Presented by Lisa Gall, DNP, RN, CFNP, LHI; Jerome A. Osheroff, MD, FACP, FACMI; Paul Kleeberg, MD, FAAFP, FHIMSS, CMIO. (57-minute webinar)

Event ID: 2090004
Event Started: 2/20/2013 12:50:39 PM ET

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Good afternoon ladies and gentlemen thank you waiting. Welcome to the designing clinical decision support for quality improvement conference call. All lines have been placed in listen only mode and the floor will be open for your questions and comments periodically throughout the presentation. Without further ado it is my pleasure to turn the floor over to your house, Ms. Jerry Honegger.

Thank you, Amanda and again welcome everyone this afternoon to our sixth webinar, that is part of the reach Stratus house and North Dakota QIO series of webinars. Today, again, were talking about clinical decision support enable quality improvement free meaningful use. Our speakers today are Ms. Lisa Gall, she is an H IT consultant with Minnesota North Dakota reach, and she is a subject matter expert for Stratus health, family nurse practitioner, and Lisa brings 26 years of experiment and health, nine years as a nerd's parks to -- practitioner two years of the reach consultant to provide reached optimization many believe the go live support and covers occasional shifts in a real-life hospital we are also joined by Doctor Jerome Osheroff the principal in TIM T consulting Doctor Osheroff founded TIM T consulting in May 2011, and the firm is focused on developing and implementing pathways to better healthcare outcomes for care delivery organizations, government agencies, HIG vendors and others. Dr. Osheroff is a board-certified internal medicine and serves as an internal medicine faculty and clinical staff at the University of Pennsylvania health system. And he is also, as I said a subject matter expert for ONC CDS4MU project or clinical decision support for meaningful use. And also we have after Paul Kleeberg, he is the CMI over Stratus health and the clinic -- clinical director for reach, regional extension Center for Minnesota and North Dakota, he has practiced in a small town in Minnesota, I was medical director for clinical decision support at a large, integrated delivery system. Our webinar sponsored today are Stratus health in Minnesota quality improvement organization North Dakota healthcare review Incorporated, North Dakota quality improvement organization and reach the regional extension Center for Minnesota and North Dakota. Without I am going to turn the webinar over to Trevor.

Thank you. Our session goals today are designed to help you improve your work of an information flow within your organization so that is also going to help you improve patient care and reduce errors. Something we all find to be rather important in patient care. We also will help you address some of the performance incentives and mandates with what you will learn today.
and finally and probably most importantly, make your EHR more helpful to you so you can actually use it to help leverage the objectives and things you wish to accomplish in improving care in providing care for your patients. So, you may recall that we sent out a number of weeks ago, the announcement of the session, a number of former questions. These were actually things we asked to think about in the bands because by identifying some of these elements, that begin to make today's presentation were meaningful to you. And these questions are, top clinical improvement targets for your facility, so I want you to at least keep one or two in mind during this presentation. And how do you actually measure your progress on that? Parties see if you are doing better or not? How are you supporting patient and clinician decisions and actions to drive improvement in this particular area, one of the approaches we've used that it are to work well and what have been some of the pain points in a particular process?

Finally, how might you leverage your EHR or other technologies to improve -- including potentially workflow and other things -- to improve efforts to help you achieve improvements in these targets. So today's agenda, is actually set up to be able to help you with this in several different ways. We're going to start with a case example in clinical decision support and actions which will help make all this very real for you today. You will find with this presentation, that what possibly people think about clinical decision support is much more than that. So, we kind of essay here DDS is not what you are thinking but actually something much broader. We will also look at better care and information workflow, and among that some of the key concepts and tools and approaches involved with clinical decision support, how you develop your core capabilities that allow you to improve outcomes with decision support and finally, achieving your targeted improvements with these tools that you have assembled and these processes you have designed.

And finally, at the end we will give you an exercise that will help you approach the item you have identified prior to this meeting, so that you can apply the strategies that you are learning today and in one months time we will talk about this more so you are able to share with each other what you have learned and we can help make this real for you. So without I'm going to turn it over to Jerry, who is going to begin to talk about some of the elements in building capacity and the foundations for clinical decision support.

Sorry, to Lisa.

Thanks, Paul. In this session I will present how one small rural clinic used clinical decision support in an EHR to improve patient care. My disclaimer is, this is the case example developed based on a compilation of actual events and my experience as a nurse practitioner, and consultants, over the last few years back this is an example to emulate what is happening in many small clinics and is quite true to life based on real examples. Studying world clinical access hospitals one main and three satellite clinics they offer specialty services primary care clinics care and the nine providers include physicians, nurse practitioners and physician assistants. In 2010, we went to paper to electronic records. The HR implementation was pretty rocky. Like many small clinics not only do we lack the staff, experience and the EHR invitation Project management, we did not have the resources for extensive go live or IT support. During go live, we quickly discovered that many fundamental clinic processes such as well-child visits, were not built into the EHR. The providers and nurses worked allegedly to rapidly build some crucial template and order sets. Due to the strain on resources, all new projects including quality improvement projects were put on hold.

When the QI committee reconvened a few months later, they were immediately concerned with the most recent Minnesota help scores. Less than half of our patients had adequately controlled
with pressure, and performance actually decreased from 2008-2009 report. -- 2,832,008 -- that raised red flags were really have our patients blood pressure patients blood pressure is out-of-control ever rechecking them accurately routinely? The committee decided to work on two related quality improvement goals. Include but pressure monitoring and control and improve patient education and involvement in care. The key factors that were considered in choosing those targets were blood pressure control is an important way to provide quality care, we had low rating for control on blood pressure control on Minnesota health scores, and on the business side improving blood pressure control rates drive some quality improvement payments from meaningful use and some insurance companies as pay-for-performance incentives most important in achieving those goals would significantly improve patient outcome. So, we immediately implemented a few simple clinical decision support functions in our EHR such as standardized orders of the blood pressure medication alert. Our blood pressure control rates rose to 63% in 2011.

After implementing some additional CDS functions, our blood pressure control rates rose to 2% in 2012 and this is based on 2011 data. As the Minnesota help scores do. The next few slides I will show how we used simple, clinical decision support techniques to improve patient care. Before embarking on a quality improvement plan, the quality improvement committee identified several key clinical processes. Such as documentation alerts, patient education and clinical summaries that could significantly impact our target goals either positively or negatively. We identified what was working well what was not in those processes. We considered the capacity of our patients, providers and staff including their preferences, attitudes and skills. After gaining a fuller understanding of the people in the workflow processes, we dug deeper into the capabilities of the EHR, to discover we had to improve the flow of information and make workflows more efficient in order to improve care delivery.

These are some of the barriers that we faced in meetings, our target for blood pressure monitoring and control and how we address them including the lessons learned along the way. We discovered that patients with elevated blood pressures did not consistently have their blood pressures rechecked during the visit, so we provided some education to the nurses and required them to demonstrate proficiency in taking accurate blood pressure, and we implemented a new clinic protocols specifying when blood pressure rejects should be done. -- read checks should be done -- it was important to have stakeholder buy-in and engagement in implementing changes that we provided nurses, and all clinics that they provided with these changes we also provided educational sessions for providers and best practices for hypertension control and we carefully selected provider champions, super users and informal clinic leaders. A lesson that we learned is that while it's very important to communicate information, to clinicians, it was just as important to assign someone to disseminate that information, to them, regarding the EHR a clinic changes. And, clinicians spent a significant amount of time documenting care and accessing key clinical information in the EHR. So, with provider input we provided templates for document hypertension clinic is including templates various levels of care and displayed key clinical data on the EHR face sheet including their vital signs. Weight, BMI, medication problem list and risk factors. Our original orders of that basic pick and choose orders for the top 20 diagnoses. And, what we did is optimize them by adding medication and classes of medications and some patient education topics. We are currently working on adding some additional medication regimens for hypertension and we also conveyed to providers that these tools do not provide clinical judgment and that orders that need to be reevaluated on a regular basis.
The current flow sheets we have were not very user-friendly, so a couple of best EHR provider users developed usable and accessible flow sheets for hypertension, and we give them direction to include information we need for various quality reports. This is an example of a flowsheet that we found that matched what we wanted to see on our EHR. The vendor, we know very in their functionality relating to flowsheets and the capabilities we are currently working with our vendor to implement this information in our EHR and to map information from the EHR to avoid manual or duplicate data entry. The last few barriers on this slide carry over to the next lives that are mentioned here for consistency. Like most clinics once we looked we found inconsistency and any patient workflows. For example providers receive your results on paper and in the EHR, so we standardized some workflows, across providers and clinics and sent all results electronically to providers.

We also found it difficult to access patient provider information on home blood pressure logs standing to the system back for now until we get a patient portal, we are having nurses and your blood pressure into the flowsheet during their downtime. Appointment scheduling has been one of the greatest benefits of the EHR per clinic south and providers. Since printing out a clinical summary, or after visit summary the number of patients making follow-up appointments before leaving has increased significantly.

Impacting blood pressure control is patient compliance and understanding of hypertension treatment. We do provide verbal written and electronic tools including some posters and pamphlets in the waiting rooms and patient care areas. These will be addressed in the next slide. Also providers and nurses used patient education and clinical references on a limited basis that we provide some staff education on that. Finally, one of our biggest lessons learned within the use of pop-up alert. We thought it would be a good idea to trigger pop-up alerts if the blood pressure was elevated reminding nurses to recheck it. But this was not well received by nurses who gave immediate pushback -- well received -- as it interrupted their workflow. The only thing we use pop-ups for now I medication interactions and we did remove the pop-up and replaced it with bold red letters of blood pressure instead. Lesson learned here was to use pop-up alerts sparingly. It still can alert but wasn't a pop-up. The second target of our quality improvement plan focused on improved patient education and engagement in blood pressure management. In the next two slides I will present how we addressed patient and overcame the challenges and benefits in implementing electronic patient education and the impact it had on engagement. Clinicians were really accustomed to handling patients their instruction sheets are pamphlets, and used educational online references such as Minnesota Department of Health, CDC, up-to-date and Internet searches like Google. We found three main reasons for the initial provider reluctance using electronic patient education, that being trust, knowledge and time back providers had collected favorite patient education over the years some dating back to the 1960s that that there were a lot of great tried-and-true paper education resources. However, many are not referenced or dated and it is unclear if the material is based on current best practice or not.

The second thing was the content of electronic resource was very good providers were unfamiliar with it and did not really know where and how to find a. We are used to giving patients a little diet list instead of looking in the electronic record. It took providers more time to find during the clinic visit back to find patients electronic information. So what we did to help that is to inform the providers on what resources were available to them and it was a vast amount of resources. How to access them quickly, using info buttons and search functions and how to add them to their favorite so they could easily access them. We also encourage providers to access electronic information whenever possible, realizing that in some cases there were just not good
substitutions for paper education. Though, providers could use the rum printed reference and dated materials, as long as the document of title and source.

We also added the patient educational resources to the order sets for providers to choose from. Including some of the old paper jams to the order sets the better titles and references if there was not a good electronic source for. We also utilize the nursing staff to search for and educate patients if they were not easily accessible by the provider and we are working with our vendor to add suggested patient education topics based on reason for visit, and problem and diagnoses list. So, eventually providers really found some benefits in using electronic patient education they could review instructions and images of patients on computer or paper. We know that a picture is worth a thousand words especially if the patient and take it home to share with their family or caregivers. And, these instructions are actually modifiable right in EHR in easy to print. And allows patients to save time by allowing providers to access the quickly and easily, patients received up-to-date reliable information and they benefited by receiving a customized plan of care, clinical summary and possibly even on the same sheet, and it really enhanced patient involvement in care and follow-up care.

Sorry, forgot to press the button but those of the benefits of the patient. So, in summary, these are the key clinical processes that we were able to use clinical decision support with in our EHR with very noticeable results. The biggest being a huge jump in blood pressure control from 44% in 2009 report, 283% in the 2012 report. These changes and implementations were not easy, and continuous quality improvement is work in progress. However, you can see how this clinic was able to leverage the EHR and clinical decision support in several ways not only did we improve care for patients we improved our providers and patient satisfaction, we saved some time and made significant steps not only toward one but several meaningful use requirements. Most of what we did, without even realizing it with clinical decision support but it would have been a lot easier with the tools and techniques that Paul and Jerry will be explaining in the next -- rest of the presentation. Thank you for listening, and I would like to see if there are any questions on this presentation?

Certainly. The floor is now open for questions if you do have a question please press the number seven on your telephone keypad. Questions are taken in order they are listed. If at any point your question has been answered you may press seven again to disable your request. If you are using a speakerphone we do ask that while posing your question, you pick up your handset to provide favorable sound quality. Please hold while we wait for the first question. Again, as a reminder if you do have a question lease press the number seven on your telephone keypad. We have a question from community Memorial.

I am wondering, what product they were using for their EHR? What their EHR solution vendor is? And, how they are using -- what is the integrated content they are using for their instructions? If it's integrated or if it is a standalone product? Is that my chromatic, -- [Indiscernible] what are they using?

As I mentioned earlier this is what compilation case example based on several of my experiences based on the examples. This is a pretty -- they are tran11 examples, but some of the vendors that I included on this word epic, all Scripps, GE centricity, and sorry I didn't catch the product and vendor's? Those are the three that I have been most familiar with and practice. What was the second part of your question?
I'm curious as to what vendor you are using for your integrated content for your instructions? Patient discharge instructions? Sorry, Krames.

The product we purchase, is an integrated product with our EHR, and we cannot customize it.

And again, those are vendor specific, very vendors to fix so in this particular clinic example we were able to customize, but you will need to check with your EHR vendor on whether you are able to customize your patient instructions or not. That is a really good question, very good point because it is a barrier in customizing your patient instructions. I guess when you have that, you can actually print out the patient instructions and includes an additional instructions under discharge plan. One of the clinics I actually worked with we had, we used patient clinic instructions that were kind of template, for well-child and physical adult exams. We customized submission instructions and put into a templated format. So, that the provider would not need to continually reset that information. -- we type that information. Does that answer your question? Sin against. And we have done similar. But it's just that our huge library that we purchased is, like I said, not customizable which is kind of a downfall.

In that case, then you are using some templated instructions?

Correct.

Are there any other questions?

There are no further questions at this time. Again as a reminder if you do have a question please press the number seven on your telephone keypad.

I do have a question from John, and he asks why not to describe this as cardiovascular management rather than just let pressure management? That's a really good question. We were focusing specifically on blood pressure management, but you can include this as a cardiovascular management quality incentive. Very good question. In fact, many of these crossover into your diabetes management quality improvement and meaningful use is looking specifically for blood pressure control.

Next we will hear from Dr. Osheroff, so we can close the floor to questions and move on to Jerry, that would be great.

There are no further questions at this time. Questions are now closed.

Great, thanks very much, Lisa did a very compelling drop of -- job of painting the picture of the quality improvement journey in the clinical setting, she described how -- the practice selected a high-priority opportunity for improvement, and then set about actually modifying, enhancing information flows, workflows, ultimately leading to significant improvements in care delivery and outcomes. What we are going to do next is described a structured approach for navigating the processes that Lisa described. We are going to break that down into three steps and walk through those in sequence. The first is just helping you understand key concepts, tools and approaches to replicate the kind of CDS enabled quality improvement that Lisa illustrated. And then, we'll talk about how you can build capacity to address many different improvement targets. Finally we'll conclude with some discussion about how you actually move the needle on individual improvement imperatives. So, let's start by saying what we mean by clinical decision
support. When Paul first opened up the session, earlier, he said that when we talk about clinical decision support, it's probably not what you're thinking about.

We find that many organizations consider associated clinical decision support with interrupted, pop-up alerts that disturb clinical workflow and as Lisa pointedly illustrated that tends not to be very effective. So for the purposes of this approach that we are describing today we will be using a much broader definition. Of clinical decision support. Here, we have the definition that is actually contained in the meaningful use, final rule. It refers to clinical decision support as health IT functionality that build on the foundation of any EHR to provide people involved in care processes with information and clinical knowledge to enhance health and healthcare. So, it still is rooted in health IT functionality, but rather than mentioning any specific intervention that talks much more broadly about improving decisions and healthcare.

For the purposes of the approach we will be describing today, we are going to take an even broader definition of CDS than that. Is talking about clinical decisions as far as health IT functionality, we would like you to think about it as a process for enhancing health-related decisions and actions again with pertinent knowledge and patient information for the goal of improving health and healthcare deliveries. So Lisa described a lot of processes that went on in her practice, how they improved information flow by enhancing those processes and that is really what we are talking about when we say radical decision support. So really, when you hear the term going forward, for the purposes of applying the kinds of recommendations that we are going to be talking about today, it's best to think about clinical decision support as quality and process improvement not about interrupted things that bother workflow or a box you are checking out under meaningful use checklist. So, with this broad definition of clinical decision support in mind, a lot of what it is we are going to describe and about of how we would attribute the success that the practices that Lisa described experience, we use this framework that we call the CDS five rights.

The notion here is if you want to improve targeted healthcare decisions and outcomes such as the performance measures, for meaningful use, you have to develop and deploy clinical decision support interventions carefully and they have to provide five different things that will walk through no. So first of all, they have to give the right information so the information is to be evidence-based, actionable, and this sort of answers about what part of the information flow question. The next dimension is you have to give all the right information to all the right people. So, as Lisa described in many cases, that information is going to patient and in other circumstances going to clinicians and sometimes it is going to both the same time to support shared decision-making. And again this addresses the food dimension of information flow. Through the office. Then you have to deliver the information the right intervention types and there is many different kinds of CDS intervention types and in just a moment policy little bit more about those. This is the how dimension of information flow. There is many different channels through which the information can be delivered of course to all different EHR models and Internet, and also think more broadly about things like smart phones and smart pill bottles which increasingly will become a part of the care delivery processes both inside and outside our facility.

Finally have to deliver the information of the right point in the workflow. When somebody is about to make a critical decision or take an action that is going to have a big effect on the outcomes. So, these are what we call the CDS five rights and we will be referring to these throughout the talk. If you want to accomplish the kinds of improvements that Lisa illustrated
you have to get the right information to the right people in the right format through the right channels at the right point in the workflow.

So I will turn it over to Paul who will not give a little more detail about those intervention type options.

Thank you, Jerry. We've heard a couple of examples from Lisa I think it a great presentation on how you can really leverage decision support to do some of these things. And these are some of the provider centric examples of the types of things actually in your toolkit. She showed use of documentation forms which do not collect information make sure you get all the information you need, you also have flow sheets, dashboards that allow you to see how patient are doing and provide you with the information that you need when you need it, relevant data presentations again a similar way to do it rather than a pushy, but actually make sure -- show you something else and we will see an example in a moment. Referential information for yourself or for your patience when you are working within the EHR, or to make doing repetitive things rather easy again allow you to remember things you may wish to do that you might not recall without a predefined order set. And everyone's favorite the alerts and reminders that tell you when you didn't do something that they can also be done in such a way that they allow you to not interrupt the rather guide you in the right direction. There are many others. So, if we look at relevant data presentations, one example that could be relevant, labs, age, weight, display, writing orders, do you know the age of the patient and you have information beauty when writing orders. For example if you want to order dinner you immediately know what the creatinine is to not ordering of the patient where would not be appropriate. When the medication refill comes in or something else comes and you see the patient's chart when these medications were illustrated. You are not actually double ordering or ordering inappropriately new medication. And when selecting medications from a list, rather than listing potentially the most expensive first you actually list the generics first or the ones that may be the most effective first. Because research has shown to typically providers pick the first one on the list when everything is equal.

Finally you get targeted patient list based upon diagnosis as you can see diabetic patients and understand which ones are in control which ones are not. And for example in the hospital bed availability and tracking is another way to manage patient flow within the facility. This is an example of an order set at a hospital-based order set the can also be one that was in the clinic. And these orders of the upper right-hand side you can see are based upon disease, procedure, problem tight. When the patient comes in and the problem is identified or they give a chief complaint, they can actually set up a template for a guide for things you can do.

In this particular instance, with this patient who has congestive heart failure, -- obstructive pulmonary disease, I am sorry, there are some things you would routinely do, so rather than force the provider to select things routinely done, they are automatically filled in, in advance to ease the process. They can deselect them if they wish. The ones that are used most of the time, and automatically. They also can guide the provider in best practices you can see if the patient is also on steroids or not on steroids, they can give them guidance on what they would -- what would make sense for them to do next. That, as Lisa mentioned and as any of you will know, successful adoption requires buy-in by the users when creating these and working on the things you really have to make sure that they fit in with the providers using them.

One way you can do that is convert some of your paper things you currently have around and make them electronic. Other ways is to actually have people that are going to be using them, participate in the creation of the. I know it, you can have links to referential materials per month.
or year we have a link to albuterol, which can bring up the patient information sheet which we see air, or an information sheet for the provider which allows them to select the appropriate dose and appropriate medium they want to use for the delivery of the medication. Alerts and reminders as I said everybody's favorite, when it is interrupted so, said sarcastically, can also be done in a way that is actionable. Those are the things you want to try and produce. For example we have a couple on this particular screen, you see in the left hand side, there are actually yellow best practices is the one I meant to outline here, my mistake. Those -- you don't actually have to do anything here but you can see they are highlighted in yellow, and appear on the side of the screen. It gives you some information and actually if you sort one of these elements it will allow you to order the thing immediately and you can continue on your process. If you are doing something else you can ignore them but if you need to you can act on them right away. It is very important to strike a balance between the desired outcomes and interruption of the workflow.

If the provider is going to do something dangerous you want to interrupt them, if it is not dangerous and can't wait to another time you want to do it in a way that does not disrupt workflow. So, with that, I will have it back to Jerry.

Thanks, Paul. Great. So, as you can see from the breadcrumbs, Chevron along the bottom of the screen here, we said that we were going to describe three steps to replicating the successes that Lisa described and we just finished with the sort of foundational concepts and definitions. So just to review some of the key things we have talked about before, when you think about clinical decision support, really try to be quite broadly, think in terms of processes for enhancing information flow to improve decisions, actions and outcomes. When you think about the core strategies for success, think carefully about things like the CDS it right. That we talked about earlier, and think very broadly about the options for each one of those five dimensions including thinking very broadly as Paul described about options for intervention types and obviously think well beyond interruptive alerts. So, now listening to the second step. Armed with the core understanding of these definitions and frameworks, then the next question becomes how can I practice go about building capabilities to move the needle on the increasing number of improvement impairs -- imperative we are all facing as the healthcare -- that the health care world evolves as it's doing.

So, just to give you an overview of some of these key capabilities, a lot of them kind of relate to building capacity to think broadly and address broadly each of the CDS configuration options I mentioned. So, there is many different stakeholders involved in information flow and office practice and hospitals, it's important to engage them very early on in the process and continually throughout, assessing and enhancing information flows and workflows. You have to understand those information flows and workflows, but when options you need capability for doing that kind of work. You need to leverage the information systems you have in place, the where and how options for your CDS configuration so you have to understand the capabilities of the system. You have to be able to manage your content, all kinds of information that Lisa described earlier, you have to figure out how you will keep that updated and consistent. Then, you have to have capacity for measuring processes and outcomes and thinking about how you are going to make decisions and manage these processes Natalie. A good quote that I like to summarize is what we are trying to accomplish in this capacity building stage. Is the following. A poor farmer produces weeds, a good farmer produces crops, a wise farmer produces oil. Lisa described where they have launched pop-up alert it cause problems that would be analogous to weeds as we address used clinical decision support for more more targets, it's important to have a rich environment that will minimize the production of weeds like that, and reliably be able to move the needle on specific outcomes. So the next two slides I am going to go in a little bit more detail on some of
those things I mentioned earlier. Stakeholder engagement, a good thing to keep in mind is this notion of doing clinical decision support with the stakeholders and not to them, even in a solo practice there is multiple people who are involved and you really need to make sure that everybody is engaged and thinking through the target you are trying to improve and how you can go about doing that. Again, there'll be decisions that need to be made even in very small settings with solo clinicians, so you have to think about who is going to do this work and what processes it will be done by, ideally make those things systematic. I've listed several examples to, how you will maintain the content and select targets and things like that.

This is hard work, so you should use all the different resources available. Everybody and your staff, the EHR in H IT vendors you are working with as Lisa described, regional extension centers and others,. workflow is very important. We talk about workflow so, when you think and the ambulatory environment, with the different phases about workflow or counsel look like that will help you think through the when options for your decision support intervention. Of course, patients spend most of the time running around out in the wild, not in our clinics, that's a huge opportunity for decisions for. Then, when they check in, in the waiting room and exam room, after they leave the exam room, these are all things, the last three that happened during an office visit, and also outside of individual patient encounters there is an opportunity for populations health improvement activities and we should keep those in mind. Workflow analysis that we talked about so now you know what those different phases are, you have sort of literally pictures in your mind about them thinking through what are people currently doing at each one of these stages? Sometimes what they are supposed to be doing, what they think they are doing if you ask them hear what they're doing if you look are very different. The point here is to emphasize actual observation when trying to understand and improve clinical workflows and through that observation you can understand what is working, not working, and perhaps most importantly what the opportunities for improvement are. So, for stage two, sort of a summary of these key capabilities is, this notion of stakeholder engagement and all the different phases of this work that you are going to be doing.

A very robust communications of people are not only engaged up only engaged up-to-date with all the work you are doing to understand and improve the workflows and information flows to drive improvement. And then, careful measurement. The mid— the notion of autonomic per metric, measure everything that impacts customers and in this case customers or patients and clinicians and staff and others. So as you do all this work, be thinking about what the effects are, so that you are efficiently and effectively moving toward your desired goals. So, that takes us to the third step in this process which is now that all these concepts are all in place, people understand what seems are, the purchaser, you talked to some of the capacity building activities, how do you go about moving the needle on specific imperatives like blood pressure control, hemoglobin, all the sorts of things that as Lisa alluded to are increasingly driving reimbursement.

So step number one in selecting appropriate targets. I mean, all these things we have been talking about are a lot of work so, you want to make sure that you choose your battles carefully, you want to choose things that are going to make a big difference for patients, a big difference for the practice, that are going to improve providers workflows so people can get out of work on time and see their kids soccer games and all the other sorts of things other than doing paperwork in the office.

Selecting appropriate targets is critical and then as we emphasized repeatedly, once you've decided what target you are going to work on looking very carefully and in detail about how information is flowing through the practice, how workflow is being accomplished as they relate
to the target, think in a systematic way using templates that I will show you in just a moment. What the information flow currently looks like and documenting that in a structured way and thinking through what the opportunities are to improve the flow and then prioritizing those opportunities so you can determine which changes you actually want to make drawing from the full palette of options for each of those five CVS configuration dimensions that we been talking about in other words but who, what, when, where and how.

If I mentioned a notion of a template earlier for actually working through these CDS by the right dimensions we been talking about, so when you think about all the different opportunities for intervention within careful and again were showing this schematic diagram of the careful that this is kind of the backbone of opportunities that we use for to provide interventions to enhance information flow so we're making better decisions and actions leading to greater more efficient care processes and better outcomes. So we start by saying what is the target we are focusing on and what is our current performance against the target. Then, the top part kind of laid out in a tabular fashion workflow steps in the diagram. Said to the left and right of the pic black Oracle line toward the right-hand side, on the left side of all the patient specific encounter oriented of what's happening before and after that office visit, during the office visit and then on the right-hand side of that thick vertical line, opportunities for population management activities.

Each one of those steps in the careful, there are certain things that need to happen in order to drive good performance on the targeted outcome. So, we can list those activities are. And bad and the bottom of the worksheet, we can say at each one of these when opportunities and workflow, how can we configure the other four dimensions. Where the people involved? What sort of information do we want to get to them? Boy channels can we deliver that information to her? And what intervention formats can we deliberated in so that were enhancing how information is currently flowing across all these dimensions. Here is a sample, so let's say we chose to target blood pressure control the same one that Lisa illustrated earlier, we set that meaningful use target as our example and we can see here in the pre- and post- office visit there are certain things that need to happen. Patients need to understand what high blood pressure is all about, they need to know about its drug and nondrug treatment, they need to make sure that they are taking their blood pressure medications on documenting, key pieces of information perhaps like blood pressure, weight or diet in terms of salt intake, things like that. So, a whole range of things that could potentially happen in this pre- and post- office visit. That are going to have a huge impact on whether or not patients blood pressures are controlled and again providing opportunities for using other dimensions, getting information to the patient through different channels, to format etc.

Again, this provides the foundation for actually doing these other configurations. , there's a lot of information on this slide. Right after this presentation, you will be mailed information about the homework assignment that will contain a blank version of the spreadsheet we just showed, this more complete example, as well as other spreadsheets you can look at more carefully, and hopefully apply them to understanding and improving how information is flowing in your practice with regard to these really high-priority targets. So, this is just a sample of what this template might look like, fill them with some generic heads you could potentially apply to addressing a wide variety of different targets in your practice. Once you've selected a target and looked carefully at information flows and the Germans and prioritized the improvements that you want to make, you actually have to design and implement those specific targets again some of the key Perl zero,. Sure you use alerts especially interruptive alerts. Very sparingly. They should be used as guard rails the analog here is like trying to use the guard rails on the side of the road to keep your car from writing off the road. Certainly those guardrails will be effective at
keeping your car on the road that your car will be quite a mess. So thinking about interruptive alerts in the same sort of way, they are a safety net and only should be used essentially with all other extreme activities have not been successful.

You have to test interventions and communicate as we have been empathizing with different stakeholders, then actually deploy the interventions and as we were saying before looking carefully at what effect they've had. Regarding move your performance in the direction you had intended? Are there any unintended consequences like Lisa described with interruptive reserves - - alerts being problematic for the nurses so look for those unintended consequences and deal with them quickly. Then, uses of continuous improvement journey.

So, we just walk through again, a systematic three-step process for replicating the kinds of successes that Lisa illustrated, now we have a minute or two if there is a pressing question about how you might apply these processes and approaches into your own settings?

Again, as a reminder if you do have a question please press the number seven on your telephone keypad. Again, as a reminder if you do have a question please press the number seven on your telephone keypad. It appears we have no questions at this time.

There was one question that came in sort of off-line to me privately, I will respond to that off-line. So, with that, let's turn things back to Jerry, to describe a next steps.

I just want to thank all of our presenters today. Paul, Jerry and Lisa. You provided us all with a lot of wonderful and very helpful information. Again, thank you. As a result of this webinar today we do want to better help all of you out there work and be able to provide better care for the patients in your clinic practices. So, in preparation for our follow-up webinar which is on March 20, we would like each of you to take the opportunity to participate in an activity, or you can call Al Gore, that will hopefully help you define the improvement activities that you want to work on and help you identify better ways to achieve these improvements to interventions -- call it homework, so what we are going to do is we will be e-mailing each of you, who participated in the webinar today, a link, PDF template, that template also have some instructions and examples on it. We will send instructions on, with the template in the e-mail. If you could take that and fill it out, again identifying one of those areas you want to work on, and returned that either myself, or you can return it to Doug for those of you who are participating in North Dakota, in the queue cap that done by March 4, I know this slide says by March 20, that is when our webinar is so we do want to get those templates back in earlier than that so if you can do that by March 4, that of the Monday, that will help us prepare for next webinar, give us in areas of discussion. So, that would be very helpful. If you have questions while filling out the template again you can contact myself or Doug and when you are filling up the templates, some things you might want to consider are what are some of your top priorities and quality measure targets you want to work on? What workflow processes are you most likely to have impact these targets, what's working, what's not working right now and what -- how can you leverage technology to support his efforts? And, I talked with Doctor -- Dr. Osheroff, any citizen down you can take about 20 minutes. I know I might -- when you get the template it might look big and daunting but if we could get a group to be together and take a look at a hopefully it won't take too long to finish. So, with that, this is just again our information, Dr. Osheroff, Doctor -- Dr. Kleeberg information my information and Doug's information to get in touch with us. And, with that, I just want to remind everybody that our next webinar is on March 20. We will be sending out reminders for that, and call in information. We hope you all can purchase it on that. It will be a time for you to share what you have learned, when you are completing the template. Maybe,
some of the ways that you have been able to put into place some of the information you have learned at today's webinar. And there is any questions, do we want to take a few questions? We have about it minutes left. Amanda? If you want to open up the lines?

As a reminder, if you do have a question please press the number seven on your telephone keypad.

This is Lisa I had a question privately owned when the presentation will be available online?

We will be e-mailing out the slides along with the template so slides itself will come out with the template along with a link to the evaluation. SM as the webinar itself is posted, we can let everyone know. We do have to get the transcript and we have to work a little magic on it. I guess I don't know what they all do, but it won't -- as soon as we know we can certainly let you know that. The other thing I wanted to remind everybody up, when you do close out of the webinar today if you can coolly -- complete evaluation that again will give us more ideas and better help us make the webinars that are. -- help us make the webinars better.

Again as a reminder if you do have a question please press the number seven on your telephone keypad.

There was a private question that was sent to me, apparently somebody on the call has used the guidebook called improving outcomes with clinical decision support. And Apple matters guide. That is a resource used under the development of a lot of this material somebody on the call has used that and suggested that we mentioned that book because it might be a useful resource. Another thing I would mention is that this Learning and Action Network webinars is unfolded as part of a collaboration between Stratis Health, REACH, and anointed project called CPS for him you, a project to develop tools and resources for CDS quality enabled in. So this webinar that we have done today is part of the process in addition to the work that Stratis Health is doing, is also part of this set of deliverables being developed under this OND Project. And I guess we can keep this group comprised of that information through REACH and Stratis Health about that material hopefully they will be over time, additional supplementary content beyond what we presented today, that will help each of you on this CDS enabled quality improvement journey.

All right, one last call. If you do have a question, please press the number seven under telephone keypad. It appears we have no further questions.

Well, thank you everyone enjoy the rest of your day. Again, don't forget to do the evaluation and don't forget to watch for the e-mail with your activity to complete. Thanks again.

Thank you. This does conclude today's teleconference. We thank you for your participation, and you may disconnect your lines at this time. [Event concluded]

This material was prepared by Stratis Health, the Minnesota Medicare Quality Improvement Organization, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The materials do not necessarily reflect CMS policy. 10SOW-MN-C7-13-51 041513