Clinical Decision Support Systems TA Webinar Transcript
8/14/08

Hi, everybody, this is Erin Grace. If you are on the phone and on your computer to learn about clinical decision support systems, then you are in the right place. We'll be beginning in just a few minutes.

Excuse me, Erin, Rachel is experiencing some IT problems. She is trying to get on. If she can't get on by 2:30, she will join by audio only.

Let's go ahead and get started. Again, for those who recently joined, my name is Eric Grace, and I work for the Agency for Healthcare Research and Quality, I would like to welcome you all here this afternoon for what I think will be a very interesting and engaging conversation. I call it a conversation because I hope that participants on board will have some good discussion after the presentations. We have two excellent presenters today; I will introduce Dr. Eta Berner first, and when Rachel Nelson joins us, I will give you some background on her. The titles of our presentations today are: Clinical Decision Support Systems—Critical Health IT tools for Interoperable Health Information Exchange, and A Tool to Improve HIEs for Medicaid and SCHIP Agencies: An Overview of Core Characteristics, Components, and Approaches.

Before we begin, please note that you are all on hold. All of the participants are, are muted when you joined the webinar, which means that you are not able to speak. If you wish to be unmuted, you can choose "raise hand," which is to the center right of your screen. There is a button that says raised hand, and you can click on that button, which notifies the host, Nicole, that you would like to ask a question. If you have a question during the presentation, you can type in the chat box at the bottom right of your screen. You can type in your question, and please send your question to all panelists through the chat; at the end of the presentation, there will be a question and answer period. If you would like a copy of today's presentation slides, you may contact Nicole Buchholz at RTI. Her e-mail address is on the slide right now. We will post all of the slides and transcripts of the presentations eventually once we make sure that they're accessible to everyone. We're also currently in the process of posting all of our other technical assistance (TA) webinar presentation slides on the website.

Next slide. Many of you probably found out about today's call because you have signed up for the listserv. If you have not signed up for the listserv, here is information on how to do that. To register, go to the Health IT website—we have a specific page or pages related to Medicaid and SCHIP. You can sign up for the listserv, and you will be notified of all future webinars related to the Medicaid SCHIP technical assistance program as well as other pieces of information, updates on the website, et cetera, from time to time.

So without further ado, Dr. Berner, I would like to introduce you, and we're very pleased to have you here today. Dr. Berner is a professor in the Department of Health Services

Administration in the School of Health Professions at the University of Alabama at Birmingham. She has expertise in research and health informatics and health professionals and program evaluation. Dr. Berner has been funded by the Agency for Healthcare Research and Quality as a principal investigator for a grant as part of our clinical informatics to improve safety initiative, and she currently has funding as one of our ambulatory and safety and quality grantees focusing on health information technology and ambulatory settings. She serves on the technical advisory panel to the AHRQ clinical decisions support initiative and also is a fellow of the American College of Medical Informatics. She has published articles in many leading journals and other publications. Dr. Berner is currently a member of the Board of Directors of the American Medical Informatics Association and has many other honors and duties, but I don't want to delay the presentation anymore. We look forward to hearing what she has to tell us about clinical decision support systems.

Okay. I guess I will take the snail mail. Thank you, Nicole -- I mean Erin. What I want to do today is really focus on clinical decision support systems, and I think that the audience members should be thinking about the application to their work as we go along. What I want to do is discuss the purpose and scope of clinical decision support systems. I will give you some examples of key features of clinical decision support, and I think probably from your previous webinars, I would bet you got varied perspectives and definitions of almost all of the terminology. As with other terms, there are often different formulations of clinical decision support, so I am going to give you a few different ways of thinking about the types of clinical decision support, and finally I will talk about the impact and the challenges of implementing it.

I want to start with a definition. By the way, I have some references scattered throughout here on the AHRQ Health IT website for the clinical decisions support initiative. Most of these appear and there are some others up there as well. The first definition is from the road map for national action on clinical decision support that came out in 2006, and that was one of AMEA's initiatives. Clinical decision support provides clinicians, staff, patients, or other individuals with knowledge and person-specific information, intelligently filtered and presented at appropriate times, and the purpose is to enhance health and health care. I have highlighted the key features, and I want to spend a little bit of time looking at some of the specific features that I mentioned. Okay. When we talk about knowledge, there are really two different types of knowledge that may be incorporated into clinical decision support systems. There is general knowledge about, for instance, diseases, diagnosis, general knowledge about medication, treatments, formularies, guidelines; any of these non-patient-specific forms of knowledge can be incorporated into clinical decision support systems. There is also patient-specific knowledge, such as an individual patient’s signs and symptoms, allergies, lab results, et cetera.

When we talked about another part of the definition, what’s very important is the word “filtered.” Filtering can be of a variety of sorts. You can think about it for the particular clinician: what does the clinician need and want at a given point in time? You want it filtered in terms of usable form. You don't necessarily want to present all of the

information because it is often at the point of care. It's got to be in usable form, so there has to be a filter. Contact sensitive is a term that may appear throughout discussions of clinical decision support. What that means is it's got to be filtered for the particular point in the patient care process that it is needed, so if the clinician is making a diagnosis, you may want to have information relevant to the diagnosis at that point, not necessarily related to treatment right away, and finally tailored to the patient. It should be filtered to some of the unique characteristics of the patient.

Okay. When we talk about the appropriate time, there is no one appropriate time, but the developers of the systems need to think about what is the appropriate time for the type of information. At certain points of time, for certain types of information, the most appropriate time may be the point when the decision is being made, and another type of decision support can provide information when new data about the patient arrives. Other types of decision support may be geared to stop dangerous decisions before they are acted upon. Appropriate time can be when the clinician requests it, and another issue that will come back to again later is the issue of appropriate frequency. How often do we present it, not just when do we present it, but how often do we present the information to the clinician? When we talk about clinical decision support, all of these factors need to be taken into account.

Going onto a basic structure of clinical decision support. Usually, most clinical decision support systems would have most of these three structures in one form or another: structural aspects, a knowledge base that is generally compiled information. It might include rules. It might include other associated diseases, for instance, probability. It might include lists, and I will give you some examples later, but it is compiled information, integrated information.

The inference engine is basically the formulas, the rules, the model for combining patient information with that basic knowledge base, and finally, you need a communication mechanism. Communication as we all know is (although I must say talking without getting any feedback from you is a little bit different), but communication is two-way, so there needs to be a way to get patient information to the system and there needs to be a way to get the system output back to the clinician. Those are some of the basic elements, but let's take a look at how that might work.

This is just a model, a brief schematic of the basic elements. Patient data might be input, and the user receives the output, so some examples of how this might work—for instance, if you had patient data—could be symptoms. The knowledge base might include diseases and their association with symptoms, and the output might be a list of suggested diagnosis to the user. Another example. The input could be a medication order for a patient. The knowledge base might include a list of drugs, and the feedback to the user might be interactions of the drugs, the orders that are being prescribed. Other parts of input might be a therapy plan for a patient, which might have guidelines, protocols, care management, rules, and variety of types of protocols. A plan might go in, would be acted upon by the system, and what the user might receive is a critique.

Lab results. If you want to think about it, the basic provision of basic feedback on lab results where abnormal information is highlighted in a way is decision support as well, but you could get these results at varying points of time, so they might come in the form of alerts. Lab results come in, they are abnormal, and the clinician might get alerted. All of these are examples of what we mean by clinical decision support. What you notice is that I didn't say at this point how the information gets into the system or how it gets to the user, and we're probably not going to spend a lot of time with that, but there are a lot of different ways, and we'll touch on them briefly as we go on. Okay. If we talk about categorizing clinical decision support systems, there are a number of ways. One of the ways that has appeared in the book if you notice the reference there; this is recent book that's just out on electronic health records, and this chapter by Slater and Osheroff is where this appears (but it actually had appeared a few years earlier in another source). They have developed a taxonomy of interventions that includes six broad categories. I will go over briefly the six broad categories, but if you want to see more details on them, you might want to look at some of the sources for them. The taxonomy of interventions is one way to categorize them, but there really are other ways, and another way to look at it is what is the purpose of the intervention. The one that may be most important in some ways—for understanding how it is going to be used— is taking a look at the clinician role, and I am going to spend a little bit more time on that.

So let's take a look at Osheroff and his co-author's taxonomy. You can have very simple documentation forms and templates. This might be, for instance, the well-child checkup form. You might have the exact elements that need to be on it to make it very simple for the clinician. Relevant data presentation at the point of care. If a medication is being ordered that is dependent on a laboratory result, you might want to have the laboratory results appear at the same time. Order creation facilitators: these are your order sets and similar types of interventions. Time-based checking protocol pathway support—this would be the decision support, the guidelines, the care plans, the way to follow a patient over time. The fifth bulleted item is your reference information and guidance, and we'll go into that a little bit. That might be both general information and patient-specific information, and the reactive alerts and reminders. These are the things that most people think of as decision support, but what I wanted you to see is there are a number of other things that also fall into that category. If we categorize by purpose, you could take the same six general types of decision support and organize them into several different purposes. Probably the first three are related to improving efficiency; the forms, the templates, data presentations, order creation facilitators, all of those can serve the purpose of increasing the clinician's time management efficiency.

The second purpose rather relates to creating—ensuring adherence to standards, and these may be protocols, the reference information, and some of the evidence-based guidelines. The main purpose is to provide some standards and uniformity. Finally, the last one, which generally has targeted safety and quality are the reactive alerts and reminders, and none of the types are only in the categories I put them, but they tend to have some general purposes, and those six categories fit into them. The one I want to go into now, though, in some detail is the clinician's role. In some cases, the clinician initiates the decision support request.

Generally, this will be in the area of the reference information and guidance type. In this case, basically the clinician knows that he or she needs support, and they're willing to take the time to seek the information. They usually have to take some action to receive the information. It might be as simple as clicking on a link to get to a source. It might mean entering data into a system and going to a whole new system, but generally when the clinician initiates the request for support, it is usually before they have finished their final plan. They may be in the process of planning (when I say plan, it could be a treatment plan), but it might just be formulating the diagnosis, and they are seeking out information because, for whatever reason, they feel that they have a problem and they need support. What we have to remember is this type of decision support will not occur unless the clinician recognizes that there is a problem.

Some of these examples of general knowledge might be, for instance, seeking out the evidence-based literature and Medline. You could be looking at a digital textbook seeking out some specific guidelines or drug information. Ordinarily what would happen is the clinician might click on a link and go directly to the source, but more likely if you think about those of you who have looked up information in Medline, you're going to enter some information. It might be free text, you might have to use specific terms and you would basically get back the information—the support that you're requesting. Again, another type—another example might be as I said not just general information—might even be patient-specific knowledge. There are a number of diagnostic decision support systems where you might enter in, as we saw in the diagram earlier. You might enter in patient signs and symptoms and often those programs are asking you to use controlled vocabulary, and the system would provide suggestions. It could be clinical predictions, rules, drug interactions. There are programs that allow to you enter all of a patient's medication and they give you back a list of potential interactions, so they provide suggestions, probabilities or answers. Again if you don't seek out the information you may not get it.

A second type of decision support, a second purpose, a second role, for the clinician is to respond to the decision support, so the clearest example of these is the reactive alerts and remainders. An alert will pop up to the clinician, perhaps when new laboratory data is available, perhaps at the point of ordering medications when there is potential interaction, and the role of the clinician may need to, has to respond to it. In certain cases, they may not be allowed to override it but in most cases they have a choice of listening to the advice, ignoring it, or overriding it.

Basically, these reactive alerts and reminders will occur whether or not the physician or clinician rather explicitly recognizes the need for support, but in any case, once they appear, action is required, and this action may actually increase the overall time. If you think about it, when a clinician is ordering medication, if they suddenly told it is not in the formulary or there is an interaction with patient's existing medications, then they have to make a separate, a different, decision.

Often the alerts and reminders will use the data that's already in the system so that a clinician using an electronic health record that has the existing patient medications in the system, when a new one is prescribed and interacts with existing ones, an alert would appear using that data. Basically, the response is not necessarily sought out but those have to be dealt with. The rest of the types of decision support could be either initiated or responded to. You could request some forms and use them. You could request information at the point of ordering, or they can be done more automatically and you respond to them.

If we look at the literature on the impact of clinical decision support, there is literature probably in all of these different areas I have on the screen there. Most of it with varying degrees of support has shown the ability of clinical decision support to have an impact in these areas, so it can improve adherence to protocols by providing guidelines at the point of care, standardizing protocols, making sure correct procedures are done and avoiding inappropriate procedures. You can avoid errors; potential drug interactions have probably been one of the most frequent types of decision support that has been shown to be reduced in appropriate ordering, but also if you have decision support at the point of care and diagnosis, you might be able to avoid delays in diagnosis. Another impact is to minimize problem severity. For instance, if you have early alerts to abnormal laboratory values, you can catch problems before they become severe. You may have an alert to, say, potential adverse drug events, and again you can catch things early. Certainly most of the remainders, for instance, for diagnostic screening can catch problems—can prevent problems before they start.

Another possibility is that you can prevent complications. For instance, immunization reminders for both clinicians and patients for flu shots may prevent hospitalizations later for influenza complications, so all of these things have been demonstrated in the literature to some extent. There have also been some studies that have analyzed the factors that predict success with clinical decision support. I have a reference there that appeared in the *British Medical Journal* a few years ago. Basically, they analyzed numerous studies and found that there are really four main factors that predicted success; in other words, success being that the clinician would attend to the alert, attend to the clinical decision support, and it might actually impact outcome. One of the key ones is integrating it into the physician workflow. That goes back to the question of the appropriate timing.

Another key factor that predicted success was providing advice at the time and location of decision making. For instance, if you provide the physician with a list of all the patients that need certain things at the beginning of the day, by the time the patient comes in, the physician might forget about it. So having it closer to the time of decision making about that patient is a better way to do it. Another key factor is including a recommendation for action, not just assessment; so telling someone the probability of this disease is such and such alone is probably less helpful than saying this probability is sufficient to justify action.

Finally, this goes back to our question, our clinician role issue of whether it clinician-initiated or clinician responding, using the computer to generate it, rather than leaving it

to the clinician to decide when to get the information, has been more effective. The evaluation studies have largely focused on inpatient systems, some outpatient. Pretty consistently, the alerts and reminders are effective, but they've been shown to be effective mostly in improving processes.

For instance, if you present a clinician with potential drug interactions, you would get the clinician to order a different drug. There has been much less studying about whether it actually prevented an adverse event in a patient. The diagnostic programs and the clinical guidelines have had more mixed results and actually fewer trials in practice settings. Part of the reason for that is that most of the diagnostic programs have been in a clinician-initiated mode, so that they really haven't been automated to -provide answers to questions that haven't been asked. Whereas the alerts and reminders are much more in the responsive mode the way the clinician has to respond to them, so those are preprogrammed to show at certain times and the clinician will respond to them. It is really important to look at the impact on the user, not just how the system performs. My own research and some others on early diagnostic systems, for instance, diagnostic support systems, was looking at how the system performs, but the system can perform very well and still not impact the user, so the evaluation really needs to be looking at how users respond to the system. Finally as we said earlier, CDS that fits into the workflow is much more likely to be used.

In developing the systems, it is not like I am repeating myself five times to say integration into the workflow, integration into the workflow, but that is a key challenge because it implies a customization by site that really needs to be done since workflows are different. You can have a system, but how you deploy it in a given site is a challenge and with what works in one might not work in another. If the system just understood all of us—the way we speak—it would be great, but most of them have controlled vocabularies, and they have certain rules the users may not always be aware of. As we said, that if the user has to respond to, for instance, a letter or reminder, it is going to take some time to digest that information. So [when] a physician is ordering medications, and is told these two medications interact, the clinician has to decide first of all, is the system right. Second, if they interact, what else should I do, and third, is that going to work for this patient or am I going to get another reminder? So all of that takes some time to digest and respond to and that can be a challenge as well. Maintaining the knowledge base is important. All of are you aware that certainly there are new therapies. Diagnoses change at lesser speed, but new drugs are always coming out. The system can't just be static. It has to be dynamic so that knowledge base will be maintained. Another challenge is displaying the information for the user. You don't want to present too much. You want to make sure it is information that the user needs at that particular time. Some of that takes a lot of development work to figure out, and then there is the clinician. I said physician, but it could be any clinician, must have the knowledge and skills to understand what they're getting. If they're told that this drug interacts, do they know enough to know what to do about it, or how to use the system for that matter, what it means, how to override it and even if they're going to override it, how to accept it? A good guideline to remember (if you just think about yourself) is that nobody reads manuals, so making the system as easy

to understand and who the user is going to be are very important challenges to address. Let me go on.

There are specific challenges when the clinician has to initiate. Any system that requires the clinician to enter more information is likely to take more time, and the clinician might say I don't have the time to deal with this. So balancing those areas and recognizing the effect on clinician time is important. The search and the algorithms that are used [if you don't want to present too much information, especially clinicians searching for information], have to be very carefully filtered, and that will depend on the particular basic setup of the system. Finally, the motivation for use. What is going to prompt if you're waiting for the clinician to initiate? The clinician has to recognize there is a problem, has to say it is okay that I seek support; it has to be easy to do and timely to do and not waste time. So there are challenges in motivating the use of clinician-initiated decision support, and that's why I think when we went back and looked at the article that talked about the factors that lead to success, it is: if it is important enough, you want to minimize the physician/clinician having to need clues to use it.

Let's go on. At the same time there are challenges when the clinician only needs to respond. Clearly, you want to have it integrated with your existing information systems, and those are technical challenges; they're not insurmountable, but they're something that would have to be attended to. It has been called alert fatigue, it is the boy who cried wolf too many times. You don't want to be overwhelmed with alerts or they will tend to be ignored. My favorite example (to make that clear) is all of you who have used word processors, when you think of that little paper clip that comes up, most people ignore it. Their first reaction is to get rid of it, and that can happen with too many alerts, so setting the sensitivity of the alerts is an important factor to consider. Finally, the timing: at what point that's going to be done. So all of those challenges are things to consider. None of them are insurmountable, and in fact the reference on this last slide with the five rights gives very specific advice on how to do that. I want to end with this discussion of the five rights of medication administration. Well, this is the five rights of good use of clinical decision support, and again that came from Osheroff and his colleagues' work. You want to present the right information in the right intervention format to the right stakeholder through the right channel and—most importantly—at the right point in the workflow. This one slide is probably a good summary of some of the messages I tried to convey. That's about it. Thank you.

Thank you very much. That was a very informative presentation, and just so we can make sure we give our second presenter enough time, I would ask that folks hold your questions in terms of getting the answers right now. Certainly if you have questions, put them in the chat box, and we will get to those after Rachel finishes her presentation, and it looks like we have Rachel on board. Technical issues are resolved, is that right?

Yes.

Excellent. You may have seen on the initial notification that Chuck Friedman from the Office of the National Coordinator was going to be speaking. Unfortunately, something

came up and so he was not able to be with us today, but fortunately one of his staff people, Rachel Nelson, who works with Chuck has graciously agreed to provide us with some information. The title of her presentation Clinical Decision Support Government Collaboratory, and I think Rachel will have very interesting information to share with us. Rachel Nelson's responsibilities include facilitating ONC's activities to advance electronic systems for clinical decision support as well as to implement and monitor progress on the federal health IT strategic plan. One thing that I am very pleased to have learned about Rachel is that she is a native of southeastern Ohio, and I am not sure I am a native, but I spent many years in southeastern Ohio myself (southwestern, I guess, but close enough). Rachel holds a master's of health services administration from Ohio University in Athens, Ohio. In health care her primary interest is improving the quality and value of physician and other professional services, disease prevention and management programs, and maternal and children's health services program. For over 8 years Rachel was a program analyst and coordinator at the Centers for Medicare and Medicaid Services (CMS). While as CMS, she worked in several areas, including quality improvement, strategic planning, nursing home quality, and on projects related to incentives for providing higher value rather than merely higher volume of health care services. Rachel, we're glad to have you here today and look forward to hearing what you have to tell us about the government collaboratory.

Thank you. One thing I would like to add before I start is that my 8-plus years at CMS ended just about a month ago, so I am fairly new to the government collaboratory, but it is one of the things I came here to work on with Chuck Friedman. I will get right into describing the government collaboratory because I know that's what you're really here to hear about now that you've gotten the first part, you're hanging on for this one. Basically, the collaboratory is a group of interested persons from across different federal agencies. It was formed in March 2008 to coordinate the clinical decision support development and advancement activities of multiple agencies all engaged in various aspects of clinical decision support and development simultaneously. It is cosponsored by the Office of the National Coordinator for Health Information Technology, the Agency for Healthcare Research and Quality, and the Health and Human Services Personalized Healthcare Initiative. So the glue that holds it altogether comes from three different portions of the Department of Health and Human Services. We do each have our own distinct mission that is harmonizing and coming together. The collaboratory builds on and responds to a scan of federal agencies' activities in clinical decision support. The collaboratory meets at least quarterly and provides a forum for the sharing of interest, perspectives, priorities. My personal hope is that as we progress over time and have some lessons learned to share amongst ourselves, we will also take on (as part of collaborative or collaboratory initiative) the ability to share what worked particularly well in which instance. For example, participation, as I mentioned, has been drawn from multiple agencies. Right now (and this is sort of at this point driven by individual volunteers), there are 75 and counting (actually more than 75 and still counting) individuals who represent a number of federal agencies, including the Department of Defense, the Agency for Healthcare Research and Quality, the Centers for Disease Control and Prevention, Centers for Medicare and Medicaid Services, the Food and Drug Administration, HHS Offices of the Assistant Secretary for Planning Evaluation, Assistant Secretary for Preparedness and

Emergency Response, the Office of National Coordinator, the Office of the Secretary, the National Institutes of Health, the Indian Health Service, the Health Resource and Services Administration, the Office of the Surgeon General, and the Department of Veterans Affairs. So as you can see, it is cosponsored BY the Department of Health and Human Services, but we do represent some other departments who have a significant stake in the quality of health care and in clinical decision support.

The collaboratory just started forming in March 2008. The first quarterly meeting was held IN June 2008, and it should be noted that we try to have quarterly meetings be face to face as much as possible and that is one of our prime venues for sharing amongst the participants. Our first quarterly meeting (for which I was not yet here) featured guest speaker Blackford Middleton from Partners Healthcare, and he provided an update on the clinical decision support consortium funded by our host agency today on this call, the Agency for Healthcare Research and Quality. The participants at that quarterly meeting also shared with one another updates on various federal CDS projects that were under way.

Currently, we're in the midst of planning our second quarterly meeting at the end of September. We will hear from a couple more guest speakers representing different perspectives, such as developer perspective and also perspective that is important to us in thinking about how you link clinical decision support and quality. Again that's still on the drawing board. That's why I am being a little vague about it. Nothing is set in stone. The one thing we hope to do at this second quarterly meeting is to prioritize what we call subprojects. The subprojects perhaps four, perhaps five, will be instances where—out of our 75 plus volunteers—smaller groups of volunteers with particular interest and focus in specific areas come together and organize off line in between the collaboratory big events to advance a specific topic. There are two examples I think may be of interest to this group. One, which is very technologically exciting to me, is what we call the hardened rules project, and that starts from the premise that there are perhaps 200 or more rules or practice guidelines, if you will, for which there is solid scientific evidence, widespread clinical support and clinical acceptance that they're the right thing to do. The rest of the premise is that a provider could select a subset of these and further draw down towards a set of specific statements that would support the efforts of people trying to develop clinical decision support systems — to validate the systems from the more technical perspective to implement those statements. The other thing that I thought may be of interest to this group is one of our front runner candidate projects. Certainly these are not the only two that are up for bids at the meeting of the collaboratory, but it is a governmentwide—and when I say that, I mean federalwide— portfolio of CDS research. That would be a small group of people out of the participants who are particularly interested and have the right skill sets to pull together information on who is doing what on CDS research: what are the ongoing projects to research, develop tests, evaluate clinical decision support tools, and rules, etcetera.

Those are two. The reason I picked those out of the potential smorgasbord is that this assembled group wants to say move forward with clinical decision support. I do understand you're interested in knowing what was going on in the federal collaboratory to

try to figure out how we might synergize or how that might feed into and support your efforts. Potentially either of the two that I mentioned could facilitate the efforts of people who are trying to build on additional CDS capacity to existing systems. For example, the hardened rules or the governmentwide portfolio of research could eventually be a resource that would help people know what had already been done, what had been found and would save you starting from scratch, digging around for the literature yourself.

Again, the collaboratory is still in its developmental stage. We have not yet even selected which specific subprojects have enough volunteers to carry them forward, so we can't give you a hard and fast timeline and, again, it remains in development. The thing I wanted to do now if I have a few minutes left is turn it over to you in a sense and ask you what you think or what other questions you would like to ask about the government collaboratory and/or what thoughts or suggestions that you might have for us to consider as we move forward.

Thank you very much, Rachel. Actually at this point might be a good time to open it up for questions of Rachel or Eta. You can ask questions two ways. You can type in your question in the chat box and choose **all panelists** to send, or you can choose **all attendees** as well but at least choose **all panelists** when you send your question, and I will read the questions. The other way you can do that is click on a square box that says raise hand, which is right above the chat box. It shows a picture of a hand. You can click on that, and if we have your phone linked to you, then we'll be able to communicate. Nicole can unmute your phone so you can ask your question. Rachel has sort of put up there, you know, what questions you have about the collaboratory and/or maybe suggestions for what the collaboratory would work on. To folks out there: how many of you are working on clinical decision support? What can you tell us about that and its importance to Medicaid? I saw at one point Tony Rodgers was on the phone. I know Arizona has been looking at this, and Tony is chairing a work group of the multistate collaborative that's looking at clinical decision support and Medicaid. I imagine you're all on the phone because you're interested in this topic, so sharing across participants in this call what you're doing and why it is important to Medicaid. I encourage folks to chime in any of those areas, so questions for Eta or Rachel or sharing of lessons learned from your end.

Or if you have questions for each other.

Eta, have you seen much going on in the Medicaid world around clinical decision support?

I am less familiar with that area, but I think that the one thing that I am more familiar, I don't know if we have anyone from Tennessee on the phone. Do we?

All I can see are names, not locations, so I am not sure. If anyone from Tennessee could either send us a chat message, letting us know you're here or raise your hand?

They may be able to say more, but one of the projects that I am also currently involved with now is working with Shared Health of Tennessee and they are supporting all of the Tennessee Medicaid as I understand it, and in their system they have a number of prescribing features which have -- is someone there from Tennessee? Is that what I am hearing? No?

No, I haven't heard that.

I think they can say more about it than I can. There are some tools in there that include some templates and I think they have some templates and some E-prescribing features as well as well or at least alerts for drug interactions and analogies.

We have a question from Roberto Martinez: how do you see providers paying forgetting the information? Or maybe a different way to ask that is do you see providers paying to get this information? Having it at their finger tips?

I guess there are a number of different models. Many of the records have decision support features built in. They have templates for decision support. It doesn't mean the providers don't have to put some effort into the design as we talked about, but I would say a number of the electronic health records have built-in [capabilities]. (And possibly—I don't know if Rachel can address this better than I can, but I know her office is also working with the certification commission, and they are certifying electronic health records systems, and they have or probably will have in the future some requirements for clinical decision support.) So a number of the systems already have the capabilities built in. There are outside knowledge sources and other things that of course would require payment. I don't know if that answers the question, but the providers that have electronic health records often can have built-in decision support capabilities.

Roberto also has a question specifically to Rachel: does your group look at national standards for receiving and transmitting data so they can readily talk to CCHIT certified electronic medical records?

Certainly if we were going to go so far as to develop a specification of that technical level, yes, we would definitely make it compatible with SCHIP and HITSP and the applicable nationally recognized standards out there that and the standards obviously that have been adopted by voluntary consensus standards bodies appropriate to what we're doing. We at this point are really not getting into such a technical level of specification that we would be telling people how to -- which standards to code it to at least so far as we've gotten. For example, hardened rules would not be a sample set of program code or tell what you code to say pull from. It would not be a tech spec. It would be the logical statement or the requirement statement that someone would code to. As we move forward and get up enough momentum to go into a more technical area, yes, we would certainly be looking at using standard code sets.

Thank you.

Operator: Roberto

Roberto has been on other sessions and is always good for questions and comments. He has a comment that in New York they're looking for a plug-and-play solution for providers to get to their providers, as Eta put in a filtered mode. I think that was more of a statement than a question. We have another question regarding the collaborator: are there any additional thoughts on future state-facing activities that would inform the state level organization, that is would benefit from insights you expect to gain through your efforts?

When I think about state-facing activities, certainly this is an evolving process, but at this point even now in its infancy when it is a federal group of federal volunteers, the collaboratory would anticipate that as we develop things that would be broadly useful, we would make them broadly available. In the interim, certainly we are happy to connect even if the specific individuals at AHRQ who have leadership over with this group of state Medicaid and SCHIP persons are not engaged in the collaborator. We would certainly be happy to share our periodic newsletters or updates as we come up with them. If there is something there of potential use to you, they would be welcome to share it. We're open about it. We just at this point don't really know what we're going to have when, so we haven't begun to try to figure out how to disseminate it.

That's a good point, Rachel, and I am actually the person from AHRQ who works on this project, and I work closely with Jon White who participates in the collaborator. So thank you for the question and I will just be sure to keep my ears open as well and have conversations with John so we can be sure to be pushing that information out to the states as it becomes available.

We have a question from Suzanne, and I apologize if I said the name incorrectly. I think Eta has an answer to do some degree, but the question is: do EMR&EHR have CDS capabilities built in? I think Eta said that some of them do. The follow-on question is: how can such a redundancy of functionality be reduced as my assumption would be there would be challenges and practices that have both types of systems? Susan, I think maybe what you're asking is when you refer to both types of systems, you mean if they have an EMR or EHR system and a separate clinical decision support system how do you reduce the redundancy of functionality? Eta, do you want to take a stab at that?

Let me try a couple of things. I wanted to answer Roberto, who is looking for plug-and-play. I would like to say if you're in New York, forget about it.

(Laughter)

It is really important to set your providers expectations properly, and there are several levels of the plug-and-play. One can be interoperability, which I am sure you have heard about on other presentations, so that technically different functionalities could be integrated into systems. That's one issue, and that's not the one to forget about, but when I mention the customization of fitting into the workflow, there is always going to have to

be some customization. So it can be very risky to expect a plug-and-play without some work that really customizes it to your environment, but that was that one comment. I am not totally sure.

So, Eta, your good luck response meant good luck in general to find plug-and-play, not good luck because he is in New York?

No, but the “forget about it” was a New Yorkish statement.

Okay.

If you can tell, when I talk loud enough, my New York accent does come out. I wasn't totally sure with Suzanne was asking. If one of the questions is if you have two different kinds of systems and you have to get out of one to get into the other, that is an issue, and that's why what you wanted is to see as best as possible to take the information from the existing system, and have that populate some of the decision support areas. I wasn't sure I know the different definitions of the EMR and EHR we'll use, but I didn't know if it’s the two systems you're talking about or something else, so I would need more clarification on that.

Okay. I think Susan if you're willing to join us . . .Susan said the two systems would be EMRs and EHRs. I think what may be helpful here, Susan, is if you want to take your phone off mute, Nicole will unmute your line and if you wouldn't mind just talking with us directly, I think that will help clarify so we're sure we're answering your question. Nicole, is she unmuted?

Yes.

Susan, do you want to go ahead?

(Inaudible).

Susan, if you're talking, we can't hear you. Maybe your own phone is on mute. Maybe she is kind of shy. I guess what Susan said, I guess it is if a panel is using an EMR and an EHR.

I guess I still have the -- can you hear me if I am talking now?

Yes.

Some of the redundancy is not necessarily a decision support issue. What you're saying is that in your ability to get information exchange or something outside your system, it doesn't integrate well with your existing system. Is that the question, that outside sources of information may not be fully able to integrate with an existing system so that it is an integration problem? I guess I am still not totally understanding the redundancy aspect.

Yeah. Susan, if you're able to, if you want to just answer verbally, your line is unmuted, so Eta will be able to hear you.

This is Rachel. I will go ahead and maybe this will at least inspire (words indiscernible). When I see the question of having an EMR and an EHR, in the same practice at the same time, my initial reaction based on my experience in the field is that would be unusual except in so far as the practice had put one system in place and Eta was alluding to this earlier, you put one system in place and then you put another system in place, and how do you get -- how do you move from one system to another but in my experience and at least what I am picturing in my head is that you would indeed be moving from one to the other with the one become be obsolete eventually and not really running an EMR&EHR in parallel in the same practice for a very long time.

Yeah, Rachel, I think that makes a lot of sense.

I guess -- go ahead.

Am I still on? I guess the place where I could see it would be if you have your local EMR in your practice but your source for health information exchange and information on other places where the patient has been treated are outside that system and being get information on where -- you can get exchange information in one system, but your local EMR is a different system, and obviously without them being interoperable, it is going to be cumbersome.

Right. That doesn't help your clinical decision support because it doesn't have all the information.

Right.

Right.

Looks like I think Roberto has raised his hand. Nicole, if you could unmute him.

Roberto, I think you're good to go.

Okay. I didn't know I raised my hand.

Okay. So you don't have another question? I have somebody else.

Nope.

Unless there was a question you had to ask.

No ma'am, I am fine.

Tony Rogers, looks like his hand is raised.

Unfortunately I can't unmute Tony Rogers because his name isn't linked with his phone.

Tony, when you logged on the phone and it said punch in your user number, I guess it doesn't have a user number, so we don't know which line you're on. Could you type in your question?

Susan has gotten back to us and says her phone isn't working properly because she definitely is not shy. She said the practice can have an electronic medical records system that only holds information within the practice. However, an electronic community record may have clinical decision support functionality as well, so I think, Eta, you were starting to get at that—that it was sort of the interim electronic record compared with the health information exchange, so I guess the redundancies she is talking about is if you've got clinical decision support in your practice-based record as well as clinical decision support in the electronic community record, I think that was the redundancy she was talking about.

I guess I don't at this point have a good answer to that except, you're right, it is redundant, but to the extent those systems become more interoperable and they will in the future, you may be utilizing all of the information from both systems and not have the redundancy, but I don't know that they are there yet.

Thank you, Susan, and thank you, Eta. Tony, if you're at your computer, would you like to type in your question? If you can send it to all panelists.

He is in the process of typing it in.

Okay. You can tell that?

He is going to try. It is a long question.

Okay.

I am sorry.

Thanks, Nicole, for letting us know that.

You're welcome.

We'll just wait here for a few minutes. While we're waiting, others, again, if you have questions, please feel free to type them in, and when you dialed into the phone and it asked for the user number or something like that, if you typed in the user number, punched in the user number on the phone, we do have the capability to unmute you, and we would be happy to do that. Nicole has just posted some information which is that—okay, sorry, I am trying to read all the questions coming in here. Yeah, we heard from Tony. Thank you, Tony. In Medicaid SCHIP there are unique CDS configurations that

are important to communicate to providers. In Arizona they're looking at software that provides integrated enterprise. Then how do we in Medicaid assure that CDS rule engines can accommodate unique Medicaid protocols? So, Eta, I guess that gets to some degree what you had been talking about, anyway, that you have to do typically some customization with the systems, How easy is it to customize it from the standpoint of getting in specific protocols which Medicaid may have? Some unique one that wouldn't be kind of off-the-shelf systems already?

Yes.

I don't know if you have any thoughts.

I don't have any thoughts on that, anything to add to that other than --

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Or how do you go about that?

Well, to the extent you have clout in numbers, you may be able to get some customization done that if it applies to all of the Medicaid protocols, but again I think the basic message is that many things that are off the shelf are going to have to be customized to some way, and many of the systems actually give you more templates than specifics because they do need some local customization.

Okay. So it seems it is possible for some of the ones out there they already you have built into them—into the products—you're going to have to do your own local customization and so hopefully there is a way then to build in the unique Medicaid protocols through that mechanism?

I can't say definitely, yes. I am saying that there is that possibility. Again, I think more of the systems have more templates for the user to make some decisions about what they're going to do.

I just wanted to remained you all if you would like a copy of today's presentation, sooner rather than later, you can send an e-mail to Nicole, and that e-mail address is N as in Nancy BUCHHOLZ at RTI.org. Eventually, we will post this presentation to the website on the Medicaid SCHIP page. We just need to put it in a format appropriate and accessible to all who may wish to access it. As well, we have a specific e-mail address for this project, and Nicole has graciously just put that up on the screen. If you have recommendations for future sessions or comments about today's sessions, that is, how we can make that better, we would love to hear from you. Or if you have questions about how to access some resources or technical assistance through this program, that would be appropriate also to send to this e-mail address. Nicole has also put up a toll-free number and she has put up the National Resource Center site in general. If you go to the site, you can click on the left-hand side, AHRQ-funded projects, and you will see a link that says Medicaid SCHIP. That link will take you directly to the content of information we're beginning to build specifically relevant to Medicaid and SCHIP agencies. I will put it out there one more time.

If anybody has any questions, raise your hand or send us a note in the chat box and we'll give it a few more seconds and see if we have any more question that is come in and if not, I don't see any coming in. I would like to thank everybody for your participation today and thank you, Rachel, for stepping in. I know it was not necessarily on your schedule, but we appreciate you being here today and look forward to the opportunity to hear more about how the collaboratory is progressing. Eta, thank you very much for all of the excellent information that you were able to provide, and also, Tony, thank you for your question. Eta responded to your question [by saying] sometimes you can help move things along with numbers, and that's exactly what you're working to do with the NASMD multistate collaborative, trying to sort of pull a number of state agencies together who are all working on the same thing, so I appreciate your comments on that as well.

It is always good to have a few extra minutes that you weren't expecting, so again I thank you for your time this afternoon. We look forward to your participation in future calls. Our next call will be on August 27th, and I am just trying to get the exact title of it. I am not finding it of course because I want to remind you all of the call. The title is Electronic Standards for Privacy Consent Directive. We'll be doing that in collaboration with the NASMD multistate collaborative groups. We're very glad to have the suggestion for that presentation, and we'll be working on that, and so we hope to hear you then as well. If you would like to receive additional information on clinical decision support, you can go to the main website, the main ONC website, health IT dot AHRQ dot gov, and we'll actually be presenting through the natural resource center, a series of teleconferences clinical decision support. I think Eta is actually participating in those as well, and I think the first one is on the schedule for September, but if you go to the website, you can find information on how to register for that. Thank you everybody for your call. Thank you to Eta and Rachel and Nicole for helping make this happen, and I look forward to seeing you all soon.