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Presenter: Ralph DePalma
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Molly: Since we are at the top of the hour, so at this time I would like to introduce Dr. Ralph DePalma who will be introducing our speakers today. Ralph.

Dr. DePalma: Well it is a pleasure, thank you Molly. We are going to discuss today research operations partnerships that define and improve VA TBI healthcare. Dr. Scholten is a Board Certified Psychiatrist, is the Associate Chief of Staff of Rehab Services at Washington, DC VAMC and is the Acting National Director of the Physical Medicine and Rehab Program Office. He also serves as the Clinical Coordinator of the Polytrauma and Blast Related Injuries QUERI. On the research side, Dr. Sayer is a Clinical Psychologist and Health Service Researcher. She is Deputy Director of HSR&D Center for Innovation in Minneapolis and has served as Research Director for Polytrauma and Blast Related Injuries QUERI since its inception in 2005. It is a pleasure to welcome them.

Molly: Thank you so much Ralph. Joel you should have the popup now to share your screen.

Dr. Scholten: Okay, great.

Molly: Excellent. Thank you.

Dr. Scholten: Thank you Ralph. Thanks Ralph for that kind introduction and this is Joel Scholten, a pleasure to be here with you today along with my good friend and colleague Nina Sayer. We are very happy to talk about how both the operations side of the house and our research team can partner to better improve care. Molly I think we are going to start off with some polling questions, I believe I have to minimize my slide.

Molly: Let me take control real quick and we are going to put up our first poll question for the audience. Right now on your screen you should see the first poll question that is – what is your job? You can check all that apply. The answer options we have are – clinician; program manager; researcher; central office; policy maker; or other. Joel if you would like to talk a little bit while those results come in feel free.

Dr. Scholten: Sure, thanks Molly and again thanks again for your technical assistance otherwise I think Nina and I would be very challenged with this presentation. We just wanted to get a sense of who our audience was today. This will help us tailor our comments. We will be talking today and Molly just let me know when you think we have the results.

Molly: Yeah you should be seeing those now, we had about a seventy-five percent response rate.

Dr. Scholten: Okay, great. Looking at the results we have more than half of the folks on the call are clinicians; about a third researchers; and then mixed between program managers, central office staff, and other. Molly let us go on to the next question then. How familiar are you with both the diagnosis and treatment of traumatic brain injury? Please select one of the following – not at all familiar; a little familiar; moderately or very familiar.

Today Nina and I will be talking about both care for traumatic brain injury within the Veterans Health Administration. I will be covering the topic and giving an overview of TBI and Polytrauma which probably many of you are quite familiar with, we will go over that briefly. Nina is going to cover how the Polytrauma and Blast Related Injury QUERI has supported research and assisted the program office in providing the best evidence based TBI care throughout the system. Then I will follow up with talking more about our program office and research partnerships and the lessons that we have learned over the past ten years, I have been with the program office for six but kind of covering what we have learned over time.

It looks like our results from the last question – how familiar are you with TBI diagnosis and treatment – split about a third between a little, moderately and very familiar. So no one is admitting that they do not really know anything about TBI so that is good, we have a wide variety of expertise here.

Let us go to our final poll question - on average how long does it take for research evidence to influence clinical practice? One to two years; two to five; five to ten; or more than ten years. As you are voting I mentioned before we organized the talk today and then we will follow with some question and answer time and I believe folks can, I do not know Molly can people be submitting questions in the chat line throughout the talk.

Molly: Absolutely. Yeah and we encourage that, please do use the question section of your Go-To Webinar Dashboard to submit questions and comments as they pop into your head and then we will address them in the order that they are received at the end of the presentation. I did not mean to rush you through the polls Joel, but we have reached the final results so we will put that up real quick and then we will get going on your slides.

Dr. Scholten: Okay so - how long does it take for research to influence practice - and we have a variety of opinions here. There are some optimists in the audience that think it takes only two to five years; forty-four percent said five to ten years and about a quarter of you said more than ten years. I believe the quoted statistic is about seventeen years so this is why we think the collaboration between operations and research is so important to move care forward. Certainly it is to provide the best care that we can for Veterans as they certainly deserve that. I believe I can forward my slides now and Molly just to clarify you are seeing my sides.

Molly: Yes everything is coming through just fine, thank you.

Dr. Scholten: Okay, great. Let me jump into a little bit of a TBI and Polytrauma overview within VHA. Again I apologize I know there are mostly clinicians on the line with varying degrees of experience and expertise. Hopefully I am not boring you with this. The polytrauma system of care was established back in 2005. We have over one hundred and ten specialized rehab sites and teams across the country composed of five inpatient polytrauma rehabilitation centers that are providing the most acute rehabilitation for Veterans with TBI and polytrauma. We have a designated team at each of our network sites plus additional sites in San Antonio and San Juan. Those are dedicated outpatient TBI and teams that are providing outpatient evaluations and services as well as telehealth and telerehabiliation all of this also has the potential to provide inpatient rehab. And then we have an additional eighty-seven polytrauma support clinic teams which are doing predominantly outpatient TBI care. For every VA medical center that does not have a designated team there is a polytrauma point of contact that is identified that helps Veterans at those sites access the rest of the system of care based on their needs. Oftentimes most of those needs can be met at that site because there are individuals with TBI expertise but the point of contacts help facilitate that patient flow and accessing the system at the right level to meet the needs of the Veteran.

Here is a map of our locations. You can see where polytrauma teams are scattered across the country with a larger concentration in the East Coast which bears the population.

Most folks within VA are more familiar with TBI because of our TBI screening and evaluation process that started in April of 2007 following several hearings and Congressional inquiries about how does VA know that they are not missing Veterans that have had a TBI or have had a concussion during deployment and may have ongoing needs. The VA developed a four question TBI screen and every Veteran that accesses VA for care is given that screen and answering the four questions yes triggers an in-person evaluation. We have the results here just up to the end of fiscal year 2014. At that point eight hundred and eighty-three thousand Veterans had been screened. I believe right now we are close to a million Veterans that have been screened if not over and then the number that have screened positive and have actually come in for an evaluation.

This next slide with the circles and arrows and just of shows that breakdown. So we have the large cohort of individuals coming to VA for care; those screening positive are the arrows going down to the lower circle. Of the Veterans that have completed an evaluation confirmed TBI diagnosis has been present but confirmed in about seventy-three thousand individuals and that is about 8.3% of the total cohort that has been screened.

Nina will be talking a little bit later about some of the different research projects that are focused around the properties of that screening tool and the evaluation process. It is a way to identify, provide a definitive diagnosis and then provide or direct Veterans the appropriate course of care.

What becomes very challenging is this is a highly symptomatic patient cohort. Both Nina and I were involved in this study, this is a table of symptom report from individuals that had come in for a comprehensive evaluations. This is the first fifty-five thousand individuals that completed an evaluation and we asked them to complete a neurobehavioral symptom inventory which is a twenty-two item symptom list of symptoms that are commonly reported after head trauma. Interestingly enough Veterans by far endorse more symptoms than not. In fact only one of those symptoms was endorsed by more than half of the patient cohort. So it was normal or more on average everyone endorsed at least twenty-one symptoms and you can see they are listed in frequency of endorsement. But eighty-two percent reported moderate to very severe symptoms of irritability and sleep disturbance and then on down the list. So a very symptomatic group making evaluation and certainly treatment planning challenging.

The VA and Department of Defense have for quite some time worked together to publish evidence-based guidelines, clinical practice guidelines and so there is a CPG for mild TBI for treating symptoms that are persistent symptoms following concussion or mild TBI. Those clinical practice guidelines are actually in the process of being reviewed and renewed and that is actually happening next week. These are developed from the best available evidence and consensus opinion and those of you familiar with rehabilitation know that we sometimes do not have a lot of evidence to implement sometimes so we do a large chunk of those CPGs are based on expert opinion.

One other important thing to note with VA’s TBI care is that the hallmark of TBI rehabilitation is the development of an individualized rehabilitation plan of care. The program office has implemented an electronic template to help document and identify those important components of the plan of care and that was implemented in 2011 following the 2010 NVA legislation. We require this Individualized Rehabilitation and Community Reintegration or I will refer to it as IRCR Care Plan for all Veterans and service members treated in VA with ongoing TBI rehabilitation needs. Listed some of the components of that plan here and I think I have to actually click through these to make them show. Basically the plan covers a comprehensive evaluation and has treatment goals and the details and the types and frequencies of therapies that the team believes are needed to meet those goals; the name of the care manager or case manager and the dates when the plan will be reviewed next with the Veteran. So as Nina will talk alter there has been lots of research that the QUERI largely supported by the polytrauma QUERI about the TBI screening and evaluation process but not nearly as much about the treatment planning. That is where we are kind of at within the VA, we have done a great job. We think of looking at the evaluation and diagnosis of these, then defining and quantifying treatment is the next question we need to answer within VHA.

In going back to the IRCR there is an algorithm that the Program Office developed that basically says any Veteran with a TBI diagnosis that is seen by the polytrauma team that is receiving skilled therapy for TBI related needs and requires case management should have an IRCR placed. Also it is recommended that this template is, or it is required this template is utilized for those that are discharged from our polytrauma rehab centers and our polytrauma transitional rehab programs.

As I mentioned before there is not a lot of research or evaluation that has gone into this process as of yet. Although we did do a local site study at the Washington, DC VA. We did a years’ worth of chart reviews just looking at those individuals, a year’s worth of individuals seen in our polytrauma clinic and evaluated if we were compliant with that algorithm. Lo and behold we were compliant; we were better doing a job for those individuals who did not require a documented plan. So we had fifty-six percent of those were compliant because they did not require one and we did not give them a plan. Twenty-eight percent required a plan and we documented that. Fourteen percent were not compliant because in looking at the retrospective chart review they should have a treatment plan in place but our site did not provide one. We have done some drilling down into why that may have occurred and we finding that case management is really critical with this patient cohort but hoping to encourage other sites to do similar projects and look at how this process is working as we are not sure that the findings at our site could be generalized throughout the system. So that is definitely an area that needs more study.

In the interest of time I am going to turn it over to Nina now to talk about some of the research support that the polytrauma and blast related injury QUERI has provided over time. Since in rehab we work as a team I will turn it over to my teammate Nina.

Dr. Sayer: Thank you so much Joel. Molly are you on my screen now?

Molly: Yep, we are good to go thank you.

Dr. Sayer: Terrific. Well hello everybody it is an honor to present to you today and an honor to present with Joel Scholten. Joel and I have worked together for many years and the opportunity to present with him on some of our collaborations is very welcome.

I am going to talk with you about Polytrauma Blast Related Injury QUERI PT/BRI another acronym; research to support VHA’s TBI Polytrauma System of Care. Here we go, sorry.

The Mission of the Polytrauma Blast Related Injury QUERI has remained unchanged since our inception. Our mission is to promote the successful rehabilitation, psychological adjustment and community reintegration of individuals who have experienced polytrauma and blast-related injuries.

To achieve our mission we have had over the years a number of partners and collaborators, our Executive Committee and through various specific projects. This includes program offices within VA; centers within the Department of Defense; and of course Veterans, family members and caregivers and frontline providers.

Today’s presentation focuses primarily on our partnership with physical medicine and rehabilitation, PM&R which is within rehabilitation and prosthetic service.

I am talking about partnered research but what am I really meaning by that? What I mean by that is work in which researchers and policy makers have joint investment and ownership. I am going to be briefly reviewing three examples of partner research – the Family Care Map Project. This is a QI study; our Research in TBI Screening and Evaluation; and what we refer to as TBI Utilization Reports. These were areas of high needs but little prior work.

Starting with the Family Care Map. To put this project in context we need to go back in time. Our priority began soon after the TBI/polytrauma system of care was set up and little was known about family members of individuals returning from war with severe injury or how to meet their needs. Our implementation research coordinator Greta Friedemann-Sanchez conducted a needs assessment study. From that work she learned that the frontline clinicians were working with these family members but this was a different group, these family members were different than family members of Veterans from prior war eras. Not only where they demographically different, but also they were playing a different role in rehabilitation and they had their own support and medical needs. This is something that the LIG also noted and emphasized new approaches and tools were needed to meet these family member needs.

So what do we do? Our implementation research coordinator Carmen Hall facilitated a Research Operations Clinicians Collaborative using the IHI model to develop what we call the Family Care Map. This is a web-based tool to help staff guide families through inpatient rehabilitation and to standardize and enhance “family centered care”. Our partners in PM&R were very involved in this project, they connected back to the researchers; they protected time for staff to be actively involved and they represented at some PM&R participated in the collaborative workshop.

I am not going to go through the details of the Family Care Map today, but this is the home page from the Family Care Map as well as the address if you want to pull it up at some point. The Family Care Map was designed to help family members understand and actively participate in their loved one’s care according to their preferences and circumstances. It included a diagram, the diagram you see here which depicts phases and inpatient rehabilitation in six steps, according to events that are recognizable to family. A family member can click on each step and then learn about what is happening in terms of rehabilitation, what to expect and how to prepare for the next step. The website includes tabs that link to other resources and a description of the philosophy of care within the Polytrauma Rehabilitation Centers as shown here. This philosophy of care really emphasizes families are valued members of the treatment team.

The Family Care Map was implemented in a six month pilot, eight months after the first collaborative meeting, so from a research standpoint very quickly. Implementation involved provider training, launching the website and the adoption of family centered practices to support the Family Care Map and its philosophy. This was a QI project and like QI projects there were a number of limitations to the implementation design and the evaluation design. But nevertheless the collaborative pre/post evaluation indicated that the Family Care Map implementations associated with changes in family centered care, improvements in family centered care. The qualitative portion of that evaluation showed that clinicians believe that the Family Care Map promoted a culture change from a more professional or even patient centered philosophy to one in which the families were a part of the decision-making, a family centered philosophy.

Recently an external group that is interested in sustainability studied the Family Care Map and found evidence of sustainability of the practice changes as well as the beliefs that the Family Care Map is a useful communication tool to promote family centered care. This evidence of sustainability was found I think about five years after research involvement in the project space and funding for the project space.

Molly: Nina?

Dr. Sayer: Yeah.

Molly: I am sorry to interrupt. I think when you turn away from your speaker the audio gets a little low.

Dr. Sayer: Oh I am sorry.

Molly: No problem, thank you.

Dr. Sayer: Yes thank you for pointing that out. To what do we attribute evidence of sustainability of the Family Care Map? We attributed that to the fact that it met an important need – sure. But also to the high level of involvement of the physical medicine rehabilitation program office and the frontline clinician.

I am now going to move and talk about another example of partnered research TBI Screening and Evaluation Research. Again to understand the value of this work I need to move us back in time and remind you that TBI screening was implemented in 2007, something that Joel pointed out. The timeline for implementing TBI screening was very aggressive. TBI screening was rolled out in VA several months after the work group was formed to develop the TBI screening tool. This type of an aggressive timeline precluded research the tool itself before implementation or an implementation trial.

Unlike the mental health screen there was not a lot of evidence on the TBI screening tool prior to implementation. To support our partners Polytrauma and Blast Related Injury QUERI prioritized TBI screening and evaluation and providing our partners with evidence based information to improve the program as it was being implemented.

This slide lists examples of partnerships activities. Researchers helped to develop the TBI evaluation template which includes data elements that are health factors for those researchers on the call today so that analysis of the TBI evaluation data is much easier to do than it would be it if were free text. Researchers were involved in national work groups to monitor and make recommendations for improvements. Our partners in PM&R provided ongoing consultation to researcher and this was critical to understanding the data. The researchers share findings with our partners not only at the end of the study but also along the way, things they were learning about data quality and gaps in the program. This is in turn led to some changes informed for example provider training and changes to the TBI evaluation template.

Researchers also collaborated closely with PM&R program office on a consensus conference, occurred actually just last summer, which involved multiple program offices to review screening and evaluation for post-deployment problems in general, but in particular TBI screening and evaluation. In light of what we are learning from the research and the change in the political situation with the wars in Afghanistan and Iraq winding down.

A full review of the TBI screening and evaluation research is beyond the scope of this talk but I wanted to highlight a few key points. Almost all eligible Veterans are screened for TBI. Nationally as Joel mentioned about twenty percent of them screen positive and about the screening measure itself it has been shown to have strong negative predictive value meaning that if a Veteran screens negative it is likely that he or she has not sustained a TBI. On the other hand the positive predictive value is low meaning that a positive screen does not necessarily indicate a TBI history. Thus it is very important for individuals who screen positive to have a complete and thorough TBI evaluation.

We are learning a great deal from this body of research and we have a fact sheet that summarizes some of the key findings to date. It is a one pager it is on our website so I hope you will visit that if you would like take a snapshot at that work. This is also an area where more work needs to be done and important questions remain.

For the purpose of this presentation I just wanted to highlight a key challenge which is that we have been working closely with our operational partners which sees the timeline, this is an area where the research and operations timeline had not always coincided with operations needing information, much more quickly than researchers could provide. Also the program has been implemented and as I am sure that all of you on the call can understand it is difficult to modify tools and procedures after a program is implemented.

The last example of partnered research I am going to bring to your attention is what we call the TBI Utilization Report. These are a series of epidemiologic studies; they are led by Brent Taylor in close collaboration with physical medicine, rehabilitation with PM&R staff serving on the research team as collaborators at every level. This work leverages DHA administrative data to address what may seem like very basic questions but areas where there was not a lot of prior research. The key questions that are addressed is – what is the prevalence of clinician diagnosed TBI in Afghanistan and Iraq war Veterans who use the VA? Among those with clinician diagnosed TBI what is the rate of co-occurring mental health and pain related conditions. Then what is the cost of providing care to Veterans with TBI?

To make this the information that we are learning from this study available quickly we post them on our website and what we are terming TBI Utilization Reports these data are aggregated by fiscal year and I encourage you to look at those reports.

We also produce publications based on these data. The first publication was led by Brent Taylor looking at the prevalence and cost of co-occurring TBI with and without psychiatric disturbance and pain. It was published in 2012 in *Medical Care*. The data on this slide derived from that publication.

As you can see in fiscal year 2009 almost seven percent of Veterans returning from Afghanistan and Iraq had a TBI diagnosis in their VA medical records. Among those with TBI, mental health comorbidities were the norm. PTSD was the most common co-occurring mental health diagnosis seen in seventy-three percent of those with TBI compared with twenty-four percent of those without. Pain related diagnoses were also common in those with TBI as shown here seen in seventy percent. Slightly more than half of those with TBI had both pain and PTSD compared to eleven percent of those without TBI.

As shown in this slide, healthcare costs increased as clinical complexity increased, perhaps not surprising. The median annual cost of those with TBI, pain and PTSD was almost three and a half times greater than that for individuals who had TBI only.

An important question is – was 2009 a strange year? Is that representative of anything? To address that you would need a broader multi-year study. When he was National Director of PM&R Dave Cifu led a paper that made use of three years of cross-sectional data from the TBI Utilization Report.

This analysis showed that while the number of Afghanistan and Iraq war Veterans using VHA increased dramatically from fiscal year 2009 through fiscal year 2011, the proportion with TBI remained consistent within each year. As you can see here a little bit less than seven percent. However looking across three years we see that almost ten percent of these VA users were diagnosed as TBI. This is because some Veterans received a diagnosis in one or two of these three years.

Furthermore looking across three years we continue to find that among Veterans with TBI co-morbidity with pain and PTSD is the norm. Only 8.3% of those with TBI did not have a pain or PTSD diagnosis. The take home message there similar to what Joel was talking about earlier that in general patients with TBI diagnosis in VA are clinically complex.

I am now going to pass the slideshow, sorry I still have another slide. Thinking about next steps, because of the value of this work to Program Office partners, we plan to continue it beyond the end of disease-specific QUERIs which will end at the end of this fiscal year. In our next series of reports we are incorporating additional diagnoses in response to IOM and Program Office recommendations. We also have a longitudinal study which is tracking utilization and costs over three to five years following TBI screening in a defined cohort. The focus of the longitudinal study is on individuals with mild TBI and we are comparing their utilization and cost to various control groups.

Now is my moment, to pass the slideshow back to Joel to finish this up.

Dr. Scholten: Thank you.

Molly: Joel, you are good to go.

Dr. Scholten: Okay great, let me, I think you can see my slides again now Molly.

Molly: Yep.

Dr. Scholten: Okay good. Now on to Nina thanks for that really great summary of the really terrific work that QUERI has done over the past several years. Now we want to talk about the collaboration of the partnership between the program office and the QUERI and kind of lessons learned and the way forward.

As Nina was mentioning some of the benefits because of the unique situation that the VHA was faced with in regards needing to do things quickly and roll out the TBI screen an evaluation process. And then kind of build the evidence around it; the benefit of this close partnership with QUERI was that we were able to build the expertise in emerging areas. Again that was critical not only toward the TBI screening and evaluation process but also the Family Care Map. As Nina mentioned, the clinicians at the Polytrauma Rehab Centers quickly were realizing that this was very challenging for these families as they were moving with the loved ones across different systems of care and through different agencies and navigating this very complex healthcare system that we have so that was really a key benefit to build that expertise while we were treating individuals and their families. The close partnership allowed the ability to focus the research and the quality improvement where the need was the greatest. As many of you can imagine as the Polytrauma System of Care was being stood up it was happening at a very rapid speed and there were multiple needs across the system and the system focused initially on providing inpatient rehabilitation care and then the need for identifying individuals with prior concussion and ongoing symptoms that were in a more outpatient setting. That allowed this kind of close collaboration to focus where the need was the greatest.

The other benefit was making sure that the research was appropriate, really getting a lot of input and feedback from frontline clinicians that we are the boots on the ground treating the individuals returning from service. There was this constant feedback and collaboration and reworking proposals and this massive input from the field to guide projects and research and quality improvement.

The other benefit was providing the central office, policy and decision makers with evidence and data to guide both training for both policy, to guide the policy and provider training. This new kind of patient cohort that from the wars in Iraq and Afghanistan we needed to provide additional training for our teams that I mentioned before, the one hundred and ten polytrauma teams across the country so that was a critical need as well. Then the need to as these areas were of emerging need were identified and where there was the greatest need, as the information from these studies became available the products were disseminated back out to the frontline clinicians through various avenues, but predominantly with our monthly or ongoing conference calls, email updates, fact sheets, face to face training. Just a variety of different ways to hit the loop, complete the loop by bringing the evidence back to the frontline clinicians and hopefully speed up that process where we would not take seventeen years to get evidence into practice.

Then ongoing for key ingredients to successful partnership. With the research and operations partnership we were motivated because we had shared goals. I guess this is similar to any rehab team or any good rehab team that is interdisciplinary in nature they are motivated by common goals. The goal is to define and improve TBI care. We had multiple representatives from key partners and those partners changed over time based on the area of greatest need shifted somewhat as we were shifting more from an acute inpatient rehabilitation focus more to the outpatient issues of identifying service members with history of concussion and current symptoms. That shifted certainly the makeup of the executive committee for the Polytrauma QUERI as well as the stakeholders where we were actively seeking input for goals and projects. Again, multiple program offices so it was truly an interdisciplinary effort so very much rehab in nature. Again this was structured into the QUERI leadership. Both the Polytrauma and Blast Related Injury QUERI Coordinators have been clinicians from various sites. Steve Scott has been a co-coordinator of the Polytrauma QUERI since its inception and Barbara Siegford [ph] was his counterpart when QUERI was first stood up and then I had to fill the big shoes of Barbara Siegford [ph] when she retired. Even though she has small feet, it was big shoes for me to fill. We have had frontline clinicians working the leadership roles as well.

Then the value from the external stakeholders, our QUERI leadership, executive committee expanded to include the input from the caregiver program as well as membership from an OEF Veteran as well as a caregiver, a wife of an injured service member so really getting a broad view of interest and input. This partnership took time, motivation effort and both internal and external reinforcement that this was not something that stood up overnight and was immediately successful. It took a lot of time and work from all of the team members.

Nina I will turn it over to you, I think we are at the end of our slides, I have the last slide with references and resources for folks to look at. If you look down on those slides those links should be active and it can take you to the clinical practice guidelines that I mentioned, the Family Care Map and then the Polytrauma Blast Related Injury QUERI Utilization Reports and the TBI screening and evaluation fact sheet. I encourage you to check those out.

Nina any other comments or anything else you would like to add about our long and productive partnership?

Dr. Sayer: I think you covered it very well Joel. I think at this point it would be great to hear from participants in this call if they have questions or topics they want to make sure that we cover.

Molly: Thank you to both of you. We do have a lot of great pending questions so we will just jump right in there. For those of you that joined us after the top of the hour, to submit your question or comment please use the question section of the Go To Webinar Dashboard on the right hand side of your screen. To expand the question section just click the plus (+) sign to the left of the word questions, that will expand it, you can then type in your question or comment and submit it and we will get to it in the order it is received.

The first question Joel this came in during your beginning portion. The submitter writes – I have worked only with concussed athletes. I am wondering if for TBI there is a neurocognitive computer program to measure progress.

Dr. Scholten: That is a good question, there are a lot of computer based programs out there that various vendors have proposed to utilize to track progress. We do not recommend anyone computer program, there are a lot of different interventions that can be utilized for the kind of cognitive rehabilitative component for following TBI. I think and Nina may want to weigh in here as well, there are I think a lot of potential options. There is maybe not a lot of good evidence to support one over the other so it is kind of an open field out there. Nina any thoughts?

Dr. Sayer: Joel at this point with that question do you want to say a little something about the TBI coach?

Dr. Scholten: Yes so we do have the concussion coach which is an app that is free and it is on the iTunes store that helps with the self-management tool for patients with a history of concussion and ongoing symptoms. That has been very helpful but I am guessing the question was more about at least I was assuming the question was more about the various brands of repetitive computer testing that can help document and track progress.

Molly: That was my understanding; the person is more than welcome to write in for further clarification though. I did not mean to cut you off if you want to continue answering that one.

Dr. Scholten: Then we can always turf that question to some of our very esteemed neuropsychology colleagues and psych pathologists who are really well versed in cognitive rehabilitation.

Molly: Thank you. So the person has written in stating that they understand that is the standard in concussion management for athletes is repeated neuro-cog and they were wondering if the VA utilizes any of these.

Dr. Scholten: Not necessarily as a whole and I think it is important to point out that our patient population is a little different. Seeing concussed athletes in most concussion clinics that are targeting that patient population you are seeing individuals much more quickly, much sooner after the trauma or the injury. In our patient cohort most individuals sustain their traumatic event likely at least six months to years prior to the time that they actually enter VA for care. It is a little different. It highlights the need for the development of an individualized plan of care to address not only the unique symptoms that that individual is experiencing and the functional ramifications of those symptoms. But also looks at what interventions can be provided and what, at that time since it is more of a chronic phase and what technology if any is needed to help the individual move forward. A little bit different patient population, certainly in regards to timing. Then also likely different in comorbidity issues. As Nina mentioned with utilization reports a very high comorbid prevalence of pain and PTSD.

Molly: Thank you both very much for those responses. Also thank you from the person who submitted it. The next question – what was the criteria for determining which medical centers were designated as polytrauma rehabilitation center or network sites? Further we can cut that into pieces so we will just start with – what was the criteria for determining which medical centers were designated as polytrauma rehabilitation centers.

Dr. Scholten: Yes those are the sites that provide acute inpatient rehabilitation and VA had four TBI lead centers at that time that were stood up back in I believe in 1992. Those sites were: Tampa; Minneapolis; Palo Alto and Richmond, Virginia. Since they already had inpatient TBI rehab teams, they were redesigned polytrauma rehab centers. A fifth PRC was added in I believe 2012 at San Antonio after legislation was passed that identified that site as the next polytrauma rehab center. As far as the polytrauma network sites those were chosen one per VISN based kind of on where the greatest expertise may have existed at that point. As well as sites that also had the inpatient rehabilitation beds. Initially when the polytrauma system of care was being stood up the focus was really on the need for inpatient rehabilitation and the concern that the four centers at that time might easily have overflow needs because of the concern that there would be a high number of very severe casualties coming back. We are very fortunate and very pleased that that did not happen and the PRCs were able to handle the demand for inpatient rehabilitation. Then as the inpatient need kind of stayed stable that is when it quickly became apparent that we needed to stand up outpatient teams to focus on the TBI screening and evaluation process because if symptomatic individuals that were entering the system.

Molly: Thank you for that reply. You have kind of answered the second portion already but I will read it aloud. To what extent was these locations influenced by proximity to combat arms military installations? For instance – Fort Bragg, Camp Pendleton, etcetera, where many of the polytrauma injuries came out of due to increased likelihood of combat exposure.

Dr. Scholten: So I think there was and again I was not in the program office at the time I think that was part of the consideration but I do not know all of the criteria. But I think they were just looking at the best available expertise at that time. I mentioned there was a polytrauma network site that was identified in each VISN however, an additional PNS was identified as needed in San Juan Puerto Rico to match the patient volume. Because there was a very high number of service members returning to Puerto Rico. Then also when San Antonio was added as a polytrauma rehab center they also added a polytrauma network site as well at that time. So there was a goal to match the provision of clinical care with the geographic need, but also there was a realization that they would do their best to match the need versus demand but knowing that there would not be a polytrauma team in every city within the United States, that was not possible. So doing the best ability to match the need and the demand.

Molly: Thank you very much for that reply. We have some more good questions coming in. We have half a dozen pending now. The next one – what criteria are available to assess efficacy and outcomes of treatment? Are there trends?

Dr. Scholten: That is another great question and that is an issue I think that rehabilitation is kind of a challenge that rehabilitation interventions are faced with. As I mentioned before the hallmark of TBI rehabilitation and the developing of an individualized plan. It then makes it difficult to determine the dose and the frequency of intervention across a large patient cohort because the treatments are so individualized. In rehab we have not done the greatest job of determining efficacy of our interventions. There is challenges with doing randomized control clinical trials based on again the highly unique needs of each individual and the different functional and abilities and impairments that patients are coming to those teams with. There is definitely room for further research and study on the efficacy of different treatment interventions. I believe some of the best evidence actually for providing care for individuals after concussion is that actually to provide education, a positive prognosis is expected. Then Nina maybe you want to talk about efficacy for therapies for PTSD.

Dr. Sayer: Speaking to that specific part, you all saw that a high proportion of individuals with TBI also have PTSD. Over the years there has been evidence accumulating that there is no need to change evidence based treatments that are delivered for PTSD just because an individual has a history of TBI. Which is very good news. Because as many of you probably know evidence based treatments for PTSD had been ruled out across VA. Sort of building off much of this work there is a project that we are hoping will get funded to help individuals with TBI and PTSD, receive evidence based treatments for PTSD. PTSD trials have sort of standard PTSD outcomes. That is a complicated question, the person who asked that question, there are a lot of ways we could go to address that so I recognize the complexity there.

Molly: Well it is the same gentleman that asked you to give this presentation. [laughter].

Dr. Sayer: [laughter].

Molly: He knew what he was getting into.

Dr. Sayer: Well then I also would say that and maybe Joel could speak in a more sophisticated way about it but this issue of what are the best outcome measures is something that has been considered across the polytrauma system of care and there has been some consensus around a measure to use in the outpatient setting. There have been year’s measures in the inpatient setting and then in the outpatient settings, the participation index of the Mayo Portland is being used.

Molly: Thank you. We appreciate both of those responses. We will go ahead and move along, we do have some more pending questions. This one came in Nina, may have been during your portion but I am not sure. How are the Vets screened specifically? Is it questionnaires? I believe this is for the TBI.

Dr. Sayer: The TBI screen is its own clinical reminder. Generally speaking clinicians will ask the clinical reminder questions, it is four sets of questions. There are though some for awareness and some of the research on evaluating the implementation process, there are some sites that are using on paper and pencil version that by and large for the most part it is the clinicians who are asking the four questions.

Molly: Thank you.

Dr. Sayer: Did you want to correct anything there or is that…?

Dr. Scholten: No, no, that is my understanding as well.

Molly: Thank you both. This person writes – I work with a number of Veterans who experienced mild TBI from blast exposures when they underwent second level polytrauma evaluations. The vast majority of these were told that their problems with concentration, memory, headaches, etcetera were due to their psychological disorders. On what research is this based?

Dr. Sayer: That is maybe Molly after the call I can send some references and you could direct that either to that particular individual who is inquiring or to the participants.

Molly: Yeah that sounds great.

Dr. Sayer: It is a complicated body of research. There is a body of research that suggest that a sizable proportion of the difficulties our Veterans have if they have a TBI diagnosis and a comorbid mental health problem is attributable to the mental health components. There are some studies however that show that there is a portion that is attributable perhaps more directly to the TBI history.

Molly: Thank you.

Dr. Sayer: That is an area of ongoing inquiry and research.

Molly: Well if I may kindly cut, I am sorry Joel go ahead.

Dr. Scholten: I was just going to say I think Nina has answered that correctly. I guess the jury is still out on that and I think it put the onus back on the TBI or polytrauma team that an individualized plan needs to be developed for each Veteran or each individual with TBI to kind of look at the unique needs of that individual. Then educate and guide that individual toward the most appropriate treatment. If someone does have PTSD and TBI and if they are not addressing or kind of ignoring the mental health diagnosis because they are may be stigma or for whatever reason we are doing a disservice to that individual by not talking to them about the needs to engage with mental health and to seek out those evidence based treatments. I think it is just really speak back to the need for an individualized plan and really developing a relationship and a rapport with that individual patient to come up with the most appropriate treatment plan.

Molly: Thank you both so much. As I was mentioning I am going to kindly cut myself out of the loop and I am going to ask the submitter to email Nina directly if that is okay with you Dr. Sayer?

Dr. Sayer: Yes.

Molly: Excellent, thank you. The next question – given the weak positive predictive value of TBI screening/evaluations process, is there any movement toward modifying or eliminating it?

Dr. Scholten: That is a loaded question. We are constantly if you look at the TBI fact sheet that was, I can back up the slide and go to that link that talks about the different studies and properties of the TBI screen. There have been discussions about what to do not only because of the results of the screening and evaluation process, but also because the wars are ending. And at some point there will be a need to either modify or eliminate that screen because there will be hopefully fewer individuals coming into the system with a traumatic experience or possible TBI. Those discussions are ongoing, it is a challenging balance to achieve between best available medical evidence knowing that TBI screening has never been done in a patient population this large of an extent before. Also knowing that the needs are changing as the conflicts wind down and knowing that most of our treatment interventions are symptom based, there have been discussions about how that screen could essentially change to more of a symptom based screen that would help funnel or direct individuals for appropriate treatment without possibly looking at what the underlying ideology. Because it may be impossible to ascertain what the cause of that symptom actually is. Nina any other thoughts or any other?

Dr. Sayer: I just think this part of our Q&A really underscores the value of the research operations partnership. Because that question is one that the researchers are bringing to the program office and the program office is carefully considering in light of all sorts of other issues and making decisions that are taking into consideration the entire context of the screening. Our hope is through those continued dialogues there will be opportunities for improving post-deployment screening including but not limited to the TBI screen.

Molly: Thank you both. That is our final pending question at this time. We have reached just over the top of the hour. But I would like to give each of you the opportunity to make any concluding comments you would like to. Dr. Scholten we can begin with you if you have anything you would like to add.

Dr. Scholten: No just that it has been a terrific experience working closely with the Polytrauma QUERI and that collaboration I think has made major strides of improving the delivery of TBI care within VHA. I will say to Nina Sayer my teammate and friend it has been a true joy and the program office continues to look forward to ways to collaborate as the QUERI structure changes in the future.

Molly: Thank you. Dr. Sayer would you like to wrap up with anything?

Dr. Sayer: I echo Joel’s appreciation for the years of collaboration and I think that it has benefitted the research project. I am hoping that it helps define and improve TBI care in VA. Some of these questions have made clear there is a lot more work yet to be done and as Joel pointed out I know that the researchers who have been involved in this work over the years and myself are eager to continue our collaboration even as the QUERI structure changes.

Molly: Well we certainly appreciate you two lending your expertise to the field. Dr. DePalma, would you like to make any concluding comments before we wrap up?

Dr. DePalma: Yes I would like to thank both of the speakers with their elegant display. Really there has been enormous progress in the last decade as a result of the collaboration in recognizing, understanding and dissecting all the details of the combination of TBI and PTSD. I share Joel’s hope that the conflicts will turn down but one cannot be sure and we cannot lose this opportunity to continue this important research. Again thank you for the elegant presentations.

Molly: Wonderful. Well I too want to thank you all, Ralph for organizing this series and presenters and of course Joel and Nina for your excellent contributions. I also want to plug another TBI cyberseminar that will be taking place tomorrow, same time, same place 2:00 PM eastern. And that one will be on communication disorders in Veterans with TBI diagnosis and rehabilitation. So feel free to visit our online registration catalog and you can sign up for that there.

Once again thank you to our attendees and thank you to our speakers. As I close out the meeting our attendees will have a feedback survey pop up on their screen. Please take just a moment to provide us with your responses as we do look very closely at your feedback and it helps us decide which further topics to support and how we can better improve our presentations. So thank you once again everyone, and this does conclude today’s HSR&D cyberseminar. Have a great rest of the day.