HIT Standards Committee
Implementation Workgroup
Transcript
February 19, 2013

Presentation

MacKenzie Robertson – Office of the National Coordinator
Thank you. Good morning everybody, this is MacKenzie Robertson in the Office of the National Coordinator for Health IT. This is a meeting of the HIT Standards Committee's Implementation Workgroup. This is a public call and there is time for public comment built into the agenda. The call is also being recorded, so please make sure to identify yourself when speaking. I'll now take the roll call. Liz Johnson?

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

MacKenzie Robertson – Office of the National Coordinator
Thanks Liz. Cris Ross?

Christopher Ross – Mayo Clinic – Chief Information Officer
Here.

MacKenzie Robertson – Office of the National Coordinator
Thanks Cris. Anne Castro?

Anne Castro – BlueCross BlueShield of South Carolina – Chief Design Architect
I'm here.

MacKenzie Robertson – Office of the National Coordinator
Thanks Anne. John Derr? Tim Gutshall? Joe Heyman?

Joe Heyman, MD – Whittier IPA
Here.

MacKenzie Robertson – Office of the National Coordinator
Thanks Joe. David Kates?

David Kates – NaviNet – Senior Vice President, Clinical Strategy
Here.

MacKenzie Robertson – Office of the National Coordinator
Thanks David. Tim Morris? Stephen Palmer? Sudha Puvvadi? Wes Rishel?

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Not sure if I understand the concept of here versus not here.

MacKenzie Robertson – Office of the National Coordinator
I will mark you as present.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Okay.

MacKenzie Robertson – Office of the National Coordinator
Ken Tarkoff? John Travis?

John Travis – Cerner Corporation – Senior Director and Solution Strategist, Regulatory Compliance
Here.

MacKenzie Robertson – Office of the National Coordinator
Thanks John. Micky Tripathi? Gary Wietecha? Rob Anthony? Kevin Brady? Tim Cromwell? Nancy Orvis? And if there are any ONC staff members that are on the line, please identify yourself.

Scott Purnell-Saunders – Office of the National Coordinator
Scott Purnell-Saunders is present.

MacKenzie Robertson – Office of the National Coordinator
Thanks Scott.

Michelle Consolazio Nelson – Office of the National Coordinator
Hey MacKenzie.

Chris Brancato – Deloitte
Chris Brancato on the Deloitte team.

MacKenzie Robertson – Office of the National Coordinator
Thanks Chris and I heard Michelle Nelson.

Michelle Consolazio Nelson – Office of the National Coordinator
Thank you.

MacKenzie Robertson – Office of the National Coordinator
All right. With that, Liz, do you want me to turn it straight to Wes?

Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-BC – Tenet Healthcare Corporation – Vice President, Applied Clinical Informatics
Yeah, well, let me introduce what we're doing here. I think the workgroup is in sync, but what we are doing is, Scott and others have been working diligently with our advice, to try and represent scenario testing. And to that end, Wes was kind enough to create some, a different representation, which we think may help the group understand. And so this meeting will be dedicated to him explaining to us what he was thinking and giving our feedback, and then Scott, we would leave it to you then to either converge or replace with diagrams that Wes is suggesting. And with that Wes, we will turn it over to you.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Okay, I'm going to – I actually never built this as a freestanding presentation, so, I'll be doing a little bit of filling in the slots and a little bit of calling on Scott for some assistance about the regulations. Currently I'm waiting to see the first slide appear. Okay …

Christopher Ross – Mayo Clinic – Chief Information Officer
You had a good cup of coffee this morning Wes.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
I just hang an IV bag and a little D5W and coffee, it works pretty well. So, this is the title page and just to keep everybody in the Committee safe from the legal eagles at Gartner, I put a claim of no claim on the material, probably unnecessary, but it makes me feel good. Next page please. So, we're talking about the

sequence of tests that lead to the certification of a module or a group of modules, or at least a group of software packages that function as a module. And of course, one such sequence … one way that something could be tested would be to test for all of the requirements of an EHR in a single software package, in which case it's a complete EHR. We're assuming here that there is this notion of a component. It's identified by, it's associated with a set of requirements for that component that is outlined in a regulation and Scott, I was hoping you could help me say what are the regulations that define the testing.

Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services
So for any given test procedure, there are specific test data requirements and specific tests and requirements for that particular procedure that are operated. So, in this particular example, a product would be put under test with the specified and required test data that needs to be input for that test, and the expected outcome, a result under test, in a single vacuum. And that must – all of it must be auditable, traced and tracked, so that input the information that goes into the test and information that comes out can be reported effectively as if a product passed or did not pass the test.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Yeah, so that's the substance of the regulation, but what regulation is it? Is it – does it have a title, does it have a number, I mean, if one were to just go to Google and wanted to find this regulation, how would one search for it?

Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services
Give me a second; I'll pull up the exact certification. It's built into the 2014 edition certification criterion; I'm pulling up the exact number now … a bit slow. So essentially it's regulation 170.314 and the various letters (a)(1), (a)(2), (a)(3) correlate to those specific regulations and requirements, but it's built into the 2014 edition, Standards and Certification Final Rule.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Okay. And then subordinate to that rule, ONC publishes specific test procedures, is that correct…

Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services
That is correct.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
… in conjunction with NIST. Okay, so what we have here is a program, a group of programs, whatever some entity puts forward to be tested as an EHR component. And the steps that that particular component goes through are shown by 1, 2, 3, 4. One is, it takes something to start the program and then there is data entered during the test. So if this is testing for order entry of pharmaceuticals, several orderable items and orders and sigs and so forth might be presented to a testing person who would type those things in or wand them in or whatever the UI is for this particular software. And then there is a step to see, does it look like the data was entered correctly, if we look at a list of orders, do we now see the data ordered. If an order was suspended and we do a medication list for the patient, does it not show up on a medication list? Whatever combination of input and viewing of data on the screen or looking at a report or some other printing a bar code, whatever it takes to create an output that verifies the correctness of the operation for the component, for the specific test done at number two, is examined at number three. And then it's just noted that that program doesn't typically, in normal operation, die there it normally would be ready to do another transaction. So it's sitting in what I call the post-program, post-test program state. Data and other information that was presented is present at the end of the test, and that includes data that was not necessarily verified in step three. If you have to enter certain data in step two in order to identify that you're using a certain formulary, for example, and that's not what's called on for being verified in test three, there's other data in the program state that might change what goes forward, we just don't know what it is because we didn't look for it.

Joe Heyman, MD – Whittier IPA
Wes, this is Joe. So the difference between number one and number four is only that number four now has the data that was verified in three.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
No, it has the data that was entered in two …

Joe Heyman, MD – Whittier IPA
Okay.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
… some of which was verified in three.

Joe Heyman, MD – Whittier IPA
But the reason that you have a number four …

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
… right.

Joe Heyman, MD – Whittier IPA
… is to indicate that it's now at a new initial state, is that right?

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
That's right, exactly right.

Joe Heyman, MD – Whittier IPA
Okay.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Okay. And from my own experience testing, the observation that we don't exactly know what that state is is important in the logic that will carry forward. We know certain things that are obviously true that we verified them, but we don't know other things that happen as part of entering. So, let's go to the next slide. Okay, now the cleanest way in terms of testing is to follow to test two modules or two major features of a module even, is to follow the 1, 2, 3, 4 twice. That is to say, reset at the start of test two, reset the program to its initial state, bring it down, bring it back up, do the logins, do whatever other things you have to do to get it ready to run. Enter whatever data that was needed for test two, even if that data had already been entered in test one, because you've lost that when you restarted the program – the data varying and then you've got this situation where you've got post-test program state at the end of test two. At the end of test one, you're effectively throwing away the post-test program state.

Now the – this notion that each test is independent, rather than being dependent on the prior test, is generally considered good testing practice for software. In fact, a lot of testing frameworks now might deliberately run a sequence of these tests in a random order, just to be sure that there is no program state being carried forward from one to the next. That that, it turns out that in quality testing, making sure there aren't any of these hidden bridges from one module to another is a major way to improve the ultimate degree to which you verify that the system will work well in production. I will make the point that we are not doing quality testing in certification. The testing programs that we have outlined are far smaller than what would be required for quality testing. We are only verifying that a certain feature can be achieved with the software. Certification by itself doesn't guarantee that it is achieved, that's meaningful use. We…there's two certified programs may achieve the same goal in two different ways, one of which requires twenty input steps and one of which requires one and we don't care; both are certified by the level of the certification we're doing now. The reason I make that point now is simply to say that this normally rock, ironclad requirement for independence of unit tests, should be re-examined in view of a second consideration. And the second consideration is efficiency of certification.

We have a few members of the committee who have taken a multi-component product through certification and lived to tell the tale. And, what we know from them is that there is a lot of time spent redundantly entering information because the same information that is used in one test is also used in another. We know…I know from my experience when I was on the Board at CCHIT before this testing

program came up, I know that the time spent testing with witnesses, is in fact one of the major determinants of the cost of operating the test. And each year as we – when we were setting the criteria in CCHIT, each year we would examine what we were testing to say, what can we ke – put out in order to make room for new things to test, so that we can keep the total testing budget at the time, the total time that we had to spend on personnel operating a test, down to something like $30,000. So efficiency of testing is reflected directly in the cost of testing that is experienced by the vendors and generally, what I always told vendors was that if your testing fee is $30,000, you should expect your total costs for testing to be more like $100,000. The reason is that you have to prepare and pre-configure your software to do the functions that are required for the test. This may involve creating workflows that you don't normally use in production because you combine two functions together or something like that. You need to go through them bit by bit to make sure they work, and where there's any ambiguity that the jury might see in interpreting the output screen, you have to be prepared to repair that. John, is there any comments you might add to the level of…the ratio of preparation time to test time is what I'm talking about, do the numbers that I'm presenting sound reasonable.

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
Yeah. The numbers make sense. We've got a pretty established lead-in pattern, and I know it more in kind of terms of numbers of almost a cycle of weeks. We go through a process much as you would in implementation project, honestly, to prepare. So we will do a reference database build and we will do a unit-testing cycle at a criteria level, so regardless of whether we went into a scenario-based flow or an individual unit test flow, we'll do that for a period of a couple of weeks, purely because new environments you build out are going to be unstable …

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Right.

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
… inherently. And then once it's stable, we will go through what we would call a go, no-go kind of a dry run that is really our trigger point to apply. Because when you apply, as you know Wes, that starts a clock, at least, I'm very familiar with CCHIT, the two we've always used, and you have 90 days from the time that your application is actually dated to completing all inspection activity and resolving any outstanding issues relative to that effort for any given certification. And then we'll go through and CCHIT has even echoed this in their guidance, at least three dress rehearsal dry runs. And when you're dealing with scenario-based testing, that's where we would do that, we might not do the scenario prior because we're still…that go, no-go is really almost like a system test or string test, end-to-end …

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Um hmm.

John Travis – Cerner Corporation – Senior Director and Solution Strategist, Regulatory Compliance
… regardless of the format. But then we're trying to get our timing down, it's no longer is the environment stable, it is, is our team well-rehearsed on what they need to do and then going through the inspection order and dealing with…because one thing that has been very true this time around is that there are published time expectations on each criteria, that define your total elapsed time for testing. They don't hold you to that religiously criteria by criteria, but in total time, they do. So, whatever is in scope. So these flow tests will probably have a timing that's a roll-up of what would be the … because the test procedures are similar, but we'll see if they collapse that down. But our lead-in time is going to usually wind up being around three weeks from application date to attempting to schedule inspection date to allow for three good dress rehearsals and if there are any residual issues.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
And these are all expenses that you undertake prior to meeting with the testing body.

John Travis – Cerner Corporation – Senior Director and Solution Strategist, Regulatory Compliance
Yeah, prior … certainly prior to the inspection date and except for the dress rehearsals, prior to even deciding to apply.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Yeah. And you have to make sure that your plate spinners and your torch jugglers are…

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
Well-rehearsed …

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
… well rehearsed.

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
… they don't bump into each other and they don't drop things.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Okay. All right. So, what we can do to reduce the total time that it takes after those steps, during the actual certification, is discussed on the next slide, so if we can have … there we go. All right, we can redo less by allowing the data carried out of one test to be carried into test two; that saves us all of the setting the program to the initial state and re-entering data that had already been entered. So, if in one test, we enter four prescriptions, and in the next test we enter a prescription that is contraindicated by one of the four previous prescriptions, we don't need to go through and reenter that previous prescription, it's still in there. And this creates the kind of thing that John was describing, in terms of getting, preparing the test two on this page is, has a little more chance of having an unexpected output because all of the program states from test one are still being carried forward. Typically those are, they can be things like well, we entered a certain insurance code rather arbitrarily in test one, but it turns out that calls up an error when you try to enter a certain procedure in test two, or it could be a bug. We filled up a table in test one, but didn't know it until we started test two.

However, despite all of the rather nasty things that I'm describing about scenario testing, it is much more efficient and it is much more logical … properly constructed it's much more logical to clinical people because a longer scenario begins to look like the workflow that they actually do. So, I think on our committee, we have been urging Scott and his brethren to implement more scenario-based testing, based on clinically logical scenarios and … yeah, go ahead.

Joe Heyman, MD – Whittier IPA
This is Joe. I just wanted to point out that not only is the workflow more similar, but what the person sees at the end is more similar.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Right. In other words, it looks like the end…if in fact the components under test are the main collection of components that it takes through a visit, then the steps and the final output look more like a complete visit. It's not – otherwise you might get a sequence of steps where no meds were described, because med testing is going to be done separately, or something like that. You get things that you can … an analyst can look at that and say, technically its responsive to our test input, but it's a hard time for a physician to look at that and say, yeah, that looks like a decent visit note.

Christopher Ross – Mayo Clinic – Chief Information Officer
Say Wes, this is Cris.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Yeah.

Christopher Ross – Mayo Clinic – Chief Information Officer
So I've got – this is all making great sense. I've got just a clarification question, I think, which is, what happens in a case of where you have a set of data that comes in in the initial state, into test one, and you want to have some of the data changed by test one. But you may want to have the data in its original state carry over into test two, and so I'm thinking about, and clinicians will have better examples than what I've got, but if you had data about a patient that was say a patient history. And test one was testing a drug-drug interaction and test two was testing a drug allergy interaction, you might not want to have the drug taken out in test one based on drug-drug, because it would not let you have a chance to test drug allergy. Is there ever a case – first, does that make any sense at all to you or to the clinicians on the phone. And if so, how would you handle the case where you might want to take some set of the data in the original, unaltered state…unadulterated state, through the whole sequence of tests and then some of it altered as it goes through the test. Or is that just a completely unrealistic scenario.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Yeah, I think that's a good segue. Let's go to the next slide…

Christopher Ross – Mayo Clinic – Chief Information Officer
Well criminy, I didn't see it on the next slide, I was trying to read ahead.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
No, I think – I'm thinking about your question, I don't have a slide that responds directly, but I think this will help me build up to an answer.

Christopher Ross – Mayo Clinic – Chief Information Officer
Okay.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
So this slide really is simply the logical extension of the previous slide through a sequence of four tests and four is an arbitrary number based on how big I wanted the letters to be. As we construct scenario tests, multiple tests that are done end-to-end and carry data forward, the – it's up to the test analyst to, in effect, state assumptions about the behavior of the systems they will test. So, if in test one three medications are entered, there's an assumption in test two that those medications are there. It's a pretty straightforward assumption, but it is an assumption. You could argue some situation, well, this was Lidocaine, it was applied during a procedure or something like that, but fundamentally, the analyst has a logical flow in mind in preparing the test sequence.

Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-BC – Tenet Healthcare Corporation – Vice President, Applied Clinical Informatics
So Wes and Cris, let me answer Cris' question, which I think will add to your description. Cris, I don't think, from a clinician's perspective that we're taking the drug out in the example you gave. I think what we're doing are recording results. So it's not a matter of eliminating the drug from the data set, it's a matter of reporting that there's an interaction or an allergy. Does that help?

Christopher Ross – Mayo Clinic – Chief Information Officer
Yeah, if that's what was set up to be tested and was the appropriate action, that makes sense. I guess my question is, if, and again, I'm making up this scenario, but if the test success required that every drug where there is a drug-drug interaction must be excluded or brought to the attention of the clinician to be excluded, and the result of the that test was you happen to take that drug out, then it wouldn't be present for the next test.

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

Christopher Ross – Mayo Clinic – Chief Information Officer
I think it just comes down to, what is the test frame, what are the test scripts …

Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-BC – Tenet Healthcare Corporation – Vice President, Applied Clinical Informatics
Yeah and – right …

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
And my – and the answer I've been trying to build up to is, the request you're describing isn't one that can be made of a test scenario.

Christopher Ross – Mayo Clinic – Chief Information Officer
Um hmm.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
The test scenario assumes that the steps occur in order. Now, you can have multiple test scenarios so, for example, you could have a test scenario that is not always – you could have test one in two different scenarios. At that point, you are doing redundant data entry. My view, however, is that for the most part it's up to the test analyst to arrange the tests so that there's no need to be redundant. So for example, if there is a – if four drugs are entered and they're entered as drugs the patient is currently taking, that entry function would not call for eliminating the drug because it was contraindicated …

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

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
… the patients are on drugs that conflict quite frequently.

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

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
If the next scenario calls for entering a fifth drug, and it was contraindicated and the physician – under the test scenario, the physician should not complete the order, you still have the first four test scenarios there. If test three is supposed to literally discontinue an order, so it's no longer an active med, that would be one of the four from the first test, and if test four had to rely on data from the first test, it couldn't rely on the drug that was discontinued, you'd have to have entered enough in test one to have what you need for test four.

Christopher Ross – Mayo Clinic – Chief Information Officer
So I think all that makes sense. It feels like there is a caveat or additional documentation that just needs to talk about how these test scripts need to be designed with that integrity in mind, that …

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Yeah. And the notes here …

Christopher Ross – Mayo Clinic – Chief Information Officer
… they get to it.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
… the notes here are attempts to describe that.

Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services
One thing I wanted to add, with the pre-designed draft test scenario procedure that was put up, the data set that comes with that describes the process that the data entry would need to follow, in order for the scenario to function. So in a case where a test needs to remove something, if it needed to be added back

in a different scenario or in that same scenario, that would be – that information, if required, would be included in the – as Wes is pointing out here in this particular diagram, the data entered during test two.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
So another solution where you're going to have insulin and I can't even pronounce it, rosiglitazone or whatever it is, two diabetic meds, and you discontinue the insulin, because I can pronounce that, and then you need insulin in test two, you just re-enter the insulin as part of the test two data. But it does take an analyst sitting down with a band if you will, a spreadsheet and all the data that is entered and the ability to recognize which has carried forward and which has gone away as you go through the test. That is, that there's a significantly, it's a significantly – it's a compound analysis job to do the testing from one scenario to the next. And then, just in case you thought that was easy, we go to the next slide.

John Travis – Cerner Corporation – Senior Director and Solution Strategist, Regulatory Compliance
And I'll junk it up for you even more Wes, but I'm waiting for an opportunity.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Well do you want … would it fit better before this slide or after this slide?

John Travis – Cerner Corporation – Senior Director and Solution Strategist, Regulatory Compliance
Um, it might, because it really has to do with where the efficiency point is you're making with the test data.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Let's go back to the previous slide and let Scott have the floor.

Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-BC – Tenet Healthcare Corporation – Vice President, Applied Clinical Informatics
Yeah, John Travis.

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
Yeah…

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Oh, John, I'm sorry.

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
Yeah, this is John Travis, I'm sorry, I should have introduced. There are two points that either act as constraint on tester discretion or need to be stated clearly with scenario-based testing. One is, many, many of the test procedures have alternative test data sets. So, part of what takes us a long time is, we do literally build out all the reference data and as necessary, some of the activity data that can be pre-built for all the test data sets that are defined by the current set of test procedures and test data sets that ONC has published. We need to say whether or not that's going to be constrained for this. So for data to be carried forward, you really are only working with one test data set, you're greatly reducing the latitude of the tester to say, use test data set two. Or maybe there is a defined test data set to mirror the scenario flow, but, it needs to be clearer to the vendor, are we supposed to build out all the test data sets or are there going to be constrained ones that we're directed to use. And then once we pick one, we're in that channel, if you will, of that flow or that story so we're not having to build them all. There may be reasons why there are alternative data sets, but most of it is to just compel that a variety is possible to be selected from so that the vendor can't game it.

The other thing, and this is something that we face with unit testing for the automated, calculated measures or the numerator only measures, depending on how you want to test those percentage based measures, there's no contribution at all from the unit tests of say CPOE, prescribing, etcetera, to the measurement data. So the vendor, even when they're doing the scenario-based test would still be faced with functional measure data build-out. And that may be perfectly unavoidable, I'm not suggesting that's

necessarily a problem, because…but the way ONC has defined it, because there's an expected qualification test that needs to happen. And they do it three ways, numerator and denominator both, denominator only and then no qualification at all for each measure. Then you have to still go through that, and I just want to make sure it's understood. We're not going to gain any efficiency relative to that. That's not a complaint, it's just simply an "is." But those are two constraints; probably the more important one is what do you do about the current tester discretion to pick from among multiple test data sets if we go to scenario-based testing.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Yeah. So, I just made a note to say that the test procedures that you're given contain several data sets and it's up to the tester to decide arbitrarily which one to use. And the purpose of this is to avoid you gaming the system by no matter what they type in, it gets the right output.

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
Yup. I think that's a good point.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
And I should comment on the sequence slide, what are the implications for that? And I think there are two, one is, there are multiple sets established before test one that carry forward. And two, there's the opportunity to add multiple sets as part of the input for any of the downstream tests. So, and I think commenting on that is important, but I think it's entirely handleable within the … now the second point you make is that the testing approach is for quality measures … well that has not …

John Travis – Cerner Corporation – Senior Director and Solution Strategist, Regulatory Compliance
… it's going to be both function – it's going to be both the percentage based measures and the quality measures, because they both are kind of separate entities …

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
… process made … well …

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
Yeah, process measures and quality measures both are going to be that way that is absolutely true.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Okay. So what you're telling me is that although it would be desirable if all – if the various process and quality measures entirely were the byproduct of use of the EHR, the reality is that that's not how it works.

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
Right.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
And in particular, a given reporting entity may well be using data that is collected outside of the EHR, for example, they may have people reading textual reports to determine that antithrombolytic blankets were put around the patient's legs and entered as an almost an after the fact rather than as contemporary documentation. Technically the documentation is there, but it's in text form. Or, they may be actually combining data from multiple EHR products in order to report meaningful use for the entire reporting entity. And as a result, the testing that is done for the function that compute … aggregates and computes values is based on an input stream.

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
Yeah, with an expected result.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Right. Okay. Now we did have some discussion about that before, and I – in an email, and I thought I had worked it down to situation that wasn't quite as ominous as it first sounded. But I don't have that in front of me right now.

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
Yeah, I do, I have that exchange that we had opened. No, I think it is – it was specific to the quality measures. I think on the automated calculated measures, having the need to pre-build that data specific for that test is almost unavoidable. Because I don't know how else you would do it, because it's very – this is not all a negative statements, but it's a word I'll use, it's contrived to the purpose of the test.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Right.

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
But on the quality measures, similarly it's constrained to the purpose of the test to meet an expected result, and even more, it has to be pristine. So when we test quality measures, we almost are going to have to test it in a pure sense … environment.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
My goal is to describe a situation that doesn't necessarily get us to the point where we run the system once and all testing is done.

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
Right.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
My goal is to get us to the point where we run scenarios, as few scenarios as possible, to get all the testing done, under the assumption that whenever you combine tests in a scenario, there's an increase in efficient use of use of the testing time.

John Travis – Senior Director and Solution Strategist, Regulatory Compliance, Cerner Corporation
Yeah.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
So the next slide gets to an issue that Scott has mentioned a couple of times, as in his slides, which is, what about the fact that we are testing different combinations of components on different days.

Christopher Ross – Mayo Clinic – Chief Information Officer
Say Wes, this is Cris, I'm sorry, I'm just going to do a quick time check. We're at about ten minutes to the hour and I think we want to leave a few minutes open for comment. So if you could bring us in to home in maybe eight minutes.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Oh sure, I can just start talking faster right now.

Christopher Ross – Mayo Clinic – Chief Information Officer
Sorry Wes.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
It's fine.

Christopher Ross – Mayo Clinic – Chief Information Officer
Excellent stuff, I just wanted to make sure you didn't run out of time. Thank you.

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

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Okay. So this slide allows for the possibility that test three is not performed and that any data that is output from test three is no longer input into test four. Well, it's quite possible the analyst can work that out. It's quite possible the analyst can create incremental data for test four that's different when coming from test two than it is when coming from test three. It has to be considered, but it doesn't seem to be an impossible challenge. I will say that I think this could be overdone. I think that if every one of these tests could be there or not be there, there are four, you'd have fifteen possible scenarios to test and that's – it seems likely that we have lost clarity in the pursuit of efficiency at that point. So, I would say we trust Scott and his troops to see, figure out when one scenario with one or two optional steps can cover a whole lot of ground and go through all the extra analysis necessary for one's present, another is not present and so forth, to do that. But, we really don't press them to entirely revise the testing on the theory that a single scenario should be able to test all EHR components. I mean, part of the problem they face is, sometimes they don't have the complete EHR in front of them to test. And that means that they have to configure their test based on what's under test, and I think when you look at all those issues together, what we're looking for here is improvements in the testing process over each test as an entity unto itself, but not perfection.

The next slide sort of shows how you might go about preparing those highly redundant test scripts. You might analyze certain data and say when are they used in a unit test, when are they used in a scenario, and so forth, and then you can look – for a given test you can look backwards in the table to see what data has to be entered at this point. It looks to me to be more tedious than complex using this approach. And, I think it's probably the next slide. All right, if their test scripts are a set of things to do, commands to the tester, I just had this idea off the top of my head that if at a given point in a test you could say, confirm this data is present and if not, enter it. Then the number of different test scripts you would need for alternate testing or not testing of modules in the sequence, could be a lot less. Do I have another slide or is this it?

Caitlin Collins – Altarum Institute
The last one.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Okay. So, I hope that was eight minutes.

Christopher Ross – Mayo Clinic – Chief Information Officer
You've got two more left, by my clock.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Okay, well that'll give us time for comments from the public.

Christopher Ross – Mayo Clinic – Chief Information Officer
Well I know Liz needed to drop off. Wes, this is really, really helpful stuff. I think we just want to open up to workgroup conversation here for a few minutes. Does anyone have questions or comments for Wes?

Anne Castro – BlueCross BlueShield of South Carolina – Chief Design Architect
Um, I …

Christopher Ross – Mayo Clinic – Chief Information Officer
Scott, where do we go from here?

Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services
I would basically take the design that Wes has kind of gone through with us to really effectively integrate it into the presentation and send it back out to the group. But I – and I would encourage the group to look at

the materials that we posted, separate from the presentation and the narrative, but the actual test procedure … test scenario procedure that we've posted online, to look at this to kind of see if it – because it aligns a lot of the principles that we've been discussing here with the scenario process as a whole. Certainly the time-savings that we've been discussing as far as the not having the need to repeat entry of information and data and the development of a data set that would be unique to the particular scenario that you're putting it through. So a lot of work has been put into developing those materials and we just want to ensure that we get one that works. I mean, it may not be perfect, it may not be the best size currently, but it's the right size for right now for us to kind of get this started.

Christopher Ross – Mayo Clinic – Chief Information Officer
Yup. So in our next meeting, do you think we will have a chance at least, even if we don't go through it, will you have a chance to combine the materials by then, as you described.

Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services
Yeah. I'll work on getting that done this week.

Christopher Ross – Mayo Clinic – Chief Information Officer
Perfect.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
When is the next meeting?

Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services
Next Monday.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Next Monday, is that the middle of HIMS or what …

Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services
HIMS I think is two weeks out, right?

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Oh, okay. All right.

MacKenzie Robertson – Office of the National Coordinator
Yeah, HIMS is the first full week of March.

Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services
So our next meeting is the 25th at 9 a.m. Eastern.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
My God, I got all that time I didn't know about, oh boy.

Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services
And I think, we did cancel the meeting on the 4th, right MacKenzie.

MacKenzie Robertson – Office of the National Coordinator
I believe so.

Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services
Yeah, the week of the 4th is the week of HIMS.

Christopher Ross – Mayo Clinic – Chief Information Officer
Yup. All right, well I thi – unless there's other comments, I think we should probably just go to public comment and anything else MacKenzie you want to go through.

MacKenzie Robertson – Office of the National Coordinator
Oh no, I'm set for public comment.

Christopher Ross – Mayo Clinic – Chief Information Officer
Perfect, let's do it.

Public Comment

MacKenzie Robertson – Office of the National Coordinator
Operator, can you please open the lines?

Caitlin Collins – Altarum Institute
If you are on the phone and would like to make a public comment please press *1 at this time. If you are listening via your computer speakers you may dial 1-877-705-2976 and press *1 to be placed in the comment queue. We do not have any comment at this time.

Wes Rishel – Gartner, Incorporated – Vice President & Distinguished Analyst
Bye y'all.

MacKenzie Robertson – Office of the National Coordinator
All right. Thanks everybody. We'll talk next week.

Christopher Ross – Mayo Clinic – Chief Information Officer
Perfect. Thanks everyone.

Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services
Thanks.

Christopher Ross – Mayo Clinic – Chief Information Officer
Thank you Wes.

Scott Purnell-Saunders – Program Analyst at US Department of Health and Human Services
Thanks Wes.