NATIONAL QUALITY FORUM

Moderator: Benita Kornegay-Henry
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Operator: Welcome to the eMeasures Feasibility Testing Meeting. Please note, today's call is being recorded. Please, stand by.

Reva Winkler: Good morning, everybody. This is Reva Winkler of the National Quality Forum. Thank you all for joining us today on our conference call instead of meeting with you in person, though I'm sure that none of you really wanted to join us in Washington, D.C., today, given the weather circumstances, but we thank you for joining us for this conference call.

From the NQF office, we're all working remotely, but we've got quite a few folks with us. Our Senior Vice President, Helen Burstin; our Vice President, Heidi Bossley; Kathryn Streeter is our project manager; I'm Reva Winkler, I'm the senior director. And from our HIT Department, we've got Rosemary Kennedy and Beth Franklin and Juliet Rubini.

So, to our panel members, thank you all for joining us. I think what we first want to do is find out who else is here will with us and – so, I'm going to run just a quick roll call down the list and see who is with us.

Is Howard Bregman here?

Howard Bregman: Here.

Reva Winkler: Great. Welcome. Zahid Butt, I heard you.

Zahid Butt: Yes, present.

Reva Winkler: Sarah Corley.

Sarah Corley: I'm here.

Reva Winkler: We've got (Joseph Janets).

(Joseph Janets): Yes, here.

Reva Winkler: Is (Paul Kravitz) with us? OK. Not (Paul). (James Lee).

(Paul Kravitz):   Yes, I'm here. This is (Paul).

Reva Winkler: Great. Welcome. Is Jingdong Li with us? No. OK.

                  (Dr. Lieberman), are you there?

(Michael Lieberman): Yes, I am.

Reva Winkler: I heard you. Great. Catherine Major.

Catherine Major: Hi, good morning. I'm here.

Reva Winkler: Welcome. (Ruth Martins), (Trisha) heard you.

                  Is Ginny Meadows with us?

Ginny Meadows: I'm here.

Reva Winkler: Super. Thanks. (Mark Goldberg) is here. Is (Martha Radford) with us?

                  Yes. I'm not – I'm not surprised.

Female: Things are pretty awful in New York. Yes.

Reva Winkler: (Inaudible) issues. (Jim Simms).

(Jim Simms):   Here.

Reva Winkler: OK. Aldo Tinoco.

Aldo Tinoco: Present.

Reva Winkler: And Paul Tang.

Paul Tang: I'm here.

Reva Winkler: Great. All right. So, here we are. Thank you all for last minute changes of our plans. We are hoping to reschedule the in-person meeting in the next couple of weeks. We will be checking with you to see when that's possible.

But today, we would like to – we've got the conversation started. And so, as you can see we kind of put together a two-hour call agenda to begin the discussion.

Helen, did you want say anything at this point?

Helen Burstin: I couldn't hear you a second, Reva. Did you talk to me?

Reva Winkler: Yes, I did. I asked if you wanted to say anything at this point.

Helen Burstin: Sorry. I'm trying very hard to keep this phone on mute as children run by since I'm at home, so.

Hi, everybody. I just want to welcome everybody. We wish we could have our in-person meeting today, but we will try to reschedule that soon. But I didn't want to lose the chance that we at least had it on your calendars and start the conversation.

So, I think the goal for today would be to walk through the materials we've got so far. I think since we have time, it would be really useful to make sure that we've got the right set of materials to help make some of these decisions. If we have a little bit of extra time, we could actually try to find additional information, but we – you know, we're really just thrilled that you could join us today. We really see this as a real opportunity, I think, for us to help provide some insights into this area.

A good number of you were at the last eMeasure Collaborative Meeting that NQF held and when we mentioned that we were doing this work at the end of the meeting, there was spontaneous applause. So, obviously we're talking about an area where there is a fair amount of concern about how to proceed.

So, a (good) team, let's just start working, and just thanks for your help. And hopefully we can make some progress in the next couple of months here. So, I'll turn it back over to you, Reva. Thanks.

Reva Winkler: Heidi, did you want to do disclosures?

Helen Burstin: Heidi, that kicked off for some reason. You finished …

Heidi Bossley: Kicked off for some reason.

Helen Burstin: It's one of those days. She's trying to dial back.

Female: This is (Inaudible). I got kicked off too, but I'm back.

Helen Burstin: Yes, thank you again.

Heidi Bossley: This is Heidi, I'm back.

Helen Burstin: Wonderful. Thank you, guys. I was just about to do disclosures. So, go for it.

Heidi Bossley: OK. So, as many of you may have remembered. We asked each of you to fill out a disclosure of interest form when you submitted your information and wanted to have you just publicly disclose anything that would be related to the work of this committee. Again, it doesn't need to be everything, but it would be anything that could be considered either financial or non-financial interest related to eMeasures and eMeasure testing.

Also, as a reminder, our general counsel likes to just remind everyone that you're serving as individuals and not necessarily whoever may have just being forward or who you work for. You're really sitting here with your expertise.

So, (Kathy), maybe the best thing to do is have you just run through the list and have people just provide any information that way since we're on a call.

(Kathryn Streeter):   OK. Hold on one second. Sorry. Reva, do you have the list in front of you?

Reva Winkler: I do actually, it's OK. All right. Let's start. Howard Bregman?

Howard Bregman: I work for (Epic DEMR Offender). Other than that, I have no other conflicts.

Reva Winkler: OK. Zahid Butt.

Zahid Butt: Yes. I'm the CEO of Medisolv, and Medisolv helps implement eMeasures. Other than that, I do not have any conflict of interest.

Reva Winkler: Sarah Corley?

Sarah Corley: I'm the chief medical officer for NextGen, an EHR vendor, and I also have stocks and options in the company.

Reva Winkler: (Joseph Janets)?

(Joseph Janets):   I work for (Kaiser). I don't have any personal things to disclose.

Reva Winkler: (Paul Kravitz)?

(Paul Kravitz):   I worked for the (Maido) Corporation, most of the works under contract to ONC and we do a lot of work-relating to measure development, but no financial conflict.

Reva Winkler: Did (Jing Dong Lin) join us? Perhaps not. All right. (Dr. Lieberman).

(Michael Lieberman): I work for (Inaudible). Otherwise, no conflict.

Reva Winkler: OK. Catherine Major.

Catherine Major: I work for Booz Allen Hamilton and we serve under contract to some federal agencies that are engaged in measure development and testing. Other than that, I have no financial conflicts.

Reva Winkler: (Ruth Martin).

(Ruth Martin):   I work for the joint commission. Other than that, I have no conflicts.

Reva Winkler: Ginny Meadows.

Ginny Meadows: Hi, I work for McKesson Corporation, and I also have stock and options in McKesson.

Reva Winkler: (Mark Goldberg).

(Mark Goldberg): Hi, I'm employed by and have stocks in the Siemens, which develops markets and supports eMeasures' rules.

Reva Winkler: OK. And did (Martha Radford) join us? Not surprising.

                  (Shannon Simms)?

(Shannon Simms): I work for (Rush) University Medical Center. No other disclosures.

Reva Winkler: OK. Aldo Tinoco.

Aldo Tinoco: Hi. I work for National Committee for Quality Insurance. We develop clinical quality measures, and I have no financial conflicts of interest that needs disclosed.

Reva Winkler: Paul Tang.

Paul Tang: Hi. Palo Alto Medical Foundation. I don't have any financial conflicts with organization that develop quality measures.

Reva Winkler: OK. Did I forget anybody else? Is every …

(Kevin Martin):   I'm (Kevin Martin). This is (Kevin Martin) from ONC, just so you know I'm on the phone and I don't have any conflict.

Reva Winkler: Great. Thank you, (Kevin). Welcome.

And then …

Deborah Krauss: And this is Debbie Krauss. I work for CMS and I have no financial conflicts. That's all.

Reva Winkler: All right. So, I think that's in terms of introductions.

So, basically we just wanted to take this opportunity to introduce you to the goals of this project. If you're not – I don't think we've got anything up on the web and now we're having technical difficulties there, but (Kathy) did e-mail the slides. And so, the slides I'm speaking of right now, actually just three of them that are really very minimal, and the information I'm going to just briefly talk about is in the briefing memo that you were sent last week.

But essentially, the backgrounds for doing this project is the fact that NQF has been looking at the various criteria for evaluating measures and some of the applicability of them to the newer eMeasures that are coming online.

In our task force report on testing for reliability and validity, there was certainly a substantial section on reliability and validity testing for eMeasures. And follow-up assessments when NQF have put out a draft proposal for eMeasure review and assessment, we got a lot of comments that from stakeholders identifying a need for increased measure feasibility assessment. Particularly the suggestion that NQF criteria for evaluating eMeasures should incorporate the feasibility of data capture for the data elements used in addition to reliability and validity.

And so far, our interest criteria really has not got – does not have any specificity around what we mean for assessment or feasibility, and so it's felt that we really need to have this conversation and see if we can provide stakeholders a little more clarity on what we all mean and would want from a feasibility assessment.

So, essentially the goal of this project, which is a very fast moving one to be completed very, very quickly, is we've done a great environmental scan of current approaches by vendors, developers and a few providers. And what we are hoping that this panel will do is provide some recommendations for

feasibility assessment after discussing all the various issues that certainly have been raised and everyone is very well aware of.

And then hopefully, we'll have the opportunity to begin to talk about drafting some additional criteria for eMeasure feasibility assessment that NQF could incorporate into their evaluations for eMeasures for endorsement. So, that is what we hope to do for the entire project.

Today, however, on our call, we're going to focusing on just really some – the beginning of the discussion, we're going to have a review of the environmental scan that we've done. And then if we could begin having a conversation around the purpose and goals of eMeasure Feasibility Assessment, as well as the assessment of clinical workload part of that assessment. So, that's what we're hoping to do today.

Do you have any questions for anybody in terms of what we're all about?

OK. It doesn't like it.

So, at this point, I want to turn it over to my colleague, Beth Franklin, from our Health IT Department, and talk about the environmental scan that we quickly did over the last couple of weeks.

Beth Franklin: Hi, thank you, Reva. This is Beth Franklin. I'm senior director in the Health IT Department at the National Quality Forum.

And as Reva mentioned, we did a very quick environmental scan. And so, I'm going to talk a little bit about some of our findings. The paperwork or the reports that we got back from the various participants, I believe, were sent out – correct, (Kathy)?

(Kathryn Streeter):   Yes.

Beth Franklin: To everyone. And if you didn't have the chance to read them, that's fine. If you did, that's great.

So, what I'm going to do is kind of highlight some of the things that we – that I read with the environmental scan. So, if you follow me – I did have a set of

slides, and if you're following me, we can go to slide two that talks about what the goal is of the environmental scan, which was really to identify approaches to feasibility testing from a number of different stakeholders as Reva mentioned.

So, we focused on three different stakeholder groups. We focused on EHR vendors, we focused on measure developers, and we focused on providers.

(Michael Lieberman): Excuse me. Did we – I don't think we receive the slides?

Beth Franklin: OK. (Kathy).

(Kathryn Streeter):   I can e-mail them again. You will receive this.

(Michael Lieberman): This is (Mike Lieberman). When did you send the e-mail?

(Kathryn Streeter):   (Mike), just this morning, around 10:45.

(Michael Lieberman): OK. And it came from your?

(Kathryn Streeter):   Yes. I can resend them to you right now, if you like.

(Michael Lieberman): OK. Great. I don't – it doesn't look like I received them this morning.

Beth Franklin: They were in ZIP file, so if you – first time even your system blocks it – files that might be why.

(Michael Lieberman): OK. Actually the …

Beth Franklin: Or you could see them on their own.

(Michael Lieberman): Yes. That's should do it – that's exactly what happened. Thanks. If you can actually just rename it something other than ZIP …

Beth Franklin: OK.

(Michael Lieberman): … it will come through.

Beth Franklin: OK. Anyone else need the slides before we proceed?

(Kevin Larsen): Yes, this is (Kevin Larsen). I didn't get them this morning either.

Beth Franklin: OK.

Deborah Krauss: I may – this is Debbie Krauss. My internet is down, so I'm not able to get them by (inaudible) power. If there will be somewhere or maybe just resend it, and I will pick up later when I get access.

Beth Franklin: We'll do.

Deborah Krauss: Thanks.

Beth Franklin: OK. Anyone else? OK. It's great.

So, for those who do have them – excuse me – I'm now in slide three. So, the process that we use for especially developed questions for the three, they call the groups. And these questions that we develop were very different, more would gear out to the three towards the group that we were addressing. So, we asked them about the general approach to feasibility testing and the current efforts for the collaboration or interrelationship with either other vendors or developers or providers, depending upon who was being asked the questions.

We asked how feasibility fit into their business cycles. With the vendor, we asked when the testing occurred – we asked that question to measure developers – we asked the impact to the work flow when we're talking to providers. There were a number of other questions, which I believe were sent out with the packet, but again, they were questions very much geared towards the work that each of these groups did. And then we identified stakeholders to contact.

So, on page – on slide four rather, it shows you what we did. We reached out to about nine vendors. I will add to this list the vendors that I'd heard from Siemens about an hour ago. So, their responses will be included certainly in the final report. And at a quick glance, some of the responses are very similar to some of the other vendors.

We reached out to measure developers and heard back from Mathematica, the joint commission in Yale, and we heard that from three providers; Baylor in Texas, (Mercy), Missouri, and PMSI, which is Pottstown Medical Specialist up in Pennsylvania.

And I would just like to say, thank you to Ginny Meadows, for reaching out to the MVHRA vendor group for us, because that's how we got the context into their (MA) that was a great job.

That's great for you to do that, Ginny. And I also want to say, (Pam Brewer) was great, because she really dug the people to get responses.

So, if you go to page or slide four – or slide five rather, and there's talking about the summary, kind of do a summary of the responses that we heard, and we do this by stakeholder, because again, our questions were different to each of the groups.

So, the first question that we asked of the vendors was, "What is your general approach to feasibility testing for implementing?" And I would say that kind of the common themes here where assessing the requirements – what were the impacts to workflow – addressing a gap that might be in their systems.

A lot of men – a couple of people mentioned that they worked with customers to provide input. They evaluated that the – through accurate and consistent calculations when they did their testing. Somebody else said that they build – they build detailed workflow documents to make sure by adding – when they were doing their testing, they're getting – putting in the information and they are getting out the correct information.

So, then we asked the vendors the second question. We asked them to assess the impact of eMeasure implementation and workflow issues. So, one of the couple of responses that did depth analysis, either they're clinical specialists and by software developers, to see whether they will adapt and their workflow people also identified the best practices for users. They used vendor knowledge experts and they also won to their customers.

The one thing I – before I go any further that I'm going to say is there were a number of recurring scenes in some of these responses. One was with workflow, one was how to address the gaps – interrupt ability became a common theme that I was – I was leading in assessing. And then the need to work with customers or users, or the fact that customers or users needed to play a role in their testing. You'll see that as we go through the rest of these slides.

So, on slide number seven – again, we asked the question of – to assess – what kind of assessment of short-term feasibility of implementation from the vendors? So, the short-term – a couple of the responses that we heard was that they assessed the system – assessing the system that currently captures the data only if this is required. And identifying best practice workflows may not be ideal, but what they're really looking for is what will work until long-term fix can be made.

And the last, which I'm going to get my notes here. Hold on.

The other comment that was passed was that many times the timing of the testing – feasibility testing does not match the vendors development cycles. So, that becomes a challenge for them while they are doing their short-term – during testing on a short-term.

And then, somebody else also mentioned the (scarce) resource to conduct the in-depth analysis was an issue for them. And that was more for resources across the board.

So, then we asked the same question of, "What made it long-term? What is of the long-term feasibility issues that you see with implementation?" So, one was the need to align measures …

Male: May I interrupt?

Beth Franklin: Hello.

Howard Bregman: Sorry. This is Howard Bregman.

Beth Franklin: OK.

Howard Bregman: I'm logged into the webinar, and the slides are not being shown. Is that incorrect?

Beth Franklin: No, that's correct. There's a problem. Did you receive a file from (Kathy) about …

Howard Bregman: No, at this time. I just think this …

Beth Franklin: … maybe half hour.

Howard Bregman: Sorry. I guess, I had it a few seconds. I got a maintenance of the ZIP, so I didn't see it.

Beth Franklin: OK. So, if you open that, there should be a file in there called eMeasures Feasibility cap. It would have the documents in it. There has to be a – the slide show in it. Yes.

Howard Bregman: All right. Thank you.

Beth Franklin: All right. We're having – we're having technical difficulty this morning.

Howard Bregman: OK.

Beth Franklin: And we're on slide seven. OK.

Actually, we're going to slide eight now.

OK. So slide – OK. We asked them long-term feasibility implementation. So, again, the need to align measures across multiple programs – again, lead time, again to get the measure into production. So, that became an issue too with the cycles.

Somebody reported that they provide reporting tools to ease the adaption by their customers and other said that they'd like to see an improvement in the data analytics in terms of the long-term.

So, we also asked the vendors about the feasibility of testing fitting into the business cycle. And again, some of these questions, some of these answers we've heard before, they involved early adapted in the process. The testing is performed with the release of new updates. There were vendors who responded that they had no formal feasibility testing. They do validate that the product meets the users' needs, but they do not validate the data.

Somebody else mentioned that they used multiple phases of development. They did iteration development, so there is – they would see it doing each step of that. Some people mentioned that they try and involve the stakeholders in the process when they're – during the testing, doing their business in their cycle of development.

So, the last question we asked the vendors was about collaboration for feasibility testing. So, this was collaboration with others – you know, the current efforts of collaboration or in relationship with developers and providers in regards to feasibility testing of the eMeasures. So, again, there was a mention that they looked to early adapters and early validation programs. They allowed the users and the providers to test the measures, provide feedback and identify workflow best practices.

Again, they worked with their customers, worked at best practices. One group said they engaged measure developers and providers in testing, and another vendor said that they were engaged by the measure developers to participate in testing – so, kind of a two-way interaction there.

Some groups – some vendors worked with industry groups to provide or to address measurement issues. And then the last thing was that the timing of the request to do measure testing can also be problematic again because of that of the development cycle that they haven't plan for it during the development cycle.

Any questions with the vendor responses or we can wait and do questions at the end? Is there a preference?

OK. We'll keep going and take questions at the end.

(Kevin Larsen): Hi, there. This is (Kevin Larsen). I have one quick question. Did you find that – did you find that in the end of vendors had developed some sort of a scale or a way to grade the feasibility that was just pretty much of what we have found before?

Beth Franklin: Not that I recall, but I have to go back and check in their responses. I don't remember the name when you mentioned that.

Zahid Butt: Beth, this is Zahid.

Beth Franklin: Yes.

Zahid Butt: Did any of them – specific leaders forward to the QDM as a guide to the data capture?

Beth Franklin: They didn't. Somebody did mention the QDM, but I don't believe it was in the realm of the – and I don't think it was a developer. I think it was somebody under the measures – under measure – the measure developer. I don't think it was a vendor.

Zahid Butt: OK.

(Mark): This is (Mark). You can jump on a little bit on that – excuse me. And obviously QDM provides some helpful guidance, but I think the core thing is that – you know, from a vendor perspective and even if we're getting (buildups), the feasibility issues are probably less, you know, in (inaudible) and others, anyone who jump on, will probably less in the product and more on how the product is implemented somewhere. So, in other words, the ability to capture a ejection fraction from an echocardiogram is either the chart may well have, but it may be the way that our customers capture an ejection fraction in review from an electrocardiogram.

So, what happens with review, it's not a technical question so much as it is they process question in a time clots question and that there is dramatically from customer to customer, from provider to provider. So, you go to either QDM or not, I don't quite see how that would change the feasibility.

Zahid Butt: Well, (Mark), my question was more sort of, you know, where have many of them responded that they look at the specification and the value stats that are required, and then sort of go back and see if they're capturing it. I was just wondering if any of them had sort of used the QDM as that sort of – in that sort of fashion. That was the only question I had.

(Mark):   I see. Thank you.

Beth Franklin: Yes. And that was not specifically called out that I recall with the vendors.

(Mark):   (It should).

Beth Franklin: Yes. Any other questions with the – with the responses of the vendors. And again, you have all the comments with the exception of the ones that I received this morning from Siemens.

Female: Hi, this is (inaudible) for the joint commission.

Beth Franklin: Yes.

Female: I wonder if any of the vendors wrote down the feasibility testing process into interface data capture, choose multiple categories. For instance, interface data capture versus coding in the specific standard vocabularies terminology versus using local codes and you know that there maybe a lot of mapping there that's probably OK, but needs to be assessed in the validity and reliability piece, and then data extraction and data encoding. For instance, in the QRDA, because I guess the problem is not on the where and how the data is captured and the data quality issue that (Mark) is talking about. It's also the ability of packaging it and sending it, reporting it to someone. And I think that needs to be considered in feasibility piece as well.

Beth Franklin: Right. So, nobody that I can recall – and again, I went to a number of them and (went to the malls) that has got to that level of detail loop. People were eluded to it, but did not mention that. Now, interestingly enough as we go through, there were some providers who mentioned about meeting, talked about the (dysbaric) systems and how (dysbaric) systems need to be able to provide the data, because much of the data might come from – may be not

they core EHR rather, but from another system. So, again, it's get to the issue of the interfaces.

Sarah Corley: I mean certainly – this is Sarah Corley. There are certainly huge issues – I mean, when you're talking about measures that include things like medications, diagnoses, labs that have code sets, it's fine, but when you're talking about things like assessment for nocturnal and daytime asthma symptoms, then you're talking about the SNOMED code, but the SNOMED code doesn't define, you know, the number and the huge variety of capture whether people are reporting how many a day, how many a week, but they have them sometime – that sort of information when you're looking at a measure becomes very problematic and your ability to say that you are getting consistent results across systems is going to be hard to do.

(Mark):   Hi, this is (Mark), just quoting a little bit on Sarah's comment. The other thing that you certainly ran into is sort of – and this is where maybe QRDA point was to be made earlier is there are in certain cases sort of a model mismatch in a way that the measure conceptualizes the thing, and Sarah, you were giving it an example there in asthma or the active labor in the recent was about data element is one that caught my eye of. There's a lot of different ways you could represent and capture that in the system. There's not an element that says, "I'm in active labor" and "I'm not in active labor." It's probably represented in some other way if it's represented. And so, this will observe as even mismatch in the model sometimes.

Sarah Corley: Agreed. And just to complete the thought here that's why I think sometimes – and this is quick again, I'm sorry. That's why it think the mismatch is true when we try and do or say that we will get the QDM and ask if this model is feasible. It may be to general of a question because you can certainly model active labor using the QDM, but it's the concept itself that is very, very granular concept and most measures rely on the granular concept. It's the feasibility of these granular concepts, which is the issue most of the time.

Beth Franklin: Great comment. Any other comments before we move on?

OK. So, I'm on slide 11 now, and we're moving to the developer responses. So, we heard from three measures developers. We heard from Mathematica, we heard from the joint commission and we heard from Yale. So, we post to them the questions. Again, approaches to feasibility testing for implementing into the EHR by the developer – by you the developer.

So, we have a couple of different answers, you know. So, when do they start? They start when core clinical concepts are identified. Another one commented that they establish Health IT Advisory panels to help them. One suggested that they seek basic public comments on just specifications. And other said they assess data capture capabilities.

So, here is one comment, and I think when we're talking about before about the QDMHQ on that of the QRDA. One measure developer did mention that they – that they look at the QDM, the HQ and offering QRDA when they are looking at data transmission capabilities.

Another vendor said another developer – one of the developers also said, "That this is really an evolving process in terms of feasibility testing NGHRs." And again the couples in the setting quite across all three stakeholder groups that we heard that people pointed out that there were – there are differences between lease specified and didn't over measures in terms of testing.

So, the second question is that kind of the part of the first question. We also asked them to discuss decisions when testing. When you're testing, if there are problems, what do you do? So, they – so, a couple of answers here – one is that they look for alternatives for capturing the data. They also asked the question, "Does removing the concept changed the intent of the measure?" Somebody suggested including CMS to ponder in making any decisions as to how you might make the change or if you found an issue, what are you going to do?

Somebody mentioned that the structure – with the structure of the data elements, just because the field exists, it doesn't mean it's populated, which we're going to get into some comments later on very similar to that about the

field become populated rather. And then in one of the responses, somebody pointed out that an issue resolution might not be possible and that you really need to understand that there may not be a resolution.

So, we asked them, "When those feasibility testing occurred during the measure development cycle?" Again, one of the groups pointed out that it's after the group or the joint commission asked for the direct electronic specifications are completed, but before publishing the draft specs. And somebody else mentioned that really testing is a continuum. It should be – it should happen through multiple stages of development.

So, we asked about testing for feasibility, reliability and validity across multiple vendor systems, and some of the responses, "Would the testing of measures occurred at multiple sites?" Or if they did their testing at multiple sites even six different vendor products when they tested. Now, this was from Mathematica, and they (re-tooled) measures and then went out and did some testing. But you really do need to consider workflow when you're testing and that the results would vary again based on structural – the sites on workflow, et cetera.

To raise about collaboration through feasibility testing, and in this case, the joint commission had a couple of very interesting responses. One that during a pilot project in – there are two – tell me if I'm misspeaking here. That during a pilot project with ONC-certified ORYX vendors to transmit measure data to back and forth for the joint commission in the future though, they would like to have a project that assesses the ability of the (disparity) EHRs to collect information, and that I believe is as I said, a future project for them.

Somebody else mentioned that they test at multiple sites with different EHRs, and then somebody else suggested convening multidisciplinary technical expert panels to provide information.

Any questions on the developers or comments about the some of the findings with the developers?

Aldo Tinoco: All right. This is Aldo from HQA. And just a quick comment, just a couple of (ideas) regarding the point testing in continuum.

Beth Franklin: Yes.

Aldo Tinoco: When I read that in the materials, my impression was slightly different and – you have testing at a continuous process, but feasibility itself is a spectrum where it's not the results are not, "Yes, this is feasible" and "No, this is not feasible." Rather the result of the tests in themselves is a greater scale of feasibility and by providing a different level of detail of where given the answer falls along that scale of feasibility. The measure developers and the sponsors who are working with measure developers to develop these measures can make decision as to what not that they should consider moving a less feasible measure forward versus a measure that it outright feasible from the (get-go).

Beth Franklin: Yes. And that's a great point and I believe that Mathematica talked about that, yes. They're having a grading point to determine whether you move on or not. So, thanks for pointing that out.

Aldo Tinoco: (That's tough).

Female: The joint commission – I just like to support Aldo's comment in that. There is a feasibility of scale and it may not be one dimension – a one-on-one dimensional scale in the sense that what is the referential for feasibility and I think that's the really important question that we're going to need to answer. Is it – what average EHR are we going to be testing feasibility again is the question. Is it a new job that is likely above what the average is today? Is it the minimum common denominator?

And also to study the possibility of having different – and I think in our environmental scan response, we did refer to both ONC requirements other than clinical and quality measure this element capture requirements. And the EMR adaption model as potential scale that we could kind of box EMRs into and have a sense of what the capabilities are and then create specifications that are aligned with those capabilities. And that could mean having different measures for different EMR on the QA level.

Paul Tang: This is Paul Tang. I want to comment sort of the stint that is an interesting comment. But this is going back to the testing at the continuum and considering testing. I think this will probably go towards recommendations in the end.

This is another comment that you have – the need to consider workflow in testing. And it almost seems like that we need to push a lot of this way up in the early considerations as you developed the measure that testing isn't the – after the measure development process – it's sort of the feasibility is considered upfront, and I supposed that's what the main purposes of recommendations and part of feasibility – a big part of feasibility to workflow.

But I guess, did you hear that kind of request or desire part of the measure developers to have better way to considering feasibility right from the get-go – right as you're paying which concept makes the most sense, instead of assessing it after the fact. I don't whether that was clear. I'm trying to describe that, but …

Beth Franklin: No, no. You were. I believe there was somebody who did talk about – about assessing it at the beginning of the process, yes.

Male: So this is – is it true that, that sort of – one of the outputs of this particular project is if we could give some guidance on how would you really – what's the best way to consider feasibility as your thinking about it in the process of developing measure. Is that one of our main goals or no?

Female: I …

Male: Or is that main goal to be test (port)?

Female: Yes, Helen or Heidi?

Heidi Bossley: Yes, this is Heidi. I don't know if I'm going. You're right, I think the recommendations here should be broad and if there are thoughts on what could better improve getting the measures we want in that part of development, I think that's definitely on the table.

Female: And this …

Male: OK. Because so far, what we've been hearing is a little bit of the after effect, testing after …

Female: Yes.

Male: … you have this but both from the vendor point of view and from the developer point of view. And I'm hoping we really try to move upstream and …

Female: Yes.

Male: … guide the initial thoughts really.

Heidi Bossley: Yes, I agree and I think it'd be interesting to see it from a vendor and developer standpoint how much of it has been more upfront. And I think the hope is that it will be – it'd be increased in the future, but …

Male: Right.

Heidi Bossley: … think a lot of difference and more kind of after development, because they've been looking at measures that have already been developed. But it would be interesting to see what others think as well.

Helen Burstin: Yes, and just to add to that. This is Helen. One of the things that we really struggled with was actually the term feasibility testing because that …

Male: Yes.

Helen Burstin: … actually why that it was after the fact that they were …

Heidi Bossley: Yes.

Helen Burstin: … you may have noticed we did a global (replace) just to try to keep it a little similar that it's really the assessment of feasibility. And that seems like something usually done during the course of measured development, which is why we wanted to at some point be able to come back to this really important

issue of what is – it's going to be assessment and feasibility done during the course of measured development.

And then, ideally, being able to look at that reliability and validity testing to follow, but we just wanted to you know put that as clear as we could.

(Doug):   So this is (Doug) (Inaudible) very much and I heard the term feasibility assessment and limited to that level of detail in discussion. It'd be great for us to discuss and share what we've done within our measured development and our early assessment of feasibility well before we get to this more formal, more structured testing. So we look forward to having a conversation.

(Kevin Larsen):   This is (Kevin Larsen). And I have two different questions. One is did they need the measure developers to talk about feasibility of workflows or components of measures as opposed to the overall measure as being feasible or unfeasible, and continue about that as a way to think about how can measures in terms could be modified for some particularly challenging question?

And the second thing is at – where – did any of the measure developers talk about quantitative approach – a way that they could leverage data or use to get them a feasibility assessment that was based on numeric's feedback?

Female: And so one, to answer your – first part of your question, yes, somebody mentioned that they needed to consider the workflow when they're testing. And again, working with vendors to and provided to get – to understand the flow and to understand where they would – where you'd get this information from.

As for the second one, no, I don't believe that there was any comment that I can recall about the second part of your question.

Male: Yes, I did see one comment in there from GE about looking to see – it's kind of a set what their customers are already collecting.

Female: Yes.

Male: And could understand whether or not it was going to be and that was not more on the audits from the vendor side, not on the developer side. But that type of thing where you see what data is already available would be very useful.

Female: Right.

Male: Yes, I think that term was data (inaudible) – I think was data profiling if I remember correct from the materials. So that would be something we're interested in learning more about.

Female: OK, all right. We will move on to the provider, last three slides here. So then we ask the providers questions regarding again the feasibility testing and collaboration, et cetera. So we heard from three providers as I mentioned before; Baylor in Texas; Mercy in Missouri and then; PMSI in Pottstown, Pennsylvania which is an ambulatory group.

So we asked them what the expectations were of feasibility testing prior to implementation at their sites. A couple of answers were offered to us that there be a data – a test data site with the test data set that they could use. That testing had occurred among all major EHR vendors prior to them – prior to it, the measure being released. That hospital that – testing a hospital with disparate information systems that where you need data from different systems in order to evaluate your measure.

And then, to make sure that they've tested it all – that multiple facility type; so, ambulatory, be the small, medium, or large hospital in the, you know, a rural hospital versus an urban hospital; small hospitals versus large. There's a talk about it for the next one. And then – and then, people were also looking for the fact that the data elements were clearly defined by the time they – the measures were released during the testing process, et cetera.

So we have set, what sets is – were impacting implementation and workflow issues. Again, for workflow, we hear that there's an impact of moving from abstracted to retooled measures. So what is the impact of which we've – we know all know that there is – there are going to be big changes there; issues related to the disparate systems that sites use.

So, physician adoption of discrete data, one respondent mentioned that physicians are really struggling with entering data into discrete data fields. And that, that there really needs to be, there – a change in those habits or else there needs to be more of an option to use free text. Somebody else mentioned that – another factor was making sure that data, that the standardized data and again, the clear data elements.

And then, the last question we asked them had to do again with collaboration or interrelationships with vendors and measure developers. Again, somebody mentioned about ECCM (hue) testing at multiple sites with various products. Recommended that (inaudible) require all vendors to certify for all e-measures to improve the data showing between disparate vendors.

And then to – somebody else recommended that if you ask a site, be it a vendor or a measure developer, whoever to purchase state in testing, that they provide some compensation; either financial assistance with during testing, et cetera.

So, any questions or discussions on the provider responses?

Female: This is (inaudible) I have a question about the observation of data element. See, if the providers provide any more detail on what they mean by clear data elements or more clear definition?

Female: You know, at the top of my head, I don't remember.

Sarah Corley: I can give you some examples. This is Sarah Corley as a provider and EHR vendor. Some of the measures that we've seen for meaningful use do not include code sets for definition of an office visit for example. So, it's ambiguous. We also saw, you know, there's – so, you have those type of things where what is an office visit to me might be different to an office visit to you.

                 Face to face visits, does that mean with the doctor, does that mean with the nurse, does that mean with any one? There are a lot of measures that physicians have to report that have that ambiguity about it.

Female: Sarah and just a follow up question on that. So, what you're saying and please correct me if I'm wrong, is that some of the concept measures of the measure – as the concept (fused) in the measures don't necessarily have standardized value sets to go with them, or is it more than just that, and isn't that the value set doesn't provide enough clarity when it exist?

Sarah Corley: Oh it's both. There are some that don't have value sets. So some like my example of you know, we've added – there's a SNOMED code now for a Sepsin asthma symptom, but there's no standardized way to represent that. There's a problem (inaudible) my computer is …

Female: Something got fixed.

Sarah Corley: My page is muted somehow.

                 And the other issue is things like smoking that there's SNOMED codes for that, but there's different SNOMED codes for the same concept such as the light smoker. There's one – so there's some pre-coordinated codes and some post-coordinated code.

Female: You're echoing.

Sarah Corley: Yes. I've now muted my computer which seems that the – so WebEx is now broadcasting off the speakers instead of not.

                 So we have – so when I was looking at the new measures. For example, for the QRDA, PQRF, and the meaningful use; and some of the other quality measures that our clients want to report. You now have to take the tobacco – the smoking measure. So, so one is tobacco smoking. For others, it's tobacco use. And for yet another, it's cigarette smoking. And there are – and then there are codes for light and heavy smoking for a meaningful use measure, but then there are SNOMED codes for light, and then medium, and then you know a little bit heavier, and then, really heavy.

                 So, you have those problems of what you know, what do I put in here and how are you going to share that data, to try and take the way that physicians usually represent tobacco use. And they do represent eight document tobacco

use, not just cigarettes or not just smoking. And to try and you know say what do those mean, what do I need to do as a provider. Do we need to put down now the actual number of cigarettes instead of pack per day or pack years, because this quality measure is calculating based on zero to nine cigarettes a day, you know, et cetera.

Female: And a – and so, just to add on to that. It could be that somebody doesn't smoke, but they chew tobacco which is also tobacco use.

Sarah Corley: They don't care about meaningful use – sorry.

Female: But these are a number of …

Sarah Corley: All of the measures where people do care about tobacco use, so.

Female: Yes.

Male: Can I ask you a question? Is there a CMS representative on the call?

Female: Yes, Debbie Krauss.

Deborah Krauss: Yes, this is Debbie.

(Paul Kravitz): OK. So this might create the small thing. This might be a question to both you and (Kevin). With regard to the issues that Sarah just enumerated, is it permissible for the local organization to decide – yes, I mean, one approach to what the problem Sarah raises, it really doesn't matter to either the measure developer or the vendor which of those codes and where they store it as long as the provider who is submitting the request for meaningful use attest that these are the codes and these are the places that we use in this organization. And we stand by it, you come audit it, this is exactly where we put it in. This is where we look for those data and this is how we calculate it. Is that an acceptable approach in the current meaningful use certification?

(Kevin Larsen): So (Paul), I can take this. In order to report the smoking cessation measure, you need to report it using the codes that were specified to align with the (GDCs looking) status in the meaningful use objective measure.

(Paul Kravitz):   OK.

(Kevin Larsen):   So, there was a lot of work during alignment. People can document however they want, but in order to report using the certified e-measure and in order to report in a consistent data architecture way, you need to use the codes that we've specified.

(Paul Kravitz):   OK. So does that give an answer to Sarah's question …

Sarah Corley: The one thing (inaudible), but there are different codes sets …

(Paul Kravitz):   … I think that could answer Sarah's question.

Sarah Corley: … for the say the cancer registry code set for smoking and the meaningful use measures for smoking.

Deborah Krauss: This is Debbie again. We've received this question a number of times since stage one, and a number of providers have other submission vendors. And we've said that they can use their – have a certain terminology that they use if it can be mapped to the terminology that we're requesting in the measure. And that's OK as long as that mapping can occur and it's still certified – the technology is certified. They're using their terminologies. They have to report on the terminologies requested in the measures, but if they can map what terminologies they used to as requested in the measure.

(Paul Kravitz):   So, in some sense, if I were to – if I understand what (Kevin) and Debbie said, I think that actually makes the problem that Sarah mentioned go away. It may – it may be that everybody doesn't understand that and we can't help that of course. But this is really an important point, if it is – if it does take care of the problem that Sarah raised, then we have a big part of the solution in terms of our recommendations and what we can apply with this guidance.

Deborah Krauss: Oh, it …

(Paul Kravitz):   So, am I correct?

Female: You know, (Paul), when you talk about it, so yes, what we're doing is we'll map that – what they've entered for tobacco usage. We'll map that or

depending upon what program they're recording for – to the codes that they want. But the issue comes in is that in the display – so we calculate because there's calculations for translating you know the number of cigarillos you smoke and the number of cigars you smoke into cigarette equivalent, so that you can do that heavy or light code.

But, if you are displaying and what we wanted to – we have to do is display how that translates into a light smoker or a heavy smoker or any of the ones in between for the other quality measure. So we need to display that because we have to be able to display the data that comes in by receiving a CCD. And that's going to be a SNOMED code that will map one of the term.

The problem comes in if they're participating in multiple quality programs where they're using either the less granular or the more granular codes. You know they're going to say, you know, well, this program – why is it saying different things. So you know we only have one field. We're not going to do you know, here's the field for how heavy a smoker they are for meaningful use, and here's the one for the cancer registry reporting, and here's you know, et cetera.

So, it does create some confusion even though we – we're going to tell them don't worry about it, you know don't even pay attention it. Just put in what you usually do as far as quantifying what forms of tobacco they're using and how much they're using. But, there will be provider confusion on that.

Female: And to (Paul's) point, this is (inaudible) again. I think we can lose site of the issue of data standardization because while it is a very practical solution to allow mapping between local terminologies and the reference vocabularies, what we have in place today with paper-based measures are really very specific definitions. If someone goes in and they fit the information that is documented in a standardized bucket and we test that in the reliability – interrater reliability of abstracters.

So abstracters are the data standardization layer in traditional performance measurement. And we're replacing that with standard vocabulary, but there

are two concerns that I have as a measure developer. And the first one is our standardized vocabulary viewed in a standardized fashion.

And then, the second one is how valid and reliable are these mappings from local terminologies to standard vocabulary.

(Mark):   Thank you. This is (Mark) (Inaudible), I think you can ask the same question about trained abstracters which is people worked at that, and they too are imperfect of course. So part of the question is how good are each of the method that which is good enough. Though I think perfection is to go on and get it right. It's not to be absolutely right. This is a measure that's so (inaudible) up or down. What the absolute number is what is critical.

Female: I agree with you (Mark). I just think we need to establish those referrentials and e-measures as they have been established for paper-based measures. So, when we talk about interrater reliability and this is more on the – in the realm of validity and reliability testing of course.

But when we talk about that for paper-based measures or traditional performance measures, of course, we're not looking for 100 percent. We're looking for the best number – best or less discrepancies and minimizing – we're looking to minimize the discrepancy. And – but there are – there are levels based on which a measure for instance will not be endorsed by an NQF as interrater reliability is not good enough. So, I think what we need to establish for any measures is what that good enough looks like.

(Mark):   Absolutely.

(Ajita):   So, this is (Ajita), just to add a couple of more comments along those lines. The one thing and the mapping I guess will be important directly as discussed, is who is responsible for that mapping? Is it at the provider level or it is at the vendor level?

And the other related issue is and some of it was touched upon in the – I believed the measure developer section. And that is the whole notion of converting free text into structured data elements using measure language processing or other technologies. So, how does that get into the mix where

we're talking about mapping, et cetera. So, I think those be – just be a couple of traditional things to sort of keep on the table for discussion.

(Michael Lieberman): Hi, this is (Mike). It's – one more comment about smoking. And that you know, I think it was – (Kevin) mentioned that, you know, a good amount of effort went in to selecting what the value should be for smoking status, for meaningful use and what aligned with the objective – the measure of objective there.

And that I think, exactly, the type of the work that needs to be done for a lot of these things. It's to make – you know, somebody has to make decisions and hopefully good decisions about what are truly, you know, what kind of a minimal necessary information to get the value from collecting that information.

And then, if you go forward, you can write a measure about – that distinguishes between heavy smoker and light smoker and all these other thing. But that's probably not bringing a lot more value than whether they're, you know, current, former or never.

And so, while it may be feasible to have, you know, light or heavy that – I think (Marco) read a little bit from one comment. It has to – has a lot more constantly to the users to select. So, if you can go back to selecting something that in this case – you know, it's has been selected as part of the data element for meaningful use that you can be fairly certain it's going to be in EMR. And it's a fairly inexpensive data element to use.

And you know, I think that this is such a process that we're going to need to look at, kind of beyond other types of things that we measure to decide, you know, not whether something is feasible but kind of be on how feasible or how costly that information is.

(Kevin):   Yes. And this is (Kevin). I'm very interested in this kind of currency or calculus. Some way that we could assign feasibility scores to different data element so that we could have a better understanding of when we're making a policy decision about we want this new data to be captured versus when do we kind of accidentally required as huge burden.

(Shannon Simms): This is (Shannon) from (Rush). So, I love that idea. And I think, the QDM is one way that we could think about doing that. I mean, certainly, if you look into like discharge medications, the feasibility of collecting that data whether it's – or beta blockers or ACE inhibitors would be the same.

And I do think that QDM might be a way to do that because in theory we're trying to capture all the different data elements that pragmatically might exist. So, I do wonder if that's a mechanism. If we could come up with some sort of a metric to assign feasibility of different elements in QDM, I think that might be a way forward here.

But those are – I can't help but chime in too, in terms of the mapping of – there's always going to be a local variation. I mean, I've been at my institute, I'm the one who (inaudible) spreadsheets and maps on face-to-face encounter types into the, you know, project (inaudible) which are of hundreds and hundreds of encounter types, kind of face-to-face for meaningful use, et cetera.

I don't know how I'm ever going to get away from that variability. And I think it's a huge source of variability but not one that's not – I think we can account for that in feasibility testing as long as you got enough standards and providers types in there to try and capture the variability.

But until everything of data element and the EMR is standardized with the, you know, (inaudible) code or whatever, I don't know how you ever going to get away from that kind of local mapping that goes on. And I do think that's a huge source of variation that we can think about as a group.

Paul Tang: This is Paul Tang. I don't know whether it will be helpful or whether – or Helen send out the HITEP report which was a bit of precursor in terms of the QDM. And there, we did try to come up with a metric, a quantitative metric of the quality of the data itself in EHR.

And the five attributes of a EHR data element where as the data element used data isn't an established data standard for that element. Does the data that's captured in the EHR come from an authoritative source list? Say, labs are a

good example of authoritative source list. Does it fit the workflow? That was an important piece is that typically available in EHRs today and it is auditable? It's going to be (inaudible) auditable. And we assigned weights to each of those metrics and then you basically calculate it and from that a score – I think it's 0 to 100.

And that was one way we populate the initial QDM data elements. You know, populated one of these metrics for each of those data element. I think that's what (Kevin) would like, if it's possible to become up with a score like this that's reasonable.

There might be a document we want to circulate to this group before we meet in face-to-face. And maybe, we can build upon it or edit it or anyway, that's get to the quantitative score that (Kevin) was asking for.

Female: We're happy to share that, Paul. And I think that the question is, are there elements of that that it could be updated?

Paul Tang: Correct.

Female: And one of the assumptions is that it's, you know, some of it may have worked overtime. So, happy to share that with the group.

Female: Any other comments? Or otherwise, I going to send it back to Reva. OK.

Reva Winkler: All right. Thanks, everybody.

                 I think what we hoped to do for the remainder of the call was to begin having the conversation around a couple of the discussion points that we laid out in the discussion memo. And the two that we pulled out are, you know, purpose and goal of feasibility assessment. And then, assessment of clinical workflow.

                 And so, I would really like to hear from the panel some thoughts around the purpose and goals of an assessment for feasibility. If NQF is going to require a specific information from or about a measure, any measure regarding feasibility, what are we – what are we expecting? What should we expect?

What are the – what should the stakeholders, the audience's expect when we say a measure – an eMeasure is feasible.

And so, I would just ask, (Dr. Lieberman), if you'd like to kind of lead this discussion with the group around these two points?

(Michael Lieberman): OK. I think, we were kind of getting into – it's (inaudible) bad in our – in our last discussion. So you know, if ever – if ever (inaudible) if there were some discussion questions that were – that were send out as well that we could start with or we could just open up the floor to comments about – you know, I think you're asking me about, you know, what can kind of – to what I've asked of developers or, you know, in terms of assessment of feasibility we shouldn't – I think we had a comment already that it's not, you now, it's not a yes-no. It's a how feasibility or it's a feasibility score.

And I think the person from the NQF mentioned they're already doing some of that. I don't know if I could talk a little bit about that as well.

Aldo Tinoco: Thanks. This is Aldo. What we had gone during the selection of initial measure concepts for the meaningful use Stage 2 Program, whether the measure concepts were for retooling or de novo development?

We, actually, had adapted a simple process that's based on NQFs current eMeasure evaluating criteria for feasibility. And some of the panel members may be familiar with – of the sub criteria. They already published, you know, some of the question.

But the first one is, is the data required what the measure currently captured routinely in clinical workflow? Secondly, is it available electronically within an EHR system? And if so, we're going to structure (inaudible). And thirdly, what are those potential problems or potential areas in calculation of the measure that we would anticipate if we try to, actually, use that data from the EHR system to calculate the measure?

So early in our process, as we're designing what's in or what's not in, we did some initial assessment based on our own strategy EHR data. We also looked at existing quality measures that were for meaningful use stage 1 at things that

are getting retooled as guides to say what's (inaudible) is feasible, what's not feasibility. And also inputs from expert panels, and I'm sorry, advisory panels. And even the meaningful use objectives and those non-(inaudible) criteria.

What we did was, we took those criteria and we assign a value of one to three for each of the criteria. And said, "OK. If it's not feasible, let's put zero or one. If it's feasible, let's put three." We added those up and that helped guide some of our decisions of what was in and what's not.

So, we tried to take advantage of what was already out there. We agree it wouldn't be perfect because we learned some things during the actual, formal, physically testing. But it was a start for us. We don't know if other measure developers had used a similar process with their development efforts.

Paul Tang: One question, (Mike). It's Paul Tang. It's whether when use the word feasibility, do we just mean it's sort of easy to get into the EHR? Or do we have a more expensive view of it's feasible to get this in a hike and get a hike quality data element out for using the calculations quality measure? My guess is that CMS and (inaudible) in the ladder and is that the topic of our discussion or it is just getting it in?

Female: That's went the ladder, Paul.

Paul Tang: OK. So, I mean, the word doesn't necessarily imply that like …

Female: Yes. And that's specifically like part – just jump in (Mike), but that's specifically why we want to have a committee and really think about feasibility assessment in the context of measure development. And then specifically, following up on reliability and how then, you know, the ability of finding good, high quality data influences the reliability and validity testing that we also require.

                If you want to use the same measures for accountability and you think eMeasures, we're going to have to make sure they're really ready to roll.

Male: This is (inaudible). I just want to make a couple of comments. The first one is, I really think those assessment, this measure of an assessment needs to be pushed way back to the beginning of the measure selection process and not wait until it's – somebody is actually thinking about implementing the measure.

Because we have – we have I think two measures that kind of fell out of the development for meaningful use stage 2 after they were selected by expert panels because they were just – there is – there is no way if they could be implemented in an EHR environment. They never start off as claims based measures and, you know, the money was expended before we cut off development.

So, I think you need some process where you can – where you can do an assessment very early on in the process of selecting and implementing measures to just cut off at the past things which are clearly not going to work or that will require significant adaptation which the measure still – we're just going to have to sign off on.

So, I think what we really want and I kind of – I don't think I'm saying anything that others haven't said here is, we really want kind of not a feasibility, it's not a thumbs-up or a thumbs-down. It's like what are the conditions under which this measure could be feasible? You know, does it require as who it said does require specific capabilities from the EHR?

For example, you know, some of the stage 2 EH measures assume that you have data from the emergency department and from the in-patient encounters available to judge whereas that may not be the case in many hospitals.

So that – is that bad or I have no idea? But whosever deciding, the funders is going to decide to push this measure forward and make it part of the program really needs to understand the implications so they can make a decision. It's not – it's not all of these is a hard measure to implement, so we're not going to do it. It could be this is the hard measure to implement but we really want people to collect that smoking information and that's at a policy level, that's really important to us.

So I think it's – you do need a score but you will need to give the decision makers enough information back and its assessment that they decide to pull the plug on the development, to go and change the measure sufficiently that it can be implemented in the target environment and for – again, to assess what you think it's going to cost a vendor or provider to actually put this measure into production.

Howard Bregman: This is Howard Bregman from Epic. I'd like to endorse what the prior speaker just said. And he used two terms, one is adaptation and another is cost. The word that I always use is burden. Who is going to get the burden of the measure? How much of it is going to be put on the shoulders of the EHR vendor and how much of it is going to be put on the shoulders of the provider? And at what point does the burden get to be too much that it's not worth going the (inaudible)?

(Kathryn Streeter): Hi. This is (Kathryn Streeter). And I think, this has been a really good discussion. I agree with a lot of the points that has been made around, you know, thinking about feasibility very early in the development process and having feasibility to be part of the measure selection process.

I, also, agree with the point around, you know, trying to strike the balance between selecting measures that would be fairly easy from a feasibility perspective and then also, you know, looking for measures that are going to help kind of push where we want to go in terms of data collection and measures and electronic measures. So, there's a balance to be struck there.

It seems to me that there are almost sort of two questions going on here and may be more. But one of the questions being sort of, how do we do that? Instead of early end feasibility assessment process in and kind of ongoing that continue in the way in measure selection and development. And understand with that grade or spectrum of feasibility might be as we do that kind of early selection and development.

But then, I think the other question that is being posed that we haven't talked about as much is the question that the National Quality Forum seems to be

asking around from an endorsement perspective, what shall we be looking for in terms of feasibility?

And I think both are important questions. I think a lot of us are really struggling with that first question. We're struggling but kind of wrestling through it which is why we're having so much good kind of conversation around it.

Male: Can you – can you repeat what the second the question is then as well?

(Kathryn Streeter): Good. The second question was just around from an NQF perspective, what are the sort of endorsement criteria that they should be looking for in terms of feasibility of electronic measures? If – that's what I understood, one of the questions to be.

Male: OK. So, if we do come up with the score, a way of scoring a measure overall, is there a cut off? (Inaudible) so it's not – because you know, because I think part of it is, you know, if you look at kind of whole continuum of development, if you have a sponsor that's interested in a measure and they – a contract with the measure developer to start developing it.

As it develops, if you end up with a you know, a low feasibility score – I'm getting a little feedback there. But if end up with you know, you can – ideally you'd be able to kind of look at the measure, look at the data elements selected or whether you have – what other parts of the measures are and how they're contributing to that feasibility score so that you can go back to the sponsor and say, "You know, this is the way that you wanted it initially. But it's kind a little feasibility score. If we make this tweak here, you know, if we make it – if we use these set of values and these set of data instead these, it's not quite you know, it's not quite exactly as you initially specified but it's a lot – you know, the feasibility score increases quite a bit."

I think that the system that people are alluding to where you have an information upfront as you're defining the measure, as you're developing the measure to give you some idea of how feasible it's going to be.

Paul Tang: I think that's – I think there's – this is Paul, again. I think the notion of just an overall score, I think it's – I think it's attraction is a little bit (inaudible). Because one of this really – I mean, from my kind of experience that everything is driven by the data elements that going to use and some of these data elements could be deemed not very – not very feasible.

But sometimes if we include it in measures to capture, obscure flaws to the logic that someone's determined to capture and sometimes they're critical. Sometimes some (inaudible) piece of a data element could be the gateway to becoming part of the population. So in those two cases, you've actually sent data elements. You could score a data elements but the impact on the measure is really – is really quite disparate.

Like in one case, it's like – so if someone doesn't implement this data element, maybe they'll lose one percent accuracy and the other case this measure will not work. You know, we'll never get anyone into the population because we can't collect that data element.

So, I think there's some subtle to using, producing a score. But I think you could certainly score each data element and find the ones that are problematic and kind of queue them up reconsideration. Do we really need this element for this measure to work?

(Mark Cziraky):   This is (Mark Cziraky). I think that's an excellent point and it sort of lead into the second theory thing and which isn't necessarily NQFs role. But I think certainly somebody has to think about this. You know, the – whatever the feasibility scoring approach or the value, every time we ask healthcare providers to capture another structured element, we're asking them to spend more time which comes from somewhere.

We just throw a cost up. And we have to be thoughtful and aggregate across the measures of how much are willing to drive cost up for what return. You know, so you may have a measure you point out in which to get into the population, that's a very difficult thing and we got to have it to get, to make that measure work. The thing you get to do the other side of the equation for

the measure, what's the value of the – is the value of the measure sufficient to justify that very difficult data capture?

Female: And some of that goes back in.

Deborah Krauss: This is Debbie. I totally agree. And I would also mention that, you know, we – when we look at the data elements, we have to see it's like a – someone mentioned about burden and it doesn't increase the burden of specifying this measure and using this measure looking at the workflow and knowing things. And is it actionable? Would that data element really provide the value needed when you're looking at the goal of the whole measures?

So, I think that having this kind of produced scoring guideline is good in a general sense because it keeps this in a ballpark as to what we can reasonably capture? What should be reconsidered and if it's worth it?

I think the more value it will bring is that in de novo measures, it all help people think from the very beginning as to, is this measure able to be captured in EHR, during EHR? And so we've – I've been working with developers or in some of de novo hospital measures and that which one of early discussions once we, you know, define the topic and then we look at what data element we would want to capture.

And early on as that discussion, is it – is it feasible? Is it feasible from a structured EHR data element? Is it feasible with the workflow? And I see in the NQF project overview, the first goal that you listed was the timing of the feasibility assessment and still we're talking two different things where de novo versus retooled.

You know, the retooled measures, we're going to look at it in a whole different way after all the burden and difficulties that we've just been through with the meaningful use stage 2 clinical quality measure retooling.

It was very challenging. And we do think feasibility testing, we on the actual side, we stand – we engaged nine vendors and we estimate that every day the element in those measures and they deemed them all feasible and gave them different grades.

But I think the challenge we run into was in a larger representation with the QDM which able to be represented them which not. So, you may have feasibility of the data elements but you may not be able to really represent it in the logic effectively.

So, I know I'm sort of all over the place here but really two things. We're going to need some general structure as to a scale of feasible and not feasible data elements. We do need to consider workflow. We need to consider it early on. But I think that real thing that is going to bring, this work is going to bring is looking at a measure whether or not we want to retool it, not think what we're going to find with some of these complex measures early on like Paul said.

We're going to check them off and say, "No." If I had to retool AMI 7A and (8A) again, that would be a no. We got through it. We got through it somehow. But I think, we've really need to – the value of this work, it's going to bring us to looking at a measure when it comes up for maintenance again and saying, "Is it valuable? What I'm over doing? (Inaudible) to capture? Do I need to capture all these data elements let's restructure this measure and sort of simplify it a little bit?"

Hopefully different points to consider here.

Jingdong Li: This is Jingdong Li from Lantana. We have – we have retooled lots – a lot of number of hospital measures. And I personally lead a team to do the analytic testing on these measures.

Regarding feasibility testing, so when we see – for example, when we see this measure is feasible, I'd like to depend or to give a clear definition of what exactly it means. It may see this measure is feasible.

So, do we mean this measure – so, (inaudible) so, that mean several things. The first from a temporal relationship, from temporal perspective. All the data element that are required as specified by this measure are available in the majority of the EHR systems. Immediately, that available means immediate

available. So, there's no effort or very limited effort for the EHR vendor need to do some (inaudible) environment in order to meet the data requirement.

And then, the second feasibility is really about to the data, standard of the patient. So, in – for the majority of the EHR vendor, the data that are required of that measure are very easy to my team, for the EHR vendors. That's from the EHR vendors data resource. So, the (MAP) – it's no (MAP) needed or there's some very less effort to make a very strict (MAP).

Another, feasibility it's really about when we see the measure is a feasible for implementation. What EHR products they are referring? So, the EHR product data is different from one by one. So for the EHR one, the measure may be easier to (inaudible). But for another EHR product, it may require a lot of internal development effort to implement the same measure.

So, that's all (inaudible) think when we see feasibility, what exactly it mean to the measure or to the EHR community?

Female: And this is what's (inaudible), I resonate with almost everyone to comment from Mark to Paul to Debbie to (Kathy). And I just – I just like to add that when we talk about feasibilities, I know I've said this before and (Kathy) just restated it in terms of what is our reference for (inaudible) a measure feasible or not.

But then, what happens if a measure is not feasible giving that referential? Do we give up on the measure all together? Do we go back and try to represent it in a more feasible way? And when I say – when I say this, I need to – I think we need to be very careful in terms of how that linked back to the evidence that's behind the measure.

So when I talked about when – for joint commission measure for instance, there's a lot of research that goes into the measure development process before we actually start specifying the measure. So, it goes back to what the intent of the measure is and what the evidence behind it is. And sometimes, we do get locked down into what the evidence is saying.

And one good example of that – and as we've talked about the tobacco measures. I'm not talking about a particular measure here but I'm thinking, there may be evidence behind a certain assessment tool for capturing tobacco use. And that may be a quantitative tool that is behind the whole evidence.

If you use the standardized tool to capture tobacco use, you know what is the quantitative point or what is the exact point and what you should be doing, one intervention versus another intervention. And so, when we say, "OK. Let's just do, you smoke, you don't smoke" depending on what the measure, where the measure came from and what the evidence is behind it. It may be difficult to make it more feasible.

And so, the question is also – and this is something that we included in our environmental scan, the question is also we can't lose sight of what the price is here. In the sense that, if we just do feasibility criteria for right now, that's OK. And we, certainly, need to move forward with measures that are feasible right now.

But how do we keep data – how do we keep enhancing the objective, capabilities and data standardization that we can then build upon to create more complex measures or to as Paul said to actually take advantage of interruptability between different EHR systems or different system within the same provider. For instance, a providers that has immediate system separate from their in-patient EHR and really the measure is looking at something that can happen during the in-patient encounter or during the (inaudible) that proceeded it.

And the measure doesn't really care where it's – where it's coming. But the requirement, structural interruptability requirements that go into making this data available for the measure may be significant.

(Kevin Martin):   This is (Kevin). Something that (J.P.) said that I liked to expound the time. I think, a (domain) feasibility is if this measure feasible to be collected in real time? I think one of the places we've struggled, if there's a vision to move from retrospective of data collection which implies that certain kind of

analysis that can be done in a backward looking way to this real time data collection and real time measure collection.

And that's actually independent of whether this is an e-platform or not. It's just – there's a new point in time in which the measurement is occurring. And so, I don't want to recite it, of calling out if this concept specifiable as real time collection.

Many of us that are clinicians know that clinical certainty evolves through time. And so, the kind of certainty you get after enough the sort of care is not present at the beginning of the (inaudible) care. And so, there really and it being fundamentally different measures with different feasibility.

Helen Burstin: And just to add to that, this is Helen. I just want to point out that in the actual memo, (inaudible) memo that we shared with you, there was also a table that we actually borrowed from (Kevin) which I think it's really important as well which is this issue of a two-by-two of how we're willing to get the structure data in EHR but also the value.

Then, I heard somebody's discussions about it. If it's a really important measure that we need to move forward, that it'll really drive (inaudible) care, we might be willing to take a tougher road for its feasibility. And if it's something, what kind of a spec and an old mode of trying to retool something, we may not accept it.

I do think one – I would prefer that we do as much as possible really focusing on new measures. Because I think that's really the direction we'd all like to go. It doesn't mean we get rid of the old measure concepts, but I think we need to look at the measure concepts in a way that really takes advantage of the structure and a logic of an EHR less than trying to retool.

Paul Tang: This is Paul Tang. If I can take (inaudible) and what Helen just said. I think we need to be careful not to look just what's in – look at what's in current EHRs today. I think a big reason for – how EHR incentive partner was to push all of us including EHR vendors into capturing this stuff in real time as (Kevin) mention. They will do a better a job at our primary job which is to take care of patients and improve their health. So I'm never – I'm never set –

and I won't be nervous about anchoring and in its what's in most of EHRs today because I'm sure we do have enough information there.

Helen Burstin: Right. Because that's the – this is Helen. Some of these people want to use these measures in the short term for accountability that might be another part of this. Make sure it's available now versus available in the future for the future (inaudible) measures instead move forward those concepts that I think for the sake of actually using measures and establishing that they're valid, systematically missing data is not going to create a valid measure.

Male: I get it. That we're working on stage 3, which is 2016.

Helen Burstin: Right.

Male: And that – and the whole reason for working on it this early is try to give us all a push in the right direction and not be staying in 2010.

Helen Burstin: Agree, completely. I just want to make sure we're explicit about when we're talking about now versus future.

Male: Yes.

Deborah Krauss: Right. Then, this is Debbie. When we talked at all the vendors that we surveyed or in the feasibility testing that was – we did breakdown that question and that's, " Do you have an EHR now? If you do not have it now, is it reasonable for you to create this data element? If not now, in the next 12 months? How about in the next 18 months?"

And so, again, technology should not constrain in our quality measurement but it should help. We should all work towards that next level and that next step that (inaudible).

Female: This is (inaudible).

Male: (Inaudible)

Female: I'm sorry.

Male: Please, go ahead.

Female: So, I just want to say one thing. So, I completely agree with Paul, the comments that he had been made. And especially Debbie, with what you just said about not constraining ourselves to what is feasible today.

                  But again, we also have to think about, I mean, frankly as we probably all would recognize you know anything could be implemented in EHR. And we have to go back to that important question that was brought up earlier about what's the burden, what's the cost? Not really just to the (inaudible) primarily to the provider as to how they collect data that does not fit into their workflow. So, these are all kind of areas and that whole continuum feasibility that, you know, we kind of secure a test that we have to think about.

Male: Well, just to be clear. A new – a new data element does not mean it's more burdensome. It could be very – much less burdensome.

Female: True, very true. And it (inaudible) absolutely.

Male: So, let's not say – let's not say new is worse.

Female: No. I'm not saying that at all.

Male: I am (inaudible).

Female: Yes. No. I agree with you completely and – but that's one of the things they have to think about as we implement new feasibilities. Is this – is this easy to do for the provider? So easy to collect or is it more burdensome output and their – in the process of care?

Sarah Corley: And this is Sarah. It's not just is it easy for them to collect but is it part of – is it something they need to take care of the patient? Because I think a lot of the push backward we're getting from providers is that they're collecting a lot of information for this reporting purposes that are not helping them. At least, they're not proceeding that it's helping them provide the care that they want to be providing for that patient.

Howard Bregman: And Howard Bregman from Epic. I would also add – (Paul) is correct in saying that the new element is not necessarily more burdensome. But there are certain categories of elements that are much more likely to be burdensome than others. As an example of that, anything that ask the provider why they did or did not do a certain thing is almost certainly going to be a big burden because they going to have to essentially fill out a form when it comes to down to let's just say why they did or didn't do something.

Male: Well, as so, one of the way we describe that is (tech) platform. Those are by definition, they are not very reliable. They're not pretty valid and they're burdensome. So, we do want to move away from that. But the more we can capture automatically or deduce automatically by – even data that's always there, the better. I …

Howard Bregman: Absolutely.

Male: I think what the …

Howard Bregman: In many cases, the specs are not written and the information can be deduced. They right to say that it has to be documented by the – by the user.

Male: I think we're – those are because of the measures we currently have. I think we need to – as part of this, we need to look both not only at measure but unfortunately to usability of the records to get data that would important to include in a new measure.

Again, I think we need to think a bit out of the box and not just collect what we conveniently collected in the past but what would be important.

Some of these information, for example, doesn't have to be from the provider. It can be very willingly and more valuably, we collect from the patients. So, I guess a good question is that, what's beyond where we are now. Because I don't know that we have a good enough to set off – like data elements to give measures that we have – that are more meaningful.

Female: And this is what's in – I think it was Helen who mentioned that earlier and Debbie too, the retooling versus de novo development. I do think that moving

away from retooling as we've known it is important. That doesn't mean that the measures that are out there now are not important. In fact, they're out there because they are important.

And when I hear these statements about how EHR capabilities will allow us to measure things that we didn't – what weren't able to measure before, well, that's true in part. It's also true that what's important to measure has not changed just because we're moving to EHR. And so, the question becomes and we've talked about this extensively but the retooling needs to be much more focused on the overall concepts and feasibility of these concepts given a new EHR framework versus a paper-based data collection from the get-go.

And so, I think it's maybe just a different take on retooling rather than de novo development as we've been discussing. When I think about a de novo measure, I think about a new topic area that we're creating measures for. And certainly, there's work to do there as well.

And then, the other aspect that I would like to bring up is this top-down versus bottom-up approach to feasibility. So, we've talked about what eMeasures – whether eMeasures are feasible today and will they be feasible in the future. And I do agree Paul that today's EHR capabilities are not where we want to be. So, there is a place that we want to be that is more complex and more mature in terms of EHR capability than we have right now.

But my question is, should quality measures be driving that EHR improvement and standardization? Or, is it all the other ONC requirements or certification requirements, for instance, you know? Should we build upon the standardization of EHR for quality measurement or we do leave quality measures to bring EHR capabilities, complexes capabilities?

And this is, I think, a big issue is how and as a developer – I've got a lot of hate mail, let's say, because the measures really are too complex for the EHR capabilities today. And I think that's by virtue of we're trying to measure these concepts. And I usually think about this as a cake and it's really a cake with several layers starting with standards that EHR functional models and so on. And the quality measures, sophisticated clinical quality measures really

are the icing on the top of this cake. And should we be starting with the icing, is my question?

Male: First, go ahead Paul.

Paul Tang: Yes. I wanted just – you know, I think that as a perfect question that was posed. I would look at – let's say this is speaking a bit from – I think hypothetically. We've always – we've always been trying to direct the meaningful use program, at least our recommendations to ONC and CMS towards outcomes.

               We obviously had to build in multiple stages because we started out until most of our work. But we've been thinking at the quality measures, the new quality measures that we're talking about not the existing one. As more measuring of outcomes and more where nickel up where we're headed. And that the objectives are really facilitated at collecting the data to get – to measure or improve our outcomes but also putting in the effective arm for helping us do a better job, e.g. clinical decisions support.

               So, that's one perspective on the question. You know, should the quality measures be the goal and the other if it's OK, I think that's where we are headed. So that's why this work is so important because we want to make sure, one that the quality measures in the future are more meaningful to both providers and patients. And using a high quality data in a nonburdensome way.

(Kevin Martin): And this is (Kevin). One of the things that's (inaudible) think about is how that you need to be interrelated. So for example, we know that there's a National Quality strategy goal of improving care coordination. We know that exchange increase your coordination and it certifies exchange through effective measures. But today, we have found that every feasibility test of care coordination measures that rely on exchange failed its feasibility test because there isn't enough exchange happening to actually measure it reliably in a quality measure frame.

               So, the question there is, we've done a lot of leveraging in many other places and this isn't because we wanted to push exchange, it's because care

coordination is so important. And everyone tells us that care coordination is best measured in EHR through exchange. So the question in that place is, what should be the role in measuring care coordination that is dependent on exchange? And I don't think we have currently a framework to have a sophisticated conversation on that.

Zahid Butt: This is Zahid. I think that perhaps one way to sort of look at might be that some of the meaningful use stages are defining much more specifically the data capture side of things. And so, it looks like from the previous discussion, it appears that the feasibility question is being considered in sort of two different context. One, is what should be feasible which the ultimate state and what is feasible which is the current state. And there's a lot more variability in the current state. Excuse me. Based on different EHR development stages as well as the implementation of those EHRs within the provider community.

So somehow, you know, that's sort of a difficulty I see we're sort of having in terms of quantifying that moving target, as we sort of move from what is feasible to what should be feasible and serving on the data capture side.

So, you know, if we're going try to sort of take it from what is feasible to what should be feasible, we have to map it to whatever the framework is which is defining all those implementation guidelines and certifications.

(Michael Lieberman): I think, I can process, check that we're almost at the end of our time. And I know, the agenda has a public comment. I don't know if we have public participating. And then also, the next step. So, do we need to move on to those?

Female: I think that would be great, Mike.

(Michael Lieberman): OK. Do we have any public participants?

Female: Let's ask the operator. Are or is anybody want to ask some questions?

Operator: At this time, if you want to ask a question, please press star, then the number one on your telephone keypad.

There are no questions at this time.

Female: OK. So, I think that's all for comments at this point. In terms of next steps, clearly this is just a beginning of a much broader conversation we need to have. And so, over the next couple of days, we're going to be trying to identify a new date to reschedule our in-person meeting.

We also can circulate the HITEP report that call reference to everybody. Juliet, popped it out of her files forth, so we can send it off to you immediately.

Are there any other questions from anybody in terms of what we're trying to accomplish with this project and where we're going?

(Kevin Martin):   This is (Kevin) from ONC. I would love something we could start testing soon. So, I'm going fill early (inaudible) kind of way. And I would love that even before we have some final report, there is some idea about a way that we could maybe try this with a measure to as we're actually working and in between measures.

Helen Burstin: OK. Great, (Kevin). And this is Helen. And just to add to that spirit of moving quickly, I guess even an advance of the next meeting based on the discussion today, I certainly heard a lot of key dimensions that I think we want to put in instead of conceptual models for your to make decisions so when we have that in-person meeting.

But if there's any other information you think would be helpful to that discussion, please let us know. We'll try to capture it and get it back out to you. And I think it will be wonderful if there is a way for us to try to actually have a test case as (Kevin) points out.

Paul Tang: You know, here's something you could try is to use the HITEP. You know, that five attribute data metric and test it with some of the CQMs and see where it's weak and where it needs more clarity or where it needs additional attributes, that could go into input into this group. So that you can – we can deliberate on that.

(Kevin Martin):   Yes. Certainly, I'm very interested in those kinds of domain models. But I would really love data instead of expert opinion. And with, you know, five people in the room each saying, "Yes. I this could happen. No, I think that's hard." I'd love some way that be able to frame this and say, "Sixty percent of the time we can do this and 10 percent of the time, we can do that."

Paul Tang: Well, that's interesting. So, you could use the vendors who are on this work taskforce and put out some CQMs and the definitions and just see how many can do this. I'm still trying – it just – we just really have one meeting. Is that correct, Reva?

Reva Winkler: Yes. That's correct.

Paul Tang: So I mean, we would want to have as much information going into the meeting. It's the only way it's going to incorporated into sort of recommendations. So, just trying to answer your …

(Kevin Martin):   Yes. I know, that's great, Paul. I'll chew on this offline and talk to some other people that we worked with the lab and see what would be possible. And maybe, we'll try to tackle measures to bring to the meeting.

Helen Burstin: And you know again, we keep talking about vendors but also just keep in mind of the measure developers as well. It might be interesting to have one of them put forward something their working on.

Paul Tang: Yes.

Helen Burstin: For us to bring forward to – this collective of the providers and the vendors to really see if what we've put forward actually has some legs.

Male: And (Kevin), is there any way of looking at the data that's been collected in stage 1 in terms of what measures were selected that can help you with that as well?

(Kevin Martin):   You know, we're looking into that. The challenge has been there are so many in variables in the process including what vendors chose to implement or chose to certify. And what organizations chose to implement. And then,

some of that would actually problematically align. So, some of the measure that have the least number of people that chose them were the cancer measures. But you might expect that because they aren't that many eligible providers relatively that would treat cancer in a very in-depth way.

Male: Yes.

(Kevin Martin):   So yes, we're actually thinking that same direction. But the analytic frame around it is not yet clear.

Male: Yes. And I don't know if there's a way to you know push that back to kind of the data element as well. So, if you come up with a way of determining, of course, their measure and generally can you retroactively give, you know, give some weighing to each data element to say, "Yes, we know that people are reporting on it, so we assume that it's actually there."

(Kevin Martin):   We do have the Yale team that has done that some using, for example, the American Culture Cardiologist Registry. They've looked at how often – so, their example was EKG result as interpreted by a cardiologist.

They looked at how frequently that was actually present within their registry. And that really informed what they decided to use in their measure and their feasibility context. It was present only, as I remember 20 percent of the time and then it didn't actually have any impact on the measure calculation. So, they were able to have a discussion with their technical expert panel that decided not to use that data element in one of the measures because they were able to leverage that data.

Male: OK.

Female: Good. I would only add to comments to that. So, this is this particularly data element feasibility or data capture feasibility that we're talking about. I would not discount two factors or one factor in data feasibility and data capture feasibility and the other factor which is eMeasure representation.

So, the feasibility may not be at the data capture level as Debbie was saying earlier, we need to consider limitation in the framework for eMeasure representation such as HQMF limitations, QDM limitations, whatever it is.

But at the data capture, I wonder if we shouldn't consider also grading EHR capabilities in terms of EHR maturity because that may be a very distinctive factor between systems and (inaudible) installations. And I'm not sure if that's true across the board but it would at least provide us another way of slicing and dicing feasibility.

(Michael Lieberman): All right. Thanks. So, we are really pretty much at the end of time. Any other comments?

Reva Winkler: And feel to send additional e-mail to follow. (Kathy) will send out the high tech reports, any of the other last minute submissions that we got on feasibility assessment. And then, we'll talk with some folks, try to figure out a plan and get another date. But obviously, we'd love to walk in into that in-person meeting with something pretty substantial in hand.

(Michael Lieberman): All right. Thank you all for you time today.

Reva Winkler: OK. Thanks, everybody.

Male: Thank you much.

Female: Bye.

Female: Bye. Thank you.

Operator: This concludes today's conference call. You may now disconnect.

END