I: And hello, everyone and welcome to Research & 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 & EHR Synergy is produced by VIReC in conjunction with the ORD Strategic Initiative for Research & EHR Synergy, OSIRIS, and the VA Coordinating Hub to Promote Research Optimizing Veteran-Centric EHR Networks, PROVEN.

And it focuses on helping the VA research community stay informed about the EHR modernization. Sessions are typically held on the fourth Wednesday every month at 12 pm Eastern. This series is held on Wednesdays and you can find more information about this series and other VIReC cyber seminar on VIReC's website; you can also catch up on previous sessions on HSR&D's VIReC cyber seminar archive.

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

Today's presentation is Configuring Cerner Millennium for VA: A Formative Evaluation of the EHRM Councils presented by Doctors Julian Brunner, Jeremy Shelton, and Shaman Singh.

Dr. Julian Brunner is an investigator at the VA Greater Los Angeles HSR&D Center for the Study of Healthcare Innovation, Implementation and Policy, CSHIIP. He is a co-investigator in multiple ongoing studies of EHR modernization, as well as the implementation and training CORE of the VA Coordinating Hub to Promote Research Optimizing Veteran-Centric EHR Networks, PROVEN.

Dr. Jeremy Shelton is the Director of Surgical Informatics in the VA National Surgery Office; a CORE investigator at the VA Greater Los Angeles HSR&D Center for the Study of Healthcare Innovation, Implementation and Policy; and an Assistant Professor of Urology at the University of California, Los Angeles. He is board-certified in both urology and clinical informatics.

Dr. Shaman Singh is a hospitalist serving as an Associate Chief Medical Informatics Officer within the Office of Electronic Health Record Modernization where he manages VA’s enterprise configuration efforts with Cerner.

Thank you so much for joining us today. Dr. Julian Brunner, I’ll hand it over to you.

B: Thank you very much. And I think Dr. Shelton will introduce himself.

Jeremy Shelton: Great. This is Jeremy Shelton; I’ll do the initial introduction and background section here. Before we start, I do want to acknowledge several people and groups; in particular, the leadership of Dr. Yano at the Center for the Study of Healthcare Innovation, Implementation and Policy at GLA, for her insight and activism, and the insight and forward-thinking efforts of many researchers around the LA working in coordination with HSR&D to launch the PROVEN, the Coordinating Hub to Promote Research Optimizing Veteran-Centric EHR Networks; and as well, to recognize the Office of Electronic Health Record Modernization who have been just outstanding operational partners throughout this effort; and in fact, we're incredibly lucky and grateful to have Shaman Singh from that office here today to actually present part of our slide deck and also be available for our Q&A session.

So, also, of course, I want to thank the key members of the research team, including Shea Kennedy and Matthew Mccoy.

Next slide, please. So, just a few quick words on the background here. As somebody who spent the ten years of my career fiddling around with electronic health records and how we can influence provider behavior through changes in the EHR and potentially improve quality of care. It was, of course, quite interesting to note the transition of VA from CPRS to Cerner, and the initial sort of core EHR-building and specification effort around that, which consisted of eight one-week in-person sessions held over the course of 2019 where literally, over a thousand different folks from around the VA and Cerner got together to try to build the first draft of the VA’s electronic health records system.

And as somebody with an interest in implementation science, I felt that it would be fascinating and important to understand more of this event as sort of the context of our new EHR. Furthermore, the build of Cerner is an ongoing process--or the build of VA’s instance of Cerner is an ongoing process expected to--well, will probably never stop but it certainly will be likely to see significant activity over the ten-year course of the implementation and rollout of Cerner in the VA. So, we thought this work could be useful both from the standpoint of understanding this huge transformation in VA’s electronic health record and its impact on quality and efficiency, and all kinds of other things, but also in terms of informing the further refinement and building of the EHR as we move forward as an institution. So, we hope that this information might help both sides.

So, the goals of the talk, then, are to describe this council process as the context of the clinical side of VA’s EHR modernization, to assess participant views of the council and workshop process, and then summarize lessons to inform ongoing efforts.

The talk today will be broken down into a background section, a review of our methods findings, and then a Q&A session.

So, before we get going, we have two poll questions that we'd appreciate you all participating in. Question 1 is "What is your role in research and or quality improvement projects?" The options are: Investigator, PI or Co-I, Statistician, Data Manager Analyst or Programmer, Project Coordinator, or other. And I’ll pause for a minute so folks can have a chance to answer.

I: Thank you. So, the answers are coming in. We'll just let that slow down for a second and then I’ll go ahead and close the polls. And the results are 25 percent said A; 33 percent said B; 15 percent said C; 22 percent said D; and some of those answers are "Clinician starting new," and [ACOSRD] and back to you.

B: Great. So, next slide, and we have one more poll question. So, Question 2: how many years of experience do you have working with VA data? Options are: None; One year or less; More than one year, but less than three; More than three, less than seven; More than seven, less than ten; or ten years or more.

I: Great. So, the poll is running and our answers are coming in. I’m just going to let it run for a little bit longer. Alright, it's slowed down so I’m going to go ahead and close the poll and share the results. So, 4 percent said A; 5 percent said B; 10 percent said C; 16 percent said D; 5 percent said E; and 16 percent said F.

B: Thanks. So, at this point, I am going to turn the presentation over to Dr. Singh. Thank you very much.

S: Alright. Good morning, everyone. Shaman Singh from the Office of Electronic Health Record Modernization. Thanks, Dr. Shelton and Dr. Brunner for having me in to do just a brief overview of our council efforts and structure.

So, just a quick history lesson for those of you not familiar with the project. In June of 2017, then-Secretary Shulkin of the Department of Veterans Affairs had announced a new direction for VA with regards to our electronic health record modernization efforts via a direct solicitation of Cerner, an electronic health records vendor. And so, the Department of Veterans Health Affairs, VHA, we launched what we called our Phase Zero efforts with regards to our functional requirements. How we organized ourselves functionally kind of led to how we are organized now. Back then, we had organized ourselves in terms of 35 or so workflow advisory groups, and that was a lesson learned from Defense who had preceded us by several years in their efforts, and the way they organized themselves was they formed these workflow advisory groups called, TSWAGS or Tri-Service Workflow Advisory Groups.

So, that really informed our requirements to link to the contract, \_\_\_\_\_ [00:11:36] and then after we optional organization in some manner and had to work really well to scale how we were organized appropriately and to streamline our engagement with them just based upon Cerner expertise and the deployment models that they typically leverage with their commercial clients. And so, given the time constraints for making decisions, our VHA leadership at the time empowered our councils to make these decisions on behalf of the enterprise; they stressed a field-based representation model whereby we would have about a 60/40 mix of fields to central office staff. And that's really how we came across our organizational structure a set of 18 councils split between ambulatory and inpatient care, our ancillary services, and our business and support services including technical management.

And we really used the staffing matrix from that \_\_\_\_\_ [00:12:38] And so chairs were formerly the VAWAG chairs, or they were newly appointed by our VHA Executive Leadership Team or ELT, that served underneath the executive in charge who's really performing as the undersecretary to the VHA.

Additional membership on the councils were solicited either from program offices within VA or recruited by the existing council chairs themselves based upon many of them actually holding national leadership positions across our enterprise. Our regional structure for the VA, have a National Leadership Council or NLC--and they were also briefed throughout the entire formation of the council structure in terms of the membership and selection of the council chairs to see if they would also have feedback. So, we really tried to solicit both field and central office ourselves.

And so our council structure really evolved kind of over time; we still had the 18 councils that originally were overseeing about 45 workgroups programmatically and contractually, we've still kept those 18 overarching councils, but our workgroups dramatically expanded to around 117 right now; and that just is a simple reflection of the complexity that we have within VA in terms of the number of program offices and the number of different areas that we have really providing care to our veterans in a way that isn't clearly reflected in the commercial sector; we do a lot more things and have a lot more competencies than many other large healthcare organizations around; and so our kind of organizational structure \_\_\_\_\_ [00:14:37] partner personnel perspective.

Originally, with only about 250 participants at the close of Fiscal Year 2020, we got up to a total of about 1,290 members across those 18 councils, across those 117 workgroups. Cumulatively, within the era of COVID, they were still able to put in about 84,000 hours into this effort; many of them were also frontline providers as well; so in the time that they were away from caring for their patients in person or virtually, they were able to participate in this effort to really provide us that field-based experience that we need in order to ensure that the design of Cerner was really meeting our end-users' needs.

Within the council, we have our chairs which typically were working on this project about 50 percent of their time, sometimes, up to a 100 percent depending on the reporting period for their hours. We have members and workgroup leads who came on board for almost up to 30 percent of their time. And then depending on some of the niche areas,\_\_\_\_\_ [00:15:54] have us design and the system for particular clinical areas or workflows, and they were reimbursed up to about a quarter of their time.

So, the main charge of the councils really was established the baseline configuration of Cerner through making design decisions, completing data collection workbooks for configuration settings, and really establishing workflows that went into the build of the system. There's a set of guiding principles that you can see here on the slide, which VHA helped OEHRM kind of establish for this effort--there's a lot on here, we could probably spend an entire hour just discussing the guiding principles. First and foremost, we have to recognize that we really need to make this a veteran-centric process and really design a system that enables full veteran engagement; and those two elements are clearly the charges--and those were to standardize clinical and business processes across the VA and to re-engineer some of those processes, and really focus on configuring this as a commercial product versus customizing it whenever possible.

Like I mentioned before, there's a lot that we do in VA that the commercial sector does not do; and so, Cerner, out of the box, does not have the content or the workflows to support those areas; so, obviously, we would have to build some of those de novo. But to the degree that we can, we did buy a commercial product and that commercial product is going to be improving for the entire commercial base; and the more and more we would attempt to customize it every time that commercial base would get improved, it could break those customizations. And so, that was one of the clear charges that the secretary had embarked on through the contractual process and gave that as kind of a goal.

From that standpoint, we really wanted it to be driven by frontline staff; again, that's supported by kind of our 60/40 mix between the field and central office; we wanted to make ensure that our designs decisions were made timely and based upon what was best for VA healthcare as a whole.

And Dr. Shelton referenced this in the opening statements. Now, really to accomplish this monumental task, we held a series of these eight-week-long workshops in Kansas City--my apologies if I’m cutting it out, it looks like I might have a network connection issue. Hopefully, it's come back. But I’ll try to continue, my apologies for that." So, we would hold these workshops in Kansas City; they began in November 2018, went through November of 2019 with a series of events called conclaves, mixed in between this really \_\_\_\_\_ [00:19:00] council members of the Cerner system to inform the configuration decisions by the councils.

Attendance at these sessions? We originally thought we would only have about 150 to 250 individuals, we really approached 400 as we were hitting the more labor-intense workshops, five, six, seven, and eight. So, of that 400 council members, we had an additional 100 in support from OEHRM, from central office leadership, from VISN leadership, as well as the Department of Defense who our partners in this and are critical in achieving consensus and convergence on some of our configuration decisions-- especially where we have to share those joint decisions.

So, in closing, just definitely a huge undertaking by our colleagues at VA. Throughout all of this, they faced blizzards, they faced ice storms, wildfires, there were bus crashes, power outages in 2020, frontline providers in the middle of a pandemic. And so just a tremendous effort on their part.

And so, with that, I’d like to turn it back over to Dr. Brunner and Dr. Shelton who'll kind of dive into some of the results of their formative evaluation. Over to you.

B: Thank you, Dr. Singh. So, yeah, before I dive into our results, let me describe the methods we use to better understand the councils and kind of open that black box of how they did their work and how that work happened.

So, the core of our evaluation were these semi-structured phone interviews that we conducted with leads of the core kind of clinical council. So, we looked at--of the 18 councils we focused on: ambulatory and inpatient care councils and the ancillary services council. And from each of those, we spoke with chair or co-chairs of them and other members on the council identified by snowball sampling and in partnership with OEHRM; and we tried to--as you'll see later in the presentation, some councils are much, much larger than others so we tried to kind of reflect that in our sampling. We conducted 29 interviews--and the interviews covered these first four domains are basically ways of understanding the work of the council, how they're structured, what processes they use, their inputs and outputs, what they're producing.

We also focused a lot on things that councils could learn from one another and lessons going forward with the OEHRM. And we also asked council members to think about the future and how the councils will continue to operate.

Before we embarked on these interviews, we also reviewed a lot of material about the councils that had already been generated. So, the charter for the councils presentations and summaries from the workshops that had been held, rosters of the council's onboarding materials that laid all that out really nicely, and a series about their documents identified by the Office of EHR Modernization.

And the way we've organized our findings here more or less mapped to the interview domains that I just described. So, I’m going to talk about the products of council work, what it is they were producing, the way they're structured, the processes they used, how they went about their work, and the things that went into the decisions they made, their inputs; some lessons and advice they identified, and discussions about the future of the council.

So, to start with the products of councilwork. This is, I think, really the most central way of understanding the council, is like what is it they are developing, what is it they made? And I think you've probably already gotten a sense that the thing they're doing is configuring Cerner for VA. So, what does that actually look like? In talking to members of the council, the core activity there is reviewing workflows from Cerner and other content from Cerner, and figuring out how it applies to VA, how it'll need to be tweaked for VA. And then the other thing that Dr. Singh alluded to is also embarking on this gigantic project of standardization across VA that is going to be a shift from a lot of separate instances of CPRS to one national instance with a kind of local variation. So, that was a really central activity.

And then other things we identified that the council did and were pretty prominent features of their work, were identifying needs where, as Dr. Singh alluded to, that there might be a piece of the software that VA needs that just doesn't exist in Cerner, basically identifying larger software development needs that go beyond configuration and sending those up the chain, essentially so they could be prioritized and deliberated on.

And then another key thing that some councils were engaged in were reviewing training and educational materials for the field and I’ll talk a little bit more about that in a minute--and then at the bottom here, we have a list of some of the more specific products being produced by examples.

So, to give some examples of what that standardization looks like, we heard just that enterprise standardization is a really big change for VA; some folks talked about the implications for the workforce and that a lot of the distributed fieldwork becomes centralized under this model, but that doesn't mean you eliminate the need for the people working on it; there may be even more need for their work, but it just means that the authority becomes centralized.

And then thinking about the implications of that standardization, that some things that right now, you might be able to change in CPR at one VA just in an office somewhere without consulting all that many people; now, before you do that, you have to do a lot more preparation and involve a lot more stakeholders to make that decision, but the upside of that is that you don't have to duplicate that work at every facility.

And then I mentioned council's involvement in training in that it kind of varied council to council. So, some councils had some input on the training materials that were being used by Cerner, so Cerner was doing the actual training, so some folks in the council said, "We've seen outlines of the training that was going to be rolled out, so we made suggestions, additions, solutions." Some councils found ways to supplement the training being offered by Cerner that focuses a lot more on the software itself then workflows and the way they're interwoven into clinical processes. So, they described working on developing complemental clinical assistance to what they put together or filling in areas where there might be missing pieces; and then we heard from some councils that this wasn't an activity they were engaged. One council said, "We've been excluded from the training process," or "I don't know how the training materials were created."

And then another really important thing to understand about the councils are kind of the nature of the decisions they've been making. So, probably the majority of the decisions are really about the EHR itself, have kind of indirect implications for care being received, but it's really about formatting. So, the units of a given measurement, the terminology being used, that sort of thing.

Then there are a lot of decisions they're making that have direct implications for VA provider and staff roles: who does what? That's a smaller number of the decisions, but a pretty--still a pretty big proportion. And then a smaller proportion, but not a significant number of decisions that the councils are making, have direct implications for patient care. So, deciding on reminders for preventive screening, for example.

Alright. So, that's the kind of meat of what they're making; it's also helpful to understand just how they're structured. Some of this was kind of inherited from the way that DoD organized their council equivalents, I guess.

And one thing that was kind of an aha moment for our team in understanding the councils, was you look at them and, okay, it's not organized by professionals, it's not all the doctors in one and nurses in another; it's not organized exclusively by a clinical area, they're very much interdisciplinary councils, but what is kind of the core way of organizing them? And it's, more than anything else, organized around the area of Cerner that a given unit is going to be looking at; so you want everyone at the table who's going to be interacting with a given piece of the software.

Another thing that emerged about the structure of the councils is that it was really dynamic; it grew as they realized needs for additional areas of focus that, "Oh, we can't tackle that every third meeting in this group; we need a separate workgroup for homeless services, for example." We also saw that in some councils, there were a lot of workgroups within each council, and in some case, that locus of decision-making shifted to the workgroups and was happening less at the council level, but that really depended on the council. And then we also saw an increasing involvement of the Department of Defense over time as the councils worked more and more towards alignment with the DoD.

And then, as I mentioned earlier, there's a really big range of size across the council. Some are pretty small, some are quite large. And then I'll give some examples of this in a minute, but the Program Office involvement, kind of national VA folks in the councils were typically the norm, but not the rule. So, there was a lot of involvement of program offices, but it wasn't universal. So, in some councils, they describe that, "We always try to get national program offices involved some," some folks reported that most of us on the council are actually from the program office; and then in other cases, we heard that, "Gee, I wish we had been able to get them engaged a little sooner," or describing kind of an uphill battle to engage program offices efficiently.

And the other thing I want to describe is how the councils went about their work. So, a key concept here is this overall goal of trying not to replicate CPRS and not only make minor tweaks to kind of off-the-shelf Cerner, but to really aim for the best software and the best set of workflows for VA, so we referred to that as blue-sky innovation, but then that was subject to the constraints of the timeline of the project; you need to develop it in a timely fashion so it's ready for go live; and also just kind of the nature of the contract and the constraints of what Cerner could develop in a given time.

Dr. Singh mentioned kind of the premise of configuring, not customizing--and what we heard from the councils is basically that that meant that most of the time, the kind of core work was taking a VA process that exists in CPRS, probably in a few different forms, and then figuring out how to adapt it to Cerner and its platform.

Another key thing here was also that the councils were encouraged to recommend policy changes where they're needed. So, if there's a directive that is counter to what the council sees as the optimal process, optimal workflow, or the optimal kind of configuration of the EHR, that needn't kind of close that as an option. So, if you need to change the directive, that can be explored.

And then we also heard that there were some language barriers, that there were early terminology challenges that when you have clinical lingo and software development lingo, but layer on top of that kind of private company's proprietary vocabulary, and the VA’s unique vocabulary for the work we do, there's a lot of opportunity for not speaking the same language. So, that's something that councils had to address early on.

And then another thing we heard that maybe isn't surprising is that it was really important to communicate effectively across councils, and to avoid [piling] from council to council; we heard it again and again how crucial that was--and also how difficult it was to achieve; and we heard some strategies the councils used to do that.

So, the main mechanisms for communicating across councils. A lot of it came from kind of informal existing relationships, reaching out to someone you know that can get through to others you know. So, a lot of that fell to the initiative of council chairs or members. And then, for cross-pollination, the workshops really served as the main formal opportunity for councils to share with one another and get input from one another. So, we also heard a few times that one limitation there is just you can only be in one place at once, and those workshops were trying to do a lot simultaneously. We also heard that outside of the workshops, there were some lasting relationships both within a given council and across councils that were forged by coming together in person for a massive undertaking.

And then, again, outside of those workshops, we heard that scheduling and conducting meetings involving more than one council at a time, but was a really constructive thing to do, but it may have been underutilized. So, either the Cerner representative, the subject matter expert, the folks who are setting the agenda either didn't recognize the need for that or just didn't take the steps to make it happen as often as it always needed to.

And I talked a bit about kind of the nature of the decisions being made, but we also really wanted to look at what informed those decisions? And we came to understand kind of a hierarchy of input to council decisions, so kind of the default--the starting point when there was a limited time or limited resources where, okay, you start with, "What the off-the-shelf Cerner looked like, how can we tweak it to meet the VA’s needs?", and drawing on kind of the expertise of certain representatives who develop software.

Given adequate time, you want to build on that by looking not only at kind of one example of how it's done at one PA facility, but drawing from a lot of different sites, bringing in perspectives from program offices if they aren't already at the table, and then looking to DoD to aim for alignment. And then, again, if you have the time and resources, ideally, you draw on guideline recommendations not just what are we doing now, but what ought we do, and there are kind of a few different forms of that the council has mentioned drawing on.

I think a key thing to understand here is that kind of how high up these stairs you climb kind of depends on the time you have to work on it and, to some extent, just the individuals involved, their assertiveness, and their interest in drawing on additional evidence. And then one kind of individual feature of how perspectives from individual facilities were incorporated into the process, a lot of that happened just by having individual representatives as members of the council come from different places, and a lot of those, there was an emphasis on the IOC, the Initial Operating Capability sites, the first few places that are going to go live on Cerner.

So, to give some examples of this, we heard that with so much focus being on milestones, there wasn't as much room to sit back and reflect, think who do we need to involve in these conversations? And then again, we heard that a lot of it came down to assertiveness; so, before we started, I thought carefully, "Okay, what content do we need?", and then I had to push and give it to us, then it was a hard negotiation.

Then we also asked our interview participants outright like, "Well, what do you recommend and what would you recommend to another council to make them kind of work better, make it more effective?" And some of the things we heard were you have to really actively foster buy-in from the council participants and know that some folks are going to come to the table having been asked to be on a lot of different committees, you have to make a really strong case to them of why this is worth their extensive attention. We heard from some that it was frustrating to really only see their one sliver of the software, that it would be really helpful to see their piece of the EHR in context of the rest of the EHR, which, of course, is challenging while it's in development.

Just in terms of the structure of councils, we heard that it was often really useful to involve individuals who had been exposed to different EHR systems, who had used different systems before, that helped them see kind of new opportunities in ways that you could do things differently.

And then kind of bread-and-butter stuff, we heard it's really important for the council chairs to understand the expectations on them really precisely from the get-go; and then probably the most challenging is that mission clarity is important, but difficult. So, trying to reconcile competing visions of council goals--and I’m going to describe those in a second.

So, some of those competing visions, we were told at the beginning that we don't want to just rebuild Cerner, we want to make it better; but because of some of the constraints, we found that that wasn't realistic. And we started from the current process and then let's build from that. And then others saying, "We were told we need to limit our big thinking and stick to what we've got." So, council members and chairs just described being kind of caught between that tension of trying to make the very best thing, but subject to the constraints of the timeline and the capabilities.

And then near the end of these discussions, we also asked participants to look towards the future and talk about the key things that they saw the councils doing over the next several months and years. And those ended up falling into kind of two buckets: one, probably the thing most on everyone's mind right now, is overseeing the rollout. So, they already kind of developed the starting point for the configuration of Cerner but that'll continue to evolve as additional sites get added and as input comes in from the field; but then, even at a site that has gone live on the software, there's a lot of work to be done in maintaining and updating an EHR; so, that's another kind of bucket of work that the councils may be involved in.

So, our conclusions really were built around some of what we heard from councils that kind of described themselves as really high-functioning; they said, "Yeah, we worked really well and we're really happy with what we developed." So, some of those kinds of self-described high-functioning councils were characterized by chairs and members who are really proactive in coordinating with other councils and getting input from the field, and from national leadership and program offices; and in pushing hard and strongly advocating for what they view as the best solutions despite the constraints.

We also heard just the importance of productive group norms of making sure that everyone has a voice and can speak up respectfully, but in opposition if they need to; and then really doing a lot of active work to create a shared vocabulary and make sure that everyone on the council is speaking the same language. And then, unsurprisingly, it's important to be working with people who are bought into the basic premise of the work that they're doing.

And then the other kind of key conclusion was the nature of the work going forward, so overseeing the rollout as well as the maintenance and updating of the EHR.

And with that, we're going to turn to questions, but we wanted to start with one big question that we think Dr. Singh can speak about a little bit at least, and that's what are the councils doing now and doing next.

S: Thanks, Dr. Brunner. So, to your previous slides, the councils right now in the setting of us having gone live at Mann-Grandstaff in Spokane. Right now, they're really focused on optimization activities; we had tiger teams working for the last part of December, early part of January, really looking at honing in on what are some problem areas that a bulk of the staff are experiencing right now; and to the degree that we can, are there workflow processes that we need to tweak, are there configuration settings that we have to take a look at?

Because largely, the effort that we undertook in the councils through the workshops was configuring a system that very, very, very, very few people actually had experience with; and so, we made designs based upon what we felt were probably in the best interests of VA, and now we got to actually see them in practice in a real-world environment; and we're learning where, maybe, perhaps, there's some deficiencies or efficiencies to gain rather, and determining what areas they can optimize. There's going to always be a degree of maintenance when it comes to what--with regards to the configuration decisions that we've made; medicine is changing, so we also have to change the content that we've developed to kind of reflect those changes as well.

You referenced our DoD partnership; we are leveraging the same instance of Cerner into the degree possible; we would like to converge on them in terms of the content that we have within the system because not only are we really focused on information interoperability between our two agencies, really, if we can start to drive home on process interoperability, it's really going to help us as we share patients between both the VA and the DoD, and also have care sharing agreements with them as well.

As we look to our future sites later on in this year, the councils would be--and have been--supporting those sites with their local workshops to going live; there's a certain amount of testing that takes place at those sites, so they're involved in those integration validation testing events and user functional testing events.

And again, one of the other areas that you reference on the slide, there's always going to be a component of us needing to refresh our change management materials, our training materials, a certain level of communications that need to go out not only to the site, but across the enterprise as well. And so, they're definitely involved in some of those activities.

B: Thank you so much. I think with that, we'd love to take some of the questions from the participants in the cyber seminar.

I: Great. I want to remind the audience that they can type in their questions in the Q&A box. We have a couple questions so far. The first one is how might we get access to council or workgroup meeting materials such as recordings, minutes, or outputs.

S: So, I can take that. That is a great question. Right now, what we've largely been doing is keeping those materials available for those folks that are on the councils, as well as the sites that are actively engaged in the process right now through their sites going live. One of the challenges that we have is across an enterprise as complex as ours with 300,000-plus employees, what can we do from a proactive perspective in terms of getting materials out, getting folks the ability to actually interact and engage in the system. And I know those are opportunities that are being discussed at the highest levels of VA OEHRM and VHA leadership at this time; but right now, in terms of their meeting minutes, those are largely locked down.

There's a lot of context that you need to understand; some of the council decisions that are going on; and not everything that we have from our artifact perspective is easily digestible if you don't have that appropriate context. And ensuring that 300,000 individuals across the agency have that appropriate context, it's definitely a clear it's a difficult undertaking and that's one that we're trying to determine from a change management perspective, how do we bring folks along at the right time with regards to where they're at in terms of their site and leadership positions across the enterprise? So, thank you for that question.

I: The next question is what is the interaction between the Tiger Teams and the councils?

S: So, the Tiger Team \_\_\_\_\_ [00:50:06] for some of the challenges that Mann-Grandstaff were having were formed in a multitude of areas, and where there is a clear one-to-one or one-to-many relationship with a particular council, we have brought in those council chairs, and at times, workgroup leads, to help facilitate not only the observations from Mann-Grandstaff, but then determining what's the near, mid, and long-term solution for this, realizing some of the problems might actually be inherent with the Cerner product itself; and for us to readily improve it, it would require IP development. And so, what can we do now from a process perspective or what can we do from a configuration perspective? Maybe we are looking at some of the design decisions, maybe it's some of the data migration decisions we've made, but that's how the councils are involved really.

I: Great. The next question--the first part was cut off, but the second part of the question is, "Were the conclusions vetted with the council members afterwards to see if they resonated? Also, there have been some recent news and GAO reports that there are serious problems with the rollout; how are those issues being addressed by the council?"

S: I think the first part of that question, I may be able to put that into the chat--I’m not sure which of the conclusions we're looking at. But if you're talking about did we take the conclusions of the design decisions and vet those with council members? So, "Who was involved in the interviews?" I think that's actually a question. "And were the conclusions from those from this vetted with the council members afterwards to see if they resonated?"

B: Yeah, that is an important part of the question. So, the folks involved in interviews were we started with chairs and co-chairs of the clinically-oriented councils, and identified other members of the council based on kind of their recommendations and in partnership with OEHRM, kind of asking for, essentially, the people who could best describe council activities. And we have a few different ways of sharing these findings back with the council. So, I think there's going to be some kind of written material distributed, but we're also scheduled, in a couple weeks, to present at an all-hands meeting that involves a lot of people in the councils, and then we're going to be sending an individual, much-shorter report to the specific participants in our interviews themselves.

I: Great. Another question. "How are the issues raised with training being addressed?"

S: So, there are two components with regard to training issues. The first would be from a council perspective, the course training maps and content are reviewed by our councils, and they've provided feedback--actually, a couple times now--there was feedback that was not incorporated or the timeframe to incorporate them prior to Mann-Grandstaff's training events are being looked at to be incorporated prior to us going to them. From a council perspective, that has also informed that.

Secondarily, what we're hearing from the feedback from the site is they have been logging issues where there have been deficiencies in the training content or areas or opportunities that they feel could be improved prior to a next site going live. There is a ticketing process, they're able to submit some of that feedback into, and they also have Cerner engagement staff on the ground at the site that they've been able to provide feedback to, as well as our change management leadership led by Dr. \_\_\_\_\_ [00:54:47], who has been--she should probably buy a home now in Spokane, she's been out there so often, but she's also on the ground engaging the leadership and the service line chiefs there. And so, they're incorporating a lot of that feedback in terms of improving materials and the approaches for our next site, and so that's kind of the [take].

I: And another question that has two parts: "Is there training for staff relating to the process changes needed to conform to the standardization of the EHR? Might the customization in the CPRS that is now gone have led to nuanced clinical practices that need to be changed to better match the new EHR?"

S: So, that is a great question; and to answer that, I would really like to point out some of the tremendous activity our partners in VHA and the Office of Health Informatics is doing. One of the greatest lessons learned that we had from the Department of Defense is they did not invest much in terms of actually understanding their as-is current state workflows prior to going and engaging something called a current-state workflow assessment where they're engaging with sites early on in their deployment process. To really understand how do they deliver care to veterans right now.

And then, they're going to help Cerner juxtapose that against what our 2B workflows look like to identify areas of a significant difference that we then need to identify and communicate to the site as we engage them in their local workshops, so they can understand what are the huge differences between the way we do business now and the way we're going to be doing it standardized in the future.

Additionally, what they will also be doing is identifying opportunities where we can pull from the standardization within Cerner and from a content perspective, and back into legacy so that we can start making--\_\_\_\_\_ [00:57:13] that which you have in Cerner, so that the change burden is decreased to the degree that it can be. And I think you've already seen that with some of the inpatient nursing documentation and standardization that we did from a Cerner perspective, and bringing that back into the vista CPRS world. So, that when you do eventually go live, you're used to the content the same way it's just clicking on it in a different area; and so, your cognitive burden for that particular portion of that chain would be minimized. And so, we're looking to see if there's efficiencies to be gained from that perspective and really lean on OHR to help us institutionalize that across the enterprise that has yet to migrate to Cerner.

I: Thank you so much. And it looks like those are all of our questions. Do the presenters have any closing remarks?

S: I did want to, just real quick, go back to the GAO report question. The GAO came out with a report that was actually based on data from September and October; and originally created prior to us going live at Mann-Grandstaff, whereby the GAO made observations prior to Mann-Grandstaff going live, that the VA should address all of our critical and high findings which we documented. We did, we provided that feedback to the GAO on the 22nd of October, and they provided us their report on the 23rd of October stating as much that, yes, the VA listened to us.

Interestingly, for whatever reason the GAO had, they sat on the report and didn't publish it until February; and so a lot of the media print articles are picking up on it thinking that that report has to do with post-Mann-Grandstaff statistics and observations, when really, it was pre-Mann-Grandstaff. The caveat, I will say, we find it to be our imperative to definitely address the critical and high-severity findings that we're going to continue to find as we roll out from site to site, and to address those and ensure we have mitigation strategies in place prior to the next sites going live.

So, you can extrapolate out the GAO report conclusions and we're still going to follow that, but the context of the GAO report being published in February, it was really an October report, but you don't get that in the media articles. So, it's my editorial comment there.

I: Well, thank you, again, to our presenters for taking time to present today's session. To the audience, if you have any other questions for presenters, their contact info is included in the slide deck and you can contact them directly.

Please tune in for our next Research & EHR synergy session, A VA-Focused Introduction to Cerner PowerTrials on March 24th at 12 pm Eastern. Thank you again for attending. We will be posting the evaluation shortly. Please take a minute to answer those questions. Let us know if there are any additional data topics you're interested in and we'll do our best to include those in future sessions.

Have a wonderful day.