Moderator: Hello everyone, and welcome to Research and EHR Synergy, a cyber seminar series hosted by VIReC, the VA Information Resource Center. Thank you to CIDER for providing technical and promotional support. Research and EHR synergy is produced by VIReC in conjunction with the ORD Strategic Initiative for Research in EHR Synergy, OSIRES, and the VA coordinating hub to promote research optimizing veteran-centric EHR networks proven. It focuses on helping the VA research community stay informed about the EHR modernization.

 This series is held the fourth Wednesday of every month at 12 pm eastern. You can find more information about this series and other VIReC cyber seminars on VIReC’s website. You can catch up on previous sessions on HSRND’s VIReC cyber seminar.

 A quick reminder to those of you just signing in, the slides are available to download. This is a screenshot of the sample email you should have received today before the session. In it you will find the link to download the slides.

 Today’s presentation is titled, “Lessons Learned from Non-VA Health Systems about EHR Modernization” presented by Dr. Seppo Rinne, Dr. Jill Draime, and Dr. Ernest Wayde. Dr. Seppo Rinne is a physician scientist at the VA Bedford Healthcare System, a core investigator for VA Center for Healthcare Organization and Implementation research, and an assistant professor at Boston University School of Medicine. He is also a co-PI of Empiric, a recently funded QUERI partnered evaluation initiative with the office of EHRM.

 Dr. Jill Draime serves as the Executive Director of Change Management for the Office of Electronic Health Record Modernization supporting the VA’s transformation to a modernized EHR. Dr. Ernest Wayde is the VA Innovative Technology Advanced Lab Vital Officer in the Office of Electronic Health Record Modernization for the Department of the Veterans Affairs. This is along with being an assistant professor at the Medical College of Wisconsin Central Wisconsin.

 Thank you all for joining us today. To start out the session, we would like to learn a little more about our audience. We would like to do a couple quick polls. Our first poll question is, what is your role in research and/or quality improvement projects? The options are investigator, PI, co-I, statistician, data manager, analyst or programmer, project coordinator, or other. For other please describe in the Q&A function. All right.

Unidentified Female: Our answers are streaming in quite rapidly. We will let that run for a few more seconds before we close it out. Attendees please remember to hit submit once you select your answer choice. All right. Things seem to have slowed down quite a bit, so I am going to go ahead and close that. Roll out and share the results. We have 18% said investigator, PI, co-I; 15% said statistician or data manager; 11% said project coordinator; and 22% said other. Some of those are administrative officer, leadership in Office of QPS, and scientific program manager. Back to you.

Moderator: Thank you so much. Here is our second poll question. How many years of experience do you have working with VA data? None, I am brand new to this; one year or less; more than one, less than three; at least three, less than seven; at least seven, less than ten years; or ten years or more.

Unidentified Female: Great. Again our answers are streaming in. We will just let that run for a few more seconds. Things seem to have slowed down already, so I am going to go ahead and close that poll and share the results. We have 10% said none, I am brand new to this; 7% said one year or less; 13% said more than one, less than three; 14% said at least three, less than seven; 6% said at least seven, less than ten; lastly 17% say ten years or more. Back to you Amanda.

Moderator: Thank you so much. Thank you for the audience in filling out those questions. I am now going to pas it over to Dr. Rinne.

Dr. Rinne: Great. I am really excited to be here and discussing our research findings. We are going to spend about the next half hour in talking about what were our findings from a multi-site qualitative study that specifically looked at other health systems’ experiences with EHR transitions. We are really fortunate to have Dr. Draime and Wayde here to situate some of these findings within the VA experience. Arguably they are the global experts in this experience now having been at this for several years with the VA EHR transition. Then I think the value of this format is that we have an opportunity to open up for questions and discussion. We will hopefully get a robust conversation going. Okay.

 The premise of this work is that EHR transitions are becoming increasingly frequent. Home-grown EHRs can become outdated and difficult to maintain. There are anticipated improvements with changing from one EHR to another. This is whether it is care coordination, billing, quality, and efficiency. Oftentimes EHR transitions are driven by mergers and acquisitions. There are oftentimes these efforts to consolidate multiple EHRs into a single system.

 Those reasons for EHR transitions are also a lot of the same reasons that VA is undergoing an EHR modernization effort. We wanted to see if there are opportunities that VA can learn from other health systems. Notably, the reasons for EHR modernization within VA have been stated to be modernizing the aging EHR to meet industry standards similar to other systems’ experiences with EHR transitions. This is improving care quality and safety, removing barriers to efficient and effective care, and to support innovation. Again, they are all of the same concepts, ideas, and justifications for EHR transitions.

 EHR transitions are incredibly complex despite how common they are. I am showing on this slide a sociotechnical model by Sittig and Singh which shows multiple interconnected factors that contribute to EHR transitions. These transitions are costly and time intensive. They involve a lot of human resource intensive efforts. They are technology intensive both in customizing the software, ensuring adequate hardware, and ensuring interoperability, accessibility, and readability of the EHR. There are also some challenges with data migration. You see that this is not just changing the color of the ink of your pen from blue to black. It involves really the heart of the organization and the organizational culture.

 In a recent systematic review, they evaluated all of the EHR transition research to date. They found that EHR transitions are remarkably expensive, laborious, and yet largely understudied. There is a gap in literature. Most of these studies were single site experiences that focused on individual elements of the EHR transition. Many of those focused on data migration.

 Our objective was to explore best practices that support EHR implementation at health systems that recently underwent an EHR-to-EHR transition. We conducted a multi-site qualitative study in 2019 and 2020 with four different non-VA health systems that recently underwent EHR transitions in the prior three years. We had hoped to get six sites, and we actually started our fifth when COVID hit. We had to end prematurely.

 The sites that we selected were geographically and organizationally diverse. We specifically focused on common EHR systems. There was Cerner for its relevance to VA and because it is one of the most common EHRs and EPIC. We conducted semi-structured telephone interviews with front-line clinicians and leaders, including informaticists. We really focused on what was the experience on the ground, and how could we have learned from that experience? We conducted qualitative analysis with those interviews.

 As I mentioned, we selected four sites. Two implemented Cerner and two implemented EPIC. They had a variety of prior EHRs. Some of them were home grown. Some of them were multiple EHRs in what is called a best of breed system. one site for example had as many as 70 EHRs that were highly specific for different functions. The sites were geographically diverse. I feel like we got a very good representation from each of the sites that included different levels and clinical roles. They allowed us to get a clear sense of what that site was like.

 From this qualitative analysis, we identified best practices for EHR transitions. This is kind of a synthesis of the information that we got from qualitative analysis that we felt naturally grouped into different stages of implementation. This is whether that was in the pre-go live preparation and planning, during the go live implementation of the EHR, or in the post-go live period with sustainment of the EHR change.

 In the next portion of this presentation I am going to go through each of these best practices, explain a little bit more about what I mean, and then give you some exemplary quotes. To begin with, I want to talk about what was a pretty foundational best practice of communicating the rationale for EHR change. Every system had unique baseline and motivation for change. In some there was a well-received EHR, and that led to some apprehension about the change. Others had EHR systems that were untenable and there was greater buy-in for the change. Regardless, communication about the change was key to getting buy-in. Opaque decision-making created animosity. If there was not clear communication about why the change was happening, there was some frustration about that. Universally, clinicians appreciated open communication that acknowledged the challenges that would happen with the EHR transition.

 Here are some exemplary quotes. This individual described a lack of understanding about the change. “I would have just loved to know why they did this. Who picked it, why they picked it, and what do they think? It is certainly not useful as a clinician for me, so there has got to be a reason it is useful somewhere.” They go on to speculate that maybe it is helpful for cardiologists or for billing. They end, “At least I mean then I would have had some sort of sense of why we picked such a bad program.”

 Contrast that with a quote that understand more of the nuances and pros and cons of the change. “There was definitely some benefit of having a best of breed system, but there were too many systems being held together with kind of strings basically. That is why we eventually decided to move to a unified system.”

 In the next best practice, we found that there was an importance of understanding the existing workflows. That is to understand the roles, responsibilities, and processes prior to the EHR transition. There was wide variation in how systems and even within systems different departments approached this best practice. Some sites were spending a lot of effort and energy understanding their current state and others devoting no effort at all. What we heard was establishing the existing workflows facilitated the change. They were able to identify the current roles and responsibilities and anticipate changes. They were also able to understand how EHR customization, a practice that I will talk about in a minute, was more effective when you understood first the current state.

 Here are some example quotes. This quote was about inadequate understanding of workflows that led to the faulty systems. “I think one of the challenges with implementing EPIC is that you really have to have a very good understanding of your workflows before you can make the build. I think that we did not have a great understanding of workflows, so a lot of time and energy was spent into making the build. Then when you took EPIC product and you applied kind of faulty workflows or workflows that you did not fully understand, it made it really hard to leverage the tool the way it really should be leveraged.”

Again, there is a contrasting quote of understanding workflows prior to EHR transitions. “No one knows the whole process. Everybody knows a little bit of their own piece of the process, but no one can really tell you the history behind how this process has been developed. It probably has been iteratively developed over 20 years. We had to really drill down on that hard core. I think because we did that we ended up being very successful in implementing this.” This individual went on to talk about how they may not even effectively have done that to understand the nuances of the current workflows. As a result, some of the artifacts of the prior workflow and all of the imaging being referred to one department was unnecessarily integrated into a current workflow. I think this is an example of the importance of drilling down and really questioning assumptions of the current workflows.

The next best practice for EHR transitions I want to talk about is anticipating challenges with customization. I would argue that this is one of the most important best practices that we identified. All systems needed to customize the vendor EHR to some extent. But what we found was highly customized systems took time to develop, were challenging to implement, and were difficult to maintain. One of the features that led to the success of customization was really integrating local stakeholders, especially physicians and end users to support the appropriate design. This created buy-in from those clinicians and improved system function.

Some exemplary quotes about how customization is necessary. In this site there was what they called an operating principle or basic principle that they would accept every available EPIC module. They found “EPIC, even though they sell you something called a foundation system which is allegedly kind of their out of box, you cannot use it as such. You really have to look at every parameter, decide what is going to be on this drop-down of choices, and what the screen is going to look like. There is really a lot of customization and honing that has to be done.” The reality is that customization impacts the implementation. “I guess my advice would be, do not customize as much as you can. One of the biggest complaints of our go live is that it was just so customized that even their help could not help us all the time.” That referred to this notion that oftentimes there are these vendor or third-party consultants that come and try to help with the implementation process, the training, and support. Yet because the system was so customized, they did not understand how the system worked.

There were other challenges with the customization process including that it takes time. There was one quote that talked about this “fine line between improving the system and implementation versus the timeline and actually getting it installed.” It is this tradeoff that you can continually improve the system through ongoing customization. At some point it just needs to be implemented.

In addition, there was the notion that customization impacts functionality. What I mean by that is that a lot of these individuals cited that the EHR was built with certain functions that are broken in effect when you change them to a new workflow. There are some advantages and efficiencies with the workflow that you no longer take advantage of when it is highly customized.

In addition to the notion that customization is this double-edged sword, there was this resounding comment across systems that individuals really valued the fact that customization would be stakeholder-driven. “I do think that one thing that is really important is that a key success factor is making sure that your build is stakeholder driven.” You do not want IT people making decisions about how the system should work. You want it to be the people who are actually going to be using the system who understand the implications of the decisions that are the ones in those meetings.

The next best practice I want to talk about is personalizing training and support. This came from the notion that users valued interactive training more than standard lectures. Access to training beyond for example a playground training where they have access to a mock version of the EHR and pat the elbow training where they had support systems who are individually helping them were particularly useful. We noticed that sites had a tradeoff in using external, which were vendor employed, or third-party hired consultants. Internal were trained super users, champions, and sometimes trainers to train the EHR and support the EHR.

All sites use some extent of an external support that was oftentimes perceived to have insufficient knowledge about the local context. Internal super users were generally perceived better, but they often lack structural support like funding at the time.

This is a quote about the challenges of vendor training materials. “We learned a lot from the first one – mostly what not to do. We relied on vendor training materials for our initial pilot site implementation, and that was the only time we used their materials. From that point on we created our own training material.” Closely related to that was the notion that the in-person and individualized training was more valuable. “I just remember sitting in a big room in front of a computer where they were like click here to do this. Click here to do that. You know it was not very useful. It always used these generic examples. Then they always had people walking around the room to see if everyone is clicking on the same thing, and it just becomes entirely pointless. I can learn with an individual trainer so much more usefully on the things that I would actually do.” A lot of the folks talked about this importance of being able to play with the system, to have some of that individualized support, and how that was contrasted with these big didactic classroom type trainings.

This quote is a little bit long, but I think it is really useful because it shows in some ways a really advanced understanding of implementation, science, and the importance of using kind of a train the trainer approach. “EPIC had encouraged that we use an approach called specialists training specialists where we would actually have a physician that usually was one of our champions that we would then train to become a trainer. For those 12 weeks, they would be the ones who would be standing in front of the class delivering the curriculum as opposed to having it be an IT person who just put together the class. We did find that while that was expensive – it was because obviously those were physicians losing productivity while they were teaching – they start to learn the system better. They are able to better answer the questions of the people in the room.”

Another best practice was the notion that it was important to mitigate other work stressors. I think there is a generalizable notion here about thinking about what else could be going on in this stressful time. A lot of what this kind of boiled down to was reducing clinical workload and being flexible with how long that clinical workload would be at a lower capacity. Here is a quote that exemplifies that. “They always seem to have a pretty good awareness of our clinic productivity that was going to be down for quite some time. You know just telling us that we expect this, it is going to happen, we are ready for it, and we know it is going to happen with kind of a good leadership message as well.” Another respondent talked about how the extent and duration of that reduced clinical workload differed really based on how the clinic was doing and when they were ready to ramp back up. They appreciated the fact that leadership recognized that they needed flexibility in that.

The next best practice is about collaboratively troubleshooting challenges. What I mean by that is every site had bumps in the road. There was never a site that said this was wonderful and everything went across exactly as planned. What was important was that the response to the challenges differed across sites. Leadership involvement and clinician engagement improved users’ perceptions of the organizational response. There was a nuance in this that there were some sites. Most sites did a staged roll-out which is similar to what VA is doing. It is one site at a time. There were other sites that did a big bang approach where all sites went live at the same time. The staged roll-out was a way to learn from initial experiences, and generally that was appreciated more.

Here are some quotes about how different sites collaboratively troubleshooted challenges. “We came to them very early on and said this is a problem. You need to go back and fix this problem before you kill someone or endanger someone’s life. This should not be rolled out.” Initially they were reluctant to listen to us, and eventually they listened to us and they delayed. The notion was that it was harder to communicate and collaboratively address that challenge.

Contrast that with another site that talked about the value of their leadership transparency. “I think that was a really positive piece of the leadership involvement. It is just being very present, very visible, and very transparent about what went right and what went wrong. For example, just being transparent like we have this major problem. We did not realize this. Here is what we have done to fix it. Here is kind of the short-term fix.” I think they really did a good job of sharing that and sharing problems that were incurring.

The final best practice I want to talk about is continuing to invest in change. In many ways EHR transitions are a journey and not a destination. There is a need to continue to think about how to optimize the system and continue to support individuals who are undergoing the EHR transition. Sites varied in how they approached that. In some there was insufficient resources that were provided for ongoing support and training after vendor support withdrew. Other sites really focused on having that support and offering system optimization looking for how you can continue to improve over time.

Here is a quote that describes that. There was a need for ongoing support after go live. “After the initial wave of support leaves, we have moved onto the next implementation. They kind of left us just to deal with everything. Now that everyone is gone, the reality sets in and the valley of despair. People get tired, frustrated, and angry.” In this site there was an inductive effort or kind of a grassroots effort among the clinicians to try to fill that void. They designed their own group that would continue the training, support, and optimization of the program. As they described it, it was kind of an uphill battle to get the support from the site before that effort was widely accepted.

Here is another quote about optimizing. “Well after you have implemented, you have to keep that driving force ensuring that users’ needs are met. That is an ongoing daily process. Do not ever lose the momentum. If something does not work, go back to the drawing table, get your team together, and work it out.”

Across these different best practices there were some unifying principles that one portrayed. One kind of foundational principle is really the purpose of this talk. It is that empirical evidence can improve EHR transitions. In other words, we can learn from prior EHR transitions. Within a rolling wave implementation, we can learn from the initial sites and continuously improve. There were some additional principles again that transcended any stage of implementation. They included some generalizable ideas that are true of all organizational change. One is being that robust relationships are essential. Those relationships are important to create with the vendor to develop a shared understanding of the implementation process. They are also important to engage front-line clinicians and stakeholders to get them involved, to get the buy-in, and to get their contributions.

Local context matters and impacts the EHR transitions. We talked a lot about how customization is really a double-edged sword. Sites need to anticipate and understand some of the challenges and pitfalls of customization just as there are some value and strengths in doing so.

Training and support should be built on local systems. What I mean by that is an opportunity really again to engage clinicians in the process of becoming super users, in the process of becoming champions, and advocating for the EHR transition. Then finally EHR transitions are an ongoing process. There needs to continue to be support in new and established end users and need to continue to maintain and optimize new symptoms.

Where does that lead us? We are currently conducting a partnered evaluation initiative with OEHRM. This is an initiative that I co-PI with George Saer [PH]. We have designed in collaboration with Drs. Draime and Wayde to identify how we support end users in the EHR transition process. We have several aims that I have listed here. It is really an inductive process that tries to learn from what is working well on the ground, how front-line clinicians adapt to the EHR transition, and how we can scale that up to improve the process for everyone. Some of the lessons learned that we have identified in other systems we have already noted here within VA. There are opportunities to continue to improve.

With that I am going to turn over to Drs. Draime and Wayde. I want to just open a conversation for them to provide some information about how things are going in Spokane with the initial site of EHR modernization, some of the interpretation, and their reflections on what I have presented here, what resonated well, and what was different or unique about the VA. Then some of the many ongoing initiatives that VA has taken to continue to improve optimization. I will pause there and give Drs. Draime and Wayde and opportunity to reflect.

Moderator: You might be on mute.

Dr. Wayde: Hey, this is Dr. Wayde. Dr. Draime are you on first? I want to make room for you to go first.

Moderator: Dr. Draime, it seems like your mic might not be completely connected. If you could just locate the ellipsis to the left of the red X with the three dots on it, click on that for me, and switch your audio. At that point once the box comes up, if you could just disconnect and reconnect to your audio or call into WebEx or have WebEx call you. You can just put your number in that box and then just hit switch. It might take her a minute or two to get reconnected. Dr. Wayde and if Dr. Rinne wants to continue?

Dr. Wayde: Yeah, I can speak up until Dr. Draime is able to join. This is Dr. Wayde. Thanks for inviting me onto this call. I really want to first say thank you to Dr. Rinne for all of the work and support that they have provided us at OEHRM during these efforts. It has been really very helpful for us to have the collaborative support that they provide us in terms of helping us to look at data and analyze data. It is also helping us to make sure that we are asking the right questions. The expertise that we bring in making sure that we are following industry best practice such that exists is really important to making sure that this is really successful. First I want to say a big thank you to that collaborative effort there.

 I am sure everybody wants to know how Mann-Grandstaff is going. I talked a little bit about this the last time that we had our call. It has been a few months since Mann-Grandstaff went live. As I am sure everybody knows, there is still some issues that are lingering at the site. The system is live at the site. It is being used. We are working to troubleshoot the issues that have been identified through a number of different avenues and approaches, including working with the site itself, working with the contractor, and a number of other approaches to make sure that we are actively working to address the concerns that are brought up by the facility and the staff that are working through the implementation. Its implementations are a process. Right? Typically, historically things have considered the implementation complete once the system is installed. The contractor goes away, and you are sort of left on your own to figure out the rest.

We are really taking a different approach in this in that we consider the implementation complete when the users are using the system, know how to use the system, and are moving towards comfort. Right? It takes a while for anybody once you start using any new system to get to the point of comfort such that you were in your previous system. This is especially if you have been using that for a long time. In the VA, we have been using CPR pretty much forever. It is going to take users a while to get to the point where they are completely comfortable with the new system that we are working to try to help facilitate that process and address the issues and concerns that they bring up. I am going to stop here and see if Dr. Draime has been able to join yet.

Moderator: Dr. Draime, can you please hit unmute on the screen? It will unmute your phone as well.

Dr. Draime: Okay, can you here me?

Moderator: Yes, we can hear you.

Dr. Draime: Oh great. Sorry to be so technologically challenged today. I was able to. Thank for having Dr. Wayde and I join. I would concur with all of his comments in terms of both the collaborative partnerships as well as I think we have a lot of contributions to make for VA and as well to the literature at large in terms of EHR transformations.

Just really quick to piggyback off of Dr. Wayde’s comments and add a few others from the content covered before. One of the things that we have undertaken, which I am sure everybody has heard about in Mann-Grandstaff really does have to do with what was talked about earlier in terms of transparency and optimization. You know.

Mann-Grandstaff was an IOC. You have an initial operating capability site for a reason. We knew that there were going to be things that went better than expected. For example, all – Terry I know you are on the call. Do not let me get the number incorrect. We had 73 interfaces, and every one of our interfaces worked. That is spectacular and unprecedented. We knew, and I will talk a little bit briefly, about some of those comments around understanding existing workflows and issues in our customization. You know we knew that we would not have gotten everything right for our first go live.

Partnered with our colleagues at Mann-Grandstaff and \_\_\_\_\_ [00:36:02], also with our national councils, and folks from Cerner and OEHRM around again what you all have probably heard in terms of optimization sessions. Issues were raised in terms of concern or question about how the system was designed and configured. Again, you do not know until you do not know. Until you have a go live, then we will know more once we have additional go lives under our belt. This is in terms of work we need to do to continue to optimize the system. We certainly appreciated the close work with many of the end users, supervisors, and leaders at Mann-Grandstaff to bring forward what they were experiencing as they went live.

Those working sessions or optimization sessions turned into roughly 20 tiger teams. Those tiger teams were focused both vertically and horizontally. They were things like specific issues for primary care, behavioral health, geriatric extended care, imaging, et cetera. This is as well as cost-cutting issues around the management, medication reconciliation, review and reconciliation, training, et cetera. We had six weeks of sprints around those issues that were raised initially from Mann-Grandstaff. Then that has transitioned into after those six weeks with much of that work having a path to completion, turned into what you may have heard as advancement work for Mann-Grandstaff. Now it is translating into other sites.

It has been very helpful to just be able to have a conversation around what we did not know prior to going live, what worked, and what did not work. Again, some of that was around areas where we did customize. Some of them were again just things that you would not necessarily be able to predict. You know, the consequences of medication reconciliation are a great example. We all had discussions around how much data to bring in. We all decided three years sounds like a great idea, until people were seeing hundreds of medications. Then we said maybe three years was not such a great idea. Maybe we need to look at something more like six months.

Again, those are all things that surfaced. Being able to have forums to have those conversations and to talk about where we go from here while still keeping in mind we have one enterprise system. The intention is to maintain one enterprise system. It is not to have more than one instance should we share our instance with DOD. Balancing what works for an individual site versus what works for the enterprise are certainly ongoing discussions.

There are a couple other quick things I will say. Then I am interested in opening up for your questions. I would say in terms of again this idea around understanding the work challenges for customization, there are things that only VA does. We are the only organization that does service connection for example. You know, it is focusing on what we need to do from a service connection special authority place. That is something that had to be built into or baked into practices in EHRM versus other areas whether it be urgent care, primary care, specialty care, et cetera. Those are things that we were able to have what are considered Cerner best practices and Cerner build.

Have discussions at the national council level in terms of how close or how far we want to stray from the commercial build. Again, you do not know what you do not until you go live. Our national council has done an amazing job really in a very short period of time over a year’s time to create, design, and build our EHR for VA.

Again, that will continue to tweak that I know as we move forward. Certainly, the comments made around those two areas certainly resonated with me as I researched those things to go to your presentation. The last thing I will say is sort of around this idea of training and the idea of sort of concentrating versus how people perform their sort of day-to-day work. One of the challenges that we had was again you look back to 2020 to really understand what people do sort of in their day-to-day work and day-to-day business. We probably relied a little more heavily on what took place in the classroom versus what really happens from our perspective prior to people getting into the classroom. It is really what change management is all about. It is helping people to understand what is changing for them across their learning journey.

It did not help us. Let us be honest, this is what we were implementing in EHR during a worldwide pandemic. It is probably not advisable. If you had your choices you would not do that. We knew there would be impacts to that. One of those impacts for example is that we did not have. We were not able to have any contact with our colleagues at Mann-Grandstaff for about five months. That is a lot of lost time in terms of change management. We are really sort of using our colleagues in Columbus as sort of a second IOC around our change management approach.

Still even not having been able to that have contact prior to when we re-engaged, we know that our staff are looking for more along the lines of end-to-end processes around how day-to-day work gets performed. Where do handoffs happen? What does that mean in terms of how we do our work today using CTRS? How is work structured similar or different in the EHRM world? We are partnering closely with our colleagues in VHA OHI with Cerner and EHRM around really trying to understand what current state in the CPRS is now. What is the design based on the future state work that will be EHRM? What has the council designed? It is understanding the gap between those, and then being able to help people across this life span of day-to-day work. That is exciting work. You know? I wish we would have started some things earlier. That will help us in our change management process.

You do have to get people in the classroom. You do have to teach \_\_\_\_\_ [00:45:15]. You do have to teach people to click path. It is how they navigate the actual EHR. The intent is that all of those change management activities basically from the beginning of time when folks enter their deployment window is really again stair-stepping or building one upon the other to have people prepare to go into the classroom. Say yeah, I got what is changing for me. I know this is how this is going to work. I practiced in the sandbox. I know all of this. Now I am ready to really dig deep into the click path so that I am as prepared as possible when we go live.

We do partner. Many comments – I am sure everybody on this call has heard a lot – are about training with EHRM. We are working to make improvements around our new enterprise training. We want to make sure that we tap into as much as we possibly can our super user community. That is a robust network at every facility and every site, whether it is a remote site, a facility, or our colleagues in VBA. Have them help proctor classes and help make some of that translation. Oh yeah, when you do that in CPRS you know a consult means a referral actually in Cerner speak. Here is where you go to do that. Here is how you can see the path of how a referral goes out. Here, let me show you what that is going to look like on the receiving end. We work really closely with colleagues at each of our sites, our change leadership team, and our change network. Physicians are part of that. Super users are part of that. Change agents, supervisors, et cetera really bring together the voice of the facility so that we ensure that we really are meeting the needs of the end users. That is a place for their voice, and also push for their engagement in the process.

Let me stop there and see what your questions all are for us that I may not have covered, or Ernest may not have covered in our comments.

Moderator: Great. We have several questions already coming up in the Q&A. The first is regarding best practice of understanding workflow, I definitely agree with that. However, is there not also risk of keeping non-efficient workflows if EHR is customized to keep old workflows? Will someone be looking for opportunities for greater efficiencies rather than replicating current workflows?

Dr. Rinne: Yeah, that is an excellent comment. I alluded to this in one of the sites that actually was very good at mapping their workflows. That is that you really need advanced skills and knowledge to be able to question the underlying assumptions of existing workflows and identifying inefficiencies to improve upon. The example I gave was at this site every CT scan had to go through a specific individual, which is silly. That type of ordering could happen anywhere, but somehow that gatekeeper role got retained in the current workflows. While that might be an obvious example there, it certainly is made for people with the knowledge and skills to be able to question those assumptions.

 As far as the second part of your question, I would defer to Drs. Draime and Wayde about how people are currently looking for the opportunities for greater efficiencies.

Dr. Draime: It seems like this would be a good place maybe to talk in a little bit more detail about the end-to-end work. I think it does point out, Seppo, what you were just mentioning in terms of sometimes we hold onto some of those legacy processes. You know, with a modernized EHR there is the intention for it to have built in efficiencies. Let me enunciate a little bit. This is as well as data on the back side.

 I am sure many of you have heard about network in advance and our ability to actually see how the system is performing and how some individuals are performing compared to what we would expect them to do. This is so that we can target if we see via the data that we have inefficiencies in certain areas. It is maybe primary care in terms of how long people sat in message center for example. It allows us to go and target, hey tell us what is going on here so that we can understand how message center is being used. Maybe it is not being used as efficiently as possible. Again, the beauty of a modern EHR is all of that data is available at the site level to be able to make some adjustments and changes when there may be inefficiencies happening locally. Again Ernest, I do not know if you want to add anything in terms of end-to-end as well.

Dr. Wayde: Yeah, I think it is a good place to talk a little bit about some of that work. A lot of the workflows that are being used were developed by Cerner obviously around their system. What the VA did was have the national councils, which has representation from both the field and the national program offices, to review the workflows that Cerner provided, approve those, make edits as appropriate, and make sure that they would work for the VA. Those are the workflows that are being standardized and deployed around the VA.

What we are also doing is working with the facilities to make sure that we are clearly understanding their current state as it relates to both the workflow level and the broader end-to-end perspective. The end-to-end really includes areas outside of the use of the EHR. These are policy changes, role changes, manual steps, interfaces, and anything really that is encompassing in the work that is being done providing healthcare. We are making sure that we understand the current state of that work so that we can compare it against the future state that has been designed by Cerner and the national councils. This is to see where the gaps exist between current activities and future activities that are planned to occur, how those gaps might impact healthcare, might impact users or specific users. That process does allow for an opportunity where we are able to identify specific gaps as well as optimize the appropriate approach.

Part of that is also needing to be able to explain why things are going to be different. If a facility has been doing something one way and you are asking them to do it another way, they are going to want to know why. Part of what we are doing is making sure that we can identify those areas and answer those questions as well.

Moderator: Thank you. The next question is, there is much anticipation about role changes when Cerner is deployed. Are the informatics roles being clearly defined? What changes have been identified in that regard such as CACs, AD PAC, nursing informaticists, et cetera?

Dr. Rinne: I think that is a question for Dr. Draime and Dr. Wayde.

Dr. Draime: Yeah, I was going to say I am happy to take that one. There is lots of conversation about the future role of the informatics path. Actually, this is a place where VHA/OHI is taking a lead. I am hopefully going to speak well on their behalf.

 There is only going to be more of a need with EHRM for a robust informatics community. CACs may not be doing the same thing certainly in an EHRM world because they will not be. There is no local configuration outside of the guardrails set by the national councils. In terms of we usually see the informatics community central and integral to doing lots and lots and lots of things. It is heading up the informatics steering committee, which adjudicates all local change requests. It is from helping to oversee when the twice a year upgrades occur. Some are more major than others. It is how to ensure that local end users understand what is changing for them and can provide any sort of over the shoulder support. We see them as ensuring that the change network – specifically the super users – that is the infrastructure. It is a major part of the infrastructure to be left behind. They really oversee that the super users are maintained as a robust infrastructure to support end users. Definitely their work is not going away.

 I know that OHI is actually looking to solidify I believe through policy as sort of what is minimum for sites to have in an EHRM world from the informatics perspective. Certainly if you are at a facility and have any influence over the informatics areas and/or the leadership of your facility, that is a place where we start to be thinking now about how to bolster your informatics infrastructure moving forward. It is not completely baked yet, but we certainly know that it is going to be critical to have a strong informatics infrastructure moving forward.

Moderator: Great. Thank you for a very interesting presentation. I noticed that one issue was that people did not want to listen to front-line users. Do you have any suggestions for encouraging collaboration between implementers and users?

Dr. Rinne: Yeah, I can start. Then Drs. Draime and Wayde can weigh in. I think a lot of the lessons that I have learned came from some of the interviews but have been built on through my interactions with change management. That is that there are some clear differences in baseline organizational culture. What was much more notable that came through in the interviews was the role of leadership or sponsorship in helping engage some of the end users and hear their voice. I think that is where we heard a lot of the mention about how leadership can influence that engagement process. Again, this was a concept that was really reinforced in my collaboration with OEHRM change management and hearing kind of the intentional efforts they are making to do that. I do not know if Jill or Ernest you want to weigh in on some of those ideas.

Dr. Draime: Yeah. The only thing I would add to that is if you look at the change management literature. The number one reason for success or failure, depending upon which way you like your glass. The number one reason for success with any change management is effective leadership or sponsorship. That is absolutely critical. Because as we know, these are very difficult implementations in terms of an EHR implementation. It is very bumpy. It is very rocky. It is exciting and a thrill a minute.

 I would say one of the things that we have done that I think has been very effective for us has been having the change leadership team both at the facility level and at the division level. There is somebody who is dedicated, taking out of their day job to be a change lead. Someone has taken out of their day job to be a change coordinator, deployment coordinator, training coordinator, and user role assignment coordinator. Those are dedicated. And we have an executive sponsor at every facility in every vision who much come from the executive leadership team. Having that infrastructure at the site who then again works closely with all the members of the change network I think is critically important. That is how you get the voice of the end users.

 We also do assessments. You know we can talk about that at a later cyber seminar. We do take the pulse both in formal surveys as well as feedback after all of our activities and events. This is so that we can see what is working, what is not working, what folks want to see more of, and what they want to see less of. We really try to bake in getting both quantitative feedback as well as qualitative feedback both formally and informally.

Moderator: Thank you so much. We have now reached the top of the hour. I want to thank our presenters again for taking time to present today’s session. To the audience, if you have any other questions for the presenters you can contact them directly. Their contact information is in the slide deck. Please tune in for our next research and EHR synergy, identifying and integrating diagnoses from Cerner Millennium Operations, storm, reach vet, can experience on May 26th at 12 pm eastern.

Thank you once again for attending. We will be posting the evaluation shortly. Please take a minute to answer those questions. Let us know if you have any data topics you are interested in, and we will do our best to include those in future sessions. Thank you again to our audience and our presenters. Have a wonderful day.