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Suicide Prevention Branch's Research Highlights Podcast Series

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PROCEEDINGS

DR. CHELSEA BOOTH: Thank you very much. Welcome to the Research Highlights Podcast Series, presented by the Substance Abuse and Mental Health Services Administration, Suicide Prevention Branch. This series is part of an effort to bring research findings with crucial public health significance to the prevention and treatment community. I'm Chelsea Booth, Public Health Advisor at the Substance Abuse and Mental Health Services Administration, and your host.

So today's episode features Dr. Eric Caine, Chair and John Romano professor in the Department of Psychiatry at the University of Rochester Medical Center, and co-lead of the Impact Group, which is part of the National Action Alliance for Suicide Prevention. He's here to talk to us today about his role as PI of the CDC-funded Injury Control Research Center for Suicide Prevention.

Dr. Caine, we are delighted to have you here today.

DR. ERIC CAINE: Well, it's a pleasure to be able to join you and to have an opportunity to talk about this important topic, which certainly is central to the work of a lot of us, and very much a part of this Center-without-Walls what we call the Injury Control Research Center for Suicide Prevention.

So let me take a few minutes and try to, both layout the background of this work and our philosophy and really put it into perspective because it fits within a broad mix of efforts across the United States that are being devoted by really many talented and

committed individuals to the task of preventing suicide. The Injury Control Research Center for Suicide Prevention is one of 11 CDC-funded injury control Centers. And these really existed, going back to the late 1980s. CDC has a major commitment to injury prevention that historically was around things such as road traffic accident, non-intentional injuries, looking at homicide, and other kinds of violence.

It's very clear that suicide has always been on the radar, but with this funding of this Center in August of 2012, CDC really moved into a very different framework for approaching this because these injury control research centers are really part of sort of the crown jewels of the organization. We have a Center-without-Walls. That means it really involves multiple partners. The two main sponsoring institutions are the University of Rochester Medical Center and the Education Development Center. We have very different areas of expertise. The URMC operation here in Rochester has a history going back to the 1980s of doing suicide-related work, work that's informed by the perspectives of severe mental health issues and a delivery of mental health services.

CDC is really a very dynamic and diverse organization, particularly brought to this application, its background in working with states and localities on public health matters, and also really having a deep commitment to exploring the area of violence and violence prevention. And so we formed an alliance, which is really collected around this notion of what some people call the new public health. And this grew out of WHO in the mid-1990s. And it was really an effort to compare and contrast with what we might call traditional public health, but focused on things like water and food safety,

communicable disease control, emergency responses. And we certainly know that that kind of public health is very, very important, what with natural disasters and floods or Hurricane Katrina or Hurricane Sandy, or any of the kinds of things that are really challenging in people's lives. And obviously, there are very substantial roles to public health in that area, or the fact that when we drink water, we know it's clean.

But public health really goes beyond that and looks at nations, and regions and communities in a way where it's essential to include the health of individuals, as well as the health of populations. So this may, in fact, depend on social policies and programs, such as access to clinical care, access to mental health services. And then what we might call, you know, national, regional, and local efforts and how they come together to raise the profile of a community's health challenges and then deal with systematically addressing those challenges.

So the new public health is something that is deeply informed our work. And really, if you had to say the overall theme of the ICRC-S, as we call the Injury Control Research Center, is to bring together the different perspectives from public health and mental health to understand how each can complement the other and inform what we want to do, in terms of suicide prevention, which is really a major national public health challenge.

Now, in doing this, we pursue or we follow what we might call an ecological model. And an ecological model is one that tries to appreciate the relationship between what happens with individuals, and families, and communities, and then at larger societal

levels. And this is a depiction of an ecological diagram, which I took, actually, from a WHO publication, and modified. That one was focused on interpersonal violence. And one of the things that we really thought it was important to do, my colleagues and I, is to really understand that there is a tremendous overlap between interpersonal violence and victimization, and suicide.

Sometimes suicide is seen as this very separate, individual, singular disconnected event. But it turns out that many of the risks that contribute to someone being suicidal: family turmoil, substance use, loss, being disconnected from others, problems with relationships, job stress, financial stress. These are also things that contribute to interpersonal violence. And we can look at this at the individual level, as a relationship level, or at broader levels: the community level and even the societal level.

And this model isn't intended to be one that is quantitative. It's rather put out there as a way of beginning to conceptualize our approach. And understand that there are really a lot of transactions. Much that flows between individuals and families and communities that are going to have an effect on people's lives. A simple example is we know that when the unemployment rate goes up, as it has in the United States since late 2007, early 2008, that this has a powerful impact on suicide rates.

Now, it's not to say that all people who are unemployed are going to die by suicide or all the people who die by suicide are unemployed; moreover, we know that when the rates rise during a period of economic distress, it isn't just unemployment. It could be the mortgage problems and the house being underwater. It could be other kinds of

financial problems. It could be family stress in the face of those, but this broad economic indicator is in fact highly tied in some to suicide rates. And we should understand that by studying those and understanding the mechanisms or clarifying the mechanisms that relate to that, perhaps someday we'll be able to develop some preventive interventions.

Now, when we think about suicide, it's really important to realize that there are multiple, as I said before, complimentary ways in which people try to approach the problem and try to make a difference in people's lives, that clinicians and health care workers and community workers, and helping professions of all sorts are really committed to changing what we would call the distribution of suicide in the population. And so the next four figures, this one and three that follow, are intended to kind of illustrate this and explain these different approaches and then to really place what we're doing in the ICRC-S in this context.

So one might think of a population distribution and say well, there's a certain point beyond which people are at very high risk. They're beyond what we might call the mortality threshold. And certainly, we could imagine this with heart disease, right. Someone who has had arrhythmias and has clogged arteries and congestive heart failure and they keep coming back to the hospital for congestive heart failure. And we know, statistically, that if someone has recurrent bouts of heart failure that the next time they come to the hospital, you know the chances of survival may be 50/50. And that puts them at a very high level of risk, and in some ways, beyond the mortality threshold. So we can think of the same thing with suicide, and indeed, my colleagues and I do

that.

Now, there are some programs which are intended to identify and treat the people at highest risk. So imagine that you're stationed in the emergency department of a hospital and you see someone who has attempted suicide. Well, we know that people that have attempted suicide have a much higher risk of attempting again. Most people who attempt suicide don't die by suicide, in fact. But nonetheless, having made an attempt really does, at a probability level, change the chances that someone will reattempt and perhaps die.

So there is a clear cut, very specific approach which says well, if someone is in the emergency department, let's identify them. Or it could be some other setting. Let's identify that person. Maybe it's the person that the police took off a ledge. You know, obviously they hadn't attempted at that point, but they were getting ready to. Let's then follow the person, find ways of engaging him or her in care and pay a lot of attention. Hopefully that will make a difference.

The down side of that is, of course, is that many people die by suicide by making themselves quite unrecognized. Sort of laying low. Not telling other people their intention. And their first attempt is their last attempt. Indeed we know that from most people, their first attempt is their last attempt. That is to say that most people don’t try again, but those people who die by suicide typically die on their first attempt. Although, a good 30 or 40 percent will survive and go on and try again, again, again, and again.

So one approach is to try to, as it were, to engage or capture or grab the people beyond the mortality threshold and pull them back from the edge of the cliff. Now, a second approach is where you don't have the individual, per se. You know, I'm not sure which person it is who is at the edge of the cliff might be what someone says. But I know that there are populations of people, groups who collectively have very risk - someone who is in a psychiatric hospital, a person who is detoxifying from alcohol or other drugs. A person who might be in court, having had family violence and additionally drinking in the context of that, and other kinds of things.

And so what I'd do in that instance is to try to set up a program that focuses at the group, at the group level, but appreciate that we can't pick out exactly which person in that group has the heightened risk, but we know the group as a whole does. Now, we know, for example, that people with major depression, you know, clinically significant major depression, a very severe psychiatric disorder, have a suicide rate that is probably 50 times higher, roughly speaking, than the general population.

So in the United States, the suicide rate is about 12 per 100,000. And the people with major depression perhaps have a suicide rate as high as 600 per 100,000, which is really very, very substantial. But let's put it in another perspective. That means in the coming year, among a group of 100,000 people with major depression, 600 will die by suicide. That's 50 times more than 100,000 people in the general population who would die by suicide. But it also means that in the coming year, 99,400 people who have major depression won't die by suicide.

So clearly, when we focus on major depression, we know that most of the people that we're dealing with will never die by suicide, but amongst or intermixed with this group of people with major depression are some people who will. So really, in some ways, while we might say that the vast majority of people won't be affected, in terms of suicide prevention, among the population of major depression, we also have to acknowledge that they need treatment. That they will benefit from treatment. That this is a serious condition that effects their lives and impairs their function, influences their ability to earn a living, pay the mortgage, have a relationship, or grow up and go to school and graduate or enjoy a healthy old age.

So it's still worthwhile to treat the group vigorously, even when minorities of these people are likely to die from suicide. So that selective approach is a complement to what we call an indicated approach or indicated intervention. Now, the third approach is really much more of what we're thinking about, in some ways, with our center, which is a universal approach.

Now, a universal approach takes a somewhat different sort of attitude. And it says look, in a population as a whole, scattered across the United States or a community or a region, there are going to be some people who are at risk for suicide, but again, we don’t know who they are. But perhaps, we can move the whole population by helping to change their health behaviors, their patterns of interactions and a variety of things that in essence, make a population, as a whole, healthier. And in the process, draw away from that mortality zone or mortality threshold, those who are most likely going to be vulnerable.

Let me give you some examples. One might be, really, the hall approach to heart disease and acute heart disease. We know that many years ago in the 1960s, the United States had a very active building program of intensive care units. And in some ways, very much like suicide, after the intensive care units were built, there was a realization, 10 years later or so that they hadn't changed the heart disease death rate much. Not really at all. How come? Well, people realized soon enough that three out of four people died from heart attacks before they ever got to the hospital.

So we've gotten more sophisticated in the last 30 or 40 years, and indeed we can salvage, as the term is used, people who have had heart attacks. We get them to the hospital sooner or we use clot-busting drugs and the like. But the real advances came when people realized that it was possible to get people to stop smoking, change their lifestyle, increase their exercise, change their diet. Perhaps change their stress level. Do a whole variety of things. Have blood pressure screening and cholesterol screening and all sorts of things which would then feed into lifestyle changes or preventive intervention before someone was ever symptomatic.

So thinking about our description of these different interventions, this universal approach is really intended to prevent people from becoming suicidal in the first place. I mentioned how hard it is to, you know, if someone is at the edge of the cliff or the edge of the precipice, or ready to hang himself or herself, that how difficult it is to protect them at that moment, to pull them back from the edge.

Well, you know, in some ways, they said the same thing about heart disease and said well, we've got to change things years, decades, in fact, in advance. And the same thing is true. If we, in fact, help people with drinking less, developing better skills for interpersonal relationships, having primary care clinicians see them when they're in their 20s and understand that someone is already, for example, starting to drink too much or binges a lot, you know, binged in college and still is binging, now that he or she is out in the workforce.

If someone else is really starting to have some trouble with the law, these are all early indicators where it's potentially possible to say that terminology changed the person's trajectory, changed their flight path in such a way that some days they're not going to crash. And so that's part of what the ICRC-S is fully intended to do.

Now, as we do this we have to think about real communities. And we have to think about where there are opportunities in communities. You know, I talked about indicated interventions and selective interventions and universal interventions, but I understand that communities are made up of a diverse group of people, and it's really important to appreciate that every place where you look in a community, if you think about a community's social geography, has potential for capturing or engaging or encountering having the opportunity to work with some populations. But at the same time, it has what is called a sample bias, and will miss others.

So think of it this way; we know that there are a lot of school-based programs for suicide prevention. This has become pretty common in the United States. The

problem, of course, is that people who were school dropouts, and some of those are the highest risk individuals, aren't going to be affected by school-based programs because they're not in school. Same thing with the universities. We know, in fact, that the suicide rate outside of the universities, among people of that age range is probably twice the suicide rate of people inside universities. Already, the sample bias kind of thing is working its way such that we often miss, when we have university-based programs, those people in the same communities that have higher risk.

So for every geographic site and I have listed some on this slide and I will show you more on the next, for every geographic site, there are people that we potentially may be able to engage and people that we're going to miss. So that if we make an inventory of the community, if we think about a community, we can think about where some hot spots might be, but also where they're going to be cold spots.

Mental health settings are certainly, in some ways, a hot spot. People will come to mental health clinics. But we know full well that the majority of people with mental health concerns don't come to mental health clinics. The majority of people, for instance, who receive anti-depressant medication in the United States, receive those from primary care doctors. When we look at the large data that has been collected during the past 10 to 15 years, it's very clear that data suggests that people who receive care in those primary care settings for their mental health problems largely have inadequate service. Only about 13 percent, when they've been reviewed in research projects, have received what we would think of minimally adequate care. Only about half in the mental health settings. That's certainly better than the primary care settings;

it's obviously not satisfactory.

But in the courts, for example, that's a place where we know that there is a high level of what we might call community risk for suicide. Women who have petitioned the court for intimate partner violence and are coming for orders of protection, will have reported that as many as 12 percent of the men who they've been related to, the so-called respondents on the petition, have attempted suicide in the prior year.

Now, sometimes we think that's very manipulative or controlling, but the other thing that we know from the literature is that between the ages of 21 and 49, about half the men, in some studies, who are in that age group and die by suicide, had previously been perpetrators of domestic violence.

We know that from other studies that people who are awaiting trial and who have a mix of substance use and mental health problems, about 75 percent with substance use disorders and 40 percent with mental health disorder - not everybody - but about 15 percent of that population has made a serious suicide attempt in the past.

So it's very clear that a place like the court has tremendous opportunity for engaging or encountering the kinds of people that we'd be interested in if we were trying to do suicide prevention there. But at the same time, they don’t necessarily gain access to mental health settings, chemical dependency, or substance abuse treatment settings. So every time you think about a place, think about who it draws, who it doesn’t draw, and how those people would be connected or engaged into the kind of activity that

would be suicide prevention-oriented.

So part of the agenda then of the ICRC-S is to work with states and localities on just that sort of inventory, just that sort of sense of trying to appreciate how, in some sense, local geography defines or offers opportunities for intervention. Now, at the same time, you can talk about those groups that you think have higher risk. High-risk youth; the ones who, in fact, dropped out of school. For people with severe and persisting mental disorders, substance use and alcohol users or people who have attempted suicide. And then it's quite possible, as I show on this slide, to sort of track what we might call their social ecology. Where do you find them in communities? You know, what are the places that they tend to frequent if they are if they are intentionally, or because they've been arrested, for example.

What are the kinds of interventions that you might do in some of those settings and how do we understand those? And you can see in this slide that under the comment section I noted, "Insurance barriers." And it's very clear, for instance, that you might think of batterer programs as being an excellent place to encounter men who are alcoholic, or substance using, who are violent to others, and who are potentially a threat to themselves.

Now, the court may mandate that someone goes to a batterer program. And there is a lot of controversy about what works or what doesn't work in batterer programs. That's another issue for another talk. On the other hand, what's clear is that some of these people obviously need mental health services that go beyond what the batterer program

might offer. And if they don't have health insurance, they may not have any access. They may or may not be Medicaid eligible. The Medicaid in a particular state may or may not support the kinds of services that are necessary. But it's very evident that we have many structural barriers in our society that can get in the way. And community-based programs may have to overcome those if they hope to see the success, which is really what they're after.

Now, we can continue this process and think about depressed women and men, elders with pain and disability, are all suicidal people. So for example, if we think of elders with pain and disability, we know, for example, that old white men in particular are very high suicide risk. They have the highest rates among all, although their greatest burden of suicide is in the middle years. And I'll come back to that later. But it's very clear that old white men don't go to see their mental health professionals. In fact, they avoid mental health professionals.

Those of us who have done studies with old white men and suicide know that while they are the most prevalent group when it comes to suicide rates, they are also, perhaps, among the hardest, if not the hardest, to engage. I guess teenagers would give them a run for their money. But nonetheless, when we looked at data about elder men, it's very clear that 70 percent of people 75 and older, for example, and you can go down a little younger in the data in literature, it's still very similar, but 70 percent have seen their primary care doc in the last month of life. Forty percent has seen their primary care doc in the last week of life, which, you know, we would think would be an opportunity to grab them; to catch them in a net; to screen them; to do something that would allow us to

detect them.

But as I alluded to before, many people who decided to die or contemplating it, don't necessarily send out a lot of signals. They may, in fact, avoid detection. We've looked at many medical charts in the parts, where it was clear that the primary care doc was trying to do his or her best to engage the person, but, you know, you might have a conversation - as I say - it's sort of like teenagers sometimes. "How are you?" "Fine. " "Everything going all right?" "Okay. Everything's fine." Where the person may be somewhat off-putting, especially when you're asking about emotional or social factors.

And then, in fact, interviewing approaches may need to be different, depending on the age group and the person you're trying to engage. And it may well be that what the physician has to do is talk about how well they function; what activities they take part in; what their social interests are, and kind of dig a bit, without being overly nosey, but kind of interested in the fabric of someone's life, before really finding out whether someone is highly limited, isolated, and also depressed.

Now, we know that social isolation is a major, major issue among suicide for many individuals, certainly for elders. But it's also true for youth. And a lot of the work that the ICRC-S is sponsoring or is supported by, are done by investigators that are part of the ICRC-S and supported by other funds. It really relates to how to build social connections. How to help people reach out to others, but also accept the helping hand that others offer. And this can true in schools, and there is some research going on in high schools about social network development. Really, enhancing the conversation

between adults in the school and kids in the school. That is across the, you know, I call them the cliques of the school, to get some people to realize that that's not the way to go, but rather, there is a sense of community.

We've got a lot of work to do there, obviously, as a nation, as we've learned ever so recently when we heard just a few days ago about this young woman who killed herself after being really harassed on the internet by what sounded like a clique of girls in Florida. And so it's very important to realize the power of these things. But in that power, there are potentially some opportunities. So there are a number of people using social media work in our group that are part of the ICRC-S, and thinking about connectedness as major theme that potentially could hold communities and individuals together and save lives.

Now, of course, this is a really interesting challenge when we understand in the U.S. that the major burden of suicide is really in the middle years when we have what we think of as autonomous, self-reliant adults. And also in the older years where people hoped or expected their families will help support them. And so there are many, many barriers to work ahead as we think about this struggle.

Now, I want to sort of bring you back, though, as I think about connectedness, as I talk about it. As I talked about communities, it's really important to remember one of the things that I started out with, which was the notion that suicide was a reflection of a lot of other things going on. For instance, the people with major depression, even though most of them will never die by suicide, would benefit from an intervention.

And I want to sort of universal selective and indicated, although this slide is a bit disorganized, I guess because it's a Macintosh slide on a Windows program, but in any case, I think you can still see, over the on the right, that we have universal selected to indicate clinical interventions related to the notion of accumulating risk.

But underneath this risk for suicide, are some of the same risk factors for motor vehicle accidents and accidental poisoning. Think of alcohol or drugs contributing powerfully to both, as they did to homicide; especially homicide among youth and young adults where there is a lot of macho reactivism [sic], and the tendency to have aggression that's in the context of arguments and fighting and other kinds of things.

And our own work and the work of others has shown that when we look at these populations, we see that they had a path to suicide, which went along -- I would say a troubled path -- which went along a step-by-step progression in many cases. Not all of them, but many cases, such that there were ample opportunities for intervention on what it would, at that moment, call suicide intervention, but nonetheless, intervention that would've made a difference in their lives.

So for example, we don’t specifically think of alcohol prevention or early intervention with alcoholism among teenagers or young adults as suicide prevention, but in fact it is. If we can lead someone in a direction or facilitate someone in the direction, or support their efforts to get and stay sober or to change their social groups so that they're not always drinking with the same old drinking buddies or using drugs. Then we're actually

helping them move away from, or reduce the probability of suicide or wrapping their car around a tree stump or telephone pole, or a curb when they're driving when intoxicated. And while I focus on suicide prevention, to me, all wins are good. All lives saved, all premature death avoided is a win. So this is really at the center of what we think about when we talk about the ICRC-S.

So the ICRC-S has a series of cores. This is an administrative core. And I'm not showing you a slide about it because it’s kind of boring, but it basically touches on the outreach core, the research core, and our other community project. Now, the administrative core really is the hub for sort of generating ideas, continuing discussions, fostering a community of collaboration, or communities of collaboration.

And indeed, one of the things that's so wonderful about the ICRC-S is that it really is a Center-without-Walls. And not only are we closely attached between the URMC Center for the Study and Prevention of Suicide, which is one foundation stone, and the EDC, which we talked about, the Education Development Center. But we're also closely tied to the VA Center of Excellence for Suicide Prevention, which is located about 30 miles away from Rochester in Canandaigua, New York. And this is one of the VA flagship settings for really working on how to prevent suicide among veterans. Youth and younger veterans who've come back from Iraq and Afghanistan, the LAF, OIF contingents. But also older veterans from Vietnam or even older.

And so the ICRC-S is really part of what we might call a very broadly-reaching community that, in fact, includes people from across the United States. The CSPS at

Rochester also collaborates with people in other parts of the world. And with their input and ideas certainly can help us.

Now, within the ICRC-S, we have a very clear outreach expectation and process, which focuses particularly, right now, on the northeast United States, so-called the Public Health Regions 1 and 2. But in this year, this year in 2013/2014, we're going to be expanding our reach across the United States because as I said, we're the only ICRC that is focusing specifically on suicide. Two or three others of the Injury Control Research Centers have suicide as part of their activities; for instance, an injury prevention among youth or among adults, or elders. But ours is really built around this theme. And so we have a very vibrant outreach core, which does technical assistance with states and localities. I actually had an education webinar conference series, as well as a website, which you'll see at the end of this talk.

We're in the midst right now of collating the data and putting it together and starting to analyze it from an environmental scan across the United States. Trying to understand, in a very systematic way, what are the suicide prevention efforts that are underway and how the states and localities support these or not support these.

Now, it's very important to appreciate that the United States, by its very organization, doesn’t have a single national authority to prevent suicide. Now, of course, we have the Centers for Disease Control and we have NIH and SAMHSA, the sponsor of this call, and other federal agencies, but really, health care and health authority rest largely at the state level and sometimes even the county level.

So part of our job has been to try to coalesce data from across these, as well as opinions and insight and interests, and needs, as part of this environmental scan. And once we have that, we'll be writing that and publishing it. And, of course, we also have some in-person meetings, where we're getting together with state and local officials to try to appreciate their requirements for saving lives. And it's very important that we do this because one of the concerns that some people have is whether suicide, in fact, is preventable. Do we have the know-how? The sense of optimism, the drive to make this a winnable battle? And quite honestly, there are some people who worry that it's not preventable. We wouldn't be in this business if we didn't think it were. And indeed, one of the papers that I have written in the past is about, you know, the 10 reasons why suicides are a winnable battle. Now, I actually did start with number one, and didn't do a countdown from 10, but nonetheless, 10 reasons why we think there is a tremendous opportunity to make this work.

Now, the education and training core is there to prevent -- is another core. And again, I see our slides are challenged. -- to prepare scientists to conduct high quality suicide prevention work and to work with suicide state and local violence and injury prevention professionals. We call them VIPPs, and bring them together. Actually co-sponsored with the VA Center of Excellence that we did our first this May and we'll be doing an annual meeting to bring together people who work in states and localities as injury prevention professionals, with suicide researchers in order to understand what are things in common and where do they see problems that can be solved together. And what do they have that's really not in common. Now, one isn't going to have necessarily a consensus on everything but where are the things that can be done in a fashion which

will promote the field, promote health, and save lives?

Now, it’s very clear that these folks, in some ways, come from very different cultures. The violence and injury prevention professionals from states are inevitably affected by the political forces, the community needs, the recent events, fluctuating levels of state funding, and all the kinds of things that make public programs so challenging at times, especially when there's been a greater economic challenges, nationally, in the Great Recession.

Suicide prevention researchers obviously come in with an academic background. They have a certain mindset, if you will. It's almost as if these two groups are talking from different cultures, even when they're talking about the same thing, which is preventing suicide. So part of our work has actually been to bridge these. And this began, actually, in 2001, with a series of meetings, partly funded by SAMHSA and NIH, and CDC, and others. And continues to this day as part of what we're doing under our education training core.

Now, the ICRC-S has several other related missions. And one is a research core. And the research core has in it, as its described, pilot projects. Now, the Center as a whole, has pilot projects that the Center is funding. And there are two of them that are being funded right now and they'll be two more in future years. But then under the sort of broader umbrella that we've been building, there are some which are funded by grants from NIH or foundations, or CDC. And I'm going to talk, momentarily, about one of the ones that's actually a very interesting and practical project that's one of our pilot

projects.

Now, this pilot project is built to tackle or confront the core public health problems that we know underpin suicide prevention and prevention in many fields, and that is just because you've done a really neat job in a research setting, you've had people go out and do a therapy, change a health system, create a community response capability, when you do that with researchers and trained professionals, who are all engaged in this research and have a stake in it, it turns out that you typically have an overall effect, or response, or outcome that's much better, much more robust than you do when you take community members and try to get them to do the same thing. Or you take a major research site and then, you know, perhaps they're doing something in the emergency department there. And then you try to generalize it to many emergency departments, large and small and in different nature.

So that background- where we know that transferability is very difficult- really underpins this first pilot project. And in this first pilot project, what Catherine Cerulli and Wendy Cross and their colleagues are doing is to work with the national DV hotline. The National Domestic Violence Hotline. It's based in San Antonio, Texas. And what they're doing is a training project and they're testing modes of training. And they're going to try to define how you can train someone in this hotline, which is a real world hotline. It's not some research hotline. But how can you train them in such a way that the training makes a difference in what they do and that they, the hotline workers or operators, sustain those changes over a long period of time?

Now, it's fascinating, already, qualitatively, Cerulli and Cross, and others have found that the hotline workers or operators are really composed of a very diverse groups of people. Some, in fact, have come from having worked on previous crisis lines, including suicide crisis lines. Those people tend, when someone is a caller, coming in with a domestic violence and partner violence call, to ask about suicidal thinking and suicidal threats or suicidal plans, whereas, the hotline workers who came from other backgrounds and didn't have experience with being trained to talk about suicide, hardly ever asked, in fact, they were afraid that if they did ask, somehow they would put the thought in a person's mind and that the person who previously hadn't been suicidal would become suicidal.

Now, this is one the great myths that people have, which is if you bring up the term suicide, just that term will be causal in some nature, to make somebody think and go ahead and attempt to kill themselves and there are no data that show that is true. In fact, people who are suicidal thinking and are asked, tend to be relieved and feel good if someone has asked and have an opening. Of course, we know that some don't talk about it and are trying to hide the fact that they have these thoughts. And of course, the others who aren't suicidal would say I'm not suicidal.

So in the midst of this study now, they are going to be doing the training of all the workers and the hotline and beginning to examine how well the training has an effect on what they need to do to get it to be sustainable. So this is what we might call a health services research project. Very practical, very much oriented on how do we make change that can be lasting change. How do we do training that will hold up, and that

will sort of stick in the real world.

Now, the second project is a somewhat different one. And it really is related to, as we call it, linking data to save lives. It's done by Rob Bossarte, who is a socialist and scientist who has appointment in the Department of Psychiatry here, but also in the Center of Excellence in the VA at Canandaigua. I'm sure he has a lot of commuting miles on his car. So Rob is working, again, with Catherine Cerulli and others to really look at a community level analysis and try to understand if are there some characteristics of communities, which are associated with higher vulnerability to suicide or other forms of interpersonal violence.

Now, let me kind of step back a moment as I talk about this and the previous pilot project and underscore what are the three major aim or work areas of the ICRC-S. The first, in fact, is about linking data. We know that the United States collects a lot of data, but it's a hodgepodge. There are data collected by states and some are given to the Centers for Disease Control. There are data collected in communities. There are data collected by SAMHSA. There are data collected by NIH. People collect data all over the place. But they're not integrated in any way which would actually allow us to understand, at least community profiles.

Now, theoretically, and of course, this gets very controversial, you might be able to collect data on individuals in order to really develop an individual picture, if you would. Now, the biggest data collectors in the United States, despite all the controversy about NSA right now, happens to be credit card companies and private corporations that track

many people's phone data, credit card data, and online web data. And then our data venders, they sell this to people, unbeknownst to us, of course, but this is a very, very common kind of thing.

In Europe, they also collect data, but it's interesting that it can't be done by the private people, it's actually done by the public. And then there are many more explicit controls and safeguards. In the United States, frankly, there are very few. But when we start to look at these data, it's possible, without getting to the individual levels, to talk about community variations, geographic variation. And how do these vary with policies about family? How do they vary with policies about access to health insurance? We talked about access to medical care and mental health care. How do they vary with a lot of factors which are potentially going to affect individuals?

I mentioned unemployment. Well, you know, in the Great Recession, the unemployment, what we call disaster, while it was widespread, was not uniform. And again, this will give us an opportunity to understand how unemployment, as it worked in different communities, or unemployment rates in different communities could be integrated with understanding other factors in those communities, including protective factors, voluntary organizations. Difference in state spending and county spending for health services and public health. A variety of things that we want to look at, all around data linkage. And as you can see with Project 1 and this project as well, also around the interface between interpersonal violence and suicide.

So we have three very broad areas. Data linkage is one. The interface between

interpersonal violence and suicide is the second, and the third relates to where the burden of suicide is greatest. In the United States in particular, that's our field of play, it relates to suicide during the middle years of life. Now, rates, as I said, are higher for old white men. In fact, for women, they are highest in the middle years. For men, they're not quite as high as they are for old white men; but since there are so many more men in the middle years, the baby boomer generation in particular, so many more men, 35 to 65 than there are 65 and older that's it's very clear, in terms of burden of disease, years of life lost, which is a sort of metric of natural life expectancy and then when you die before that, and those are called years of life lost.

Economic earning power lost, being a parent, being in the sandwich generation, if you would, all of those things are played out in the middle years with this population. It's also important to recognize that while people with severe mental disorders do have the highest suicide rates, they are a relatively small part of the population, compared to say the middle years. So those are the three broad areas: data linkage, interface between interpersonal and suicide and the middle years, which really bring us toward what we're trying to do.

Now, if you take all the things that I said about indicated, selective, and universal interventions, about community geography, about community and social ecology, about understanding that we have to have different approaches for different age groups. About appreciating that there are so many different things that we have to do to put together and trying to do, really, as survey of the United States and needs assessment, as well as looking at different communities are doing and trying to understand all the

pieces that they're doing.

So when we step back and think about that, we think of the process of suicide prevention as really creating a mosaic. And a mosaic, as I show on this slide, is the art of creating images made out of an array of small pieces, typically in our colored glass and stone and other materials. Ours is more of a conceptual mosaic, or we might call a community mosaic. So when you look at one of those pieces, you're not going to see the whole picture. When they're all put together you see the whole picture. And so we think of suicide prevention in those terms. That it ultimately will take a community alliance, but it must be built within the context of local geography, of social ecology of populations. You know, understanding that ecological model that we talked about earlier, where individuals are embedded in families which are embedded in communities and are part of the society.

And it's very clear; you have to build your mosaic where people live, where they are. These efforts can't just be in a hospital, for example. We can't think that in any way, shape or form that if we were to send everybody to a mental health professional or psychiatric hospital that we would lick the suicide problem. We know, for example, that the medication prescription in the United States for psychiatric medications, let's say antidepressants, has gone up astronomically in the last 15 years. So has the suicide rate. Perhaps not astronomically, but substantially. Since 1999, the overall increase is not quite 20 percent, about 18 percent. So that has been driven largely by the middle years of life or completely so. Not youth and not elders. And so it's very, very clear that we have to build a mosaic that reaches out and engages people.

So in essence then, part of what we're doing with the ICRC-S is thinking about speed bumps. Remember I talked about injury control and how CDC was involved with injury control. There are many things that the injury control field, which typically has been removed from the suicide prevention field, and particularly, the mental health aspects of the suicide prevention field. The injury control field in public health can teach us, those of us who have been largely in mental health.

Understand what a speed bump does. You know, a speed bump is this obstacle that's put permanently in the road, and if you're driving really fast, it's going to, perhaps, break your shocks or challenge your springs in your car. They're, in fact, creating a context; a context in which you're driving. And so for us, we think of speed bumps as a kind of a metaphor for regarding how suicide prevention is going to embrace and appreciate that it really is a multi-factorial process of creating a mosaic. That macro-economic and social factors and community conditions are going to have an influence on family and personal interactions. That they're going to have an influence on what someone's thinking.

In some ways, you know, psychiatry, as I was trained as a psychiatrist, focused on 99 percent on what was going on between people's ears. You know, what was going on in their mind, and their head and their brain. And that's very important. But we cannot ignore what's going on in people's lives and in people's communities. For example, you know, when you treat someone is a psychiatric hospital. I work in a large psychiatric hospital. We might call it a large division, which is part of a general hospital, but it's

devoted to psychiatry; we know that we can often treat someone's psychiatric symptoms, fairly effectively and rather rapidly. That doesn't mean that when they leave the hospital, all the things that were making their condition worse, exacerbating them, weighing them down, stressing them, doesn't mean in any way that those things have changed. So in fact, if someone goes back out and jumps in the same pot of boiling water, figuratively speaking, that they were in before, it's not surprising that they might relapse soon or might become suicidal again.

We've got to find a way, as clinicians and certainly in a broader way of thinking of turning down the heat so that the water isn't boiling anymore; so that in fact, the person doesn't have an acute situation and is potentially exposed to scalding and burn. We've got to find a way of helping them not become suicidal. So speed bumps, when they act at a societal level, are non-discriminatory. And being non-discriminatory is really helpful because we have to be able to really get at the needs of people appreciating that they're very diverse.

Now, we have a website. And as you can see, the website is really part of our outreach program. Has the logos of the University of Rochester Medical Center and EDC. So today I talked about how we're trying to approach suicide, which used to be thought of, almost exclusively as this uniquely individual outcome. Sad, demoralizing, terrifying, catastrophic, depending on how you thought about it. And we say, you know, it's true; one can think about it that way. It's also true that the potential to change the trajectory or direction of people's lives can depend on changing their communities and influencing their families. And that we have to bring all those tools to bear in a highly coordinated

fashion that makes a sensible, comprehensible, recognizable picture, a mosaic, if you would, that's made up of multiple pieces that reflect the efforts of very diverse groups, talented, committed, imaginative, and energetic.

So I want to applaud all the dedicated people who are in this field and who are working so hard together. I hope I've had an opportunity today to really give you a good understanding of the kind of work that we're doing in the ICRC-S. Thank you very much.

DR. CHELSEA BOOTH: And thanks to you, Dr. Caine, for speaking us today. It's good to have the overview of the Center. And to our audience, I thank you for listening to this edition of the Suicide Prevention Branch's Research Highlights. If you have questions about today's presentation or suggestion for topics you'd like to see highlighted in future editions, feel free to email me at the email address on your screen.

And on behalf of the Substance Abuse and Mental Health Services Administration, Suicide Prevention Branch, I thank you all for listening and for your continued interest in suicide prevention. We look forward to seeing you again for our other research highlights.

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