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Session: REACH VET: Applying Predictive Analytics to Clinical Practice

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Molly: And we are at the top of the hour now, so I would like to introduce our speakers, we have Dr. Bridget Matarazzo, Associate Director for Clinical Services, and Clinical Director for REACH VET at the Rocky Mountain MIRECC for Veteran Suicide Prevention, and she’s also an Assistant Professor at the University of Colorado School of Medicine, in the Department of Psychiatry. Joining her today is Aaron Eagan, he’s the Deputy Director for Innovation and Program Development in Suicide Prevention for the Office of Mental Health and Suicide Prevention. So at this time I would like to turn it over to our presenters, and Aaron, I’m sorry, Bridget, you should have that pop up now so you can click the dropdown menu and select monitor two, clean. Thank you, excellent.

Aaron Eagan: Thanks a lot Molly, we appreciate the opportunity to talk with everybody. This is Aaron Eagan, I’m going to start here and go through our first few slides and talk a bit about REACH VET, and then Bridget will pick up from there and talk to you some more about some of our findings and where we’re going with the program. So, next slide.

So, what is REACH VET? Actually, we next month, we celebrate our two-year anniversary of implementing this program. REACH VET has come to represent kind of everything being done around predictive analytics and suicide prevention. And I think it’s important to recognize that we really see REACH VET as the clinical application of a predictive analytic capability. Those of you that might have some experience in doing any sort of predictive analytics or modeling know that there’s lots of different approaches to take here. REACH VET is really how we apply that approach clinically so that it’s impacting Veterans. It was originally supported by the under secretary, and we were asked to launch this on what would nicely be called a very accelerated timeline. We were originally given I think about 45 days to go from early pilot to national launch, it took us a little less than four months to do that, we launched it in November of 2016 in a scaled implementation and fully implemented in February. We really see it as a supplement to clinical practice, so we basically treat REACH VET, and we’ll talk more about how the program works in a little bit, but we treat it as a clinical flag, so an opportunity for providers to have a Veteran that they take care of identified as being at high statistical risk so that they then have an opportunity to review their care and enhance it wherever it’s appropriate. Next slide please.

So, REACH VET is obviously a suicide prevention tool for us, and we do in fact identify suicide risk, we’ll look in just a second at some of the data for increased risk here. But it’s not just suicide risk, and this is an important point to make because, in fact, many of the Veterans being identified here are at, are not at what we would consider high clinical risk. So they’re not Veterans who have had suicidal ideation, or suicidal behaviors, or were managed with what’s called our high risk flag for those individuals who have clinically very high risk. So, these Veterans are all very complex and have a number of different risk factors, but many of them when you assess them clinically and have a conversation with them are not at a place where they’re having current or perhaps have ever had suicidal behaviors or ideation. Next slide.

So, suicide risk, originally the model was developed to look at suicide risk at one month. These Veterans are at very elevated risk, they are 33 times the background risk for all Veteran population, which is obviously quite high. But suicide is still a relatively rare outcome. So although this is 33 times higher in this population, the actual number of deaths that we would expect is relatively small. It’s an important outcome or important issue for us to address Veteran suicide, so we try and balance in this program benefit for the Veteran and enhancing their care and addressing all of their needs, even if their most if their highest risk is not necessarily for suicide in that time frame. So the suicide risk persists out to a year still remaining 15 times as high. Attempts are also quite high, and if, go on to the next slide.

All-cause mortality and external-cause mortality remain elevated. Not surprisingly, inpatient mental health bed days of care are very elevated. But even medical/ surgical/ inpatient bed days of care are also elevated in this population. Now, if you notice the population designator here in REACH VET is the top point one percent, or the top one tenth of one percent. This is the tier that we’re intervening with in REACH VET, and that sounds a bit like a small number, until you realize that we’re actually talking about the top one tenth of one percent of all Veterans who are actively engaged in VHA care. So in the first year of the program this equals about 30,000 unique Veterans who are identified in REACH VET, and then outreached and reviewed by their providers. So, we’ve actually shipped it away from using the percentage itself, because we think it’s a little misleading and perhaps portrays this program as smaller than it is, 30,000 Veterans is certainly a pretty significant number here.

So, on the next slide is the paper on which the program is actually built. This is from, there we go, this is from John McCarthy and team. John’s part of our group in the office out of what’s called the SMITREC in Ann Arbor. This work was originally done with about 381 variables, the model was developed to identify risk in that first month period, as we saw it persist throughout. It looked at a wide range of variables, and we can go ahead and go to that next slide where the variables are and then talk from there.

What we realized though was that that was an initial look at evaluating risk with as wide a group as variables as possible. The problem with that approach is running that complex of a model also requires a significant amount of processing time, computer time. So that the model at this point, with 381 factors actually took almost 48 hours to run against six and a half million or so Veterans who are active engaged in the system. We wanted to look at could we make a model that was as specific, but was refined to a smaller group of variables, and therefore was more reasonable to run with available computing processing power. So, after this work was done by McCarthy there was additional work done by John McCarthy and the team and some additional folks, including Ron Kessler at Harvard, and they refined the original model to the one that we use now that underlies the program, which is about 61 variables. They used the penalized logistic regression model, and basically used some machine learning techniques to run combinations of variables together to get the best fit to a population where we had death data. So in other words, we had a population that we know had died from suicide, we were able to run models and pick a group of variables that ultimately performs basically the same, but is a much smaller group of variables and therefore runs now for us as we’ve refined the programming here in less than four hours. So we’re able to run this now every month and update the program with this work. The modeling itself is, I wouldn’t say it’s a continuous process, but models need to be updated on a regular basis, so we have a team working now to look at a whole wide set of potential variables. And do some of the same work. As we go on we have additional datasets available to us, we also have updated death data from the national death index, so we’re working now to update this model and see if we can end up with a model that more accurately produces risk for suicide, but does so also in a way that our providers can implement this clinically. Which for us means we’ve stayed away from at this point a black box model where the risk being identified isn’t as easily apparent to clinicians. We think that’s important and our clinicians continue to remind us that that’s important, because ultimately they need to talk to the Veteran about their risk and they need to understand what risk factors the Veteran has that identifies them in that risk population. And I’m going to pause there and hand this to Bridget.

Dr. Bridget Matarazzo: Okay, thanks so much Aaron. So, I’m going to now get into a little bit more of the clinical program itself. And so talking you through what happens when a Veteran has been identified through REACH VET what are the required steps that are supposed to happen clinically with that patient, and then talk through some other pieces of implementation. So some metrics we have related to how well it’s been implemented over time and what we’re doing to support the field of implementation, and some further evaluation results and studies going on. So, what happens, and like Aaron said, the model is run each month. So at your facility, if you’re at a VA facility, every Veteran who has received outpatient or inpatient care there in the last 24 months has the model run on the data that they have in their medical record over the last 24 months, and they’re assigned a risk score. So every Veteran there in the last two years has a risk score. Those you can think of them sort of ranked in order, and then those that get identified by REACH VET are those at your facility that are in that top point one percent. So those that are the highest risk at your facility.

And so after they get identified each month, and we do this the second Wednesday of the month, the REACH VET dashboard, which is a link that folks can go to if you have CPRS access you should have access to the REACH VET dashboard as well. Once you go to the dashboard the REACH VET coordinator, and each facility in the VA has one, the REACH VET coordinator will go and see which Veterans were identified that month. There’s also a historical portion of the dashboard where they can see any Veteran that’s ever been identified. But they’d go on and see the new list of Veterans for that month, then they would go through one by one through each Veteran and identify the appropriate provider. So the coordinators are advised to look and see if the Veteran has received mental health care, and if they have they then identify a mental health provider as what we call the REACH VET provider. If they’ve never received mental health care, which is unlikely, I believe it’s above 95% have received mental health care, perhaps closer to 98, but in those rare instances where they haven’t then they may identify a primary care provider, if it’s really unclear who is serving this Veteran then they’re advised to consult with their local leadership on identifying somebody. So they use that sort of process to identify the appropriate provider, kind of thinking, you know, who is the person who’s working most often with this Veteran, who’s sort of the most appropriate person from a clinical standpoint to talk to the Veteran about their care. So, once they’ve identified that provider they communicate with the identified provider, I believe most of our coordinators nationally do this via email, but there are other strategies that coordinators use. They may send, you know, leave them a voicemail and follow-up with an encrypted email, some use team meetings to convey this information, there’s different strategies at different facilities. And you’ll hear me say that throughout. As with any national program there’s certain parameters that need to be followed, but we tried to, as we developed this, strike a nice balance between making sure certain things were happening, but a lot of the how is up to the local facility and how they operate to figure out, and I’ll talk more about that in a bit. But so they communicate with the identified provider, let them know that they’re serving a Veteran that’s been identified through REACH VET, and then they let them know what their required steps are and document this in the medical record using note templates. So, I’m going to talk about the templates and how they work a little bit later, but we do have national note templates for REACH VET that are used for both the coordinators and the providers. So once the coordinators have made the provider aware, their steps are complete with respect to that Veteran at that time.

So then if you look over to the right side of this slide then the provider, which like I said, is most often a mental health provider, receives that notification, the reevaluate their care, they consider treatment enhancement strategies, and reach out to the Veteran and document. I’m going to in subsequent slides go through each of their steps a bit more in depth, but that’s an overview of what they’re doing. Really taking the opportunity to reevaluate the care now that they know that this is a high-risk Veteran, and then considering how they could change their care and talking to the patient about that.

So in terms of reevaluation of care, they review the medical record to reevaluate the care the Veteran has been provided. And of course, they’re going to focus on their main area, so if I was an outpatient therapist I’d be focusing on that kind of a care, but ideally they’re including other providers in that review as well. So if they are taking medications, asking their prescriber to review, potentially letting their primary care doc know as well, as Aaron mentioned before, this is a population that’s at very high risk for all sorts of outcomes, both medical adverse events in addition to mental health. And so having all of their care re-reviewed is a great idea. And so when we’ve done some chart review, you know, when REACH VET was first launched the team reviewed a bunch of charts the Veterans identified through REACH VET to see what kinds of themes we could see. And not surprisingly, they had really high rates of comorbidity, really high rates of polypharmacy, and not a lot of evidence-based treatment. And so we talked to our REACH VET providers about really looking to see if there’s ways to engage these Veterans in evidence based psychotherapies, for example, perhaps focus on coping skills, re, you know, take another look at their medications, see if they really need to be on all that they are prescribed, those sorts of things. So that’s a lot of what they’re really focusing on when they’re reevaluating care.

And then in terms of care enhancement strategies, so how does that review of their care inform what should happen next. Is there anything that should be changed with their treatment plan, but can we also enhance their care in some way? Can we add to it? So one way that we talk about doing that is through enhanced communication. So many of you may be familiar with the care and communications intervention, so this was an evidence based intervention, it’s particularly useful for high risk folks who are not engaging in care, and it involves sending a series of letters over time that are literally just the care and communication, a short note to say we’re thinking about you, we’re here if you would like to engage, but it’s asking nothing of the patient, it’s just sort of dropping them a note over time with the hope that they will engage. Perhaps you’ll catch them at the right time and they will reengage in care. And our technical assistance team developed a number of tools to help providers do this in the field. So we have a template for what those messages could look like, we have a tracking spreadsheet, a PowerPoint training, all sorts of tools to help folks in the field actually implement this with their REACH VET identified patients, if they want to do that.

In addition to that we recommend certainly making sure that these patients have a safety plan, I think that would be indicated for many of them. Although, as Aaron mentioned earlier, some folks we’re really catching in more of an upstream way, and they may not have even had suicidal thoughts. And so perhaps not having a safety plan with them is appropriate, but the provider should at least be thinking about that. And if they already have a safety plan on file, to be doing an updated version of that safety plan and having a real current one in the records.

And then paying attention to things, like are there ways to increase monitoring in a stressful life event. So, you know, maybe I take a look at this Veteran’s care, and I really think everything looks pretty good, maybe I can make some small alterations, certainly take the opportunity to check in with the patient about what they think about their care. But, also I just maybe then keep it as a data point in the back of my mind that this Veteran is at increased statistical risk. So maybe a few months from now when they come in to a session and they’re talking about losing their job, I know that that can be a very strong risk factor for folks, and so maybe in the past I didn’t really think of this person as being at risk for suicide and may not have asked if they’re having suicidal thoughts now that they’ve lost their job, but I might think to ask that now. Because it’s in the back of my mind, this extra data point, that perhaps they are at elevated risk for becoming suicidal. And so now I ask about that. So that’s how that increased monitoring could work in a really informal way, although, of course, you could do that in more formalized sort of assessments as well.

And then considering interventions designed to enhance coping strategies. So, perhaps, you know, this is a person who historically has struggled to deal with psychosocial stressors when they emerge, and so we want to make sure that they have all the coping strategies that they need onboard to cope with those things better over time so that they don’t eventually start thinking about suicide or acting on those thoughts. So just some examples of ways that their care could be enhanced once you have this knowledge that they then identify to be at risk.

Okay, so the provider has reviewed the chart, they’ve considered these care enhancement strategies, the next step is to outreach the Veteran. So during that contact, which can happen over the phone, or in person, it does have to happen within a week of the provider being made aware that the Veteran has been identified. So if they happen to have a session with them in that next week they could do it face to face. Otherwise they could do it over the phone, that’s really up to them.

But during that contact they’re letting the patient know that they’ve been identified by REACH VET. When we first started this program there was tremendous anxiety, I would say, about having these conversations with Veterans. Providers were really anxious about that, this is a really sort of new thing for us to be talking about, as it relates to mental health, and predictive analytics, and sort of how do you know the right language to use to explain this to a wide variety of patients. And how do we sort of come up with a general understanding of how to do this and then apply that to the specific Veteran in front of us. So to help with that we developed a script that could be used, and then we also created a video that walks through three different examples of how to have the conversation in different sort of clinical contacts with patients. So one that, you know, for example, was well engaged in care, strong therapeutic relationship, and then another one that was, you know, they had met the patient once before, and so different situations that could happen, providing some examples of how to have that conversation. So, they would inform them about that and really explain what that means to, you know, match how they think the Veteran through the level of information the Veteran would want about it, and then say that, you know, that that just lets us know that they’re statistically at risk and they have risk factors, but we care about how they’re doing now. So then doing a clinical risk assessment and really helping our providers to understand that difference between statistical and clinical risk, so that they can then explain that to their patients in the way that they want to and feel really comfortable doing that.

So, once they’ve done that clinical risk assessment, then moving there to talk to them about any care enhancements that they recognized when they reviewed their care, taking the opportunity to really collaboratively talk about these changes, check in about how they feel about their care, and really have this be a nice patient centered conversation that’s a collaborative reassessment of where the patient’s at. If they’re having a lot of trouble engaging in care, using that opportunity to problem solve around those barriers, that sort of a thing.

So then, you know, after they’ve moved through that step then they go ahead and document in the medical record, as we mentioned earlier, which I’ll talk a little bit more about kind of what happens from there in a moment. But that’s what they, that’s sort of how the steps get walked through. There’s a lot of nuanced different situations that happen, so what if they’re a recurring Veteran, what if they’re hospitalized when they get identified, what if they’re in a residential program, or in prison, or all sorts of different circumstances happen with this very high risk population, and so part of what we’ve done is developed a lot of tools and guidance to help in those situations, that’s available through our webpage, which I’ll get to in a moment.

So Aaron already covered much of this, so the program was fully implemented in February of 2017, we identify approximately 6700 Veterans a month, 30,000 uniques in the first year, and our implementation team is working to support program uptake through a variety of technical assistance resources, which I’ll get to on the next slide. And I’ll talk more about those templates as well. And then we’re also providing facilitation to 28 sites across 7 VISNs. And this is, you know, involves a site visit, and then working collaboratively to create an implementation plan, provide six months of virtual support, and I’ll talk more about the facilitation components as well, in a little bit.

Okay, so in terms of technical assistance, or the technical assistance team for REACH VET is housed here at the Rocky Mountain MIRECC for Suicide Prevention, we are available to coordinators, providers, leadership, whoever has questions, through email or phone.

The majority of our contacts are with REACH VET coordinators, although we do certainly get inquiries from leadership and frontline providers, like I said.

We over time have developed a number of educational tools, and we’ve modified the program based on user feedback, and I think that’s really critical. This has been a very collaborative endeavor with the field, so as Aaron mentioned earlier, we had to roll this out really big and really fast. And so there was a lot of things to give us feedback on in the beginning, and we truly did appreciate that and listened very seriously to the field, and made some major modifications based on that. And then, you know, if not modifications, we developed tools to support implementation.

So, these national note templates I keep referring to are a really nice example of that. So when REACH VET first started, there was the same dashboard we have now, although it was organized a bit differently, because that has changed based on feedback as well, but it required not just the coordinator going to the dashboard, it required the providers going to the dashboard. And you’re all probably shaking your heads, like, no, no, no, you can’t have something like that, that providers have to go to in addition to all the other things they’re doing. And you’re right. That was not feasible. So the providers would go, and they would check the box, and then they’d see the swirling circle, and then they see just minutes of their day being wasted on documentation. And then they also have to go and document in CPRS. So this double documentation was clearly not sustainable and really not feasible. And so we developed national note templates that are built with a ton of help factors, and I’ll explain a little bit more on the subsequent side about how they feed into the dashboard. But basically this eliminated the redundancy and documentation. So providers don’t ever have to go to the dashboard if they don’t want to. The dashboard does contain useful information about sort of upcoming appointments, what has been done with this patient previously in terms of REACH VET, and additionally some clinical signs. So some of the variables that are leading to their increased risk. But many of our providers don’t have time to go to the dashboard, quite understandably, and so they no longer have to, which is great.

We have dashboard user guides so that whether it’s a coordinator, a provider, or leadership, if they want to be going to the dashboard there’s user guides for how to do that and make sense of it.

We have best practices documents, so we’ve really tried over time to create a community of learning and practice together where coordinators are really learning from each other. So this is done on our monthly national REACH VET coordinator calls, there’s a coordinators email group, and then we have this best practices document where we’ve just heard some really amazing, smart, creative, solutions to implementation barriers, and have been pulling that together from different sites across the country so that if somebody comes to us with a problem we can say, well here’s how others have solved that before. So not just saying here’s sort of, you know, what you have to do and can’t do with respect to the program, but really trying to support implementation in a much more sort of creative and thoughtful and sight specific way.

And then I mentioned earlier that we created that training video on how to talk to a patient about REACH VET.

So, all of these documents, changes that we make, all of that are disseminated to the field through the monthly call. And then over time on that monthly call we’ve actually had a number of coordinators present on the call, I’m sure everybody got tired of hearing us talk each time, and we really think that the field learns best from each other, far better than they do from us. And so having them learn from their peers about different ways they’ve problem solved different issues on that call has been really lovely as well.

And then all of these resources are housed on our intranet site, so it is on the intranet, not on the internet. So just for VA providers to be looking at, or VA staff. And that’s where all of the resources are, and so if you may have a new REACH VET coordinator, for example, they can get caught up on all sorts of training, that sort of a thing. There’s also trainings loaded in TMS from our initial launch, where they can get some nice education and get up to speed.

Okay, so in terms of the note templates, and sort of where the information goes. This is kind of a segue to get into some of the metrics that we look at, and this is the way that we’re able to look at metrics related to this program. So the provider enters their note, and that uses the national note template, which has health factors. So every time you check a box it’s generating different health factors. Those go into the Corporate Data Warehouse, then the dashboard team pulls those health factors daily, and updates the dashboard. So for example, on Monday for Mr. Jones it might say that nobody has outreached him, while later that day the provider does the outreach, they use the note the way they’re supposed to, that gets updated overnight, Tuesday the coordinator goes to look and says, oh great, that Mr. Jones was outreached yesterday, that that’s taken care of. And so again, this eliminated the need for providers to go onto the dashboard at all, if they don’t want to, and allows for real time tracking for these patients. So whether it’s leadership, providers, coordinators, anybody could go on there and see sort of if these Veterans are being taken care of in the way that they’re supposed to, if their care is being reevaluated, that sort of a thing.

So then we have a dashboard report. So this is where we sort of pull together all of that data to have different metrics related to the program. So it tracks the completion of tasks, you can look at this for overall national numbers, and I’ll show you some of those in a moment, you could look at it by VISN or by facility, and you can also look at it per Veteran. So you can look at sort of how a facility’s doing in any of these levels and compare it to VISN or national, if you want to. There’s a, two different reports, there’s a current report, so I could go in and look right now for, to see how my facility is doing, or I can look at the historical report. Because, again, this happens every month, so you might look at the current report and it’s two days after the new names came out, so you wouldn’t expect those numbers to look great for that month just yet. But, I could look at last month’s and see how we did. So there’s a historical and current reports, which provide different information in that way. And the data is reported from the start of full implementation. So we have quarterly data all the way back. And let me go to this next slide here.

Okay, so these are the monthly metrics, and just want to talk a little bit about implementation over time. So, there’s different dates on here, starting from August 2017, on the bottom row, going up until a very recent release, so this is August, and you can see the number eligible, so like we said, approximately 6700 names each month, and you see that represented here. And then you look at these main TAC categories that we’re looking at. So assigned coordinator, so did the coordinator go in and do their note and check the box to say yes, I am the coordinator and I’ve been made aware that this Veteran has been identified. We’ve had really nice numbers with that for a long time. And then we’re really close to 100% nationally. So that’s really strong. Then the next one is also coordinator task, so did they assign a provider, did they look through the Veteran’s chart, identify the appropriate provider, and let them know? So those numbers are also very strong there. You can see that certainly last August up until this most recent August, they change above 20%. So really strong improvement there. Care evaluation performed, so did the provider reevaluate their care? And then attempted outreach. So attempted outreach is certainly the, one of the most important metrics, that is, you know, did this Veteran actually get contacted by somebody and did their care get, you know, or I’m sorry, did they get assessed. So, we know, again, that they’re at high statistical risk, did we actually have a conversation with the Veteran to see if they’re at high clinical risk? How are you doing today sir, or ma’am? And so that’s that attempted outreach column. And you’ll see that, you know, over a year ago, back in August of 2017, it was pretty low at 58%, and then it has really climbed over time. We were talking about the data for August recently, and kind of curious if wanting to check out that number, sometimes things get a little glitchy with the report, so wanting to make sure that that 77% attempted outreach was accurate, because we haven’t seen anything go down over time, so we’ll be looking into that. But the national benchmark for attempted outreach is 80%, so we’re either there or just right under. Now that we’re in FY19 it’s changing, it’s going up to 90%. So as with many metrics, as they get implemented better over time the benchmark moves and this is one of those that’s moved from 80 to 90%. But by the end of the fiscal year we were either there or just there. So, again, you can see a really nice change from the beginning and certainly some of that is just the natural progression as a clinical program gets implemented nationally. And certainly our hope is that the technical assistance we provide is really helping with a lot of that as well. And I do believe the facilitation we’re doing is helping also, and I’ll get to that in a moment. And then the last column there, successful outreach, that is out of those who were attempted, how many, you know, what is the percentage of those where we actually made a connection with them? So were we able to actually get in touch and do what we wanted to do? So those numbers are slightly lower, because of course, sometimes you can’t get in touch with people, and that’s sometimes outside of our control, certainly, and so we want to make sure at least those attempts are happening.

Okay, so, I’m going to move now, so that’s the basic sort of program metrics that we look at, we have those ongoing, those get pushed out to leadership, at the VISN level, and they’re sort of tracking how their staff are doing, having that VISN leadership support with this program, Aaron did a great job getting that support all along with this program, and really helping us achieve high implementation numbers. If they were low then really using VISN mental health leads, for example, to help problem solve and figure out what may be going on at a site.

So, outside of the basic sort of program structure and how we do things and track things, we also have a randomized program evaluation going on related to REACH VET. Sara Landes is a psychologist that works out of Little Rock, she’s at the MIRECC there, and she’s funded by HSR&D to be doing a randomized program evaluation of REACH VET. She’s using a hybrid effectiveness implementation design. And looking at the impact of REACH VET, both on patient outcomes, but then also looking at the effect of facilitation on implementation outcomes. So there’s really two arms of this, the SMITREC that Aaron was talking about earlier, where our colleague John McCarthy is, he and his team are leading the effectiveness evaluation. And then Sara’s team in Little Rock is leading the implementation evaluation. So really looking at the impact of facilitation and seeing what that does to implementation.

So, in terms of initial effectiveness, so this is a preliminary evaluation that was done, and after one year of implementation. Really, really strong findings to be seeing, I think, in this early in a program. So John McCarthy and his team looked at six month outcomes for patients identified from March to May of 2017. And they found that in comparison to the control groups, patients who are identified through REACH VET had more healthcare appointments, they had more mental health appointments, they had a decreased number in the percentage of missed appointments, they had greater completion of suicide prevention safety plans, and less all-cause mortality, which is certainly the most impressive finding of all of these. So these are, you know, early findings on implementation and effectiveness, but they’re really, really positive and encouraging. I think, you know, in our system where we are constantly asking our providers to do more and more, it is incredibly helpful that we can, you know, now say to them that certainly the data is suggesting that your efforts are worth it. If we’re seeing less all-cause mortality in this group that’s incredibly impressive. It looks like we’re getting them engaged in the care we want them to be, doing more safety plans, so they’re getting the kind of care they should be getting. And this is really, really encouraging I know for all of us on the team, but what I was, you know, most excited about is that we can let the field know that this is really worth it. The extra time and effort that we’re putting in for these patients is paying off. So, really encouraging findings there.

Okay, so then moving to the facilitation and sort of its effect on implementation side of the HSR&D grant. So what is facilitation? I’ll go over a brief sort of description of that to make sure that we’re all on the same page about what facilitation is. Although I know most folks on this call are probably, well, you know, quite well aware of what facilitation is. But it’s a process of interactive problem solving and support that occurs in a context of a recognized need for improvement and a supportive interpersonal relationship. So in the roles of REACH VET, that recognized need is that they’re underperforming. So we look at the metrics and see, identify underperforming sites, the folks that are struggling with implementation, and then we really, really partner with them and their team and really try to work toward building that relationship so that this can be collaborative and involve a lot of interactive problem solving about barriers to implementation, really highlighting strengths, identifying facilitators, those sorts of things.

Facilitation in general can be internal or external to a system, it’s an interactive process, like I said, and it can include a combination of implementation strategies. But typically a bundle of strategies, and that’s certainly the approach that we’re taking. This is not a one package fits all, there’s a lot of different strategies you can use depending on what the barriers are. And our team here it’s a really, we have a really, really strong team here that was trained in facilitation. It's the same model that was used in primary care mental health integration as that was rolled out, doing the same type of facilitation here with REACH VET, that was done in that program and was incredibly successful. So, our team of facilitators, there’s, the lead is Dr. Kaily Cannizzaro, she’s a psychologist here in the MIRECC, and then we have Molly Jankovsky and Georgia Gerard, who are two social workers here in the MIRECC. And they’re the ones that are going out to these sites, doing site visits and doing ongoing support for six months following that.

So there’s a whole host of implementation outcomes that can be looked at when doing this type of research, and what Dr. Landes is looking at is on this slide here, I’ll just highlight a few of them, there’s a lot to read through on here. These are some standard sort of outcomes that you may look at. So, for example, reach, the proportion of patients identified at each facility who receive the intervention. So, how many are we actually doing the full-blown intervention for, and again, those numbers we’ve seen a nice increase in over time. Then you might look at something like fidelity, so how well are they actually implementing all components of the intervention. So maybe they’re doing a great job at the first two steps and then it really trails off at the end. That’s certainly something that is really informative to the facilitators so they know how to target their strategies, and certainly something that we’re looking to improve overall is that fidelity piece. And then looking at cost, right? So, okay, so we can, you know, with facilitation we can show some benefit on how much is costing our system to do that and is it worth it, that’s a very important question to ask in a healthcare organization like ours. So Dr. Landes is looking into that as well. Looking at the organizational context, so for this facility looking at their readiness for change, for example, and seeing how that may or may not impact outcomes. And then as I mentioned, looking at barriers, facilitators, and the experience of facilitation. So qualitative interviews are done following site visits where the, Dr. Landes’ team is learning about sort of both from the facilitator side but also the site side, what this experience is like and having that inform things moving forward.

Okay, so in terms of measuring facilitation, Dr. Landes’ team is using the same methods as other behavioral health QUERI projects, doing some time and activity tracking logs, doing those debriefing interviews that I mentioned earlier, so similar data collection methods that have been used in other similar research in our system.

And in terms of where we’re going, Aaron, feel free to chime in here on our last slide if you’d like to. But we are continuing the program effectiveness evaluation, continuing to look at this over time, looking to see if those trends of findings continue as we, you know, continue to move forward with implementation. Aaron mentioned earlier that the REACH VET predictive model is being updated and that’s, as he said, something that should be happening over time. Continue to streamline clinical processes to improve efficiency, again, we’re continuing to get feedback from the field and really alter things as it seems like it needs to be. Although, it does seem like at this point REACH VET in general is working really well. And we’ve made some big modifications, like I said, based on that input. Sharing risk data with other VHA informatics platforms. So this is, you know, a really interesting area, kind of beyond the scope of today, but there’s another sort of report that can be looked at, it’s called Crystal, that integrates a lot of different risk data for our Veterans, so it pulls in information from STORM, so our opioid overdose risk predictive analytics platform, then from REACH VET and high-risk flags, and pulls together a lot of different information, is a way to share real sort of important data about a Veteran’s risk with the field in a way that’s all pulled together. So, some really exciting things there. And then expand use of predictive analytics for decision support through multiple pathways. So things like that platform and also on Crystal, you can look up any Veteran, whether or not they’ve been identified through REACH VET, and also learn what risk tier they’re in. So, some exciting things there. And Aaron, I can pass it back to you if you have anything else to add, that’s all I have.

Aaron Eagan: Great, thanks Bridget. You know I want to take just a minute and touch on what may be an obvious question here, which is, if REACH VET works so well why aren’t we expanding the program? And the basic issue is that Veterans identified in REACH VET certainly appear to benefit. But the program takes significant clinical resources. One of the strengths of the program is that the provider doing the review and reaching out to the Veteran is a provider who is already taking care of that Veteran. But if you’re a psychologist and you have a Veteran identified this month in REACH VET, that essentially means that you’re spending an hour or so reviewing that Veteran and reaching out to them. Perhaps instead of doing a counseling session, or a group, or something else. So, it’s impactful for those identified, we’re not entirely sure what the tradeoff is there, and because it has required steps and takes real time we’re cautious about expanding it as is, because that time comes from somewhere. We know staffing is a tough issue in VA in general, certainly in mental health we have a number of staffing issues that we continue to try and address, and we’re in the middle of a 1,000 FTE hiring effort to address those, but we really think that the key to expanding predictive analytics, and Bridget touched on this in the slide, is not to create standalone programs that have standalone requirements, but really strive to drive predictive analytics tools to the workflow of the provider so that it informs their decision making but does it very organically, and doesn’t create excess workload that doesn’t directly benefit the provider and the Veterans that they’re taking care of. So things like Crystal are kind of an intermediate step there, where providers seem to really like it as we do things like as an office expanding safety planning, and risk screening and assessment efforts across the system. Crystal gives them the ability in one place to get a whole lot of information that makes their job easier, but it’s still a standalone system and that’s just a limitation of our current electronic health record in CPRS. So as a future state we hope as we work to implement Cerner that we have capability to do this type of work right in the workflow of the provider, where it’s useful for them and their decision making. So with that, I am going to pause there, the slide that’s up is my email and my information, if folks have questions that they don’t get to on this call or have follow-up or anything, please feel free to reach me and I will get back to you or connect you with who we need to. Molly, I’m not entirely sure how we do questions now, so I will kick it back to you.

Molly: Excellent, thank you. Well I am just going to go ahead and moderate the questions to you both aloud. If for our attendees that joined us after the top of the hour, to submit your question or comment please use the GoToWebinar control panel located on the right hand side of your screen, down towards the bottom you’ll see a question section, click the arrow next to the word questions, that will expand the dialogue box and you can submit your question or comment there. The first one is directed at Bridget, who in primary care has been involved in template-based communication?

Dr. Bridget Matarazzo: I’m not sure I fully understand the question, so if you want to elaborate a bit that would be helpful. but I don’t know if that means in terms of who’s nationally been involved from primary care, or at the site level. And in the template-based communication. And if that refers to the REACH VET templates. Perhaps it’s worth clarifying that it is, like I said earlier, it is rare that a primary care provider is identified as the REACH VET provider, but that does happen. And then even if it doesn’t happen, you know, ideally the primary care provider would be, you know, informed as well about the patient being identified through REACH VET, and that might be through, you know, being added to a note or some other type of communication. And the templates are for documentation of the work that the REACH VET coordinator or provider has done. So please let us know if that doesn’t answer the question.

Molly: Thank you. If that person needs further clarification they are welcome to write in for further clarification. The next question, what metrics are under consideration for the next column out from successful outreach to help evaluate and document effectiveness?

Aaron Eagan: I’ll take that one. I don’t know that we’ll do anything else in the dashboard. The ultimate kind of effectiveness evaluations are the ones that John McCarthy is doing now, that Bridget mentioned, which is basically, well, the ultimate metric is does the program save lives? Our data on Veteran deaths comes from the National Death Index and that information is typically 18 months or so delayed, so we won’t have NDI data on deaths until next year, and that’s certainly something we’ll look closely at for REACH VET. So for now things like all-cause mortality and healthcare utilization are our metrics. We will actually be publishing a paper, and John McCarthy is just finishing the manuscript draft now that looks at the first year of implementation of the program and looks at those types of metrics carefully. So we felt strongly that we wanted to get it out in the peer review literature so that there’s lessons learned there, both for those who are impacted by the program and for other healthcare systems that are actually studying this approach, because we are the first to really implement predictive analytics in this space.

Dr. Bridget Matarazzo: Thanks Aaron, and this is Bridget is again. I wanted to just add to that that, you know, it’s been an interesting thing as we’re developing the dashboard and then the metrics that we’re pulling from the dashboard, and you know, to be able to get metrics on the dashboard it involves asking providers to do something, right? So it has them check boxes in their note template, that sort of thing. So of course, you need to make sure that anything that you’re having them sort of check the box on in the medical record is really, really relevant for the Veteran’s care and what’s happening in this program with them, and something that the provider wants to be documenting anyway and it’s just making it easier. And so balancing that with sort of our desire to get a lot of data related to this to see if it’s working has been sort of an ongoing balance. So anchoring it all in the Veterans’ needs and what is best for them, but then also not putting anymore burden on our providers than we need to is something that we’ve tried to be really thoughtful about from the beginning in terms of what those metrics are. And then anything beyond that, you know, we can pull through these, you know, different research projects, that kind of thing, but not ask our providers to be doing that. if that makes sense?

Molly: Thank you both. The next question, how does this complement or how is this complimented by the new nationally mandated OSP suicide template?

Dr. Bridget Matarazzo: Aaron, I’m happy to start with that one. I assume that means the new screening and assessment rollout. Aaron, is that your take as well?

Aaron Eagan: I’m hoping so, because otherwise I’m not sure what they’re referring to.

Dr. Bridget Matarazzo: Okay. So I can speak about it with respect to that. By and large they’re fairly unrelated in a really practical sense, in terms of one doesn’t require anything of the other. But the way that I think it makes sense to think about this is that a Veteran who’s identified through REACH VET, so there’s two things, one is that that’s a data point, right? So depending on how a Veteran is responding in suicide risk screening, and if you do get to the evaluation with them, having information about them being identified through REACH VET is another data point to consider when you’re looking at the totality of their risk. But more concretely, if you are, you know, you have a Veteran who’s been identified through REACH Vet, and you’re getting in touch with them to assess their risk, you certainly could do that by using the new instruments. It’s not a required context, you’re not required to use, for example, the Columbia screener to do that, but you could, that tool is now installed in your CPRS system, so you could use those instruments with REACH VET patients but it’s not a requirement.

Molly: Thank you. The next question, sorry about that, my audio cut out. The next question, when REACH VET reaches out is psychotherapy offered more than psychiatry? I just have concerns of elevating the polypharmacy issues, I do not work in VA.

Dr. Bridget Matarazzo: Yeah, it’s a good question. And Aaron, please add to this if you have additional thoughts or information on it. But the majority of providers who get identified by REACH VET are therapists rather than psychiatrists, and that’s somewhat anecdotal. Aaron, I don’t know if we actually have data to support that, but I think that that is what happens most commonly in practice because the coordinator, when they’re looking in the chart they’re looking to see who’s meeting with the patient most often, and that’s typically going to be their therapist, in terms of frequency, rather than their prescriber. So if they have a therapist then they’re probably identifying that person. So, if it’s a therapist who’s getting identified they’re certainly more likely to be making changes to psychotherapy, rather than, you know, the other, rather than medications, and they may be involving their prescriber in that piece but certainly wouldn’t be operating out of scope and changing anything related to that on their own. We have advised people that, you know, perhaps if they are on high amounts of medications and things still aren’t resolving then that may speak to a need to consider other evidence-based psychotherapies that they haven’t tried. And that maybe they really do need to be more involved in psychotherapy rather than tacking on more meds. Aaron, I don’t know if you have anything to add to that?

Aaron Eagan: That covered it well. I was going to add, you know, this is an important characteristic of this program and that is we are very intentional not to dictate clinical care, we’re triggering a clinician to review the Veteran, but they are the ones who are positioned to determine what’s appropriate or not. So we try hard. Bridget obviously is a clinician and has a huge depth of experience here, so we’re happy to help folks think through what might be appropriate, but we try really hard to avoid pushing in a particular direction, because this is statistical risk we’re identifying, not clinical risk, and only a clinician who’s seeing that Veteran really is positioned to determine what’s best.

Molly: Thank you both. We do have one minute remaining, and three questions, are you both able to stay on so we can capture them in the recording?

Dr. Bridget Matarazzo: I can.

Aaron Eagan: I can as well.

Molly: Excellent, thank you. If any of our attendees need to drop off at the top of the hour, when you exit the session please wait just a moment while the feedback survey populates on your screen, it’s just a few questions but your input and feedback is very valuable to us. The next question, what are the tools used? Can we look at the source?

Dr. Bridget Matarazzo: I’m assuming that\_

Aaron Eagan: Not sure I understand.

Dr. Bridget Matarazzo: Yeah, I don’t know if that means the model itself, I’m not quite sure.

Molly: We’ll move onto the next question and they can write in for further clarification.

Dr. Bridget Matarazzo: Okay.

Molly: The next one, are we updating training data when Veterans take steps toward suicide, or does not?

Dr. Bridget Matarazzo: I’m not sure I understand that question either, unfortunately. Could you read it again Molly?

Molly: Are we updating training data when Veteran take steps toward suicide or does not?

Aaron Eagan: I’m going to assume they’re talking about training data, as in training the model. I don’t know if that’s correct or not, but from that perspective, yes, that’s part of the model\_

Molly: They just wrote in saying yes.

Aaron Eagan: Okay, great. I was hoping that was the right context. Yeah, that’s part of what we’re doing now is the original model was developed on essentially what’s now six year old death data, so we will update the factors in the model as well as updating to death data that’s now available through 2016, because we know that characteristics of Veterans who die by suicide can change over time. So the short answer is yes, as part of our model update.

Molly: Thank you. And the final one is a two-part question. What is the actual reduction rate in, quote, all-cause mortality that has been found?

Dr. Bridget Matarazzo: Aaron, I don’t know if you have that offhand, I know I don’t.

Aaron Eagan: Yeah, I don’t have it offhand. I would refer you to John McCarthy’s paper that has as much detail as you could want about the model approach, and if you need help with that or want to have a follow-up conversation please just shoot me an email and we can do that. And I’m happy to connect you with John as well.

Molly: Thank you. And the second part of that, is there any, is there indication if this effect is primarily being driven by reduction in suicidal behavior versus other negative outcomes, for example, unintended opioid overdoses?

Dr. Bridget Matarazzo: Yeah, that’s a good question\_

Aaron Eagan: Yeah, that’s a\_

Dr. Bridget Matarazzo: \_and sorry, go ahead Aaron.

Aaron Eagan: No, go ahead. Go ahead Bridget, it’s all you.

Dr. Bridget Matarazzo: Oh, I was just going to say we don’t know yet, so the, we don’t have suicide death data on this cohort yet, because that data is delayed in terms of reporting. So once we’re able to look at that, in terms of suicide is the cause of death, we certainly will. And then, Aaron, I don’t know if you know of any other sort of breakdowns of the all-cause mortality, but I’m guessing not since it’s lumped together that way.

Aaron Eagan: Yeah, for death data for sure. We have what’s called span data, which is basically data that’s reported about suicidal behaviors. It’s typically done, entered by the suicide prevention coordinators. There’s a number of issues with the quality of that data, but we did look at span data for differences in the initial evaluation and there was not enough data available to determine. We’re looking at it again in the longer evaluation of a great number over a greater period of time, so hopefully we’ll have some ability to determine effect at least on span reported events. I’m not super confident about that just because there’s a, as I mentioned, there’s a lot of data quality issues with that data, but we’ll take a look at it.

Molly: Thank you. That is the final pending question. I would like to give each of you the opportunity to make any concluding comments you’d like. So in no particular order, I’ll let either one of you go first.

Dr. Bridget Matarazzo: This is Bridget, I can go\_

Aaron Eagan: And I can\_

Dr. Bridget Matarazzo: I got you first. I just appreciate the opportunity to share this program and some of our initial findings with you all. I think this is a really, really nice example of what some strong technical systems in facilitation can do for implementation, which we all know, but being able to actually see it in practice and see these real live examples every day of really providing this support to the field is great. And I am grateful to Aaron and the office for allowing us to have this opportunity, it’s been a great experience.

Aaron Eagan: Thanks Bridget, I’ll echo that. I will say probably the biggest lesson learned for us in this is that when you’re going to implement programming in VA it’s really critically important to provide technical assistance and support to the field. It’s not easy for the field to take on more work, particularly when there’s no resources available for it. And in large part this program has been successful because we’ve been fortunate enough to have Bridget and her team and the rest of the folks that work on this and been able to support salary for them to provide that type of resources for the field, it’s a really important lesson that I continue to make with leadership as we implement more and more programming around suicide prevention.

Molly: Excellent. Well I can’t thank you each enough for coming on and lending your expertise to the field on this very important topic. And of course, thank you to our attendees for joining us. We do hold the spotlight on suicide prevention sessions every other month, on the second Monday of the month at three PM Eastern, so be sure to keep an eye out for our, for the next session announcement. So once again, thank you to our presenters, and thank you to our attendees, and this does conclude today’s HSR&D Cyberseminar, please be sure to stick around and fill out the feedback survey at the end. Thank you, Aaron, thank you, Bridget.

Aaron Eagan: Thanks Molly.

Dr. Bridget Matarazzo: You too.

[ END OF AUDIO ]