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Session: Suicide Prevention in Women Veterans: Risk and Resiliency Factors

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Molly: And we are just about at the top of the hour so I would like to introduce our speakers today. Talking first will be Dr. Lauren Denneson, she is a core investigator at the VA HSR&D Center to Improve Veteran Involvement in Care and that’s located in the VA Portland Health Care System. She’s also an assistant professor in the department of psychiatry at Oregon Health and Science University. Joining her today and speaking second we have Dr. Jaimie Gradus, she is an epidemiologist at the National Center for PTSD at the VA Boston Health Care system and an assistant professor of psychiatry and epidemiology at Boston University. And Joining us today as a discussant and available for Q&A at the end we have Dr. Jennifer Strauss she is the national Women’s Mental Health program manager at the Office of Mental Health and Suicide Prevention and an associate professor in psychiatry and behavioral sciences at Duke University School of Medicine. So without further ado, Dr. Denneson are you ready to share your screen?

[Pause 0:00:57:00- 0:01:06:00]

Lauren, you may still have yourself on mute.

Dr. Lauren Denneson: Can you hear me now?

Dr. Jaimie Gradus: This is Jaimie, I can hear you.

Dr. Lauren Denneson: Molly, can you?

Molly: We can, thank you.

Dr. Lauren Denneson: Perfect, great, yeah, so I’m ready to share my slides.

Molly: We can view them thank you.

Dr. Lauren Denneson: Okay thanks. Alright, thank you everyone. Thanks for being on the call today. I know we have a lot of things to get through so I do want to quickly share my disclosure that I have nothing to disclose, I’m a core investigator at the VA and the things I’m presenting today and my views are not representative of the VA or the government.

So I’m going to start off by talking about the importance of examining female Veterans’ suicide risk or using a gender lens, a second gender lens in suicide prevention. I’m going to give an overview of what we know about female Veterans’ risks so far and discuss some potential opportunities based on that previous research for the suicide prevention field. And then I’m going to turn things over to Jaimie who is going to report on sexual trauma and suicidal behaviors among female Veterans and then finally, as Molly mentioned Jennifer is going to make some additional comments and lead our Q&A.

So I know there’s a lot of people on the call today and this is a topic is really hot right now and there’s a lot of interest in it and I think hopefully most of you are aware that Secretary Shulkin has named suicide prevention as one of his top five priorities for VA, especially female Veteran suicide risk. So I wanted to start off today just sort of taking a moment to consider this question. Why is it important for us to consider female Veterans in suicide prevention specifically? So this leads us to our first poll question.

Molly: Thank you. So for our attendee members, I’m sorry for our attendees you can see on your screen that we do have the first poll question up so you can go ahead and select all that apply to this. Why is it important for us to focus on female Veterans in suicide prevention work? And the answer options: the number of female Veterans is growing; female Veterans are increasingly accessing VHA care; female Veterans have unique healthcare needs and barriers; sex and gender impact health and health outcomes; female Veterans are disproportionately at risk for suicide. So please take just a moment to give those some thoughts and remember that you can select more than one option. Looks like about half of our audience has responded so far and I’m going to give people a little bit more time to select options. Oops, my apologies I did not set it up to select all, so I’m going to go ahead and close this poll out and Lauren if it’s okay with you once I reset it up we’ll re-launch it a few slides from now. Is that all right?

Dr. Lauren Denneson: Okay, that sounds, well sure.

Molly: I apologize for that. Or if you want you can spoil the surprise and give us the answers.

Dr. Lauren Denneson: I can just give the answers. We can move on. I think the important part is for everyone to sort of think about this for a minute and actually the answer is all of them. Um, if I had been able to have six response options I would have made it select one and given you a all of the above option. Because really all of these things together have made it really important for us to better understand female Veterans’ risk for suicide and really identify how we can address this pressing concern. And then I’m going to talk about each of these things in turn.

So first of all the number of female Veterans is growing. They represent 10% of all Veterans and are actually the fastest growing subpopulation of Veterans. They’re also increasingly accessing VHA care. Some of you might be surprised to see that women Veterans are actually accessing VHA care almost as much as male Veterans. This is actually the most recent data that I can find, but I understand that there might be some more updated findings. More updated stats. We also know from a growing body of research on female Veterans’ health and health care utilization there is this unfortunate set of processes that are occurring right now. Female Veterans typically have poorer health than male Veterans or their female civilian counterparts. Female Veterans rely on VHA health care more often than males so it means that they don’t have outside care, they probably don’t have private insurance for example so they’re relying on VHA for their health care. We also have this thing that we’re noticing where we, a lot of female Veterans who feel uncomfortable here, so half of women who are leaving VHA care say that they felt unwelcome here as females. And we also have a lot of women who get their VHA mental health care, or get their mental health care here, who aren’t saying it’s fully meeting their needs. So we have this situation where we have a lot of women in VHA care who are some of our highest risk Veterans but they’re also the ones who are probably the most likely to fall through the cracks.

We also know that sex and gender impact health and health outcomes. Hopefully many of you are aware that the Institute of Medicine and the NIH have made calls for researchers to include sex and gender as variables in their research and this is because it matters. It matters in the development and the treatment of disease. And I point to some of the reasons why on this slide. First of all women are experiencing a socialization into a gender role that actually shapes their real or perceived opportunities and choices in education and career. They also experience higher rates of certain life stressors such as victimization including military sexual trauma, and they experience lower power in relationships in society and they’re more likely to experience poverty. We also know that men and women differ on their bio behavioral response to stress. So a lot of you probably think that the “fight or flight” concept is pretty universal but there’s actually a lot of research coming out specially Shelley Taylor has done a lot of work on this where she’s pointing to the fact that women actually, when they’re stressed they tend to reach out for social resources or self soothe by caring for dependents.

But a lot of our work in VA and in suicide prevention has actually been pretty gender neutral so because of these differences in how men and women experience the world, a lot of the findings that we’re getting out of suicide prevention if we take that and apply it to female Veterans specifically we may be likely to be misdirected.

And then last but not least, female Veterans are actually disproportionately at risk for suicide. And I love showing this image that Claire Hoffmire published in one of her recent publications because it shows just how discrepant the suicide rate is between Veterans and non-Veterans. Veterans are at a very elevated risk for suicide relative to non-Veterans and specifically for females, female Veterans, the number of suicide among female Veterans is almost 500% higher than it would be, than we would expect if they were civilians. So then what do we know about female Veteran suicide risk? And the short answer is unfortunately not a lot.

In the slides that come next I have culled together and I have cast a very wide net of the literature that’s out there on risk and resilience and tried to pull out the pieces that spoke to gender and sex issues. I didn’t limit it to the research that was done specifically on Veterans. I also didn’t limit it based on outcomes. So, I include research that talks about suicidal ideation, suicide behaviors such as attempts and then death by suicide. So I didn’t limit it specifically to death, data that’s specific to suicide death. I also want to give a little bit of a disclaimer that a lot of this work is limited by tiny, tiny sample sizes. Some of it is looking at very specific subpopulations of Veterans which limits its generalizability to the broader population of Veterans and other things like that I kind of want to be careful in our interpretation of it but I wanted to try to give you guys a clear story so you’ll see how I sort of organized things and we’ll talk a little bit more about limitations and future directions at the end.

So on this slide I brought together research that dealt with social others and one of the things that’s emerging is that unhealthy relationships including family may be an important area to consider in female Veteran suicide risk. And one reason that it’s especially complex and important among women is something that I alluded to earlier which is that when women are stressed they tend to reach out for social resources more than men would. Whereas men might isolate or sort of display aggression women try to reach out for that social support and in the larger relationship literature we know also that women tend to experience harmful relationships more than men might. So we also see on this slide one of the few sources that are out there that deal with resilience so Tsai’s work shows that social integration may be protective against death by suicide among female nurses.

Another emerging topic is past, current physical or sexual abuse. With most but not all the studies showing a stronger association with suicide risk for females than males. We do have, so the one study here that shows that military sexual trauma may be more strongly associated with suicidal ideation among males than females but then most of the other ones show that it might be more strongly associated with females than males. But again, we’re looking at some different types of populations, different subgroups, different outcomes of suicide verse suicidal ideation so again, this is all kind of very mixed and shows that this may be a very important issue and topic for us to explore further but right now we don’t know what to take from it as much.

So in moving on to psychiatric diagnoses whereas most of the previous stuff I was talking about was what we kind of know about psycho-social stuff. I’m going to move on to talking about mental health issues. So Mark Ilgen’s work shows that psychiatric—any psychiatric diagnosis increased the risk of suicide among females. There’s also some mixed findings in the work that’s been done on substance abuse and Kip Bohnert’s recent work is suggesting that the association between substance abuse disorders and excess risk among females might actually could be explained by the co-occurring mental health conditions. So we’re sort of starting to understand that we need to not be studying these variables in isolation and look more at maybe perhaps groups of variables and cast a much bigger net in terms of the amount of data that we’re examining in each study. There’s also some evidence that both depression and PTSD may be importantly linked to suicide risk among women. But again this is also a little bit mixed. And Jaimie’s going to talk a little bit more about this when she gets on but I just also wanted to point out some of her recent work where she is really is getting at this issue of differing clusters of risk which I think is an important direction to go and she’s finding that different risk exposures and health outcomes may cluster differently among males than among females.

So again as I said earlier a lot of this prior work is limited by small sample sizes, available data, so we’re doing a lot of you know top down kind of work where we have, we have a lot of really rich, really great surveillance data and health care data in our VA admin data sets and we’re taking a look at what we’ve got there but we’re not doing a lot of that sort of bottom up kind of work where we’re including mental health diagnoses along with a host of other psycho-social like sort of life-experiences and really getting a sense of how these variables are relating to one another. So there’s still a lot of important work that is yet to be done in this field. Specifically looking at psychosocial risk factors which as you saw we don’t have a lot of information on that and very, very much so looking more at resilience and sort of understanding what supports and facilitates resilience among female Veterans. But despite that there are some potential opportunities for us that warrant some additional attention even now with the limited data that we have. First one is absolutely looking more at gender-tailored healthcare services to enhance engagement in care, some of the works that I presented earlier about female Veterans and the sort of broader research about women’s health has spoke to the importance of women only groups, women only services and gender sensitive types of care as being really important and really supporting women’s sense of feeling that their healthcare needs are met. We also should be enhancing our efforts to better understand what women’s health care needs are and then absolutely looking at supporting development and maintenance of healthy relationships, and sort of untying that tangled knot of what are healthy relationships and unhealthy relationships and how are they supportive or unsupportive of female Veterans. And then addressing, finding better ways to address sexual harassment, military sexual trauma and other trauma especially in VA and with our women Veterans. And I’m going to put these citations up here while I pass things over the Jaimie.

Dr. Jaimie Gradus: Thank you so much Lauren for that really nice overview of what we know currently about women Veterans and women Veterans and suicide. So as Lauren mentioned in the beginning I’m Jaimie Gradus and I’m going to be talking a little bit today, specifically about the association between sexual trauma and suicidal behavior among women Veterans. And this is an association that I sort of became interested in throughout my career so far is I started to find it more and more in different samples and different populations across different periods of time. It was sort of an association that kept popping up for me in my research. And I kind of overtime, have grown to start studying it a little bit more directly just because I became very interested in how it seemed to sort of always be there regardless of who I was actually studying. So a little bit of an outline for this part of the talk: I’ll be summarizing the literature, demonstrating an association between sexual harassment and assault and suicidal behavior among women Veterans. And I’ll give a little bit of an overview on gender differences so what some studies have found among men also and we’ll also look at a little bit on different forms of trauma and the strength of those associations as sort of context for this. And then I’m also going to be talking a little bit about associations that have been found among civilians because that is really initially where this work was conducted and sort of taken together it all bolsters the idea that there is an independent association here that definitely is worthy of additional examination.

So one of the early studies on the association between sexual trauma and suicide attempts Belik et al. looked at a sample of Canadian military members. There were a little over 8400 of them and they looked at lifetime sexual trauma. So that’s important to remember there. It was sexual trauma occurring at any point in someone’s life, not just in the military, and the association with suicide attempts. And basically what they found, if you look at this table down here, is that for women who have been raped they had about 2.5 times the odds of suicide attempts than women that hadn’t been raped. And for sexual assault it was 3.4 times the odds of suicide attempts and you see some more numbers for men. And what’s interesting about this is it was adjusted for demographics, military factors and psychiatric diagnoses. So these are associations that they found that were independent of any psychiatric symptomology. That the people were experiencing. Another, more recent study, by Lindsey Monteith looked at sexual harassment during deployment and suicidal ideation. This was a smaller sample of 199 Veterans who had been deployed in support of the conflicts in Iraq and Afghanistan which are noted here as Operation Enduring Freedom, Operation Iraqi Freedom and Operation New Dawn and they were entering trauma focused treatment at the VA. And this study found that sexual harassment and assault, specifically during deployment, were associated with an increased risk of suicidal ideation even after adjustment for gender or combat exposure. So here it’s showing it’s really not combat exposure that was associated with this increase in suicidal ideation, but the sexual harassment and assault.

Similarly, and as also mentioned in the previous talk, I have conducted a recent study looking at sexual harassment and assault during deployment and suicidal ideation. And this was a study of 2244 recent Veterans that had been deployed in support of the conflicts in Iraq and Afghanistan and they were all surveyed via mail. And we had about 50% women and 50% men in the sample and all of our analyses were conducted separated by gender to see if we found unique associations with suicidal ideation among men and among women. And this result I’m showing here is for women only. And so this is the result of a machine learning analysis which is something people on the call might have heard some about. It’s kind of, the sort of hot new way to examine, predict or, sorry, there were outcomes that have many predictors and a lot of people are applying machine learning analysis right now to prediction of suicide. And so here is the result of a machine learning analysis I did looking at predictors of suicidal ideation among the women only in this sample.

And what you see here is that probable depression was the strongest predictor of suicidal ideation among these women Veterans. And if you follow this path down the one indicates that these are people with depression you see that sexual harassment during deployment was the second strongest predictor, in that group, of suicidal ideation. And if you follow this path down, this is among people who are sexually harassed, probably PTSD—oops, sorry, is the next strongest predictor. And so if you look down here this cell means that 121 women in our sample had probable depression, had been sexually harassed during their deployment, had probable PTSD and then among those 121 women, 61% of them had suicidal ideation. So this was the group among the women that accounted for the most suicidal ideation in our sample and it gives us some indication about, as the previous speaker said, the way that these variables may cluster together to predict suicidal ideation in a population.

Craig Bryan, who does a lot of work looking at suicidal behavior in military samples looked at military and pre-military sexual trauma and risk of suicidal ideation plans and attempts in college students who are military personnel and Veterans. And interestingly, he found that among men, unwanted sexual experiences during military service were associated with suicidal behavior but for women it was only unwanted sexual experiences prior to military service that were associated with suicidal behavior. So clearly there is a lot more to be done in this area, particularly with regard to timing which can be complex but this is another set of findings that shed some light on the association.

And then finally, most recently, Rachel Kimerling did a very interesting study using all VA patients from fiscal year 2017 to 2011, looking at military sexual trauma as reported in VA screening and suicide death. And adjusting for age, rural residence, psychiatric conditions, and somatic conditions, there was an association between military sexual trauma and suicide for both men and women with the association appearing a little bit stronger for women. So again, gives us some evidence that this association exists outside of psychiatric symptomology. And just to give you a little bit of context about the association between other types of trauma and suicidal behavior, Belik in 2009 looked at accidents or other unexpected traumas and found really generally pretty weak associations of suicide attempts. This is the same study that I showed on my first slide where the associations for rape and other sexual trauma were about two or three with those who experienced that having two to three times the odds of suicide attempts. Here you see associations that are much smaller. Perhaps life-threatening illness in males is somewhat comparable, but generally these other traumas don’t show as strong of an association with suicidal behavior as sexual trauma does and this is similar to other recent work by people like Learnman (sp?) and colleagues who found that combat exposure wasn’t associated with suicide anymore once you account for psychiatric symptomatology.

And so as I said in the beginning, for a long time much of this research came from civilian samples and this can really help bolster what we know about this association and kind of add to the calls for more research in this area. And this work also really provides consistent evidence of an association. So this is a study from 2009 of 8,580 male and female general population adults which found that sexual assault was associated with life time suicide attempts. Pretty strong associations for both males and females. So here for females those who were sexually assaulted had 9.6 times the odds of lifetime suicide attempts than those who are not sexually assaulted.

And in other work by Belik from the national comorbidity survey, they found associations between rape and suicidal ideation and attempt ranging from around one to around four for males and females so again, just to interpret the female numbers, females who were raped had about 1.7 times the odds of suicidal ideation and about 2 times the odds of suicide attempts. And again, this is adjusting for demographics, psychiatric diagnoses, and other trauma. And then finally in a large study I did in Denmark looking at all suicide deaths from 2001 to 2006 we found a very strong association between sexual victimization and suicide. Those who experienced sexual victimization were about 14 times more likely to die by suicide than those who did not and that again was adjusting for psychiatric diagnoses.

So what can we take away from this brief overview of the literature? Well, it seems like understanding this association is critical for prevention and intervention initiatives. In fact, in some work done by the RAND corporation, Ramchand and colleagues found that MST was the dominate concern of female Veteran crisis line callers, and there was a compelling evidence base developing for this association that shows that’s really perhaps independent of psychopathology. And some studies suggest that this might be more of a concern for women. So we really need additional research in this area to try to figure out the mechanisms for which sexual trauma increases risk for suicide and suicidal behavior if not through psychopathology. And with that I will leave you with our contact info and turn it over to Jennifer.

Molly: Jennifer before we start I’m going

Dr. Jennifer Strauss: Alright, this is Jennifer.

Molly: Sorry, Jennifer

Dr. Jennifer Strauss: Go ahead.

Molly: Before we start on the Q&A I just want to remind our attendees that joined us after the top of the hour to submit and question or comment please go to the GoToWebinar control panel on the right hand side of your screen. Down towards the bottom you’ll see a question section, just click the arrow next to the word questions, that will expand the dialog box and you can then submit your question or comment there. And with that I’ll turn it over to you Dr. Strauss.

Dr. Jennifer Strauss: Thank you for that. Hi, this is Jennifer Strauss. I am the National Women’s Mental Health Program Manager in Office of Mental Health Services and Suicide Prevention. I have sort of written down a bunch of comments about these talks that I hope will spark some conversation. I want to echo Molly’s suggestion, please send in questions, we’ve already had some great questions and I also want to invite comments. Including comments from non-researchers who might be listening, clinicians, I think it would be really interesting to hear more from that perspective about what’s resonating, what you’re seeing in your environment, and I mention that because it’s so rare I think that we have a forum where we can really have a strong dialog between the research community and the clinical community and this is one of those forums for that type of a dialog. So please take advantage of it. I’ll do my best to facilitate the conversation.

So a few comments off the mat, first, hats off to our two presenters who did I think an amazing job of pretty gracefully summarizing a very complex literature. I mentioned, I saw a more senior colleague yesterday and in passing mentioned this presentation today and her comment was, “wow, that’s a really really hard topic to study”. And if you knew this person you would know that she doesn’t say that lightly. And she doesn’t shy away from tough topics to study. This is a difficult topic to study and I believe Lauren is the one who mentioned that to date we’ve had, you know, the pattern has been more along the lines of top down research as opposed to bottoms up. We are so lucky in the VA that we have the large administrative data set and so we’ve been able to do some things to get the numbers, I guess needed, to look kind of topographically at the whole Veteran population and those using VA to do some kind of high level analyses that have been really fruitful. And on the other side I think Lauren also mentioned that we’ve had a series of, for the most part relatively small studies in specific subpopulations, but so you know what, that’s how it gets started. And that’s often the easiest place to start is looking at small samples and what we’re looking for is this, you know, patterns and what are we seeing over time in different groups.

Another, I guess request to our research community including those who don’t necessarily study suicide or always study gender differences is just to please, where you can, run analyses by gender. Add an item or two if you can around suicidality, suicidal ideation. Again you may not be powered for that kind of a study but additively, I think overtime when we start seeing patterns in different smaller studies, that’s often sort of the breadcrumbs that often show the way to the next step.

Okay, with my program office hat on, I do want to mention that VA and particularly I think how VA provides care to women has changed dramatically over the last five to ten years. And I’m not sure how to get that message out to the broader community and this is in part to, I’m speaking to the extent of which some women are accessing our services, some aren’t but particularly for those at risk, we, I think we’re always looking for creative ways to outreach and help them feel welcome in this setting. We now have a women’s mental health champion at virtually every VA medical center. It’s an ancillary duty but that is a mental health clinician with a specific interest in women Veterans who serves in part as a liaison between our program office and their local community and should be a go to resource for all things related to women Veterans. So that’s a great resource and that’s new in the last year and of course always feel free to reach out to me and my email’s on the screen.

What else? Okay, a few other things I saw, that themes that came up, were the importance of social support and community integration. And I mention that because I think we’re still learning about how, particularly our women who are of this newer generation, those who have been in deployment settings, I think we’re still learning about gender differences in the reintegration of post-deployment settings. I know there’s a lot of really good research being done there and that sounds like a really fruitful area. So bravo to that area.

There’s also this pretty clear trend or pattern of seeing an association between sexual trauma in general, military sexual trauma specifically to our Veterans and a link there and suicide risk. And I think maybe some next steps there are to try to figure out why. You know, what is it that’s specific to military sexual trauma for example and is that at all related to, you know, social support, other types of resources, including where we can intervene and we can be helpful. And the topic of resilience came up during this talk which I think is a really important point, I’m glad that came up as well. So not just looking at where the risks are but also looking at populations maybe with, or subgroups with similar risks who are doing well and what’s going on there.

And I’m looking through my notes and I think, I’m just looking at the time and looking at all the great questions that have come in so let me go ahead and jump to some questions.

Oh, excuse me, there is one more thing I want to mention, and that is because it often comes up, a question about where women are most comfortable receiving care, what types of services are more appropriate for them and some, there’s at least one study it mentions that, looked at women’s preferences for women’s only groups. And I just want to kind of point out a few things. One that, that when we think about services for mental health services for our women Veterans, from the program office perspective, we don’t—there’s not a one size fits all, that we hear from some women that they really prefer a women only environment. We equally hear that for some women mixed-gender is more comfortable, it’s perhaps more what they’ve been used to in their professional setting and their personal lives. So, and that there can be kind of a confounding between when we think about what’s gender sensitive and we’re all for gender sensitive and what’s trauma sensitive. So I just want to mention that as some things to keep in mind as we’re forming research questions and interpreting data.

Okay, with that let me launch into some questions. We had a question early on asking about repeated deployments. And I am aware of some research that has shown that repeated deployments are associated with higher risk of PTSD, and other adverse mental health outcomes I believe across genders. Are either of our speakers aware of any data that speak to deployments and suicide risk?

Dr. Jaimie Gradus: This is Jaimie, I can comment a little bit on that. In the study that I showed of mine where I did the machine learning analysis we put total length of time deployed over all deployments as a variable so it wasn’t actual number of deployments but would have been higher for people that were deployed multiple times and that didn’t show up for either the men or women as something that was highly predictive of suicidal ideation in that sample.

Dr. Jennifer Strauss: Thank you, Lauren did you have anything to add? Yeah, go ahead.

Dr. Lauren Denneson: Thanks. My understanding is that the research to date has not linked multiple deployments with increased suicide risk, although there might have been something that has come out in the last year or two that I haven’t seen. But that’s my understanding is that you would think that logically, it might increase risk but we’re just not seeing it.

Dr. Jennifer Strauss: Thank you both. From your research perspectives, are you seeing any—are you aware of I guess differences in the types of profiles we see around suicidal ideation, suicide attempts and completed suicide? Do those tend to be along the spectrum of a very similar thing or are there some differences there that are worth thinking about?

Dr. Jaimie Gradus: This is Jaimie again, I guess I can take a first stab at that. So, I do not know of a lot of work that has specifically used machine learning yet to examine gender differences in predictiveness of suicide. There is of course work we probably all know about going on in John McCarthy’s group to, and you know this is the work that was like the basis of REACH VET to do prediction modeling of Veterans overall. But that work has not necessarily had sort of a gender stratified focus to see if the results among men and women might look different. So we do know that in general there are predictors of suicidal behavior, that we know suicidal behavior acts differently among men and women. Right? Like women are more likely to attempt suicide while men more like to die by suicide at least that’s been traditionally true among women Veterans that might look al little bit different. But I don’t know of too much gender specific suicide at least risk modeling work. But hopefully I think that that’s coming and I’ve actually spoken with John a little bit about it, hopefully that’s something that will happen eventually because I do think it is important.

Dr. Jennifer Strauss: Alright, thank you. There are a lot of questions which is great. We have some questions that are getting at specific risk factors. You know, it’s, so I’m going to combine a few questions here and see what you guys know about specific potential risk factors or protective factors. One is chronic pain, are you aware of associations between chronic pain and suicidality, secondly would be homelessness or displacements and on the positive end of the spectrum, do we see a difference, and this is a little bit different, but do we, we see a difference in women’s professional roles in the military? So for example, do we see lower risk among women who are in leadership positions in the military, you know officers verses not?

Dr. Jaimie Gradus: Lauren, do you want to take it? I feel like I’m jumping in a lot.

Dr. Lauren Denneson: Alright, yes, I mean that’s a very tough question. So with regard to chronic pain or pain, generally it’s been shown to be a strong risk factor for suicide or suicidal behaviors. Specific to women, I’m not sure there’s been some work that has looked at gender differences or looked within female samples but there is a broader research on chronic pain and pain that shows that women do respond differently to pain and report pain differently. So getting back to what I was talking about before about how sex and gender really impact health and health outcomes, there are a lot of differences that have been found in the pain world that show that women even respond to pain treatment differently on that sort of biological level. So, I imagine that could be a potentially important area to consider. I’m not aware of any gender specific work in homelessness but it is again a risk factor generally and then sorry, what was the last part of the question? Jennifer?

Dr. Jennifer Strauss: Sorry, I was having a little, my phone and I were having a dispute about how to mute and unmute the phone. The last part of the question had to do with whether or not leadership positions are protective. So if we see a difference in other words in suicidality those, the officers verses not.

Dr. Lauren Denneson: That’s a fantastic question. I haven’t seen anything in that regard but very interesting avenue for looking at that kind of issue. Yeah.

Dr. Jaimie Gradus: And I’ll just add that we did have also rank added in the machine learning model that I did and it didn’t appear to matter as much as the other predictors that were identified like psychopathology and like experiences of trauma. And the one other thing I’ll say is I know the American Foundation for Suicide Prevention which has funded some of my Veteran based research actually has pain and suicide as a funding priority this year so if anybody was interested in studying that, I think that would be one great mechanism to do it.

Dr. Jennifer Strauss: Thank you guys, um, is there anything known about women who—difference between women using VA services verses not and or women who were enrolled in VA care but have left VA. So, and that’s a tough group I know to follow, you know once they leave the VA environment do we know, you know, are they getting care in their community or just not getting care, do we know anything about their trajectories?

Dr. Jaimie Gradus: This is Jaimie, yeah, I think those are both actually really tough questions to answer because, you know, figuring out how to systematically assess women that are in the community and not using VA services is really a challenge in this area. One thing that you can get is death record data and so you might be able to know Veteran status and whether or not somebody died by suicide that wasn’t using VA services and I think a lot of that has been used in the suicide data reports that look at Veterans and non-Veterans but to get at suicidal behavior in sort of a large representative sample of Veteran women who are not using VA services is tough because it’s a hard population to sort of find and pin point and to get their data so I don’t know of a ton that has done that actually but it’s another great area for somebody to contribute.

Dr. Jennifer Strauss: Do we know anything about suicide risk, I guess for women or for men right around the transition period when they’re separating from military service?

Dr. Lauren Denneson: So I’m trying to remember, there’s a recent paper that came out Claire Hoffmire is one of the co-authors but now I can’t remember the lead author where they looked at risk trajectory over time and they did find that female Veterans’ risk stayed elevated post-deployment whereas male risk sort of declined over time. That’s one of the pieces that’s standing out to me. I’m sorry I can’t remember, Jaimie maybe, have you seen this one?

Dr. Jaimie Gradus: I don’t remember.

Dr. Lauren Denneson: Okay.

Dr. Jennifer Strauss: You know one thing I want to put out there is there is a public facing, you’re mentioning Claire Hoffmire’s work, she’s one of the researchers who, one of many, who have been involved in putting together fact sheets on suicide in women Veterans that are public facing. So downloadable outside of the intranet. And they do a really nice job of just sort of succinctly boiling down the key points for some of these research studies so I might be able to, if anybody wants to email me, I’ll point you towards the Office of Suicide Preventions public facing website where they have a lot of these resources, but as something to kind of keep in your back pocket because it is a tough literature, I think that would be good for everybody to have access to.

Dr. Jaimie Gradus: Yeah, that’d be great.

Dr. Jennifer Strauss: And be aware of.

Dr. Lauren Denneson: Just to follow-up I did find the publication if people are interested the lead author is Tim Bullman, and it’s in the *Annals of Epidemiology* published in 2015.

Dr. Jennifer Strauss: Great, thank you. Did any information, and you know, I’ll expand this question a little bit to say either in Veterans in general, or you know, not just in women Veterans, but what do we know about other kind of subpopulations and suicide risk? In the general population in Veterans or in women Veterans specifically. So for example anything around race, ethnicity and suicide risk and or anything around transgender status. Those are two things that have come up in the questions.

Dr. Jaimie Gradus: This is Jaimie I can take that. Race, ethnicity I have not done, although it would be very interesting and important to do, I have not done specific stratified analyses looking at associations among different races. It did not appear in the machine learning work I’ve done [Inaudible 49:00] in tandem with the other’s that I’ve found to be significantly associated with suicidal ideation. I know in transgender Veterans there has been some very interesting work that has shown increased association or even an I think an increased risk of a suicide among transgender Veterans. A lot of that work has been done by Jillian Shipherd and there are some other people and I think one of the benefits of machine learning that people are increasingly using, both the form I did and like lots of other forms that are becoming popular right now is that one thing it can do is sort of highlight associations among different subsamples that are in your overall sample. So if you think back to the chart, there was a little graphic I showed, it showed that depression was the most important predictor of suicidal ideation among the women and then it kind of split the sample by those who were depressed and those who were not. And so the subsequent associations kind of going down that graphic show you the different variables that matter in the depressed subsample and the not depressed subsample. So I think these methods are going to be really great at being able to get at associations that are critical in certain subpopulations that we might not think to look for a priority. You know they’re highly exploratory in nature and so they kind of will kind of point us in directions for future confirmatory research that we may not think to go otherwise.

Dr. Jennifer Strauss: Thanks guys, we had a clarifying question: the lead author of the study that Jaimie mentioned is Bullman, Tim Bullman.

Dr. Jaimie Gradus: I think that was one Lauren mentioned.

Dr. Jennifer Strauss: Yeah, yeah, we had a question come through asking if we could spell it out so they can find it. And again, send us an email if you would like some more information. We also have a question about what’s known about evidence based intervention for suicidal women verses men. I understand that neither of you is a clinician, I think Lauren you’re social psychology in public health and Jaimie you’re maybe Epi-public health.

Dr. Lauren Denneson: Yes, that’s right.

Dr. Jennifer Strauss: So I can partially answer that question. I’m personally not aware of, well let’s see in terms of Veterans both prolonged exposure and cognitive processing therapy had been shown to reduce suicidal ideation in Veterans, I don’t know of the gender split on that. In the general population there have been, pretty strong evidence based showing that dialectical behavioral therapy does reduce suicide attempts, hospitalizations, I don’t know off hand about rates of completed suicide but those are the interventions that I’m aware of and if anybody is listening knows of something else, just type it in and I’ll share it with the group. Did either of you have anything to add?

Dr. Jaimie Gradus: This is Jaimie, I did some work using data from a community based sample of women who had experienced rape and they were treated with either CPT or PE, this is some of Patricia Resick’s data, that found that over the course of CPT treatment, for both actually, suicidal ideation symptoms reduced. So it looked like treating PTSD was effective in reducing suicidal ideation. And Craig Bryan who I mentioned during my talk who does a lot of work in active duty in military samples has done some similar work and I can actually find that reference and send it out to people also. Very similar study looking at reductions in suicidal ideation over the course of CPT among people in the army which found that CPT worked to reduce suicidal ideation.

Dr. Jennifer Strauss: Great, Jaimie we have a specific question about some of your recent research. For the machine learning algorithms, the Army Stars Group has found that their algorithms don’t necessarily hold up well over time in terms of predictive power and this individual is wondering to what extent are you able at this phase in your research to look and see how your algorithms are holding up temporally or longitudinally.

Dr. Jaimie Gradus: Yeah, so this is a very sort of, it’s a great question thank you. It was a very sort of preliminary study in this area. I have some current funding from National Institute of Mental Health to develop more fine grain risk models for all forms of suicidal behavior, ideation, attempt and suicide death that will use data from a 20 year sample from the general population so I think that in that work I will be able to really move past just initial modeling and sort of do a lot more on changes over time, you know which is critical. And I mean, a little bit, I could give a whole talk on why it’s a little bit challenging to capture in these models, but nonetheless the changes over time are a little bit challenging to capture so I’m going to be able to do a lot more fine grained work on that in a future project. In the general population it will hopefully also translate to Veterans and I will be able to hopefully also expand the work to Veterans. But it’s an important question and the value of these models widen our ability to predict behavior of the future. So it’s critical to be able to do this. It is something I hope to tackle, but it’s nothing I would say that I’m very confident in just yet.

Dr. Jennifer Strauss: Thank you. Um, do either of you have thoughts for someone who’s interested in learning more researching, resiliency and protective factors among women Veterans. Any thoughts on kind of which directions to point to, you know kind of candidate variables to consider? I know it’s a big question but any guidelines, or guidance or ideas?

Dr. Lauren Denneson: This is Lauren. So my first thought goes back to sort of positive relations with others as the first place I would start kind of getting back to what I was talking about where maybe social support and relations with others is important for most people but in particular for women it’s a complex issue and I think that potentially it may be more important for women to have strong healthy relationships than it is for men. So that might be one gendered area to look at. But I think if you’re going into looking at resilience more generally I would check out a recent paper by Johnson. I think it was 2011 that talks about the Buffering hypothesis in suicide prevention. So Judith Johnson wrote a paper in *Clinical Psychology Review* in 2011 so I would start there and then potentially look at social relationships.

Dr. Jennifer Strauss: Thank you and by the way impressive to pull out names and dates of journal articles.

Dr. Lauren Denneson: Been in this world a long time.

Dr. Jennifer Strauss: My goodness if there’s like research literature trivial pursuit I’m going to end up on your team. Another thing I can add to that I’m aware in the civilian literature to my knowledge, not known in the Veteran literature that related the social support involvement in religious communities has also been seen as a protective factor. Aha! Somebody just asked that very question and I believe that that relationship is around suicidal ideation, I would have to go back and check. I don’t know that there is good research around, kind of safe based engagements and you know attempts or completed suicides. But if the person who asked that question wants to email me I can do a little exploring.

Dr. Lauren Denneson: So actually I do know one recent publication.

Dr. Jennifer Strauss: Oh great.

Dr. Lauren Denneson: Jaimie Lusk recently published, her last name is L-U-S-K, she recently published a qualitative paper where she did interviews with Veterans about their spiritual religiosity and spiritual beliefs that came out I think, or it’s in press, in *Crisis* maybe. But again, her last name is Lusk, L-U-S-K.

Dr. Jennifer Strauss: Thanks. Molly, I’m looking at the time and we have two minutes left, is there a point at which you want to jump in and make some announcements?

Molly: Yeah, so I just want to say a couple of things, if you three ladies are willing to stay on and answer a few more questions I’m okay with going for an extra five or ten minutes. If not, then we can wrap up now. Are you ladies still available?

Dr. Jaimie Gradus: I can be available, it’s Jaimie.

Dr. Lauren Denneson: Yeah, I can too.

Molly: Okay, excellent. Thank you.

Dr. Jennifer Strauss: Me too, I just check my calendar.

Molly: Wonderful. So if any of our attendees need to drop off since it’s the top of the hour you can go ahead and exit the session and wait just a second while the feedback survey populates on your screen. We do look very closely at your response and it helps us improve the presentations and programs so please do fill that out if you need to exit. I will turn it back to you now Jennifer.

Dr. Jennifer Strauss: Oh sure. Um, well this is interesting. Somebody wrote in that they are aware of, they have heard of a study, probably in active duty looking at resiliency of black women and low suicide rates. I’m not familiar with that study, if either of you are it might be interesting to discuss.

Dr. Jaimie Gradus: I’m not but I would love to see it.

Dr. Lauren Denneson: Me too.

Dr. Jennifer Strauss: There are a few questions that have come in asking about community resources, public service announcements, those are probably best answered by the program office. I can try to keep track of those or we can touch base maybe after this presentation and I’ll see if I can’t hook up. Cause unless either one of you has the side expertise in community resources but I’m guessing that’s kind of a changing field.

Dr. Jaimie Gradus: Yes, I do not.

Dr. Lauren Denneson: Yeah, me neither.

Dr. Jennifer Strauss: To the extent that we have clinicians on, I would be really curious if you would just write in, what types of information, like what are you struggling with in clinic, in working with women Veterans who may be at risk. So, sort of a, you know, again this is this forum where I think we have a lot of different types of disciplines on this call so the extent of which clinicians want to write in and just share some of your ideas, what you see on the ground in clinics. I think that would be really interesting to hear about. There’s also been some questions coming in, we waited for the relationship between military sexual trauma and suicidality have the studies been able to get fine grained enough to look at differences between reporting and not reporting the event while on active duty?

Dr. Jaimie Gradus: I don’t know of any work in that area that has looked at that in that detailed of a way. I wonder if that would be made more complicated by kind of timing of assessment so if somebody is still active duty while the actual study is happening and they sort of report to the investigators that this has happened but they have not reported it through official channels. I know there’s some complications around people who are on active duty sort of being at work even while they’re on the study. So yes, so all that is to say I’m not sure. I’ve not seen any work in that area and I’m not sure if there is.

Dr. Lauren Denneson: Yeah, I haven’t either.

Dr. Jennifer Strauss: And I’m not aware of anything that would be in the unpublished literature, it’s really an interesting topic, I think it’s a cool idea. We have a comment from a clinician in terms of what she struggles with in clinic in high risk populations and its intimate partner violence and borderline personality disorder. And I did see a relatively recent study that was looking at borderline personality disorder as one of the kind of clinical diagnoses that’s associated with suicide risk and an interesting thing there is, you know, I think we associate BPD with self-harming and “gestures” but I believe there is an association between borderline personality disorder and completed suicide. I don’t know if either of you know anything about that or in the intimate partner violence literature.

Dr. Lauren Denneson: You know, I don’t think I’ve seen, at least that I can draw out of my memory a specific study or a specific work that looked at borderline personality disorder and suicide risk among women. But it was something that was common in some of the qualitative work that I did a while back. And it certainly falls in line and makes sense with, and especially in intimate partner violence as well, they fall in line with that group of work that talks about struggling to develop and maintain healthy relationships. So it’s sort of, I would think it’s captured under that body of literature and would be important for those reasons.

Dr. Jennifer Strauss: Yeah, that is something that I do there seems to be some gender difference around is the sort of social functioning, social role functioning, healthy social functioning and that that’s something that we seem to see as a deficit among our women Veterans more often than our male Veterans. And we’ve actually been involved in women’s mental health, who’s been involved in developing some clinical trainings specifically in that case around skills training in affective and interpersonal regulation because it targets emotional regulation but also, and it’s certainly not the only one but this idea that women interpersonal functioning does seem to be a particular liability.

By the way, where I believe I saw the information about borderline personality disorder, there was a report that was issued on suicide among Veterans and other Americans titled, “Through 2014” that was released on Friday by the Office of Suicide Prevention. So that is another resource that if folks aren’t aware of it, it may well be on that website that I mentioned, I’d have to check but feel free to reach out to me because it’s a lot of work and I’ve listed things across ages, by gender, I think VA users verses not, general population, it’s a lot of really good information there.

Oh and we have just a note from somebody who is in the process of testing out a pilot targeting the, for women the transition from military to Veteran status which sounds great. This just such a needed area and a hard one to study. So that sounds really interesting.

Dr. Jaimie Gradus: Yeah that’s great.

Dr. Jennifer Strauss: And some other ideas that are coming up with are around the social support idea. Women, we know are more, or women Veterans are more likely to be single parents, to be divorced or never married, they tend to have slightly lower financial means so there are a lot of data points that say that this sort of lack of resources, interpersonal resources but then other types of resources as well might be a specific risk factor for women. And we have one person, I think I’ll make it the last question if we have an answer to it. Um, so where do women Veterans find social support in their lives? And clinicians in the audience feel free to type answers that you’re aware of into the question box. And that’s an issue.

Dr. Jaimie Gradus: Well one interesting project to mention is something that people at my center are leading up, Dr. Tara Galovski and Amy Street have a project called “Woven” the goal of which is to create peer support groups for women Veterans in the community. So women Veterans who may not necessarily be in engaged in VA services but need more social support and perhaps less medical support and so that project has just gotten off the ground in the last few months and they’re currently kind of training peer supporters who will then be in different communities throughout the country starting women Veteran support groups so that’s one possible option.

Dr. Jennifer Strauss: That’s great, and yeah, and to all, several folks wrote it about the issues around social support and also peer support. I agree that seems to be a really important area from both a research perspective and clinically for us to learn more about. And on that note Molly I can hand it over to you for the final

Molly: Thank you so much. Well I’d actually like to leave it to you ladies for any concluding comments you’d like to make. I will just go in speaking order, Lauren is there anything you wanted to wrap up with?

Dr. Lauren Denneson: I just wanted to say thanks again to everybody for being on the call and sticking with us over this extended time period and I’m really excited about how many people are interested in a topic area that I believe is very important.

Molly: Thank you, Jaimie, would you like to add anything?

Dr. Jaimie Gradus: I’ll just echo Lauren’s comments and thank everybody for being on the line.

Molly: Thank you. Jennifer?

Dr. Jennifer Strauss: Um, just fabulous questions and I think that the number and the actual questions that came through I think echo just what we’re all hearing, that this is such a pivotal topic, so thank you all for participating.

Molly: Excellent. We’ll I’d like to thank you three for coming on and lending your expertise to the field. We very much appreciate it. Thank you of course to our attendees for joining us. This session has been recorded and you will receive a follow up email with a link leading to the recording as well as the handouts. Please feel free to distribute that to your colleagues. I am going to close the meeting now and as I said a feedback survey will populate on your screen. Please take just a moment to fill out those few questions, we do look closely at your response and it helps us to improve the presentations as well as the program as a whole. So once again, thank you everyone and this does conclude today’s HSR&D cyberseminar. Have a great day.

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