

Understanding the Connection Between Suicide and Substance Abuse: What the Research Tells Us Part I

September 11, 2014

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CHUCK KLEVGAARD: We're going to give you a few moments to read this. I'll read it for you, and then we'll, in a few seconds we'll- you'll be able to see an interactive window that you'll be able to participate in. So we're interested as we kick things off today looking at the issue of mental and substance use disorders predicted to surpass all physical disease as a major cause of disability worldwide by what year? So your possible responses are listed below, in terms of what year you believe that to be happening. And, again, in just a moment, you're going to be introduced, you'll see on your screen a poll that will allow you to interact with it. So this is the question we're going to be considering as we get started today while folks are continuing to join us.

All right. And simply click which year it is that you believe mental and substance use disorders will surpass all physical diseases as a major cause of disability worldwide.

Alright. Thank you for participating in today's poll. David, can you share results with us? Very smart audience today. You are correct. Those of you who selected B—2020 is what the World Health Organization, in a report promoting mental health concepts emerging evidence practice and summary report back from 2011 is projecting that by 2020, that will happen. I thank you all for engaging with us in this interactive poll and getting us started today.

The first slide you're going to see is actually your moderator today. That is me. I welcome you all to today's webinar. I'm going to give you a little bit of background in the next slide that tells you about how this webinar came to be.

This training was developed under SAMHSA's CAPT, the Center for the Application of Prevention Technologies. This was done in close collaboration with SAMHSA, in this case SAMHSA's Center for Mental Health Services contract, the Suicide Prevention Resource Center, as well.

I want to remind folks, too, in the next slide that we are recording this session so that we can extend the reach and invite to other folks who weren't able to participate in today's webinar to be able to listen to and to learn from the discussion that happens today.

In the next slide, I'm going to tell you a little bit about the agenda. We're going to start out by looking at the connection between suicide and substance abuse, in terms of the science and the research. We will then move into a discussion of what the data tell us in that same way, looking at that intersection.

Finally, we'll bring it around to looking at a socio-ecological model to understand the role of shared risk and protective factors in prevention. And then end with a discussion about beginning to think about an interdisciplinary collaboration approach to doing this kind of work together.

By the end of today's webinar, you'll be able to explain the connections between substance use and suicide. It would really be important to offer a caveat here that this is really a prevention planning webinar. So if some of you are feeling like you were hoping to get information about interventions, or how to help a friend or more clinical kinds of information, we won't be covering that. So this, again, will be very much looking at the research and the science, looking at the epidemiology, beginning to think about how we can work together.

So you'll be able to describe how various data substantiate these connections. We'll be talking about a four-level ecological model- a socio-ecological model. And you'll be able to list specific kinds of risk and protective factors for substance abuse and suicide by the end of today's webinar.

All right. I want to move now to tell you a little bit about our presenters for today. We have three panelists who will be talking with you all.

First, we're going to hear from Laurie Davidson. Laurie has managed programs supporting state, local, college alcohol and other drug use and abuse preventions, mental health promotion, and suicide prevention since 1998. Currently, Laurie manages programs at SAMHSA's Suicide Prevention Resource Center to assist health and behavioral health organizations improve suicide care and reduce overall suicide.

You're then going to hear from Craig Love. Dr. Love is the chief of Epidemiology for SAMHSA's CAPT, with more than 30 years of experience evaluating, researching and providing training and technical assistance related to behavioral health, specifically, within tribal communities. Dr. Love serves as the tribal suicide response team in his home community.

Finally, you'll hear from Maria Valenti, who is an epidemiologist for SAMHSA's CAPT, providing data-related technical assistance to states and tribes on substance abuse prevention.

In order to get us started this afternoon, we want to hear opening remarks from Richard McKeon. Dr. McKeon is the chief of Suicide Prevention Branch at the Center for Mental Health Services at SAMHSA. Dr. McKeon has spent most of his career working in community mental health, including eleven years as director of psychiatric emergency services, and four years as associate administrator clinical director of hospital based community health center in Newton, New Jersey. As branch chief, he oversees all state tribal youth suicide prevention and campus suicide prevention grant programs, the National Suicide Prevention Lifeline, [Inaudible] Connections Programs, the National Strategy for Suicide Prevention Implementation Grant Program and SPRC, the Suicide Prevention Resource Center represented here today. So in order to get us kicked off today for this afternoon, we'll hear remarks now from Dr. McKeon.

DR. RICHARD MCKEON: Thank you so much. I really appreciate that kind introduction. And I, particularly, appreciate this ability to be able to have this discussion as a collaboration. Now I'm hearing an echo. Are you folks?

C. KLEVGGAARD: I hear a little bit of scratchiness. I think it sounds better now.

DR. MCKEON: All right. So as long as you can hear me, okay then that should be fine. So let me just mention a couple of different areas that I think are particularly important for this. Historically, in suicide prevention, there has been a close link with depression. And people have been very aware of the connection between suicide and mood disorders, particularly, depression. So there hasn't been as great an appreciation of the relationship between suicide and substance use and abuse. And if we want to—as we are determined to do—to reduce suicide rates nationally, then taking into account the role of substance abuse is going to be of particular importance. And you'll get a lot of information today regarding the nature of this relationship. But, ultimately, what we want to do is to be able to understand better and to more effectively intervene with people who are at risk in order to prevent suicide. And if we don't acknowledge and understand and familiarize ourselves with the research and look at ways to partner between suicide prevention and substance abuse programs, then we won't get to where we need to go, which is to save lives.

So I'm particularly glad this particular webinar is a collaboration between SAMHSA's Suicide Prevention Resource Center, funded through the Center for Mental Health Services and the CAPT, funded through SAMHSA's Center for Substance Abuse Prevention. So we think that this is a great example of a collaboration, and the kind of thing that we need to do more of because people who work in suicide prevention and people who work in substance abuse prevention and treatment need to be able to stand shoulder-to-shoulder, learn from each other for us to achieve our goals of saving lives across the United States. So with that, I will stop and turn it back so that we can begin with the first presenter.

C. KLEVGGAARD: Thank you, Dr. McKeon. We will go ahead and get started. In the first section, we'll be looking at the connections between substance abuse and suicide from the

standpoint of science and the institutional wisdom from the folks at SPRC. So I'm going to go ahead and turn this over to our first panelist, Laurie Davidson.

LAURIE DAVIDSON: Thank you Chuck, very much. And thank you, Dr. McKeon for your introduction, as well. I'm going to assert, perhaps more than once today, that the connection here is important in the sense that substance abuse prevention *is* suicide prevention. So there's three basic areas that I'm going to talk about.

One is the relationship—the connection—and look at a few of the research articles/research summaries that discuss that relationship.

Then talk a little bit about how substances affect individuals and why it might be important to look at substance abuse, alcohol use and other drug use and the impact on the individual.

And then for prevention folks, in particular, I thought you would be interested in some population-level research that supports the connection between— in particular alcohol use and suicide in changing the alcohol environment which, in turn, reduces alcohol use which seems to have— *may* have an effect on the suicide rates as well. Next slide.

First, we're going to do another poll. So let me just read these out and then our magical technology people will launch a poll. And here is the question. *Which of these are supported by research findings?* Number One, alcohol use precedes depression in youth. Two, a higher minimum legal drinking age is associated with *lower* suicide rates. Number Three, the effect that marijuana has on sleep may be a factor in increasing suicide risk. Number Four, consequences of substance use can be risk factors for suicide. Or Number Five, all of the above. And we'll give you a moment or two to read through these on your own. Well, I guess we won't. We're going to ask you to vote on these now. So select your answer, and in a moment, we'll show you the results of the poll.

So just maybe a moment or two more for you to make your selection. And then maybe David will show us the results.

Aha! Interesting. So most of you, once again, have selected the true one and certainly the most obvious one, which came in second here is that the consequences of substance use are risk factors for suicide. So let's move on to the next slide and we're going to talk about most of those, all of those aspects, actually, as we go along.

So suicide has been spotlighted as a national public health issue, so it makes sense that we would want to look closely at two of the most significant risk factors—mental and substance use disorders. The relationship between substance use and suicide has been very well established in the research literature.

Substance use is a risk factor for suicide, both as a proximal risk factor—meaning that the person was drinking or using drugs at the time of death, or a distal risk factor—meaning that history of alcohol or other drug use contributed to the suicide. Most people with a mental illness and/or substance use disorder will never die by suicide. You have probably heard the 90 percent statistic that around 90 percent of individuals who die by suicide had a mental health disorder. But it's important to note that at least half of those mental health disorders

were substance use disorders, and I think that's often missed. And Richard alluded to that with our knowledge and understanding of the role of depression, but not so much acting on what we know about substance use and suicide. And the relationship may be more complex than what we've, traditionally, thought. Next.

And so although I'm here today as the so-called suicide prevention expert, I want to note that I started my public health career in alcohol and other drug prevention, and noticed when I came to suicide prevention that it is a relatively new field, so there isn't a vast research base that we can rely on in the same way that we have decades of research on substance abuse and alcohol and other drug use, individually, and what kinds of interventions can make a difference. So we're relying on a small body of research and also advising states and communities what programs- we *can* advise states and communities about programs that might be effective, but we also have to rely on logic and theory to develop interventions. So when I saw some of this data about the relationship between substance use and suicide, I actually got rather excited because if risk increases for those with substance use disorders alone and for those with co-occurring disorders, how can we apply what we know about reducing substance use to reduce the risk of suicide? Next.

And if we know that alcohol increases risk, how, exactly, does that happen? And whether you're working in substance abuse treatment or in prevention, it's important to have a little bit of an understanding about how. Next.

Now while we have high level data about the relationship between drug use and suicide, it hasn't been nearly as well studied as alcohol. Again, an understanding of *how* drug use might increase risk for suicide is important to look at. And I want to acknowledge my colleague, Jason Kilmer, at the University of Washington Addictive Behaviors Research Center who has offered a number of thoughts about the effects of alcohol and specific drugs. We tend to, probably, figure that substances have a disinhibiting effect, but I think that the mechanism is probably a little bit more complex. So Jason has talked about judgment and decision making in cog- in other words, cognitive processes and how those might be affected. And then an interesting piece on sleep, fatigue and anxiety and, to some extent, on mood and memory. So next, I'll talk a little bit about that.

Now I'm just going to say that this diagram that you're looking at is going to end up with arrows going through it every which way, so nothing that I am going to say or have said is meant to imply that this is a really simple issue. The connection between substance use and suicide is really complex and so goes those arrows in every direction. But some of it is- some of what I've found out that we've found out is very interesting, and I'm finding that a lot of people may not be aware of it.

Let's talk about the effect of alcohol on the individual and how that might relate to suicide-related behavior. In terms of judgment and decision making, when someone's blood alcohol is at .06 percent, their cognitive judgment is already impaired. The phenomenon called alcohol myopia—which such a great name for, comes into play—where alcohol impairs information processing and narrows attention to only the most salient internal and external cues. So we're really just focused on what's right in front of us and we're not considering the future or the consequences of our actions. So you can see that for someone who has had

something negative occur, that this narrowing of attention, this thinking only about the bad thing that just happened can really restrict thinking such that there appear to be no other solutions to the pain that they're feeling. So they begin to think about suicide, and perhaps it's not the first time; it has happened before, but they're not able to generate other alternatives to alleviating their pain because that is what suicidal people wish to do, is simply to alleviate the pain that they're feeling. So this is one way in which alcohol use, in particular, can directly affect suicidal thinking, what I described earlier as alcohol as a proximal risk factor. Next.

Then there are the more complex interactions, especially in the relationship between depression and anxiety and substance abuse, which I'm not going into that in great detail, other than to highlight one aspect of that, and that's sleep. One effect of alcohol on sleep—or more accurately, on sleep deprivation—I expect you all probably already know the factors that affect absorption of alcohol—the rate of consumption, whether there's food in the stomach, even gender. The only factor—and I repeat—the only factor affecting the oxidation of alcohol is time. So once a person is at .08 percent blood alcohol level, it will take about five hours before all of the alcohol is out of his or her system. And at double that, or .16 percent, it'll take about 10 hours, and so on like that. This is important because of the effect that alcohol can have on sleep. Essentially, the disruption of healthy sleep patterns, in terms of both deep sleep and REM sleep can result in daytime sleepiness, anxiety, irritability, jumpiness. The following night if substance use— if alcohol use continues at any level-significant level, there's a significant excess of REM sleep, which means that much of the night is spent in dreaming, and the next day you find that fatigue sets in.

Marijuana produces slightly different effects on the sleep pattern, but with the same outcomes—daytime sleepiness, anxiety, irritability, jumpiness and over a series of days, ultimately, fatigue. And I mentioned that I would talk about mood and memory related to MDMA, Molly, ecstasy alters the brain chemistry, not just in the short term, which inhibits dopamine and serotonin transporters, which causes the flood of both into the brain. These effects on the brain actually persist for a short time after the drug is eliminated from the body, and so there are depression-like feelings, anxiety, restlessness, irritability and, again, sleep disturbances. Another important effect of ecstasy is memory disruption. And this is the one adverse effect that may be permanent, in fact, with repeated or long-term use of ecstasy.

So with all of these, a person may be unable to problem solve effectively. And, again, one of the things that people who do experience suicidal thoughts need to have is some effective problem solving, or some problems solving at least in terms of getting help. So what these effects of alcohol and drugs point to, next slide, is this, a more complicated relationship where substance use is a risk factor also for depression and anxiety. And we know from several longitudinal studies that alcohol use can precede depression. And I know that especially in youth and college students it's often stated that they drink to cope with the stress. In fact, one longitudinal study involving a sample of 18,000 adolescents found that alcohol use may precede depression in youth, contrary to what we usually assume. And the reverse—depression coming before substance use, perhaps even *causing* youth to drink to cope did not [occur], where substance use came prior to depression. Which, again, hopefully has us sort of stepping back a bit and asking well, if this is the case in youth, then how might we intervene differently? Next.

Now let's bring in some other risk factors for suicide. Suicide and substance use do share some risk factors, and there's going to be discussion of that in just a bit. But here what we're looking at is the consequences of alcohol and drug related behaviors that are risk factors for depression and suicide. The negative consequences of drinking, for example, can include relationship problems, academic or job trouble, physical and sexual violence—all right factors for depression and for suicide as well. Other suicide risk factors that might be consequences of substance use are financial loss or difficulties, or history of trauma or abuse. And hopelessness is a risk factor. And if we think about hopelessness being exacerbated by substance use, that alcohol myopia that I talked about a moment ago that would not allow a person to see any hopeful possibilities, then we could add hopelessness to the list as well.

So to wrap up, given that alcohol plays such a significant role, it would be logical to conclude that alcohol prevention *is* suicide prevention. And that's just what some population level research has found. So this is for you prevention people. It goes beyond interventions with individuals or identifying people who need treatment. But rather, looking at how much alcohol a population consumes and how it relates to suicide. So in Ontario, Canada, one study found that as alcohol consumption rose, so did the suicide rate by somewhere between 11 percent and 39 percent, depending on the location in that province.

Another, we talked about this in the poll earlier, a lower minimum legal drinking age is associated with higher suicide risk among 18–21 year olds. This was one of the theories of many great studies that were done when the states changed their minimum legal drinking ages, and they studied the differences among the states because some had not yet changed and didn't for a year or two. So that when a state has a higher minimum legal drinking age, the suicide risk is lower among 18–20 year olds among the population that with a lower drinking age would be drinking more.

Limiting alcohol availability may also reduce suicide mortality. There are two studies from the former Soviet states that showed that with a very, very, very difficult problem with alcoholism after the Soviet Union broke apart, these states implemented some significant alcohol policies at the state level, up to- that affected price and alcohol availability. And they found a significant reduction in suicide mortality that went along with that. So I'm hoping that these last studies really suggest support for environmental strategies to reduce alcohol use and other substances as well, and that prevention leaders can use this information to gain increased support for *your* efforts to change the alcohol environment, and that substance abuse treatment professionals have a bit of a better understanding of how the use of alcohol and certain other drugs can affect suicidal thinking and behavior.

And now I am turning it over back to Chuck.

C. KLEVGAAARD: Thank you so much, Laurie. Just a quick reminder for folks. As we got started today, we did mention that there's some ability to interact with polls, and we do not have a chat box today. But some of you have already discovered that there is a place for you to post questions. So, we hope that you'll hold your questions until there's a Q&A section. We'll invite all of our panelists to respond. So I'm going to remember some of the questions

that have been asked, and we'll bring them back up at that point. I can, generally, say that many of you have been asking about the recording, and yes, there will be a recording. You'll also get a version of today's presentation in a PDF document emailed to you at the conclusion of today's webinar. So those of you who are feeling like, 'I really want this information. I don't know what citation seven is,' you'll have all of that information. The citations are listed in the back. And that we, again, we will hold your questions, ask you to hold on to them until each of the panel members have presented. We will open the floor. And we'll bring some of the questions that some of you have already posted back into this conversation at that point.

So we do want to transition into the next section of our webinar today, and begin to look at what do the data tell us about this same intersection. So we're going to invite Dr. Craig Love, who is the chief of Epidemiology to take over this next section with us.

DR. CRAIG LOVE: Thanks, Chuck. Next.

Laurie has already given us some key data at the population level on the relationship between substance abuse and suicide. And I agree with her that substance abuse prevention *is* suicide prevention, to a great degree. So let's look at the next slide.

And what I would like to do is talk more about more detailed data that can give us some ideas on details we need to know in order to have effective prevention. I would caution you, though, that a lot of the data we have is somewhat limited. Sometimes they aren't really representative, for example, the national data collections have a hard time reaching some folks like Native Americans, and some special populations like LGBTQ and non-college working young adults. We have a lot of difficulty reaching them. So, I caution you always in reading these data.

There's also been a growing problem in getting responses- getting folks to respond to surveys. That's a growing problem that we've been dealing with in other surveys- other work I've been doing. So at best, our data suggest—but do not prove—a relationship. But we have to rely on consistent findings to increase our confidence in understanding the meaning of the data. And, in fact, we're getting some consistent results. Next.

Laurie talked about the co-occurrence of substance abuse and mental illness. Indeed, if you look at this Venn diagram here, it identifies a total of 20.7 million adults who had a substance abuse disorder. Of those, 8.4 million have a common substance use disorder and mental illness. And by that co-morbidity, we mean they are occurring at the same time, that they're complicated. And Laurie pointed out, it's a complex interaction. Twelve point three million of the adults who had a substance use disorder did not have a co-occurring mental disorder. If you look at it the other way, of the 12.3 million adults who had a mental illness, 8.4 million had a common substance abuse disorder mental illness, with 35.3 million not having a substance use disorder.

The interesting thing about the NSDUH results—that's the National Survey on Drug Use and Health. The results show that 18–25 year olds with serious mental illness had the highest prevalence of substance use disorders. That's 59.9 percent, and that's much higher than the

8.4 percent of the overall sample of the youth of 18–25 year olds. There's more on the next slide.

Okay, so we can see that there is a relationship between substance abuse disorders and mental illness. It's pretty clear.

Let's talk about the substance use and- substance abuse disorders and suicide, thoughts, plans and attempts. As a data nerd, I really am excited about this particular slide because it's so consistent.

If you look at the chart that's taken from the 2011 NSDUH Survey. It deals with thoughts of, plans about and attempts to suicide. And note, for example, the 3.7 percent of all adults responding to this survey actually had thoughts about suicide. But that increases three fold when you talk about substance abuse disorder. And breaking down the substance abuse disorder of roughly the same amount—10.7 percent had thoughts of suicide, but it's four times the all adult average when you talk about illicit drug use disorder. And then you combine co-occurring mental illness and substance abuse disorders, it's ten times the average for all adults, in terms of thoughts of suicide.

The other thing that's interesting about this is that the pattern similar for plans and attempts. For example, on attempts the average number percent of all adults who attempt suicide is .5 percent. With co-occurring mental illness and substance abuse disorders, it's ten times that, with 5.4 percent. So there is a relationship. And the other thing that I note in here is that the pattern across thoughts, plans and attempt are the same, but more importantly, all adults who had thoughts of suicide, a third of them, roughly, have plans. And half of those have attempts. So the pattern is the same all the way across. Look at the co-occurring mental illness and substance abuse disorders. Thirty point seven percent have thoughts about suicide. A third of them, roughly, have made plans. And half of those, roughly, have made attempts. Laurie is this consistent what you know about suicide? [PAUSE] I guess I lost Laurie. Ha ha.

L. DAVIDSON: Sorry. I forgot to unmute.

DR. LOVE: Okay. You probably said brilliant things already, right?

L. DAVIDSON: Sorry about that. Yeah. I mean, if we're thinking about a couple of research pieces of research, Powell and colleagues found that drinking frequency, drinking quantity and binge drinking were all associated with a greater likelihood of a serious suicide attempt.

DR. LOVE: Right.

L. DAVIDSON: Also there is substantial evidence in some longitudinal research that increased alcohol consumption predicts the higher frequency of suicide ideation of attempts and of completion. So the NSDUH is right in line with that.

DR. C. LOVE: Oh good, good. That's good to know. Again, that's part of consistent findings. That's what I'm thinking about here. We go to the next slide.

L. DAVIDSON: Mm hmm. Mm hmm.

DR. C. LOVE: Let's break down the substance abuse disorders that might be related to suicide, specifically, use of illicit drugs. And this one kind of surprised me, but I'm going to ask Laurie to respond to this. The most frequent one is sedatives at 20.9 percent. That's a specific psychotropic medication that shows when it's not being used illicitly, it's related to suicide.

But the second highest one—and this is the one that surprises me—is the nonmedical use of stimulants, which is 18.1 percent of those who reported nonmedical use of stimulants have had thoughts of suicide. That's higher than marijuana or any illicit drug use. Any illicit drug use is 9.4 percent, with is about half of what's the case with the sedatives, in terms of having thoughts of suicide. And Laurie, the fact that the sedatives and the stimulants are both very highly—relatively high in terms of thoughts of suicide. Is this related to the distal and proximal effects of substance use on suicide?

L. DAVIDSON: You know, I don't know, Craig. But it certainly is interesting that mood-sort of drug-induced mood in either direction corresponds, whether it's a sedative or a stimulant either way. And I wonder if that just goes back to, again, the kind of cognitive impairment that occurs with any kind, yeah. I just don't know the real answer to that. I don't know that there is any research on that quite yet.

DR. C. LOVE: Okay, but it is interesting, isn't it? There you go.

L. DAVIDSON: Mm hmm. Exactly.

D. C. LOVE: Let's go to the next slide. In preparing for this presentation, SAMHSA had asked us to take a look at any available data for American Indians and Alaska Natives. In our work as the CAPT with the Native American populations, one of the things that we're told over and over again is that substance abuse and suicide and the relationship between them are very important issues and this is at the top of their minds that they have—for small communities, in particular—they have a lot of difficulty in dealing with those issues. And, indeed, if you look at this slide, the data are quite different. The predominant, or the most frequent variables related to suicide thoughts, in this case, is people who report use of illicit nonmedical use of pain relievers—10.6 percent—actually also have had reported thoughts of suicide in the NSDUH Survey. The marijuana use and any illicit drug use are all also predominant, in terms of what they report in using and in terms of having suicide thoughts. But you go up to sedatives, which also shows up very high, but use of stimulants did not show up. I want to point out that this addresses illicit drugs, and does not address alcohol with Native Americans. And we'll look at that in a minute. Let's go on to the next slide.

We have more information on some data related to American Indians/Alaska Natives. And that was sent to you yesterday in the handouts, so feel free to take a look at those. Let's go on, then, to the next slide.

And talk a little bit about alcohol and suicide- deaths by suicide. These data are coming from the National Violent Death Reporting System. Notice that for overall population, alcohol dependence is roughly 18 percent, and that's going to be important in the next slide. And other substance abuse problems 15 percent of the deaths that they report are related to alcohol and other substance abuse. According to the data they have, 67% had no alcohol dependence or substance abuse involved in suicide deaths. But, notice there's only 17 states reporting, and there's a question about how representative that is. But there is some interesting findings, even in those 17 states. We'll go to the next slide.

This is with American Indian and Alaska Natives with the same data set. Instead of the 18 percent, it's 26 percent alcohol dependence was involved with suicide death. And other substance abuse issues were only 9 percent. And that's consistent with what we found earlier on, in terms of the suicide thoughts. And again, the pattern's roughly the same in the sense that no alcohol dependence or substance abuse was identified to be involved with a suicide death. But the question is, *How representative is that of the populations?* And the thing that bothers me about the 17 states if you look at the 17 states, none of the plain states, or only one of the plain states is involved. And that's where a lot of the tribal groups are. And that's a lot of the groups we work with have identified suicide and substance abuse as a major problem. So that's a concern. And if you look the number of cases involved here are only 168. Let's go to the next slide.

This is another one that excites my nerdiness. If you look at the planned suicide, you see that roughly the non-drinker and the current drinker—that means 30 day alcohol consumption at least once—are roughly the same. But when you get the binge drinkers—and Laurie mentioned this, binge drinkers—it was much higher; 70.3 percent of those report binge drinking also reported having planned for suicide. And if you look at the attempts, that's the red lines. The blue lines are the planned, and the red lines are the attempts. Of the non-drinkers, 14.6 percent said that they had an attempt. Almost double that for current drinkers have had suicide attempts. For binge drinking, 73.6 percent of the binge drinkers have reported attempts at suicide. Now you've got to keep in mind that the proportion of people who report attempting suicide is much smaller in the [Inaudible] population roughly 20 percent of all the respondents on the YRBS have reported an attempted suicide. Keep in mind that we're talking about youth. And I wanted to take a look at some of the youth. We had a little bit of data on that, and this is youth under 18. Next slide please.

We also took a look at comparing the Native American and Alaska Native populations and the general population, in terms of responses around major depressive episodes, which are somewhat related to suicide. If you notice that in every case with substance abuse dependence, drug dependence, alcohol dependence—all three of them show that the American Indians/Alaska Natives have had more depressive episodes. The alcohol is 20 percent of the folks who have reported alcohol dependence who have used also have reported having a major depressive episode. And these are all defined in terms of questions that relate to the [DSM4] criteria for alcohol dependence and major depressive episodes. So these are part of the data and, indeed, they support the information that we've received from the tribal communities dealing with them, in terms of the CAPT and that it is an issue for them. I hear a voice. Yes, Chuck?

C. KLEVGAAARD: I want to pose a quick question to both panelists who've spoken so far. First, to Craig. One of the things we've begun to understand in this webinar is that Native American youth seem to be at significantly higher risk. In fact, some places in the country, two and a half times the risk as frequent as others, with regard to suicide. I wonder if you could shed some light on what some of the things that are happening in Indian Country might shed some light on this, and then also invite Laurie Davidson to share any of her wisdom on that question.

DR. C. LOVE: Okay. There's a lot of poverty, unemployment, other risk factors for substance abuse and depression in tribal communities. But there's another major issue that kind of permeates American Indian/Alaskan Native culture, and that is in relation to the historical trauma and the major shifts and conflict, in terms of the cultures in which they live. Every young person who grows up has to identify who they are and they relate to various mentors and such. And in some cases, the youth are at higher risk for having communities and environments that are, well, there are some problems with alcohol in the communities. And when they see that, the youth, they see the problems that the adults are having and they're in the middle of identifying themselves and creating their own understanding who they are, and they're people of color and they can't really be in the White community and the Native community doesn't look so pretty for some of them. A lot of youth are struggling with that, well it's a problem. What I'm trying to address is why it's a problem for a lot of the American Indians/Alaska Natives, but not for all of them. But the identity crisis is where I think they are at higher risk, particularly, in the 18–25 year old group, which are the highest suicide rate in Native American communities. Laurie?

C. KLEVGAAARD: Thank you for that. I wonder, Laurie, would you be able to shed further light on why it is that our youth in American Indian/Alaska Native communities might be at higher risk?

L. DAVIDSON: Well, this is not an area of my expertise, but I would add to what Craig mentioned that barriers to health seeking like distance might be factors. And but there's a real need for culturally competent health practices. We also have seen that a commitment to cultural spirituality may be associated with a reduction in suicide attempts, so that's what I have to add here. You're correct. The rates- suicide rates among Native American youth, 10–24 are two and a half times higher than among White youth of the same age.

DR. C. LOVE: Right.

C. KLEVGAAARD: All right. As we close out this section on data, I want to thank Dr. Love for shedding some light on these numbers and looking at what the data tell us. In transitioning into the next section, we'll invite you all to take a poll that will begin to shed some light on what we do with this information? And so for you as a participant, that slide asks the question, *Which audience in your community need to understand these data the most* that you just heard Dr. Love talk about? All right so, again, here comes that poll. Audiences in your communities that need to understand these data the most.

As you're checking away those boxes, I can tell you that in our early work on this, we had lists that were much, much longer of potential stakeholders in our communities, or important

critical audiences. So, know that this is not a comprehensive list by any stretch, but a beginning to think about and have you all begin to identify where are the audiences that are most important to you.

And David, you can go ahead and close that poll out for us and bring us back.

All right. I see folks all over the board, with lots of folks feeling like Parents need to get that information. Other categories are very high. Primary care. Schools. And, again, if we had that other category there, it would certainly show up. So I appreciate and, again, want to thank Dr. Love for taking us through the data. We're going to go ahead and move into the next section and the next slide, which has to do with beginning to look at understanding a socio-economic-ecological model to begin understanding the role of shared risk and protective factors in prevention. So I'm going to go ahead and turn this section over to Maria Valenti.

MARIA VALENTI: Thanks, Chuck. I'm going to talk about the socio-ecological model for shared risk and protective factors. And some of these risk and protective factors Laurie and Chuck and Craig already alluded to, so it should sound a little familiar. Next.

We've been talking about risk and protective factors, but I just want to make sure everyone's on the same page. Risk factors are the characteristics that precede and are associated with a higher likelihood of problem outcomes, while protective factors are the characteristics that *lower* the likelihood of problem outcomes, or that reduce the negative impact of a risk factor. And similar to risk factors, protective factors also precede problem outcomes.

Now, understanding shared risk and protective factors for both substance abuse and mental illness, including suicidal ideation or attempts, can provide guidance for interventions because decreasing shared risk factors and/or increasing these shared protective factors should decrease suicide risk, as well as substance use.

The risk factors I'm presenting today are distally related. And that means that they're not direct warning signs associated with suicide that demand immediately clinical intervention. But when addressed, can impact suicide and substance use over time. Next.

All right. So what does that overlap look like? Next.

So there are many ways shared factors can be categorized. The ecological model allows for a more inclusive examination of the multiple effects and interrelatedness of social elements in an environment across the lifespan. Individuals don't exist in isolation, as we all know. They're part of families, communities, society. The model you see here is based upon Ecological Systems Theory. Each level operates within and is influenced by the next level. The ecologic model that we're talking about today includes the following levels.

The individual level. And this level includes the biological and personal history factors, such as age, education, income, health and psychosocial problems.

The relationship level involves a person's closest social circle. And that's peers, partners, and family members.

And the community level, that's the settings, such as schools, workplaces, neighborhoods—the places where the social relationships occur.

At the outermost layer, the societal. That's where the social and cultural norms lie. And broad health, economic, educational and social policies becomes important.

In the next few slides, I'm going to point out some examples of shared risk and protective factors as they present themselves at these different socio-ecological levels, or domains. What I'm going to present is not a comprehensive list under each level, but just some examples. Next.

Starting at the inner level and focusing on the individual and relationships. For one, research demonstrates that adverse childhood experiences, which entails emotional, physical and sexual abuse. Emotion and physical neglect at the individual level, but also at the family level, such as household dysfunction. In general, the more adverse experiences encountered, the poorer outcomes and the greater the risk.

I'd also like to mention unemployment. Unemployment adds to suicide risk, but doesn't, necessarily, cause suicide by itself. Individuals may be unemployed because of mental health and/or substance abuse problems, which are also associated with increased suicide rates. Conversely, people who are unemployed may also feel financial strain, which can lead to depression as a result of perceived loss of control. It can result in shame, humiliation or despair, and in that context can precipitate suicide attempts, especially in people who are already vulnerable, or don't have the sufficient and supportive resources. In addition, in most—but not all cases—mood disorders such as major depressive episodes are among the factors that increase vulnerability. Next.

At the community level, a shared risk factor includes chronic community disorganization. And that means vandalism, vacant housing, litter or trash on the street, high perceived crime. This disorganization often coincides with a greater population that experiences elements of depressive symptoms, a mental illness associated with suicide. In addition, the neighborhoods where children witness violent crimes are associated with higher suicide attempts for the children. Research results also indicate that community disorganization is an important risk factor for alcohol, tobacco and other drug use among middle school students. Next.

At the outermost societal level, currently, the literature is limited, with regards to cultural risk factors that are shared between both substance abuse and mental disorders. And there's considerable variation that occurs from culture to culture. Research [and] inculturation is nuanced, and at times, the research conflicts. For example, it can sometimes elevate risk, but sometimes increase protection, depending on the varying levels of inculturation/assimilation to the dominant culture. Research that we do have demonstrates that perceived discrimination and historical trauma—like Craig mentioned earlier—impacts risks of both substance use and

suicidal ideation and attempts. Some of the research draws from studies focused on Native American populations, as well people who are lesbian, gay, bisexual and transgender. Next.

Protective factors. These are the characteristics that lower the likelihood of problem outcomes, or that reduce the negative impact of the risk factors.

At the individual level, religiosity focuses on the importance of religious beliefs and that religious beliefs can influence how a person makes life decisions. It can be protective for both youth and adults. For example, research demonstrates that youth who pray often and believe religion is important may exhibit less substance use, as well as have lower probability of having had suicidal thoughts or having attempted suicide.

Outside the youth population, studies have also demonstrated that being religious is protective against substance use and psychological distress for adults.

New research suggests, however, that self-control actually mediates, or intervenes, in the relationship between religiousness and a variety of substance use behaviors. Self-regulation or ability to cope becomes a protective factor. Self-regulation refers to the ability to plan and achieve delayed adaptive outcomes through those direct behaviors.

Research demonstrates that the rate of growth in substance use was higher among youth who showed increases in poor self-control, and lower among participants who showed increases in good self-control. So having a healthy self-control [can] help.

In addition, research suggests that people high in self-efficacy and the capacity to obtain resources with adaptive coping skills are at a reduced risk for attempting suicide. Program and emotion-focused coping were associated, positively, with reasons for living, and negatively with suicide ideation. Next.

Outside the individual level, research has demonstrated that relationships can buffer and protect. This level includes the close relationships. For example, parent/family connectedness has been demonstrated to protect against emotional distress, suicidal thoughts and behavior, violence and substance use. And among Native American adolescents, both male and female youths who discussed problems with friends or family and demonstrated connectedness *to* family were protected against suicide attempts. And related—and not surprisingly—social support referring to the feeling that people care about you and that you matter to them becomes protective. With both youth and adults, research suggests that it can protect against substance abuse, mental illness and suicide attempts. Next.

The next level—the community level—includes the settings, again, like the schools, workplaces, neighborhoods where social relationships occur. One major social setting for youths is school. They spend many hours of the day there, and it can impact and reduce the likelihood of substance use and mental health issues, such as suicidal ideations and suicide attempts. For example, research on middle school students and adolescents demonstrates that children with higher levels of perceived teacher support had a significantly lower risk of alcohol initiation. Also research demonstrates that positive feelings towards school are associated with absence of suicidality and hopelessness. In addition, schools that have teachers who use proactive

classroom management techniques are associated with reduced crime and substance use. Next.

Okay. The outermost layer, the societal level. Again, this level includes social and cultural norms, as well as policies. Like risk factors at this level, the literature is limited with results to- with regards to cultural protective factors that are shared between those substance abuse and mental disorders. And there's considerable variation that occurs from culture to culture.

Research with the Native American population has demonstrated, however, that the youth involvement with traditional activities were associated with absence of suicidality, especially for boys. Inculturation—meaning involvement in and identification with Native American culture was protective for parents or caretakers of children with alcohol abuse, as well as American Indian youth living on or near reservations thinking about suicide and drug abuse.

Before I finish up, I'd just like to mention that in general, the risk and protective factors I've presented can be population dependent. So it's important to identify the shared risk and protective factors for *your* target population. You may need to do some further investigation on the unique factors that are shared for the population you're working with because the factors may manifest, uniquely. You want to make sure you address appropriate shared factors so you can be more likely to impact and reduce the likelihood of substance use, suicidal ideations and suicide attempts. Okay, so that concludes my section, and now I'm going to hand it back over to Chuck.

C. KLEVGAAARD: All right, and thank you very much, Maria. As you just heard, there is a multitude of reasons for us to think about collaborating across task forces and coalitions in health departments, all of us that are working on one or the other or both in these situations of dealing with both substance abuse and suicide. Again, there's so much incredibly helpful information that the three panelists have shared about—the why to collaborate, and how to begin thinking about that collaboration across disciplines. As we transition into a Q&A, and then invite you one more time to participate in a couple of polls with us, again, will kind of spark that thinking.

The first poll that I'll invite you to respond to in just a moment will be thinking about the benefit to collaboration across disciplines that are most important to you. And, again, we may not have every answer up here, but we think that we have a couple things that seem to have come up a lot for folks along the way today.

After we close that poll, we'll show you the results and close that poll out. Then, we'll bring up another poll asking what are some of the challenges to collaborating across disciplines that may or frequently get in the way, for those who are already attempting that sort of collaboration? The information from both of these polls today will be invaluable to us as we move into webinar Part Two, in October. So for this first poll, let's begin with that one. David will bring up that poll.

All right. David, how did we come out on this one? Greater impact on individual. Again, very encouraging to think about the more we can help, the more we can prevent both issues at the same time. Incredibly important, as well as in very sort of tight times in many

economic communities that the better use of resources. Being able to deal with problems in a new way. All great responses.

So now let's look at what some of those challenges might look like for us. So the next poll that we have asks you a couple of questions that have to do with what might get in the way, or what does get in the way when we attempt to do this. And then we'll shape our next webinar around some of these responses for you all.

Quick qualification. I think the issue of different language means a lot of things here, including different language between disciplines. I think the language we use in substance prevention isn't always the same terminology that we use in medical fields or in suicide prevention or in clinical settings. So if you think about all the variety of disciplines, sometimes we all have different jargons, and language differences could also mean that.

All right. David show us what showed up, what challenges. Well, time and turf being neck and neck, both thinking about our own scarce resources and being able to talk to folks about the benefit and value added of working together, leveraging resources together is always interesting. And, again, the issue of time. How do we address those? Just seeing, again, a sort of looking at the issue around leadership. And, again, some of that will get addressed, for sure, in the next one about how do you get started, how do you move out a more single or narrower focus to a broader focus on shared risk and protective factors is something I think a lot of folks are doing, both in health departments and coalitions, as well as task forces and lots of public health settings are looking at this buzz word of shared risk and protective factors. I think it gives us a nice way of thinking about how to get started, as well as making the case for working across disciplines in various ways.

This last section of our webinar today is, purely, that Q&A, that opportunity for you to go back to one of our panelists and pose a specific question. So many of you have asked questions along the way. As we move into this last section of Q&A, again, I'll remind you Laurie Davidson comes to us from the Suicide Prevention Resource Center. Dr. Craig Love is chief of Epidemiology with SAMHSA's CAPT. Maria Valenti is the regional epidemiologist for the Central Resource Team of the CAPT. Each of them presented a section of today's webinar. And so I will now begin to pose some of the questions that I see rolling in.

One of the first questions I see, back to Dr. Love. Do we know much more about the 17 states that participated in the survey that you mentioned?

DR. C. LOVE: Yes, I know that the states include several of the northeast states and I believe Texas and the plains. I believe it was one of the Dakotas and Illinois were also involved. But most of the states were kind of on the east side. That's all I know right now. I could look up the states that were involved and see if I can get back to you and let you know in a minute.

C. KLEVGAAARD: There's a question about best practices, asking, specifically, which best practice alcohol prevention strategies are associated with lower suicide rates, apart from

drinking age of 21. Could either Laurie or others acknowledge other kinds of best practices that may have impacts on suicide rates?

L. DAVIDSON: This is Laurie. I don't know that there is much in the research literature similar to the minimum legal drinking age study that shows suicide rates in addition to alcohol consumption. But the assumption, if you put all of it together, all of what I was talking about—really just the tip of the iceberg—if alcohol use is a risk factor for suicide, and if when you intervene to lower consumption the suicide rates go down, one could assume that the universe of alcohol prevention programming that is available, from a public health perspective, particularly to change the alcohol environment that affects consumption at a population level. So you'd be looking at working- most of the 500 people who are on the webinar today, have probably worked in one or more of these areas in the past, working on local- and state-level coalitions to look at law enforcement, to look at sales and service, bar owners, servers, liquor stores, passing local ordinances or state laws that affect the availability of alcohol, sometimes do pricing, sometimes do hours and days of sale, looking at partnerships with state hospitality organizations. The CAPT, I know, is going to have a lot more to say about that, as that's their focus. But those are the kinds of things that I think of when I'm thinking of making a large impact on alcohol consumption and its negative consequences.

C. KLEVGAAARD: Thank you, Laurie. I would remind folks, too, that certainly SAMHSA through the CAPT and through CMHS's SPRC maintains lots of really important resources on the web site, those respective web sites where the CAPT and SRPC there are best practices, registries and links to all kinds of ways to identify best practices. So thank you, Laurie for that.

Another question for Dr. Love that has to do with emergency room data. *What data might indicate people who overdose and report to the ER as a suicide attempt, due to legal issues they may be facing?* Maybe not wanting to report using drugs. So wondering is there an intersection with ER data that has to do with concern about either stigma or law, with regard to drug taking behavior. What do we know about that?

DR. C. LOVE: That's certainly an issue, and that's why the data are, at best an indicator. Because people are reluctant to report that and even if there's a death, there's going to be reluctance to report it, particularly, if people have insurance and an insurance policy. It does not fund the family- provide the premium if they, in fact, commit suicide. That's usually an issue. So there are legal issues because it's in some states illegal to commit suicide, or attempt, and people get arrested. That's for sure. So there is a lot of issues with the data in that respect, yes.

C. KLEVGAAARD: All right. Thank you, Craig. A question for either, probably more if we start with Laurie that looking at the model of recovery that might apply for substance use disorders, does that extend to a suicide attempt survivor? What do those models look like, in terms of recovery, if we think about it that way? Are there similarities there?

L. DAVIDSON: That's a very interesting question. I don't know what the similarities are between someone who's recovering from substance use, and someone who's a suicide attempt survivor. The term recovery is being used quite broadly now, across not just substance abuse but also mental health which, I think, has been a positive direction. But there's a very important interesting new initiative that was launched just this year to give more attention to attempt survivors and those who I think we're now thinking in terms of those with lived experience of having either had suicidal thoughts or having attempted suicide. So I think that's something you can look to in the future. Right now, it's more people sharing their experiences. I don't know of any research that compares the two. Just as a side note that may be related, there is a SAMHSA issued one of the TIPs series, Tip 50, which is a guide for substance abuse counselors around what to do when they have suicidal clients. So that's just a resource that I thought perhaps the person who asked that and others might be interested in. But the recovery issues may have a lot of similarities. I just don't know if that's the case.

C. KLEVGAAARD: Interesting question, and thank you, Laurie.

L. DAVIDSON: Yeah, it was.

C. KLEVGAAARD: So bouncing back and forth, Craig, do we know anything about illicit substances, in terms of their relation to suicide, separate from those legal drugs, like alcohol?

DR. C. LOVE: Well, the evidence we have from NSDUH suggests that the use of illicit drugs creates a greater risk for suicide thoughts and ideation and actual attempts.

C. KLEVGAAARD: Thank you. Let me post this back to either of you. What's showing up a lot in the questions as I pan through them is that this information is impactful, and folks wonder if parents really understood the last hour-and-a-half conversation that we would be having and that they knew that this impacted mental illness—in particular, suicidal ideation—if they understood this relationship, would it matter to parents? Would it make a difference, in terms of their role as parents in dealing with alcohol and children? I don't know what we know, if anything, about that. But Laurie or Craig, what are your thoughts?

L. DAVIDSON: Well, this is a great question because this goes right to—I'm sorry, Craig, for jumping right in—but this goes right to my story as I'm getting excited about this relationship between alcohol and mental health and suicide quite a few years ago and that is that this. I talked really briefly about this study, earlier, by Denise Halfours and others who studied around 18,000 youths in the Youth Risk Behavior Survey. It was a time study, so a lot of the literature on the relationship between alcohol and depression, for example, is not—doesn't take samples at two different times. So with this, what was so powerful—so there's all sorts of correlational stuff out there, but it doesn't, necessarily, show a directionality. So everybody assumes that, especially among, youth and college students, that most of the drinking is because they're stressed and they're drinking to cope. When this Halfours study came out in 2005/2006, the actual title of this peer review journal article was, "Which Comes First?" You know, sort of like the chicken or the egg. And I feel that if parents, if college administrators really understood that the crisis they're seeing, in terms of mental health issues on campus was possibly being driven by alcohol consumption and to some extent,

drug use, then they might have to think differently about alcohol use and, perhaps, get more serious about alcohol prevention on campus. But to answer the question, I think if parents understood that alcohol use could come first, and that it did in this study of 18,000 youths between seventh and eleventh grades, and that it didn't show the opposite to be true, in other words—and this was true of a number of behaviors, that depression followed alcohol use; it followed tobacco use. If youths binge drank, they were four times more likely to be depressed a year later, than those who were not drinking at all. So sexual behavior was also implicated, that people would- weren't indulging in unhealthy sexual behavior because they were depressed. And that's so counterintuitive that you would be depressed, later. But it's kind of astonishing, and I do think that parents might be more concerned about mental health than they might be about alcohol, which for reasons [Laughs] I have- I'll confess to a frustration around the continued belief of our society that excessive alcohol use in youth is some kind of silly rite of passage that everybody just goes through and everybody's fine. Everybody isn't fine. And I think this data could be very powerful with parents.

C. KLEVGGAARD: Thank you again, Laurie. I see a question about from the standpoint of folks who work with geriatric populations. Do we know much about research or data that might illuminate the behavioral consequences of mental illness and addiction issues in the course of a lifespan?

DR. C. LOVE: Actually, Laurie could answer as well. But I do know that some of the data suggests that the second highest suicide rate—in terms of thoughts and plans and actually attempts are with the older population, 65 and older. That much I know. And Laurie can talk about where it came from, and why that might be the case. How's that for a passing?

L. DAVIDSON: Thanks, Craig. That's a *huge* question and so general. All I can add to that, from what I know, is that suicide rates among middle-aged, the middle aged, are of concern as well. I don't know that I am aware of any data showing, specifically, the relationship between alcohol use or other drug use in middle-aged people and how that relates to either mental health or suicide or suicidal behavior. But just to sort of jump off the previous discussion related to this data about youth, in terms of alcohol use coming first, followed by depression. It's not clear how applicable that would be across an entire age span. You know, it might be useful for our work with youth, but at a certain age, I'm not sure that we could tease out that relationship because of drink/depression, drink/depression and you're kind of on a cycle by that point. So there was one super interesting study that was done around anxiety. And it was very small, if I remember it correctly. It was a number of men who I think were recruited from a bar, and they dialed in, they used a telephone survey system and every day dialed in their alcohol consumption and their anxiety level. And, again, what was found is that days *after* they'd consumed alcohol the night before showed higher levels of anxiety than the reverse. So higher anxiety didn't lead to more drinking, at least in terms of the in terms of timeframe. I think they bundled two weeks at a time or whatever statistical method, which is another- an area I'm not an expert in. I remember finding that extremely interesting. So maybe it's more on a day-to-day level we are underestimating the effect that using substances has on our mental health.

DR. C. LOVE: I agree with that. And that has a lot to do with our ability to collect information on that end, as someone who asked the question before pointed out that there may be reasons legal and other ethical reasons, as well as self-image, etcetera that prevent people from reporting their substance use.

C. KLEVGGAARD: Craig and Laurie, I see kind of a theme emerging in the question section. Again, a lot of dialogue on interest about looking at historical and intergenerational trauma. And I think, again, we've painted a somewhat of a bleak picture. And I wonder if we can kind of take it in a little bit in the other direction and talk a little bit, Craig, if you know something about how Native American folks are healing in their communities. What's happening in Indian Country? Are there some positive things happening with tribes on reservations in Indian Country that actually shed some more hopeful light on that population?

DR. C. LOVE: Well, okay, I'll jump in here first. The issue about historical trauma is consistent with- I would say has a parallel to the Soviet issue- communities that Laurie referred to, in the sense that there's a major culture change, and then people need to adapt to this culture change when they went and lost the Soviet and went to an independent country, in terms of the Soviet countries.

In Indian Country, they have undergone a cultural transition, to some extent. An ongoing issue is how much to accommodate the new culture? How much to stay with the tradition? And that's an ongoing debate, and it's more prevalent in some communities than others. In my experience, the urban communities tend to have more acculturation than the more rural ones. But the issue remains that if you think about it, in terms of being taken over, the roles of the men have changed. They have been reduced. They, at one time, were key to the functioning of the community. And that's changed. They had things to do. They had responsibilities. It's changed and as a result, the drinking, I think in this case anyway, I think the drinking became a way to cope. The drinking created disruption in the family. The subsequent generations are feeling that disruption, and have problems in the family, see violence and all that sort of thing. And then they cope with it by drinking, etcetera. And so it kind of accumulates, in terms of the historical trauma has an impact on the immediate experience of trauma. And there is a lot of depression in many communities. I've got to point out, however, that I can't talk about Indian Country. I can talk about some communities. I can talk about some categories of communities. But I can never talk about each one being all the same. There's 567, I believe, recognized federal tribes and villages in American Indian/Alaska Natives. And so to talk about all of them is sort of a disservice, so I've got to talk about some of the risk factors and some of the issues that may occur in some parts of Indian Country, but not all. I want to emphasize that.

C. KLEVGGAARD: There's a question about the potential role for screening. Do we know anything, in terms of screening brief intervention on the alcohol side. Are there implications for thinking about screening in a more general way that might help us identify folks with either problem, or both? Is that being done anywhere?

L. DAVIDSON: It's funny. I would say, for example, having just recently visited my own primary care doc and having had the screen for- so I got the PHQ2, which is the two depression questions. And then I happened to answer positively on one of them in order to be

truthful, and so I got the full PHQ9 screen, where the ninth question is a question about whether a person has had thoughts about killing themselves which, I had not, so I could truthfully say no. And so that was kind of the end of it. And my primary care doctor is very well aware of my issues, but I also got the alcohol screen. I don't know to what extent any—just taking primary care as an example, puts the two together. Certainly, the preventive services—and now I'm blanking on the exact name of it, and if Dr. McKeon is here and wants to chime in—has, I believe, recommended that for anyone who is under treatment for a depression or substance abuse diagnosis should also be screened for suicide. I'm not sure to what extent that actually occurs. But there is a very significant project going on with zero-called Zero Suicide in Health and Behavioral Health Care and I think we'll learn more about that as we work with that. I'm noticing that we're out of time.

C. KLEVGAARD: Yeah, I appreciate everybody's questions today. Would like to, again, thank all three of our panelists—Laurie Davidson, Craig Love, Maria Valenti. Also would like to, again, thank Dr. McKeon for making introductory remarks, setting the stage for today's conversation. Our next webinar will focus on looking at some of the best practices, interventions for addressing shared risk and protective factors for substance abuse and suicide. Dealing with strategies for overcoming challenges of collaboration across disciplines to address both issues.

The exciting part about the next webinar is we will hear from community-level folks who are engaged in this process, that have formed these collaborations, have started working together, or fit into a model where they're addressing both problems from one organization or agency, in terms of doing this sort of co-located approach. So working on both and infusing ways to support both issues by focusing on shared risk and protective factors.

So next slide please.

You will receive an email, and I'll remind you all at this stage, as well, that you will receive today's materials. So you'll get a PDF of this particular webinar today. We can resend the handout that is the presentation, along with the handout that Craig mentioned early on about looking at some deeper level data around American Indian/Alaska Native folks.

I appreciate that you all took the time to interact with us today. As part of that email, you'll get a request to participate in a survey, providing us some feedback about today's webinar. That will come from Michelle Cummins. It will be a quick and easy Survey Monkey kind of response, so it'll know that you'll be able to click on that link and move through some responses and give us, again, some incredibly valuable information about today's webinar that will inform the next webinar, that will also kind of inform the way in which we try to deliver and disseminate this kind of information in a broad way.

So we'd like to thank everybody, again, for participating in today's webinar. And we will see you all again in October. You'll get the announcement about that webinar, the particular date and all the connection information will come back out to you, as well. So know that you'll be getting a series of emails from us. One of them about this evaluation, and then the next one about encouraging your participation in the next round. We'll try to look at and pick up any

questions that we missed today in that next webinar. And, again, you all have a terrific afternoon. Thanks to our panel, and thanks, Dr. McKeon. Goodbye.

[END OF AUDIO]