to be. But I do, I'm sticking with Alan in this. It's not interoperability there, and even when there's providers, some have segmented parts of that database they can look at. There's rolled base, whether it's a patient or a doctor or an ancillary staff.

It's all -- no one has access to everything on that database. So the fact that your access is restricted doesn't change it in terms of being interoperable. I think that it's just -- these are different ways technically to get at what we'd like everybody to have. So you need to have interoperability to get at this other ideal.

DR. PATEL: To get us around this point, can I jump --

CO-CHAIR KAUSHAL: I was hoping to put a pin on it and run through our tents, unless --

DR. PATEL: I have my tent up but anyway.

CO-CHAIR KAUSHAL: Go ahead, Vaishali. That's your tent. Hans has a suggestion here.

DR. PATEL: So I mean we might want to, as you said, put a pin on this and move on. But one thing that I'll say is, you know, what we could do is just get one measure that's kind of would be agnostic to this, would be just looking at reductions in gaps in information exchange experienced by individuals.

Now this could be reduced because they have -- now they have access to their own health information through a portal. It could be reduced because providers have now, you know, are greater interoperability.

But that would be one way to kind of measure the impact of interoperability on individuals. That's agnostic to this definition of what interoperability is, you know, like in terms of access or not, you know, so it's just a suggestion.

CO-CHAIR SAVAGE: Can you repeat that? Reductions in --

DR. PATEL: Reductions in gaps and information exchange experienced by individuals, and you know, and examples would be, you know, not having to bring your chart everywhere because it's been exchanged, not have to do another test result because the test result is already there.

Or because they have their own access to their data and they can just show the doctor, the next doctor that they go to, even if they haven't -- even if the doctor hasn't received it from another doctor, they can just show because it's a consumer-mediated exchange. Because they have access to their own data, they can share that data with their own provider.

CO-CHAIR SAVAGE: Thanks. Terry.

MEMBER O'MALLEY: Okay. I knew I was going to have to use a shotgun to shoot this one down; a pen's not going to do it. So this is about care -- so if we go back to care plan, which

I think is one of the really absolutely critical beneficiaries of interoperability, and it's sort of the mother of all use cases.

But I think we may want to tweak this one a little bit and say when I think about care plans that are wrestling interoperability, it's really individuals who have team members in more than one information system. So in order to have a coordinated care plan, you need to have communication. It's interoperability at the basic part.

And then the -- then there are subsegments to that. So anyone who's got team members in two different systems, they need to communicate in order to have coordinated care, right? That's sort of the basics. It doesn't matter if they're my folks who are 90 years old and 15 medical problems, or a kid with a complex chemotherapy regimen across platforms.

And then I think what you need in care plan, it's really some very discrete pieces, and

we can build on what those pieces might be. It's really, when you think about what's in a care plan, it's really an index of problems that are being managed. So it's sort of a comprehensive list of we call them health concerns.

It is a list of team members who are addressing those health concerns. This is a cross-walk between the health concern and the team member, and it's the interventions of those team members who are applying that are a cross-walk to the problems.

Then you get the outcomes, and you just hit this series of cross-walks. But if you were to exchange a care plan and you say what do I want to exchange interoperability? It would be who's on the team, what are the problems, what are the responsibilities, what are the outcomes?

And then you pass that on to your provider team. You will begin getting feedback, and then you put all that in motion because now you've done it once. Now it gets reconciled,

reconfirmed, readjusted and it's this constant moving piece. It's very complex. This is more than -- this is intraoperability on steroids.

CO-CHAIR KAUSHAL: So how -- it seems to me it's our second to last bullet here that is getting at a little bit the longitudinal care plan, and the bullet above it. Frankly, it could be even embedded into there. How would you change the phrasing of the second to last bullet?

MEMBER O'MALLEY: Yeah. I'd probably change, first of all the -- sort of the denominator. Who are we going to count, and I think it's people whose care is shared by two or more platforms. So that would be the one piece. Then I think it sort of explodes from there. The second one would be --

CO-CHAIR KAUSHAL: So I'm sorry. Would it work if we said percentage where patients and clinicians have access and use of an electronically exchanged -- no, of a longitudinal care plan based on electronically exchanged data?

MEMBER O'MALLEY: Well, the problem with complex care plans is that they rely on people who are not on electronic platforms. So the social determinants, you know, are not going to come across electronically unless someone punches them into the system.

CO-CHAIR KAUSHAL: So is it where patients and clinicians -- where multiple, patients and multiple clinicians have electronic access and use of a longitudinal?

MEMBER O'MALLEY: Yeah. It kind of gets back to what information, you know. Is a PDF good enough, rather than an electronic structure of data. For care plans, the way they are in the universe of their evolution, is there -- they're going to be -- they're going to be largely paper based. But that doesn't decrease their value or the need for interoperability. It just is not electronic interoperability.

CO-CHAIR KAUSHAL: Okay. So Poonam and Jason, this is another topic that we're not

going to get through today. Okay. Keep going. Yes.

CO-CHAIR SAVAGE: Terry. Hans actually.

MEMBER BUITENDIJK: Can you go to the next slide? The last bullet on the next slide that Vaishali had, I want to make sure is that a thought and a suggestion that was made at the start of the discussion about impact is making its way into that as well.

I like the direction that this is heading to be a little bit more general by individuals, but the "i.e." makes it very specific. One of the things that was discussed at the start of the impact discussion was for the patient experience, that as they go from one provider to the next that their experience of having to re-provide the same data as part of their registration, that we can improve on that as well.

So that's not a provider experience.

They've still got the same data, but the patient doesn't have to spend as much time in the waiting room to fill out forms again. So I think that should be added as well from a patient experience, so that it expresses that perspective specifically. And then the last comment is --

CO-CHAIR SAVAGE: Hans, just to -- does the phrase "experienced by individuals" capture that or is it --

MEMBER BUITENDIJK: I.e. makes it very specific. So it should be e.g., and then since we're listing sharing of data with provider and the conversation that we've had lists only provider experiences, I would list an individual experience as well over a patient experience as well, to say that -- I'm not sure whether that's the right word -- but reprovision of registration data by the patient, because we as patients have to repeat ourselves too many times giving the same information.

Now if there was interoperability, it

would already be there. I can just validate it, make some changes and be done. So that's the comment there, to make sure that's included. The other one is just a general comment, is that I hope we're not going to get to interoperability equals HIT.

But certainly in the way that we are at times discussing it, that's what it becomes. So just a general awareness and caution. It just makes the ocean a little bit bigger than what we already have to boil.

CO-CHAIR KAUSHAL: Bob and -- Bob. I'm sorry, Mark.

MEMBER ROSATI: So this might be moot at this point, but you know, when we were talking about patient portals, I just have to say that at least in the post-acute setting, we couldn't build a meaningful patient portal without interoperability, because the data we need to be able to deliver to, for example, patients and home health requires the integration of not just

what we're doing but what their medications are from the pharmacy, you know, what the physician's doing for them in terms of coordinating their care and a host of others.

So I know there was a bit of a discussion about whether or not the portal could be used as a way to look at the impact. But I think if it's fed by interoperable data, it absolutely could be.

CO-CHAIR SAVAGE: Tess, you had your card up at one point. Are you taking it down now?

No, I said Tess. Okay, excellent.

So Bob.

MEMBER RUDIN: I just wanted to propose a distinction that might help resolve some of these disagreements, which is there's a thing called, that you could call technical interoperability between electronic systems, where they have to work together, and then there's what might be called process

interoperability, where you have different types of users that are doing different things.

Then you don't necessarily need a technical aspect to it. It's kind of one level up. That's I think why we're able to have these disagreements. I'm not sure which one we want to limit be in scope in this Committee because we didn't specify it.

CO-CHAIR SAVAGE: John.

MEMBER BLAIR: So I definitely think we want technical interoperability because that's what we're trying to fix. The other is an example I think of why we're getting confused here. Probably 95 percent of the PHRs out there you do need true interoperability for, but some you don't. I think that's what's come up here.

The value for them, what you get out of them is all the same. But in some of these situations, you do not have connected systems, so you have to have the interoperability to get there.

CO-CHAIR KAUSHAL: Terrific. So I think we are done. In fact, it only took us an extra two hours, but there you go. Yeah, no. I think it was a really, really terrific discussion, and I know that we haven't fully explored this final set of issues. But I'm -- we're relying on Jason and Poonam and the team to help us tease this out some more.

MR. GOLDWATER: I think -- so it was a great discussion, certainly incredibly thought-provoking and I think it touched on a number of not only the issues that needed to be discussed, but also again sort of underscores why this is not the easiest topic in the world to be discussing, which John Blair makes clear every time he puts his tent card up.

So I think what we'll do next is clearly we'll go back and we'll try to refine your thoughts into some more, I think, basic, broad measure concepts, and ones in which measures could be developed from. You know, we

were going to do another part of this exercise. I'm not sure we're going to have time to do that. What's that?

Yeah. I think what we'll do is I think -- so that's what I was going to suggest, is that here, I'll sort of take you through the process of what we did. You do have the results in front of you. We did create handouts. So we would probably ask for you to go back and look at those handouts, if you have comments to email them to the Interoperability mailbox and we'll take those into account.

I think what we will do is we'll go ahead and continue to develop the report, at least the first draft of it, and include the measures accompanying, incorporating whatever comments you all make between now and then. Then as we have a discussion on the draft of the report, then we can go over it in a little more detail. So Hiral, I will leave that to you. Don, don't put your card up.

MS. DUDHWALA: Sure. So this is -- some of this is a recap from our previous web meetings, just kind of to refresh your memory about the existing measure review and the methodology. Again, this was a part of the project is to identify and determine interoperability sensitive measures.

So you know, a methodology was designed to review these existing measures, looking at electronic measures from multiple sources. They were selected for evaluation.

Next slide. So we did develop a measure score card which many of you have seen and used yourself. But you know, again this was done before the in-person, so we were looking at the following domains, looking at electronic health information availability, electronic health information usage, electronic health information impact and rating each measure based on those three domains.

Next slide. Okay, and these are just

again like the clinical topic areas that the existing measures fell in. Again, just a review from previous web meetings. Next slide. So we started out with again 243 electronic measures, which we took from the AHRQ National Quality Measures Clearinghouse database.

It started with the -- obviously, that was a huge number of measures. So our NQF clinical staff took the first tackle at these measures using that measures scorecard that you all are very familiar with and were able to narrow it down to 68 measures.

There was a team of M.D. and RN including myself, Helen and John, as well as other clinical staff that work here at NQF. So we were able to narrow that down to 68 measures, which are the measures that we shared with the Committee members. Those are the measures that were reviewed by you.

Next slide. Kind of where we are right now. So we divided the Committee into

three groups, and each group reviewed 22 to 23 measures. Again using the same score card, looking at usage, availability and impact. Again, the lowest score possible would have been a 3; the highest score possible would have been a 9, making it the higher score would be more a higher rating to identify interoperable-sensitive measures.

Next slide. So we did a little bit of a high level analysis after the Committee members did return those score cards. So we did have a good number of you complete that exercise. Eighteen Committee members completed the measure score card. You can see by group how many members did review the measures in those groups, so we got a very good number.

So what our team ended up doing with those results was compiling it and looking at the scores. We discussed internally and we looked at the calculated median, some of the Committee scores.

Next slide. Okay. I'm looking at those scores. Well, we saw for each measure calculated median sum of Committee scores. So where the Committee members had a median score of 3 for the measure, there were about five measures of those 68. That's with the median of 3, so you know a lower score.

You can see six measures with a median sum of 4. About, if you look at the scores of 5 and 6, there were 35 measures that scored in that category, and then 22 measures that scored a median sum of 7, 8 or 9, so 7 and above.

Next slide. We also took a closer look at those 22 measures that had the highest median sum. So we did break it down based on clinical topic areas, just for you to see, you know, to identify what we found from the results.

So you can see the various clinical topic areas and the number of measures, from those that scored the highest, and you can see some of the topics that we did talk about in the

last couple of days, looking at patient safety, care transition. So you can just take a look at that. Next slide.

MEMBER BUCKNER: Can I just ask a question? Any thought on why --

CO-CHAIR KAUSHAL: Mic please.

MEMBER BUCKNER: Any thought on why oncology blew everybody out of the water? It was statistically significant.

MS. DUDHWALA: I don't know. I guess that the Committee members who were looking at some of these measures, if they wanted to share their perspective.

CO-CHAIR SAVAGE: Were there more oncology measures than in other areas? I don't know.

DR. BURSTIN: I think some of it gets at -- actually it looks like screening was under oncology as well. I think things like colonoscopy, sigmoidoscopy are going to be so interdependent, so dependent on having that data

available. Even some of the oncology measures require you to have data on the actual tumor markers and pathology.

So I think some of it is the information availability. It's not -- the screening are separate, but I think some of it is the information you need.

MS. DUDHWALA: Okay. Next slide. Okay. So what we were able to compile for all of you today, we did pull up a list of all 68 measures that were scored by you. So you'll see the measure name, you'll see your comments, which were very helpful as well and the median score. So there is that one packet with the 68 measures reviewed by all the Committee members, and then we did make another packet for you to take a closer look to the ones that did actually score higher.

So the 22 measures with a median score of 7 and above. So you have those two to take a look at and give you a better idea what your

scores showed.

So next slide. So I don't know that we're going to really have any discussion, but you know again the next steps is really looking at those measures and I guess giving us feedback on your thoughts and next steps that you would recommend for our team, any other additional recommendations to assist with identifying those set of existing measures that could be used for the framework.

MR. GOLDWATER: I have more -- if you go through the 68 measures overall, and you see measures that scored low and you have questions, where you think maybe those are sensitive to interoperability and were not scored correctly, by all means bring this up. Yes Terry.

MEMBER O'MALLEY: Just a question. Would you be able to cross-walk those to our framework? So sort of which ones might fit under what --

MR. GOLDWATER: Yes, yeah. That's

the plan.

CO-CHAIR SAVAGE: Hans.

MEMBER BUITENDIJK: Just a general observation, that from a challenge perspective with these measures, a lot of them, looking at them, interoperability is not the only factor that influences whether the measure goes up or down. I think today during the -- today and yesterday during the framework discussion, particularly when we're not talking about impact, there is much more clarity around things that are and measures that are directly attributable to interoperability.

The moment we go into impact, we saw the challenges that we had on how to do that. So the question that I have is that how do we intend to progress with these, because it seems that without asking the stakeholder involved with that measure whether the data actually came from an interoperable electronically exchanged data, we cannot use those measures as they are. They

would have to be adjusted to filter out everything that did not attribute to that one.

I'm curious whether how realistic that is and what the thoughts are on that approach, because we cannot look at any of those measures I think. There's very few, a handful where you might be.

But otherwise, if the measure improves, was it really interoperability that improved it? Or was there something else going on? I mean most of them there's something else going on, most likely. So how are we going to deal with that?

Quality outcomes, these kind of measures in the spreadsheets are very, very sensitive to that and from at least the ones that I've looked at. So it's just a question and a concern on how do we progress with that.

CO-CHAIR SAVAGE: Alan.

MEMBER SWENSON: Yeah. I guess I just have a question along similar lines to both

of what was just said. But a lot of these measures, as written, do not require interoperability necessarily. They require interoperability if you assume that the information it's talking about is outside data and then you're using it for the measure, which may not necessarily be the case.

So I guess my question is what is the purpose of these measures, and are we intending to rewrite these to be part of what we're publishing here, and a lot of these are, also to Terry's comment about the framework here, a lot of these are about impact. Like there's very little in here about exchange of data, about usability of data.

Some of it is use of data, but most of it's the impact of information. So where are the rest of those going to come from?

MR. GOLDWATER: Before I get to Mark, these are all directly related to the impact domain. They're not supposed to cover the

others. These are all related to the impact. Go ahead.

MEMBER FRISSE: I've been reflecting on that, because that's the central conflict that's been going on for two days. The first of the three charges was to understand interoperability and the determinants around that. The third one was to look at the metrics that could be improved with more interoperable systems. Then the one in the middle was identify and prioritize measurement concepts within the framework that could be leveraged for a future measure development.

So a lot of people said okay for the first one, doing more to measure interoperability itself. I've always been looking at the third one. What are the quality metrics that if we go across care transitions into the home, new technologies and all that, we can really strengthen the metrics we have?

So I agree with you. There's only

care coordination, transitions in care and I have one other on this list that I saw, almost essential for interoperability. I would argue that almost -- someone, somewhere has almost all the metrics for the rest that they can report. So if one person's enough to have the metrics, then you don't need interoperability. If everybody's got to have the metrics, well then you do. But I would argue these don't.

So part of this is a fundamental issue, again that there's a tension between us trying to measure interoperability and all the things that are important to get to where we want to be, and my concern which exists. There's all this obvious stuff laying in front of me with the new machines, VNAs, all this other stuff, data stuff, where we can do stuff right now and hit a home run.

So that's my bias, of course, as you can tell. But there's a central conflict here, and we have to put both of them on the table and

have to reconcile that. That's my belief.

CO-CHAIR SAVAGE: Vaishali.

DR. PATEL: Sorry. To Alan's question related to like the other measures, where are the other measures. I mean that might be something that, you know, we could talk about. Like are there existing measures that map to the measure concepts in the other domains? Like meaningful use measures, MACRA, MIPS, I don't know.

Anyway, but we can look. We also have surveys that we do that could be tweaked to -- for example, with the user perceptions on the usability piece that we could include. So in thinking through I think next steps, that might be something for us to consider in the implementation of the framework.

CO-CHAIR SAVAGE: Helen.

DR. BURSTIN: You know, Alan raises a really interesting point that I think we need to spend a bit more time thinking through. We did

these up front initially. The idea would be that these outcomes would somehow be -- and processes would be related to the availability of interoperable information. There would be an impact statement.

I actually think some of what we've actually been talking about, some of these measures now, if you really look at it, it's actually about the availability of structured data. So some of the results may change, not because interoperability is having an impact, but because it's creating a better measure.

So I do think there's a little bit of teasing out to do here, and the classic example is, you know, for years and years and years there were measures of BMI, the body mass index, with terrible rates of performance. 15, 20 percent in charts. It magically becomes something that's part of meaningful use. It's part of every issue in America.

It's upwards of 98 percent I'm told.

It's just an automatic thing you've got hyped on once weight's done. It's always in there. It's not as if we've had a bigger impact on BMI. We're just able to measure it better. So some of this naming we go back through this less, I think Vaishali is right, and think about whether some of these are not so much that interoperability affects the outcome, demonstrates improvement, but in fact demonstrates we're able to measure it better. It's a really interesting idea. It hurts my head at 20 to 3:00. But I really like it.

CO-CHAIR SAVAGE: Have we given you guys what you need for now? Is it time for public comment?

MR. GOLDWATER: Well, I think we have everything we need, and I would just -- I was going to echo exactly what Helen said, that the object here is not does interoperability lead to a better outcome, because you're right Hans.

That's, that would be very, you know,

somewhat difficult to be objectively assessing. But it's does interoperability lead to a better measure? Does it lead to a more comprehensive measure. What's that?

DR. BURSTIN: There are probably measures like readmissions, where actually having the information has an impact on the outcome. I think some of these we're just getting better data.

MEMBER BUITENDIJK: Yeah, and I think we need to keep that distinction, you said when do I get just a better measure, that it's more reflective of what's actually going on, which is a good thing, and do I get improvement in a measure because now I'm sharing data and as a result I get a better outcome?

I certainly have a bias when I was reading this more on the latter part, and see it's that can you -- can you correlate increases, improvements in interoperability that I can see improvements in these measures. Very little of

those out there. Not to say that they cannot contribute, but very little that I can do without doing any additional documentation from the clinician or anybody else to say was this really the result of interoperability or not.

And more that we have to ask for that information. We're already overloading clinicians with documentation. We don't want to impose more documentation requirements just to better get -- to get some measures out. So that's the reason why.

DR. BURSTIN: Yeah, and some of them may be very reflective of availability and use and all the things we talked about. So some of them may still be interoperability sensitive, but not just on impact. So I think that's a way to frame it. It's also interesting. There may be a way to take a couple of these examples from the report and almost use them as case examples, where you really begin to tease out the attributable effect.

That might be improved performance based on availability of data versus improved performance based on the fact that data is flowing and care is getting better. I mean we can just pull out a couple of disparate examples because I think they really -- it's a really interesting idea.

MS. BAL: Operator, could we open up for public comment please?

OPERATOR: At this time, if you'd like to make a public comment, please press star then the number one on your telephone keypad. Again, that's star 1 to make a public comment.

(No response.)

OPERATOR: And we have no public comments at this time.

CO-CHAIR SAVAGE: So Vanessa, you want to walk us through the next steps?

MS. MOY: Sure. So for the Next Steps, thank you all for your feedback and just taking the time just to be here for this

conference. We really appreciate it. So the next step is that we have a webinar number five, which is follow up on this in-person meeting, which will be held on April 5th, 2017.

And then after that, we'll also have another webinar on April 20th, which would be the feedback on the proposed draft framework which we discussed today about the domains and subdomains, and we'll be drafting that up. I'll hand it to Poonam to talk a little bit more.

MS. BAL: Just so -- a little clarification. We talked about a lot of things today. I know there were some topics that people felt we had to leave a little early. We've been keeping notes and basically the next goal is to start taking everything that we've learned today and build it up and basically make it a little more concise.

So as we did this morning, take your feedback, make it a little more organized and be able to get additional feedback. And as you

mentioned, during our measure concept discussion, some were not measure concepts. Some were more high level ideas, and we will definitely need to meet as a team to determine what's the best next steps.

But we'll be reaching out. So look forward to many emails from us about, you know, what are next steps and how we want to be as concise as possible using your time. We do have a couple of webinars before this framework will be going out for public comment.

We want to make sure we're using that time wisely. So we'll keep you updated and email you and let you know if there's any other things that we need. Any questions? Okay.

MR. GOLDWATER: Thank you all very much.

MS. BAL: Thank you.

CO-CHAIR SAVAGE: Thank you so much. You have -- both to the people who are here and the people who are not here, it's an amazing team.

Thank you.

(Whereupon, the above-entitled matter went off the record at 2:47 p.m.)