Transcript of Cyberseminar

Session Date: 1/20/20145

Series: VIReC Clinical Informatics

Session: Integrating Systems Improvement with Informatics Tool Development: Evidence-based Results

Presenter: Heather Woodward-Hagg, PhD

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Unidentified male: Hello everyone, good morning, or good afternoon and welcome. This session is a part of the VA Information Resource Centers ongoing clinical informatics cyber seminar series. The series aims are to provide information by research and quality improvement applications in clinical informatics. And also, information about approaches for evaluating clinical informatics applications. This session will also discuss the use of operational data sources and partner experiences in research and quality improvement efforts. Thank you to CIDER for providing technical and promotional support for this series. Questions will be monitored during the talk, in the chat box. Go to webinar and will be presented to the speaker at the end of this session. A brief evaluation questionnaire will come up on your computer screen about two minutes before we close the session. If possible, please stay until the very end. It may take a few seconds to display on your screen and take a few moments to complete it. Please let us know if there is a specific topic area or suggested speaker that you would like us to consider for future sessions. At this time, I would like to introduce our speakers for today’s session. Heather Woodward-Hagg, PhD, is currently the acting National Veterans Health Administration, Veterans Engineer Resource Center National Program Director. And the Director of the VA Center for Applied Systems Engineering. Dr. Woodward-Hagg was also the Chief of the Systems Redesign service, Roudebush VA Medical Center in Indianapolis, Indiana.

Midh Mulpuri is the Program Manager for Applied Informatics Modeling and Simulations at the VA center for Applied Systems Engineering. He has over 12 years of experience in modeling and simulations and has applied M&S to a diverse set of problems in defense, homeland security, education, and healthcare.

Without further adieu, may I present Dr. Hagg and Mr. Mulpuri.

Heather: Thank you, this is Heather Woodward. I’m very excited, Midh and I are very excited to present to you today. Our agenda, we’re going to -- I’m going to give you a very brief overview for the Veterans and Human Resource Center on programs. And then we’re going to talk about how we’re building informatics systems really to provide oversight, collaboration, and support continuous improvement within the VA so we’re going to talk to you about that. But first we want to give you some background into the -- really some of the systems improvement work that we’re doing for the -- so that you can understand some of the foundational elements and see how they’re translated into the informatics platform. So I’m going to take you through an overview of Lean, our Enterprise Deployment strategy and some of those results that we’ve had from that program. And then Midh will talk to you about the actual integrated operational platform that we’re using to facilitate collaborations in the continuous improvement across these effects.

We have four Veterans Engineering Resource Centers within VHA they are located throughout the country; however, they are not regionally based. They have all of our VERCs for the whole country, all of VHA as well as VA in general. And the mission of the VERCs is to propose, develop, and facilitate innovative solutions based on systems engineering principles and to integrate those within VHA healthcare delivery.

The work that we are going to show you is one of our primary work stream programs within the VERC, which is this idea of continuous improvement, but also systems -- design of informatics \_\_\_\_\_ [00:03:41] support. And support continuous improvement.

First of all, we want to introduce you to the continuous improvement philosophy that really, we’re campaigning throughout the VHA and that is Lean. Lean is the adaptation of the Toyota production systems. And it’s really about looking at the customer and the customer journey and focusing on how we can design systems and processes to create value to the customer.

One thing you need to know is that Lean is often presented as a catalog of tools, however, really the tools in and of itself doesn’t drive transformation. And so we’ve been studying how do you -- what does Lean transformation, or what does enterprise transformation look like using Lean methods and strategies. We’ve been studying this for about five years. We did this because, if you look at the data the success rates for enterprise Lean transformations are very low. The success rates are about 10%, so that’s a 90% failure rate. And the deployment timelines that are really touted are anywhere from six to ten years. We knew if we wanted to support Lean as being a primary transformational strategy in the VA we had to have really significantly better success rates as well as we had to compress the deployment timeline. We looked at a number of successful organizations -- healthcare organizations that have produced enterprise-wise transformations and those include Theda Care, Denver Health, and Virginia Mason in developing our strategy.

Really, the challenge is going from, like I said earlier, going from kind of one project to individual pockets of projects into something that actually transforms the culture. When we looked at Lean Enterprise Transformation across these successful organizations, we were really interested in what were the specific methods and strategies that these organizations used. And then how do we translate those findings into something that would become a VHA Lean Enterprise Transformation strategy. It was interesting; we found that all of these organizations did the same things. They used the same tools. I’m going to go through these tools very briefly with you, not because the contents aren’t important, but I want you to understand that there’s a foundational element. And that the tools -- there’s a consistency in the tool sets. That the tools in and of themselves don’t enable the transformation.

This is a list of about seven tools that all of these organizations used. And again, I’m going to take you through these. First of all, all of these organizations focus on something called True North Metrics. True North really is this ideal state. It’s a way of measuring the ideal state for the organization quantitatively. Often their metrics or their True North were often bucketed into four groups, which are quality and safety, people, service. And then stewardship or cost reduction. These organizations used the True North Metrics not just -- not for accountability -- to really measure the progress that they work making in achieving this ideal state. So these were kind of very far ahead metrics that they used. And their assessment against these metrics were used to assess how well they had progressed.

The other tools that all of the organizations used was a consistent approach to problem solving. And in Lean, this is called A3 Thinking. It’s a sequential step throughout the whole organization, at the strategic level, at the system level, but also really even at the functional level. So, at the true operational levels. Unit based, everyone is using the same problem solving approach. What this allows the organization to do is to communicate up and down. The organization of what they’re doing, in a way that everyone understands. The A3 is something that most of these organizations used. And it’s really a one page, concise overview. And again. It’s the way that every part of the organization thinks about improvement.

On the next slide, we’ve got what we call the 9-box A3. There’s different kinds of A3, but really this concept of A3 thinking is that you would step through this process starting with the reasons for action, why is this important going into the current state, so what’s the current state of your process or system. Where do we want to go? What are the gaps in achieving where we want to go, which is the gap analysis. What are some solution approaches that will get us there? And box six and seven are really about what are the things that we can do right now. And the things that we can do long-term to enable that target state. And then finally, box eight is often called confirmed state. But it’s really how are we going to measure that -- or getting towards the target state. So, this is the A3, and this is a foundational element of how -- again, the whole organization does problem solving, and this becomes key, because if the whole organization is doing -- all the way from the executive level down to the front line is using the same approach and the same tool to do problem solving, then everyone understands the problem solving approach. And this also makes it -- and you know, if we’re going to talk about it in informatics support systems it also makes it a more straightforward design in informatics support system that can pull information from these standard tools and then synthesize, not only within an organization but across organizations.

Now, the other foundational things that these organizations did was something that was strategic planning. But they did it in a very, very different way than we think about normal strategic planning. The used something called a Transformational Plan of Care. The Transformational Plan of Care is an annual strategic planning event, which is not about what are we going to do with respect to metrics, or dashboards. It’s really about what are we going to do to enhance and enable the program, the transformational program. It’s part of the Transformation Plan of Care. This is where the True North Metrics were selected and defined for that year. But also, where the systems improvement work is selected and where the continuous improvement work is selected within the organization. So, what the Transformational Plan of Care really allows these organizations to do is to align strategically. So right away, they say this is how we’re going to measure and assess the organization. And this is how we’re going to translate those measures down to the front-line staff level. These are the value streams. So, if you know the system that we’re going to look at. Then we’re going to translate those systems down to the unit level. Then there’s the communication strategy that we’re going to see to communicate the results, and what we’ve done. Not only the results, but also what we’ve done through the whole organization. So really, this ensures a strategic alignment.

This is just a graphic on the next slide about how really the point of the key pockets, not just say how you’re going to do something. But to say what needs to be done and then how it’s done is floated back up through the organization. That ensures vertical alignment, as well as cross-functional alignment.

Again, the building an informatics platform that would support this, means that we need to be able to pull information from the different levels of the organization and then it simplifies it so that we have oversight and transparency across the larger organization so that it can also drill down into the front-line. And you’ll see that in this work in the operational platform.

All right, so just briefly. What is a value stream? As I talked about before value stream is the whole system or continuum of care. So, as part of the \_\_\_\_\_ [00:10:45] value stream and the inpatient value stream, specialty care, outpatient, these are DC’s\_\_\_\_\_ [00:10:51]. These are traditional value streams that are often selected. And then as part of designing the whole system, instead of just focusing on one part of the process they designed the whole system. And then they prioritized and selected individual projects that will enable the whole system. So essentially, you’re measuring at the system level. You’re improving at the system level, that you’re driving that improvement to your individual event. These are the types of events that are typically done. Again, all of them use a free format. So whether you’re doing a PDSA at the front-line level, or you’re doing a larger scale project, everything uses the A3, so that it allows us to not only to understand and communicate the efforts better. But also, to pull and synthesize information about what’s going on within that specific continuous care.

And again, the other thing that we found is that these originations not only selected value streams and did more local improvement work to use rapid events. They also did this at a change that was very, very rapid. So it wasn’t -- within the value stream, they might run 10 to 12 projects a year within each of the value streams. And what we call the cadence or how often these projects were run. They were run very frequently. They were run every month so that there was an established cadence. This enabled the organizations to push towards changes being something that’s okay for us. Change is something that’s normal for us. So again, you can imagine 10 to 12 projects a year across four or five value streams. Suddenly the program complexity becomes significant and again, why really necessitate some kind of a platform to be able to not only poll and synthesize information, but also to monitor the program over the whole organization.

Let me talk a little bit about this concept of a Lean Management System. The Lean Management system, is really how the management system is integrated down to the front-line staff level. And there’s a lot of tools here, they include using regular status meetings, huddles, and standard work, dashboards and scorecards. But really, this is about again integrating and institutionalizing some of the concepts down to the front-line staff level. But also making this the way that we manage an organization.

This is often -- the lead Management System, is often visually represented at the unit level by area improvement boards and this is an example of an area improvement board. You can see we have at the very top True North Drivers, or Metrics. Then underneath that, we have data that’s specific to that unit, or that area related to that True North. Then we have plans in place as well as other ways of measuring control plans that are also represented on the board. And typically, these are area based visual boards and then the information is rolled back at the organization. Okay, so now that you’re a little more familiar with the tools that these organizations used what we started to understand and what I mentioned before is that the tools don’t actually drive the transformation. The transformation is actually driven by the ways that these tools are deployed. And we’re going to call that strategies. The key to this is that you utilize the tools to drive engagement of everyone throughout the organization in the transformational program. So again, just simple method tools you do them in such a way, strategically so that it drives engagement. We’re going to call that high-levels of engagement pull.

Pull is the opposite of push. Let me explain, when something is happening to you, it’s being pushed. When you want this thing, you need it you see the value in it that’s pull. So really, it’s critical that these tools are deployed in such situations create -- constantly create pull for the transformational program within the organization. But the tools serve a purpose, and that’s to continuously engage and ensure that there’s pull. We saw that there we three strategies by which these pulls or methods were implemented that ensured that these organizations were creating pull. Those were, first of all, respect for people. This was this idea that -- the goal of this was that the front-line staff is really the problem solvers within these organizations. And everything else that’s done should ensure that we have the capacity and capability at this staff level to do improvement work on a continuous basis. That’s respect for people. So, not only the front-line staff develops so that they can do this work, but also in the management, and the executive levels they are developed so that they understand their roles as coaching and facilitating. And leading to the front-line staff being able to do continuous improvements. Secondly, strategic alignment. Strategic alignment is the way in which key pocket’s done. The way in which the value streams are implemented, the way the metrics are, not only disseminated through the organization, but also communicated throughout the organization. And that’s necessary because it provides transparency with respect to goals and metrics. Finally, strategic deployment. Strategic deployment is the strategy that says look; we want to get everybody involved. And we want the work that we’re doing to be changeable and relevant. And that’s where really, the Lean Management System comes into play. It’s utilized, it’s really integrated, and nationalized the management system in such a way that it enables everyone to be involved and engaged. These are the strategies.

Our next question was how are these strategies deployed? Do you just throw down -- do you just train a bunch of people, align everything, and then integrate a management system. And you do that on day one, is that the magic. It turns out that, that’s not actually what happens. Because leadership capabilities drives all three key strategies. Leadership drives the ability for the organization to strategically align. Leadership drives the ability of management to integrate the Lean Management System. Leadership drives the organizational understanding that the role of the front-line staff is continuous improvement because they drive all three strategies. What we find is that the transformation is really a dynamic process. And that there’s these transitional phases that organizations go through as they are trying to get to this ideal state to integrate and implementing optimum strategies. So really, what we found from studying these organizations, and certainly, what we’re seeing within the sites that we have in Lean Enterprise in the VA is that transformation is a dynamic process.

There are transformational phases, and these transformational phases are actually indicative of leadership beginning to understand along the way where they have gaps in their program. And working to close those gaps. It’s all really about maintaining this engagement, or maintaining this pull for the transformational strategy within the organization.

So let me show you, this is really, what we’ve found in studying these organizations. And this is the deployment strategy that we based a lot of the VHA work on. So we see that first of all, all organizations start at what we call phase one, which is just large scale system-level improvement. This is just doing projects. And most of the VHA, we have organizations that just do projects. But what eventually we find, and in fact, we’re finding this across most of the VA is that projects don’t actually lead to transformations. And in fact, they don’t lead to transformations because just doing projects throughout the organization doesn’t actually move the strategic goals at all. So it doesn’t move any of the primary metrics. Then we find that leaders that are savvy to recognize this or say how can I move the metrics. And that leads them down the path of implementing strategic alignment. And from strategic alignment they start to think about how -- well, it’s great that I’m doing all these big system level improvements in my organization, but how do I really begin to drive this down to the front-line staff? That’s where the value streams and the rapid improvement events actually come into play.

The next phase, we call that phase two. Organizations that are doing large scale and small scale projects work, they’re doing great work; they’re looking at their metrics and because we tend to talk about those organizations as being in phase two. But that’s not enough, because over time, the organizations find that they can’t actually spread this throughout, just the value streams and rapid improvement events they don’t get spread throughout the organization and they don’t get the fusion. And they start to have sustainability issues because the results -- this idea that we manage in this Lean way it’s not institutionalized. So they start to have sustainability and diffusion issues. And that drives them down the pathway beginning to think about how do I develop my people, not only at the front-line so that they’re able to do continuous improvement. But also at the management level, and executive level so that the whole organization is driving towards the front-line staff doing continuous improvement. And then how do I enable the systems and process of that management system so that over time we’re designing the system so that they also facilitate the front-line staffing to be able to drive continuous improvement. That’s when phase three \_\_\_\_\_ [00:19:42].

So again, we find that these strategies happen, but they happen in a way that’s sequential and really these phases are driven by the leadership and they’re seeing that there’s a gap in their program. That the program is not doing what they need it to do and they work to correct that. And through doing that, they create this dynamic deployment approach.

All of these designs were very interesting to us. So how can we then translate this into something that would become the VHA Lean Enterprise Transformation framework?

We started this work about three years ago, and we tailored the traditional approach for implementing Lean Management Systems quite a bit. We did that based on these findings from this initial work. First of all, whenever we work with facilities now we always talk about the fact that this is a dynamic deployment strategy. Secondly, we provide on-site consultation, what we call Lean Sensei support, but it’s at the executive and at the mid-management level so that they can help mid-managers and executives navigate through transitional phases. Finally, we’re really working hard to develop more resilient and system thinking capable leadership teams so they’re able to navigate the dynamic deployment approaches. And this is really why the IOP works. And Midh is going to show you in just a moment, it’s so important. It’s key for the leadership team to be able to see across the organization what’s going on so that they can begin to understand proactively where there are gaps and begin to close those gaps in the program.

Real briefly, I’m going to take you through the next few slides and show you, this is really what phase one looks like. The first slide, it’s really just a bunch of projects driven by the executive management team. Phase two is really just about we’re going to do some strategic alignment and then that’s going to drive the project, so that all the projects we’re actually focused on what we want to do which are moving the True North Metrics and Value Stream allows us to do that. Really, the phase three piece of this, this is where we begin to integrate the Lean Management System and continuous daily improvement. This is where we begin to say how can we deploy this across the organization, and where does -- how can we bring in those tools? And that’s just what I mean \_\_\_\_\_ [00:21:53] to enable that.

As I said before, we have senseis at both the executive and management levels. We actually have, for the last three years have had six sites that have been our pilots for Lean Enterprise Transformation in the VA. We have been doing an informal evaluation. I’m going to show you some of that data in just a moment. But also, we have been doing a lot of -- we’ve also charted recently, or put in an RP for a partnered QUERI Evaluation Center. And that will, we hope, will help us to better understand as we begin to broaden some of the sites. I think we have ten sites now that have -- so we have ten sites total. Six of them have been with us for a few years. And four that have been added this year, trying to understand the evaluation piece.

I’m going to blast through these, I want to make sure I’m going to have enough time, but this is just some data that we have been collecting through our own informative evaluations around the six sites. I’d be happy to talk with anybody in more detail about this information and data. Then the last few slides just show that we are in \_\_\_\_\_ [00:22:51], site six is the longest, and site one is actually the Indianapolis VA Medical Center. We have seen a shift in all employee survey scores across the whole organization. But also at the unit level, which is the last slide. And the shift corresponds to the timing in these units of when they began to participate in the continuous improvement work.

At this point, I’m going to turn it over to Midh, thank you.

Midh: Thanks Heather. Before I get started, we have a polling question to gauge the audience’s perceptions of continuous improvement within the VA. The question is, in your opinion what are the key barriers within the VA to adoption of continuous improvement principles from Lean or other frameworks. Is it identifying priorities for improvement, engaging employees, fostering collaboration among stakeholders, finding the right tools, or is it something else? The poll is open right now.

Unidentified female: Responses are coming in. People do have the ability to select more than one answer if you feel more than one applies in your opinion. We’ll give you all just a few more moments to respond here. And then I will read through the results. It looks like things are slowing down. I’ll give you just a few more second then I’m going to close the poll. Okay and what we’re seeing is around 35% saying identifying priorities for improvement, 61% saying engaging employees, 58% saying fostering collaboration among stakeholders, 18% saying finding the right tools. And 30% saying other. Thank you everyone for participating.

Midh: Thank you everyone for participating. That reinforces what Heather was saying there with respect for the strategies for deploying across the enterprise. It’s not necessarily about the tools, but achieving goals.

With that in mind, I would like to think about embracing continuous improvement. A case study of how this was done across the VHA homeless programs and what we call integrated operational planning. Those \_\_\_\_\_ [00:25:27] started in FY 14’, so we’ve had about a year’s worth of data to understand the impact. What we set out to do in partnership with the VHA Homeless Programs National Office, and it is really their leadership that is driving this effort and closely guiding the VHA’s activity in integrated operational planning. Within that, we’re utilizing principles for various frameworks including Lean and these were selected for organizational fit, adoption speed, and ability to scale because there was a strong desire to deploy that across the enterprise as quickly as we can.

A quick overview of programs and services for homeless Veterans. It’s not just the VA, the VA works in close partnership with other federal partners, state and local governments, and non-governmental organizations. So when you think about a homeless Veteran or an at-risk Veteran and the interventions that they receive on the path to achieving permanent housing. There are all of these organizations both VA and non-VA that are touching them. You can really think of the VHA homeless programs and the programs and services for Veterans as a complex adaptive system that shares a common purpose. That is important in the context of thinking about continuous improvement. The common purpose that they share is to end Veteran homelessness, which is a strategic target for the VA and it is shared with these other organizations. And you can think of it as True North for these various programs and services.

How do you achieve that True North? In the context of integrated operational planning, which is the operations management framework adopted by the VA homeless programs. It is broken down into five objectives. It starts with really, a kind of anticipated need for these programs and services among the Veteran population. Using the existing VA assets to the fullest extent possible. And then where gaps remain, closing those with operational improvements, allocating additional VA assets and working with local state and federal partners to close these gaps. And working with these partners also improves our own understanding of Midh Veterans needs. So, instrumentally these objectives get us closer the target of ending Veterans homelessness.

In order to achieve these objectives, homeless programs adopted an integrated approach across the enterprise comprising of six activities and two enabling activities.

The two enabling activities are collaboration and learning. Collaboration as I noted is very important because of the large number of stakeholders that are involved in serving Veterans. And the six core activities here are assessing state, which is really understanding the environment and the structural determents for homelessness, such as unemployment and poverty, access to transportation, affordable housing and understand how those are impacting the Veteran population. Understanding the various programs that are available to serve Veterans, both within the VA, federal partners, and NGO’s. Then, identifying the gap versus the target and developing strategies to close those gaps. Planning actions, implementing plans and tracking progress.

These six activities sit at the strategic/operational level. And it ties into some of the tactical activities that are enacted at the various sites. This is a continuous framework in the sense that these activities are instrumental. And we’ll talk about how those come into play. This approach was deployed across the enterprise at scale. That is to say that it’s deployed across all VA medical centers. In order to support that deployment, we leveraged a set of tools that VA case built. Those range from excel based tools for prototyping, and rapid deployment of analysis capabilities. Web based tools to reach scale and achieve continuous deployment as we try to adopt this integrated approach an agile approach. There are also advanced tools that can prepare here such as simulation applications that are targeted at specific high value problems.

One of the things that we strive to achieve across this tool suite and across the enabling processes is integration and ease of use. Ease of use is important to reduce the friction. As these personnel across the VA are trying to adopt this new framework and really want them to be engaged and achieve pull. One way to do that is to ease the friction. Make it easy for them to participate and the way to do that was to provide what I would call Turbo Tax type tools. Turbo tax this really cumbersome task, the process of preparing your tax return and makes it easier. And also, to integrate these tools so that \_\_\_\_\_ [00:32:01] explore data and there isn’t unnecessary manual work across this tool suite.

Some of the core tools here are the Gap Analysis Tool, which is where the gap analysis is actually performed. Its model is used by the VHA homeless programs on a quarterly basis to assess gaps. The gaps that they identified within that and the strategies that they develop within the Gap Analysis Tools are readily available. The Op plan tool, which is used for planning. Then there’s the tracking piece to the Homeless Programs scorecard and this scorecard is actually developed by VSSC. It is integrated into the planning tool, within which, the personnel at the medical center level develops their plans, tracks their progress and updates their plans on a monthly basis. They’re gauging how close they are to meeting their monthly targets with regards to the overall target of ending Veteran homelessness.

We built another tool called the Operational Planning Hub. And the goal of this tool was to really integrate -- extract and integrate the data from all of these tools to provide a knowledge base for the enterprise. And in doing so weren’t actually focused on the documents. But rather focused on extracting insights from all of this data. And so, the Operational Planning Hub provides enterprise wide visibility to the analysis, planning, and tracking efforts the VAMC, VISN, and also at VACO levels. And provides that transparency into IOP activities across the enterprise.

Just quickly, I mentioned ease of use to the Gap Analysis Tool it enables medical attendees to, on a quarterly basis to assess and close gaps. And you can think of it as an advanced calculator, a sophisticated model. And within this, there is a significant collaboration element not only across the various programs at a particular medical center. But, also with community partners. And HUD continuums of Care. So the VAMCs actually work with HUD Continuums of Care. And this is designed into the Gap Analysis activities. That collaboration is really important in developing collaborative strategies to end Veteran homelessness across this system of care that is serving Veterans.

The outline too, similarly, it is used monthly and it is used to continuously update plans and track progress. There is a collaboration element, they can do this across teams that are formed that are formed to develop and implement specific plan. And these plans are developed, again, and strategies developed in the Gap Analysis Tool. And all of that data is readily available and this tool is also linked to the tracking fees, the scorecards. So it is available in one environment and really makes it easy for personnel to engage in this effort.

So let me just talk about the Operational Planning Hub. The Hub is a web-based environment that we built to really put together all of the analysis, plans and all of the traditional supporting content to really support IOP activities. And some of that is identifying best practices across the various effects and medical centers. And the Homeless Programs National Office actually goes through these various plans and looks for best practices. They also look for crosscutting barriers and try to develop solutions to help try to overcome those barriers and provide a library of content to support these operational activities. So in many ways this is a one-stop shop for access to data, analysis, and planning. This is only available to those core planners and analysts within IOP. But it is visible across the enterprise. Leadership can take a look at it at any point, and assess gaps at the national level. And VISN’s can do the same thing so there is no transparency and the ability to adapt a strategy in response to the dynamic situation. Just looking at it across the enterprise, here is data from last month and it shows 1,100 planning efforts across the VA system. Every VA medical center has efforts underway. Most have five plans or more to end -- all of this is going to achieve True North and Veterans homelessness. In doing so, making 17,000 new permanent housing placements possible by the end of 2015. And this is the VA strategic target or the end of the initiative to end Veterans homelessness. And just to look at it in terms of the activities and the engagement, so there were 12 monthly planning iterations, four quarterly gap analysis iterations. And the VACO, VISN, VAMC joint review. So this is the collaboration across the VACO network and VAMC levels. There are 300 VAMC planning leads involved in these efforts. But when you look at the Operational Planning Hub, there are over 2,000 personnel accessing the hub. So you can see that the insights that are generated within the integrated operational planning and analysis activities is being disseminated to a larger audience across the VHA homeless programs. And they reported 1,300 community strategies developed and as I mentioned 1.100 operational plans developed to support those -- leading to those 17,000 potential permanent housing placements.

The reason it’s potential is because a lot of that is in planning and it has not been realized yet and so that’s the expected number by the end of 2015.

The road ahead, in terms of what we’re trying to do with integrated operational planning, so this is actually just the first year of deployment within the VHA homeless programs. And as Heather mentioned it takes many more years to really achieve this culture of continuous improvement. So there’s more work to be done. And we anticipate enhancing and supporting these capabilities of the VHA homeless programs and service the Veterans. We’re also working on refactoring this tool suite that we developed with a focus on ease of use and integration to support Lean deployment and the Lean Management Systems at the VA medical centers. And we’re also seeking partnerships with other National Program Offices that are interested in deploying similar frameworks at scale. That looks exciting. So with that I can open up for questions to either Heather or me.

Unidentified male: Thank you. I do have one question that came in so far. And the question is referring to slide 34. The question is who came up with the goals for this particular slide?

Midh: Sure, so these objectives were actually developed by the VHA Homeless Programs National Office. And these are the objectives that relate to the overall strategic target of ending Veterans homelessness and this relates to homeless programs operations.

Unidentified male: Okay, thank you. Right now, we do not have any other questions that have come in from any of the attendees. At this time, we would like to thank you and Dr. Woodward-Haag for taking the time to develop and present this talk. Everyone please forward any remaining questions to our presenter @ **VIReCh**elpdesk, @ **VIReC** @va.gov who will continue to focus on a partner research topic at the same time next month by having Dr. Robert Broussard who will present partnerships with the Office of Public Health Epidemiology Program February 20th, 2015 from 12:00 to 1:00 p.m. Eastern. We hope you all can join us for that and now everyone enjoy the rest of your day.

Unidentified female: As I close the session out here, you will be prompted for a feedback form. So if everyone could take just a few moments to fill that out we really do read through all of your feedback. Thank you everyone for joining us and we hope to see you at a future HSR&D cyber seminar. Thank you.

Midh: Thank you everyone.

Heather: Thank you.