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Session: Understanding Headache Among Veterans and the Role of the VHA Headache Centers of Excellence (HCoE) Research Program

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Dr. Robin Masheb: Good morning everyone, and welcome to today’s Cyberseminar. This is Dr. Robin Masheb, Director of Education at the PRIME Center of Innovation at VA Connecticut, and I will be hosting our monthly pain call, entitled Spotlight on Pain Management. Today’s session is Understanding Headache Among Veterans and the Role of the VHA Headache Centers of Excellence Research Program. I would like to introduce our presenter for today, Dr. Jason Sico.

Dr. Sico is an Associate Professor of Neurology and Internal Medicine at Yale School of Medicine, and a board certified neurologist and primary care internist within the VA Connecticut Healthcare System, providing both specialty and general care services for Veterans with headache and ischemic stroke. He recently completed an HSR&D Implementation Science Career Development Award, examining the culture of collaboration and care coordination between neurologists and primary care providers for Veterans with neurological disease.

Dr. Sico currently serves as both the clinical director for the VA Connecticut Healthcare Systems Headache Center of Excellence, as well as the director for the Research and Evaluation Center. Our presenter will be speaking for approximately 45 minutes and will be taking your questions at the end of the talk. We are pleased to have Dr. Don Higgins with us today, the National Program Director for Neurology in the Veterans Health Administration and he will also be able to provide us with some responses in terms of policy and high level questions.

Immediately following today’s session, you will receive a very brief feedback form, and we appreciate you completing this form as it is critically important to help us provide you with great programming.

In addition to handouts from today’s session, if you are interested in downloading the slides, either from today’s session or any of our previous Spotlight on Pain Management Seminars that we’ve had, you can go to the HSR&D Cyberseminar website and scroll through the archive for Spotlight on Pain Management.

And now I’m going to turn this over to our speaker, Dr. Jason Sico.

Dr. Jason Sico: Great. Excellent. Thank you Robin and Heidi for the chance to speak with everyone today. And I have to say that it’s a very, very exciting time in headache medicine, generally speaking, but probably even a more exciting time to be a headache medicine provider within VHA. So what we’d like to do during our time together is talk about—so what we know about headache among Veterans, and then also talk about the larger Headache Centers of Excellence Program, as well as talk about the evaluation of research part of the program as well. And some of the reasons as to why it’s so exciting in terms of being able to talk about what we’re doing with the Headache Centers of Excellence, but then also there’s been a lot of really excellent wonderful advances in headache medicine in the last two years, in which we could give our patients sort of many more sort of treatment options.

So what I want to start off by doing is discussing sort of what we know about headache among Veterans and headache within VHA, in the context of a case presentation.

And this is someone that I just saw a couple weeks ago. So I saw a gentleman for the first time and you know that a neurologist is presenting a vignette when you see right-handed or handedness. So but has a past medical history for at least three TBIs secondary to blast waves, then comes in for evaluation of headache. So he endorses at least two types of headaches. The first, which is more severe, began soon after returning home from deployment about 15 months ago, and at least with two of the TBIs he had headaches soon after the injury. He developed a second, sort of newer type of headache, about six months prior.

So whenever I’m seeing patients and thinking about do they have one type of headache or do they have more than one type of headache, usually one of the questions that I’ll ask is, in the last 30 days have there been any days that you have been headache-free? And one of the reasons why I pose the question this way is because if you ask how many days have they had a headache, oftentimes people remember the severe days but don’t remember the less severe days. And by sort of flipping the question around you’re able to get at how there may be sort of more than one type of headache disorder. So with the first type of headache, it happens one to two times a week. The second type is a daily headache, it’s always there. With the duration for headache one, it’s one hour if treated, five hours if untreated. Happens at the right temporal, it’s pounding, intensity is fairly pronounced. One of the triggers has been decreased sleep. Associated features nausea, vomiting, photophobia, phonophobia. Dysautonomia—so teary eyes, stuffy nose—is absent. It is debilitating and previously was responsive to over-the-counter medications, now it’s minimally responsive, and now it’s partially responsive to sumatriptan tablets. With the second headache, again it started about six months ago, it’s holocranial, it’s there all the time, it’s lower grade, it’s not debilitating.

And other things that we’re thinking about when we see patients in clinic are what are the red flags that we’re thinking about, what are the things that would prompt something more sinister. And so I really like mnemonics. This one it used to be SNOOP, now they added a couple Ps, but thinking about systemic signs, neurologic signs and symptoms, age of onset after 50, if it happened all of a sudden. Is it progressive or is it a change in headache pattern? And so we always get concerned when someone has a stable headache pattern and then that pattern changes.

So being in the VA, we all care for or do research for patients that have had traumatic brain injury. And traumatic brain injury could come from direct impact to the head, acceleration deceleration injuries and with those it’s not uncommon to be also associated with whiplash as well as shockwave injury or feeling a blast wave from an IED or RPG, for example.

So in clinic oftentimes we sort of talk to them and they remember sort of very discrete events. And so not only is TBI important within the VA, but it’s also important outside the VA. One of the reasons why I wanted to share this part is that again often times we think about these discrete events, but then it’s thought that Veterans will have many more traumatic brain injuries than were appreciated. In part because they’re using a recoilless rifle, shoulder fired rockets, artillery and mortars. So they actually may have many more traumatic brain injuries than they or we may be aware of.

So for those of us in the clinic that will see Veterans with traumatic brain injury, often times we’ll refer to the classification, the VA/DoD TBI Severity Classification. So we’ll talk about loss of consciousness, alteration of consciousness, and posttraumatic amnesia. And more than 90% of TBI falls into this mild category.

So when we think about headache, the initial sort of branch point is, is it a primary headache disorder or a secondary headache disorder. And one of the things when I’m in clinic, especially with residents and fellows, I make sure that they realize that one of the great resources available to them to understand headache is the International Headache Society classification website. So I usually implore all my trainees to sort of check it out. And then the initial discussion becomes primary headache disorders, like migraine, tension and cluster headache, or secondary headache disorders. So secondary meaning that it’s sort of related to some other cause like traumatic brain injury, for example.

One of the other reasons why I really like the International Headache Society classification for headache is that it gives you the criteria for each and every type of headache. So when we think about headache attributed to traumatic brain injury, it gives a pretty specific definition. So the headache has to happen within seven days of injury of the head. Or if someone’s unconscious for several days, that the headache is there when they wake up. But then also that they’re not under any kind of pain medication. So for example, I’ve seen many people that have had severe traumatic brain injuries and had been in a coma for several days and then they had multiple fractures and were on opiate analgesics and when they came off of those to treat their fractures they had a headache after that.

So one of the things that I think is important and not uncommon when we think about headache, especially making sure that someone may or may not have a second type of headache, is the possibility of medication overuse headache, and we’ll talk a bit more about that.

So some of the comments about this is the headache started within seven days, it is a bit arbitrary, and that’s where one of the debates come into the literature as well as headache medicine. It’s okay well, if someone has headache that—if they have a traumatic brain injury and they had headache that started two months later, by definition that is not secondary to the TBI. So in the more recent iteration of the headache classification, they defined delayed onset persistent headache from head injury. So that is one that happens between seven days and three months. Just so people are aware, there’s still sort of debate about if this is too restrictive of a definition. It’s not uncommon for me to see a patient that has a headache that had multiple TBI’s and while they were in an arena not recognizing or not sort of paying attention to the headache and sort of months go by and they have headache. And personally I would still consider those associated with a traumatic brain injury.

So we know that people could get traumatic brain injury, as mentioned, through a variety of ways. So probably the most common scenario I hear is that someone is in a vehicle and their vehicle goes over an IED and then not only do they feel the blast wave, but they also get really significantly jarred around. There’s also headache attributed to whiplash, and it’s not uncommon for people to have a combination of headache from TBI as well as whiplash. But I think it’s important to think about this, because it could change how we treat patients.

And then also medication overuse headache. So one of the reasons as to why we really want to be thoughtful about making the right diagnosis, prescribing sort of guidelines and accordant treatment is that we don’t want to just sort of send someone on their way and say, well take Motrin as you need to. And when they come back to us we find that they’re taking Motrin multiple times a day. So with medication overuse headache, the typical story you get is they have migraine headaches or they have a lower grade headache and they take Motrin and it’s kind of effective, but then over time it becomes less effective, so they take it more often and they take higher dosing. And then eventually it just doesn’t become effective and then they develop this sort of chronic lower grade headache.

So for this case, some of the things that are screaming in terms of preliminary diagnoses are headache from the TBI as well as medication overuse headache.

So making the right diagnosis is part of the thing, but what else do we need to know about headache to treat this gentleman? What else do we need to know about posttraumatic headache? What are the evidence-based treatments that we could offer and what are the things that we need to think about when formulating a treatment plan?

So one of the mantras, if you will, if posttraumatic headache, which is the most common sequelae of traumatic brain injury is that you treat that headache as similar to the phenotype that it represents or most closely aligns with. So most patients have sort of a migraine phenotype, so when you look at the literature, about 50-70% of posttraumatic headache looks like migraine. But they may look like cluster headaches, they may look like tension headaches, so some of the guidelines say that you treat the headaches close to what it looks like, as if it was a primary headache disorder. But then also recognizing that most patients that have posttraumatic headache have headaches most days of the month. And most of them also have comorbid illness, such as sleep disorders and PTSD that we need to pay attention to.

So other things that may impact headache care, so sleep disturbances. So someone is not getting great sleep and we know that sleep is a trigger for headache, we need to address that. Mood changes. We know that depression and anxiety are comorbid with any type of headache disorder. If you don’t address those and treat them, not only are you doing the patient a disservice, but their headache is not going to get better. Double vision or difficulty with vision becomes important. It’s not uncommon for people that have had a traumatic brain injury to develop disorders of extraocular muscle movement and often times we will send them to our colleagues in optometry for assessment for convergence or divergence insufficiency.

So despite the fact that we know that TBI is common, that headache is common, or the thought we get that headache is common, we don’t really have a sense of large scale, how many—what types have studies been done out there, to really get a great composite view of headaches.

Now sort of switching gears in terms of headache among military personnel, so there’s been about 46 studies in total. Most of them have been descriptive, sort of not-interventional studies. What you’ll see in these studies is that authors will either say that the headache related to TBI, sort of invoking that definition that we talked about earlier, or around headache related to TBI that may fall outside that definition or posttraumatic headache. But even the primary headache disorders have largely been understudied among military personnel.

So then among Veterans there’s less studies. A little bit more interventional ones, with really the focus has been on headache that is either sort of by definition—by the straight definition posttraumatic or that headache may be related to traumatic brain injuries. But again sort of less studies in terms of primary headache disorders.

So I just want to take a couple of snippets from some of those studies to get a sense of sort of what we know. So what’s been reported that posttraumatic headache occurs in an overwhelming majority of military personnel who have had mild TBI. And again mild TBI accounts for 90%+ of traumatic brain injury and is associated with chronic daily headache, so meaning that patients have headache at least 15 days out of the month. So what happens is that the prevalence of chronic daily headache among those that have had a concussion is four to five-fold higher than what we see in the U.S. population. And what happens is that among patients that have this continuous or chronic daily headache, they are more likely to be medically discharged compared to patients without such a headache. Some studies have also noted that having a headache—if you’re a servicemember and you’ve been discharged, having a headache makes reintegrating back into society more difficult.

So in looking that the burden in terms of headache frequency and severity. Among those with TBI, they’re more likely to have chronic daily headache, again, sort of defined by the number of days a month not instead of how many months in total someone’s had a headache. So they’re more—people with TBI are more likely to have more headache days and they’re more likely to have headaches that are disabling. And again the most common type of headache that we see that closely aligns with posttraumatic headache is migraine. About 80% use some kind of medication for relief. This is typically over-the-counter medications. And more than a third report that it interferes with their duty performance.

So some of the reasons, to give a brief recap, we think that it’s common, it absolutely affects the quality of life for Veterans. It affects their ability to sort of reintegrate back into society, and then they’re more likely to have pain most days of the week, most days of the month. So to get a sense of how often headache happens within the VA, this was just querying fiscal year 2017 data. There were almost 400,000 encounters for headache and more than 200,000 were for first time visits. One of the—so as we know, especially the researchers among us—VA administrative data is really excellent for a lot of reasons. It allows us to get a sense of the incidence, the prevalence, the trends over time for disease states. VA administrative data is only as good as the ICD codes that get put into CPRS and subsequently to the Corporate Data Warehouse. The reason I bring that up is it’s not uncommon for someone to have 10 years, 20 years of headache, and they see me for the first time and I’m the first person to put in an ICD code. So hence that’s the first time that VA administrative data knows vis-à-vis ICD code that they have a headache. What we know so far is that most patients are seeing their primary care providers and then followed by neurologists, then in TBI clinic, and then in pain clinic.

So now that we’re getting a bit of scope in terms or initiating the scope of the problem as well as how it affects our Veterans, it made me think about what are the things that we can do for them. So in looking at 812 articles that had posttraumatic headache as a primary outcome, there were really no Class I studies. There was one Class II study, so no prospective either randomized control trials as of this publication date. And then two prospective match cohorts. And one of the things that came out of this was that there’s no strong evidence from clinical trials to direct the care for posttraumatic headache.

So and then in thinking about what are some of the other gaps in knowledge or to kind of stress these points, and the DoD/VA clinical—the guidelines for TBI, again selecting pharmacologic and nonpharmacologic treatments based on the character or the phenotype of the headache. And then even the American Migraine Foundation noting that the TBI is absolutely disabling and that more research is needed to understand the best medications and best treatments for TBI-associated headache. So to drive home the point that there are no FDA-approved treatments for posttraumatic headache.

So we talked a little bit about the primary headache disorders, so if it’s migraine, tension, or cluster headache and we try to ask these types of questions to see—to make the right diagnosis, but then especially among patients with TBI, to see what phenotype it most closely aligns with.

So while there aren’t specific guidelines related to TBI-associated headache, the American Academy of Neurology has put forth recommendations regarding how to prophylax as well as to treat migraines, so many of these medications we have within the VA Healthcare System and it’s not uncommon for patients to be on some of these medications for other indications. So valproic acid for mood stabilization, amitriptyline for depression or sleep, topiramate for seizures, metoprolol for blood pressure.

So a few years ago was also one of the first times that they talked about other complementary treatments.

So there’s some really good evidence for some herbal preparations. The ones that typically are available within the VA, including magnesium and riboflavin, but I’ll let patients know about Feverfew and Butterbur and CoEnzyme Q10 as well.

So in thinking about like what’s our approaches to the treatment. So I’m going to take what we know for general headache prophylaxis and try and apply it to our Veterans. So some of the general guidelines are people having more than two headaches a month, most people with posttraumatic headache. Are they having less frequent but they are severe leading to substantial disability? Are they refractory to abortive treatment? Do they—are they acute attacks or are they intolerable, or is medication contraindicated?

And just some general guidelines, so one of the mantras in clinical medicine, start low and go slow. And really you need to get someone to a good dose of medication and have that person on a dose for two or three months to determine the efficacy. Some of the guidelines say once you get people into a good place, after about a year, you can try to get them off of prophylactic medication. In my practice, I just stopped asking people this, because nobody wants to come of medication after you’ve got them in a really good place. But then also especially given that often times we’re selecting medication based on comorbidities.

So but medications aren’t the only option. And we know that there are lots of things that—lifestyle triggers that exacerbate headache. Stress, sleep patterns, physical inactivity, high caffeine intakes or skipping meals. One of the things about headache and maybe even migraine more specifically, is that there is a circadian to headache, and the more balanced someone’s lifestyle is, the more regimented or more routine they have, that’s one way to sort of keep headaches at bay.

But then also thinking about complementary and integrative health, and non-pharmacologic therapies. So biofeedback, relaxation training, cognitive behavioral therapy, physical therapy, acupuncture. I send many patients for acupuncture or even battlefield acupuncture. And going a little bit to medication overuse headache again, one of the reasons why I bring this up is because oftentimes people will—so those at higher risk for medication overuse headache are the ones that take the riskiest medications. So opiates and butalbital, and what happens with those medications are that often times you have to sort of detoxify them. But those are the ones that are most likely to get medication overuse headache. If people are on opiates for chronic lower back pain or musculoskeletal pain, and they may have had a headache disorder, they are more likely to get medication overuse headache from that. One of the older criteria for medication overuse headache is you had to take them off the offending medication to see if their headache pattern went back to what it used to be. But that’s oftentimes difficult unless you are wanting to prescribe them other medications. So one approach is to detoxify patients from the offending agent or agents, and sometimes that can be caffeine also. Most advocates say to start someone on prophylaxis, so Topamax and botulinum toxin are the ones that have been most studied in the treatment of medication overuse headache.

But also pain procedures have been shown to be effective for headache, broadly speaking. Botulinum and other neurotoxin injections, nerve blocks, trigger point injections, radiofrequency ablation, and acupuncture.

So we had sort of a broad overview of our current understanding of headache within the Veterans Health Administration and focusing appropriately so on posttraumatic headache.

And at the start of the talk, it really is truly an exciting time in headache medicine.

So just in the last two years there’s been six new therapies that have been FDA-approved for the treatment of headache and migraine. So even my mom has sort of said, oh I saw the new ad for the new headache medicine, what can you tell me about it? So one class of medications, a new class or family has been calcitonin gene receptor peptide receptor modulating agents, or CGRP. And so you’ll see that they all end in mab. So they’re the most—the first one was FDA approved last year in April, erenumab, for both episodic and chronic migraine.

And some of the reasons as to why they got FDA-approved is that they decreased the number of headache days, they decreased the severity, they decreased the disability. But then also decreased the number of migraine-specific treatment days, so how often people had to take other medications to treat their headache.

So in May, the first CGRP agent came to market and then was FDA approved. Since then we’ve had two, so fremanezumab—and I have to say every time I try to pronounce these, I stumble. And I just think about the new Godzilla movie coming out in a couple months and I feel like these would be, these mab agents are things that Godzilla would fight. But they work under the CGRP receptor in a little bit different ways. So monoclonal antibody for erenumab and then with anti-CGRP the other two agents.

So I wanted to also make this part, this talk quite practical too, so—and we’ll provide updated links, but so erenumab is not available on VA—well, so it was done on VA formulary but it’s available by way of non-formulary request. So here’s the criteria for use in the National Drug Monograph. So if you were to go to these links, I’ve taken this information so these come from the national PBM and taken it to our pharmacist and that’s all the information that they need for us to start prescribing erenumab.

They’re—I should say they’re currently reviewing the other two CGRP agents, but a criteria for use in the National Drug Monographs have not been finalized for those two agents as of yet.

So but apart from the CGRP agents, we also have some other options that we could offer patients in terms of neuromodulation. So the first one being sort of a vagus nerve stimulator, seen here. And so this is one that—working on getting into the VA. We see one version here, they’ve actually come up with a newer version called a Sapphire that is rechargeable. Currently this one is good for 31 days and then the unit is not good any longer.

Another one is transcranial magnetic stimulation. Whenever I see this picture, it makes me want to do an abdominal workout. So this is not available routinely in the VA as of yet, but one of the things that we’re reviewing.

And then also for the comic book fans out there, Cefaly has been in the VA and is available via prosthetics request.

And here’s just sort of an overview of the three different devices. Cefaly, there’s a couple of different versions of it. For acute treatment, preventative treatment, or both. The transcranial magnetic simulation could be used for acute and preventative. The vagal nerve stimulator is just for preventive treatment of migraine and it also has the additional indication for cluster headache as well. So but I have to say despite the fact that these are different devices and the CGRP agents are FDA approved for migraine and some of them for cluster headache, none of them are as of yet approved for posttraumatic headache.

And apart from being a really great time to be a clinician caring for people with headache, it’s also a really great time to do research on headache. So for those of us that do a fair amount of research, especially pain research, we know about the HEAL Initiative. One of the things that the NIH is specifically asking for with these research funds are additional sort of pain-related applications and especially headache related ones. There’s funding specifically earmarked for headache research. And in conversations with Walter Koroshetz, Director of the NINDS, he’s quite interested in terms of seeing more VA trials and more VA research application coming to the NIH for headache.

So with that as more of a background, I wanted to talk about the Headache Centers of Excellence Program, sort of where we are, where we hope to be going, and then talk about some of the things that we’ll be doing in the Research and Evaluation Center.

So this is a picture of Dr. Bob Shapiro, he’s a headache neurologist in Vermont. And he, several years ago, came to this notion that I’m seeing via Choice Act, a lot of Veterans with headache. And wouldn’t it be great, given what the VA has done largely in terms of other types of Centers of Excellence Programs, for example the Polytrauma Program, the Epilepsy Centers of Excellence, wouldn’t it be really fantastic for the VA to be able to sort of care for these patients, kind of recognizing that often times they have multiple comorbidities that need to be tended to and need additional services. So he helped to get a couple Congresspeople on board saying this is really important.

And just kind of fast forward a couple of steps and this is the language from the military construction, VA appropriations bill last year. Kind of recognizing that the signature injury from the Global War on Terror was traumatic brain injury and the most common sequelae of traumatic brain injury is headache. And at the time there were only three physicians in the entire VA Healthcare System that had additional subspecialty training in headache. I was one of those three. But then recognizing that the VA could do a really excellent job developing comprehensive care programs for these patients.

So as of now there are seven clinical Headache Centers of Excellence. So here in Westhaven, Richmond, Tampa, Cleveland, Minneapolis, San Antonio and Palo Alto.

And so what we did was that we met as a group in Minneapolis back in October. So Don Higgins was on that call, he’s on the call for this meeting. I will make sure to photoshop him in. But we met to get a sense of what are the things that we know about headache, what are the types of resources that the VA has, and what are the types of things that we need to develop? When you look at the language of some of the bill, it recommends sort of extending the use and developing virtual care and telehealth programs. It also mentions backfilling positions to have providers being all hands on deck to help to treat and evaluate these patients. It also mentioned the use of expanding the use of health technology for the treatment of Veterans with headache.

So in terms of thinking about formulating a strategic plan, we broke it up into very interrelated items, including clinical care, education, research, and innovation. So with clinical care, sort of building up the local centers, developing [unintelligible 32:06] which we have referral patterns to the centers, developing networks of care for telehealth as well as defining what our networks are. But then also developing standardized assessment and outcome metrics. When patients couldn’t go to non-VA headache centers, it’s commonplace to do what’s called a headache intake form to get a sense of what are the comorbidities, how often are people having headaches. So we’ve developed a standardized tool similar to that, made it more VA-centric, so we’ll be using those with all of our evaluations. But then also several of us are on a VA/DoD clinical practice guideline committee to look at so the use of medications, devices, and nutraceuticals. Understanding what are all the options and then being able to put forth evidence-based recommendations.

Education becomes very important also. So as I mentioned that most patients with headache see primary care providers and then also that it’s hard to go through a clinic without seeing someone that has headache. So how can we come up with training providers in terms of looking at what educational resources are out there. That’s something that we’re largely done with and while there’s a lot of things on migraine and tension headache, there’s very few resources on posttraumatic headache. So we’re identifying what educational resources need to be developed, but then also what are places where people can get certification. So if people are interested in pursuing—there’s a couple different venues or avenues by which people can get headache board certified, and if people are interested in that, my email address will be at the end so I could totally provide that information as well. But then also thinking about what are the things for behavioral education for Veterans with headache, kind of recognizing that not everything is going to be an FDA-approved treatment. But then what are some of the non-pharmacologic interventions that we could offer.

And then also research. So looking at the scope and incidence/prevalence phenotypes and then getting a sense of how can we develop ways by which we can understand the impact of the centers. So as I mentioned, the VA administrative data is excellent. It’s important to also recognize limitations of any data source. So in most of the meaningful headache metrics we actually don’t see routinely in administrative data. So one of the things that we’re building right now is a mobile headache diary app, where patients could go on, they could log their headache days, potential triggers, medication use. And then over time we learn about those patients so that we can do a couple things. One, that information will eventually go to a provider dashboard that the patient provider could sit down and review and really understand what’s going on with someone’s headache. But then as we get to get enough information on someone, the app will actually sort of feedback information to the patient in something called forecasting. Where it’s saying, well next week it looks like you have a 90% chance of having a headache. These are some of the things you could do to mitigate that risk.

But then also innovation. So there have been lots of—as mentioned, just in the last two years six new FDA-approved treatments and more of them are coming and being able to help to serve as a clearing house for these emerging treatments and technologies.

So I want to spend the final few minutes of the talk proper to review some of the things that we’ve been thinking about the Research Evaluation Center, and then what we’ll do is open it up to questions.

So I could go to PubMed and I could sort of list for you the hundreds and actually now thousands of articles that look at incidence and prevalence of migraine, tension headache. Throughout the U.S. and different countries. And apart from some of the data that I showed earlier, we really don’t know that in the VA. So but then also we’re very integrated with clinical centers to develop these data structures to collect information on patients, in terms of individual patient care over time, but then aggregate centers of over time as well. But then also as we’re rolling out these centers and developing these protocols in preparation to go live, if you will, we’ve been conducting qualitative interviews among Veterans to get a sense of what’s your experience with headache, how does headache affect your life? What are the things that you want your provider to know about headache and what are the types of service that you would want? Sort of looking at some of the preliminary results from some interviews. Veterans really prefer non-pharmacologic as opposed to pharmacologic interventions and are very open to the idea of seeing a provider via telehealth.

So we have very sort of similarly to how the clinical and the research evaluation centers are integrated, we have the Venn diagrams overlap here in terms of the types of cores that we have in the research evaluation center.

So just to give some exemplar projects that are ongoing and started, so developing a large VA-based headache cohort to understand incidence, prevalence, and trends over time. But even looking at the role of comorbidities, in terms of posttraumatic headache. Getting a sense of how is headache currently managed in the VA and then sort of geomapping to get a sense of hotspots based on guideline concordant care, guideline discordant care, density of headache patients, density of headache providers.

So where some of these Venn diagrams have overlapped, as virtual care and mobile health options are going to be rolled out for patients. And doing these clinic-based assessments via the headache intake form, we’ll have data that we’ll be able to sort of create a headache registry, if you will.

So but then also getting—when we do go live with the iOS-based headache app, getting a sense of do patients like it? Is it of utility in their care? Using data again to do headache forecasting. But then also getting a sense of when we use things like VA Video Connect to reach out to patients, is that having an impact? As well as sort of developing a standardized headache eConsult and measuring the impact once that’s implemented.

So in thinking about partnered evaluation and implementation science, being able to evaluate how mobile health is implemented. But then also what are the implementation strategy that each of the sites use to sort of roll out, so we have a core set of interventions and resources, but then how do we incorporate the patient perspective into how the headache centers are implemented. One of the things that we’ve been doing too is querying sort of non-VA headache medicine experts. So how do you set up your center? What’s worked? What hasn’t worked? What are some of the lessons learned? So then using those information to get a sense of how we would want to roll out the headache centers.

So as mentioned, there are hundreds of thousands of Veterans with headache. So the prospect of doing multiple clinical trials simultaneously at VA Medical Centers such that a given one clinical trial doesn’t overlap at another within the site is a very real possibility. So for example, the CGRP agents for posttraumatic headache think about compared to effectiveness trials of the neuromodulatory agents, and then also CBT or tele-CBT for headache.

And then even outside the VA, there really has not been a tremendous number of studies done on the genomics of headache. So are there genetic differences between different headache disorders between primary headache disorders and secondary headache disorder. Are there genomic differences among people that have had a TBI and do and do not get headache? Are there genetic differences between people with PTSD, TBI and PTSD, or just TBI? Then also are there genetic differences to treatment response?

So in the last almost 45 minutes we sort of gave a broad overview in terms of our current understanding of headache and how it applies within a clinical context. We talked about some of the really great wonderful advances in the treatment of headache, as well as sort of a commitment to do more headache research. We talked a little bit about how the headache centers sort of came into being and as well as all the things that we’re doing for when we do go live and able to offer a myriad of resources to Veterans with headache.

But then also we discussed some of the core and emerging areas within the Research Evaluation Center, many of which are ongoing and others of which we’re building the infrastructure to do additional work.

So I just want to give some general announcements and kind of more recognizing that our audience is quite diverse in this call in terms of clinicians and researchers and there will be a primary care grand rounds on May 14th where we’ll go into a bit more in terms of the clinical care of headache as well as review a lot of the topics in terms of some of the new treatments and how to get those treatments. We’ll be starting a SCAN-ECHO or project echo series in the coming months, so if you’ve like to be put on that distribution list, please email Pradeep and we’ll get you on that list. And then also, if your site may have an interest in being the recipient of teleheadache care through one of the Headache Centers of Excellence, we’re collecting that information too. So please email Robin Einbinder and feel free to copy me or people can email me directly.

So what I’ll do there is—I was told to be done by 11:45 and we’re almost there. So what I’ll do is pause and talk about questions.

Dr. Robin Masheb: Thank you, Jason. This is a great presentation and a really wonderful high-level overview about what’s going on in VHA with regard to headache and the Headache Centers of Excellence. We have a lot of detailed questions about treatments. I’m going to hold those to the very end if we have time for them, because I know that this particular talk was more of an overview. And thank you for giving the audience an opportunity to be able to continue to learn more about headaches with the resources that you provided. Why don’t you keep that screen up, that would be great. While we’re doing Q&A.

Just the first question is: Can you tell us about the other headache centers across the country and where they’re located? Somebody asked, how can you become one? Is that even possible or what was the process in terms of deciding on where these Headache Centers of Excellence were going to be and who was going to be involved?

Dr. Jason Sico: Sure. Yep, absolutely. So for the first wave of headache centers, they are largely aligned with areas where there’s exciting TBI centers, so Palo Alto, San Antonio, Minneapolis, Richmond, and Tampa. And then the other two sites being Westhaven and Cleveland, so the first wave of sites were selected in large part based on where TBI centers were already located as well as headache expertise was located.

Dr. Robin Masheb: Great. Thank you. We also have a number of questions about thinking about pain management for headache from an interdisciplinary or multidisciplinary perspective, which I’m sure you’re very interested in, too. And I know you talked a lot about specific treatments kind of individually, but could you talk a little bit about what efforts are going on to design multi-prong approaches to address headaches in the VHA?

Dr. Jason Sico: Yeah, absolutely. So at each of the HCoEs we’ve been talking about and getting a sense of well what are the types of things that would really sort of qualify as giving multidisciplinary and interdisciplinary headache care. The reason being is, and one of the reasons why I wanted to talk about the different sort of comorbidities as well as other disease processes that happen when someone has headache, especially TBIs, is that really I think that there’s going to be a large number of Veterans that would absolutely benefit from an interdisciplinary approach. So thinking about getting neurologists, other pain/interventional specialists in the same room with the health psychologists and clinical pharmacists and social workers, just to sort of name a few. And then for example, we mentioned how prevalent sleep disorders are, so having our friends in medicine help as well as mental health. So I know here in Westhaven we’re building an interdisciplinary headache clinic with all those providers in place and the other centers are building similar interdisciplinary teams. So one model that could be cool sort of down the road is after we’ve been able to get sort of in-person interdisciplinary care, what would we think about sort of follow up in terms of telehealth or even having a whole interdisciplinary team seeing a patient via telehealth.

I think one of the things that makes a fair amount of sense is for Veterans that are able to get to one of the centers is to have sort of—being seen in the interdisciplinary team and sort of figuring out what makes most sense in terms of follow up via in-person or telehealth. So we have—we’re developing protocols for TeleCBT, for example. And that actually has really great evidence for headache.

Dr. Robin Masheb: I guess what it makes me think about, Jason, is as you’re putting practice guidelines in place, is there some sort of initial decision point, you know this patient we’re going to do a trial of a single treatment at a time versus this is a much more complex patient where really they need some sort of kind of rehabilitation for their functioning and this patient gets referred to someplace that does an interdisciplinary approach. Or is really, I’m assuming the way it exists across the VHA right now is a catch as you can type of thing. It depends on what specialty you go to, who the clinician is you see, depending on what kind of treatments you get, that there isn’t any kind of clinical guidelines or decision points about how to start directing patients.

Dr. Jason Sico: Right, and so—yeah, that’s one of the things that we in HCoEs have been working on too, in terms of clinical pathways and what other types of patients that we think sort of based on sort of initial triage point, if you will, who would benefit from maybe just seeing a single provider type versus who would benefit from interdisciplinary care. But quite right, sort of recognizing that it’s important to—ideally, we would come up with data that say given this patient with these comorbidities or these features, they definitely have to go to interdisciplinary care. I think right now we’re working off of what data there is and there’s been a couple of papers that have looked at the impact of interdisciplinary care for migraine patients and the VA is quite good at doing interdisciplinary care for TBI at large, so being able to sort of—

Dr. Robin Masheb: Right, right. Build on that.

Dr. Jason Sico: Yep. Absolutely.

Dr. Robin Masheb: Dr. Higgins, I’m curious if you have anything you wanted to add to that?

Dr. Don Higgins: I think it’s—every Veteran is so unique and so I think in many ways not having a too proscriptive pathway for accomplishing and trying to optimize care is the best approach, but I think providing guidance and perhaps there will be some of that that will come out in the clinical practice guidelines that are being drafted at this point in time. I think that will be helpful to the field at large.

I’d like to go back, too. I think in terms of the selection of the sites that were, as Jason referred, the initial wave. I mean a lot of that came from the language in the appropriation to establish the centers, that the polytrauma sites were recognized as locations where a high level of—a high number of Veterans with traumatic brain injury were receiving care and thus a good experience with managing things like posttraumatic headache. We’re seeing now and really trying to look in, and Jason’s pivotal to that, to where this cohort, this headache cohort really exists and how we may be best able to address some of those needs. I think many of the specialists that have the greatest experience in dealing with these troubled—difficult patients or challenging patients, really is a better word. They’re not at every medical center and so I think there are going to be great ways that the VA can really utilize it’s strength in virtual care to try and address the need a little bit more effectively.

Dr. Robin Masheb: So I have a little bit of discussion that’s been going on about things like the Migraine Buddy app, or things like headache logs and having resources, I guess that could be used independently by patients but definitely could be used in conjunction with other treatments. And I wonder if there’s anything going in on terms of trying to systematically roll out or recommend things like that or maybe even perhaps—you did mention an app, Jason, but is there specific research going on using some sort of headache app for Veterans?

Dr. Jason Sico: Yep, absolutely. So Migraine Buddy is one of the more popular commercially available apps and as of right now I’ll refer patients to that or to iHeadache is another one. They’re both available on iOS and Android devices. One of the reasons why I’m bringing up the platforms specifically is that for those of us that do research, like mobile health research in the VA, and this is probably a whole separate talk unto itself, but the gist of it being that Android is just secure enough to do that. Where the Apple has sort of built up a research infrastructure within its iOS to really do that securely. One of the other things with Migraine Buddy, for example, is that the data is sort of there for the patient and it’s really fantastic for the patient, but it’s sort of less useful for the healthcare provider trying to sort of interpret things in terms of headache days and potential triggers. So the app that we have that’s been used—another research headache app that we’re now bringing to the VA and modifying will be able to be used not just by Veterans that are at the headache centers but any Veteran, and such that when they record the data it will eventually come up on a provider dashboard such that the provider could actually sort of see what’s going on with someone’s headache days as well.

Dr. Robin Masheb: That’s amazing. That’s amazing, yes. We had an attendee who asked about being able to roll in that app data into CPRS.

Dr. Jason Sico: Yes, no. I, so—unfortunately, apps—and I unfortunately won’t even share how many hours it took me to come up with to learn this and get it definitively, but to try to get any type of external data into CPRS at this point in time, actually I don’t think it will ever happen. You know, in talking with friends outside the VA that use Cerner, Cerner’s actually less friendly with getting external data sources into its EMR, so there won’t be sort of a direct way to input those data. I mean it will generate reports. So one of the things we’re working on in the HCoEs is sort of a standardized note template in terms of like the things that you would want to sort of record at every visit that would come up with these—that would be part of these reports. So I agree, it would be absolutely wonderful if the app would do sort of have those data immediately into CPRS. So I kind of used analog, you know, when we have patients that get telehealth for blood pressure monitoring. Those blood pressure values don’t get beamed automatically into CPRS. They go to a nurse and the nurse has to type it in. So there’s those additional steps. But yeah, it would really be wonderful if there was a way to sort of—either commercially available apps or the one that we’ll make available to get those data sort of immediately into CPRS. With the one we’re developing there will be sort of graphs and trends over time for the provider dashboard that people have access to.

Dr. Robin Masheb: Does the Headache Center of Excellence yet have any kind of like headache logs or you know, different forms, logs, education material that providers across VHA can access? Is there a link or something like that?

Dr. Jason Sico: Yep. So we will be on VA Pulse. We’re actually—we’ve been over the last couple of months developing the content on VA Pulse. So that will include educational offerings for providers, for patients, as well as sort of practical things. Like for example, with—you know, how to get erenumab for headache at your facility. So we’ve actually been developing the content for that over the last couple of months and we hope to go live with having outward facing content that will include all those things.

Dr. Robin Masheb: And you mentioned something about a provider dashboard. Is that part of VA Pulse or is that something else you were talking about?

Dr. Jason Sico: So likely they’ll be links from VA Pulse, but they’re going to be built on what’s app released, so on this provider dashboard there’s going to be a couple data streams, if you will. So one will be from the headache diary that Veterans are using. But then also we envision and we sort of iteratively sort of whittling down some of the questions in the standardized headache intake forms and follow up forms. So the provider—if the Veteran is using these, then the provider can go on and see okay, well here is the headache intake form and this is what’s been—and here’s the information from the headache diary app and let’s use this information to care for patients. One of the great things about headache diary apps is that before apps we would give paper diaries. So not only diaries, generally speaking, are good to understand sort of how often headaches are happening, how often medications are being used, how often caffeine is being used, sleep cycles. But then there’s data that show at least for paper diaries—the mobile forms are still too new to have a lot of studies so far—but with the paper one, people really enjoy it because they feel like they have some degree of control. So it actually becomes part therapeutic. But then maybe another word about the mobile headache app that we’re developing is that as we start doing clinical trials and as other investigators are interested in doing clinical trials within VHA, this app—so when you look at the erenumab trials, for example, or if you look at any of the neuromodulatory trials. They record headache days. They’re all actually done via a mobile app anyway. So we’re building infrastructure that would be usable for other investigators, especially thinking about clinical trials.

Dr. Robin Masheb: That’s great. We’re getting really close to the end. There are a lot of specific questions about specific medications and treatment. I apologize for not having time to get to everybody’s question. I am just going to give you one more, Jason. If you can comment on—I’m sure this is a really tricky one—which is: How do you know that somebody is having a medication rebound headache. Are there signs or a sense of—you know, what’s too much? Any clinical pearls of wisdom there.

Dr. Jason Sico: Yeah, no. Absolutely. So I think this is where the headache diaries become helpful, because often times people don’t know how much they’re taking. Or they’ll kind of laugh when I ask, when’s the last time you didn’t take Motrin? And people will say, I take it four times a day for years. So usually with medication overuse, the thing to keep most in mind is oftentimes they’ll have a second sort of lower grade headache. So that’s while I’ll ask when’s the last time that you didn’t have any headaches, or when’s the last time that you were headache free. But then also they’ll report the headache medicine via the prescription or non-prescription that they use are less effective. So sometimes we get the first part or the latter part where their current treatment regimen is less effective and then we probe a little deeper and find that they’re using—they go through a bottle of Excedrin in a week’s time. But if there’s other sort of specific questions about management of medication overuse headache, I’m happy to sort of take things over email, too.

Dr. Robin Masheb: Thank you. Thank you for that offer and for such a wonderful presentation. Thank you to Dr. Don Higgins for being on the call with us. And to our audience, for writing in with some great questions and making it a really interesting discussion at the end. Just one more reminder to hold on another minute or two for the feedback form. If you’re interested in downloading the PowerPoint slides from today, you can go to the reminder email or even search on VA Cyberseminars Archive and use the filters to download either today’s session or one of our Spotlight on Pain Management previous sessions.

Our next Cyberseminar will be on Tuesday, April 2nd, with Dr. Diana Burgess. The title of that talk is called: Scalable Interventions for Veterans with Chronic Pain, Phase I of the Learning to Apply Mindfulness to Pain Trial. You will be receiving registration information around the 15th of the month. And I want to thank everyone for attending this HSR&D Cyberseminar, and we hope that you’ll join us again.

[ END OF AUDIO ]