Miss Yang: Good afternoon. I want to take a moment to read and acknowledge a land acknowledgement first, at the Centers for Disease Control and the Agency for Toxic Substances and Disease Registry, we strongly support and respect tribal sovereignty and self-determination for tribal governments in the United States. And we appreciate our ongoing collaboration to protect and improve public health. We acknowledge the Muskogee and Cherokee Nations, whose indigenous lands housed the CDC and ATSDR Atlanta campuses. We honor the many diverse Indigenous people still connected to this land on which we gather and pay our respect to them. May this acknowledgement serve as a proclamation of our organizations continued commitment to growing and deepening our awareness of and our appreciation for the vibrant Indigenous communities who continue to thrive and uphold their sacred relation to this land. Good afternoon. I'm honored to be up on this stage today to help welcome this year's Langmuir lecturer, Doctor Donald Warren. I first heard Doctor Warren speak at a conference for Indigenous people's health and nutrition many years ago as a young public health student and to be honest, I did not know much back then. That talk was one of the first times I learned about rates of diabetes among American Indians. And beyond that, I learned more about the context and the backdrop in which this public health issue occurred. Doctor Warren didn't talk about individual risk factors or rate ratios. He spoke about American history and trauma, about environmental and health policy impacting those tribes. He spoke about education, graduation rates, access to healthy and nutritious foods on reservations. These facts have stuck with me. For a long time, and especially as I began my work. In Wisconsin, on understanding the burden of hepatitis C infection and treatment access among American Indians, both urban and rural, as an EIS field assignee. As I think about my fellow EIS officers and the larger EIS community, I hope we can all learn about the nuances and complexities of Indigenous people's health and keep this in mind as we continue to improve public health. And I hope that you all enjoy Doctor Warren's talk today. And now I'd like to introduce Dr. Julianna Reese. Doctor Reese is a Board certified family medicine physician with over 20 years of experience in primary care leadership and administration focused on American Indian and Alaskan native healthcare. She is an enrolled member of the Navajo Nation and currently serves as the director of the Healthy Tribes Program for CDC. Prior to this role, she was the Albacore Albuquerque Area Indian Health Service IHS Chief Medical Officer as well as the Vice Chair of the Heroin, Heroin, Opioids and Pain Efforts or HOPE Committee, a national initiative through IHS. Please join me in welcoming Doctor Reese.

Julianna Reese: Thank you Miss Yang.
Good afternoon, everyone. Please allow me to introduce myself in Navajo as is customary my culture.

" Speaking Navajo"

I'm Julianna Reese. I'm originally from a small town on the Navajo Nation called Fort Defiance, AZ. My clans denote my matrilineal ancestry in my family. Thank you all for coming today. I am so very honored to be here to introduce to you my esteemed colleague, Doctor Donald Warne.
Doctor Warren is the Co-Director of the Johns Hopkins Center for Indigenous Health and serves as the University's new Provost Fellow for Indigenous Health Policy. He is a physician, one of the world's preeminent scholars in Indigenous health, health, education, policy and equity, as well as a member of the Oglala Lakota tribe from Pine Ridge, SD. Doctor Warren comes from a long line of traditional healers and medicine men. He is a celebrated researcher of chronic health inequities. He is also an educational leader who created the first Indigenous health focused Master of Public Health and PhD programs in the United States or Canada at the North Dakota State University and the University of North Dakota, respectively. His career is informed by rich work and life experiences. He served the Pima Indian population in Arizona as a primary care physician and later worked as a staff clinician with the NIH. He has also served as health Policy Research director for the Intertribal Council of Arizona, executive director of the Great Plains Tribal Chairman's Health Board and faculty member at the Indian Legal Program of the Sandra Day O'Connor College of Law at Arizona State University. Doctor Warren received a Bachelor of Science degree from Arizona State University, Dr. of Medicine degree from Stanford University School of Medicine, and a Master of Public Health degree from the Harvard TH

Chan School of Public Health. The title of Doctor Warren's lecture is Engaging Indigenous Communities to Promote HealthEquity. Please join me in a very warm welcome for Doctor Warren, our 2023 Langmuir lecturer.

"Applause"

Doctor Warren: "Speaking Native language" Hello. Thank you and welcome To all my relations here today, I'm so deeply honored to be here with you and to share a few thoughts about working with indigenous populations and promoting HealthEquity. I'm originally from a small town called Kyle, SD on the Pine Ridge Indian Reservation. And I always like to ask how many people have been to Kyle SD? Two, That's actually two more than usual. That's kind of really impressive. So very good. So I'm from a very small community and growing up didn't realize that there there's so many different ways of looking at the world. So I just feel very blessed to have had the experience that I've had working in public health and in higher education and also just so deeply honored to work with tribal Nations, with a lot of federal agencies. In addition to IHS, NIH and HERSA have served on a couple of committees through CDC. I was on the HealthEquity Committee for the advisory committee to the Director a number of years ago and also served on the Advisory Committee for Breast Cancer in Young women and unfortunately for American Indian populations, we see disparities just across the board. So what we'll talk about is looking at engaging indigenous communities to promote HealthEquity, but also looking at things through a historical lens and a health policy lens. And I think it's important to acknowledge that when we look at history and certainly the history of federal Indian policy. That has actually been a source of trauma for indigenous populations. So we'll look at the terminology that we use and are we American Indian? Are we American Indian, Alaskan Native? Are we Native American? What is the right terminology and what do those words actually mean? And then we'll look at a policy history and the impact of marginalization based on policy. And there is an intergenerational impact that has a direct impact on the disparities that we're seeing today. We'll also look at some contemporary challenges, but I think most importantly, let's identify collectively some potential solutions. And how we can engage communities appropriately to promote equity as we move forward.

So the term that we use on the census for the race is American Indian and Alaskan Native. And it's an interesting kind of grouping of populations. So if you look at Alaska, in Central Alaska, the Athabaskan cultural groups are American Indian cultural groups and there's at the Baskins across North America. So even the Navajo and Apache tribes in the Southwest are at the Baskin cultural groups. So at the Baskins are in Alaska and they are American Indian from a cultural perspective, but we have other populations in Alaska that are not American Indian. So for example, the Inupiaq populations were commonly known as Inuit populations. They're more of a circumpolar cultural group. So we have Inupiat people in Siberia, Alaska, Canada and Greenland. So if you're in Alaska and you call them American Indian, they'll be offended because they're actually not American Indian, right. But why are we American Indians? Why? Why Are we called Indians? And it's really fascinating history. Christopher Columbus thought he was in India, therefore we are American Indians. So I'm an Indian because Columbus was lost at sea. So that's why I have a Bureau of Indian Affairs, Bureau of Indian Education and Indian Health Service. But we don't like to lump all of the indigenous Alaskan groups into American Indians. So that's why we have kind of this Venn diagram of American Indian and Alaska Native. Well, within this population, we also have enrolled tribal members. And an enrolled tribal member is not a racial category. It's actually a political category, so much like being a citizen of the United States or a resident of a state.

We are also citizens of our tribal nations. So in many ways we have a Tri citizenship as enrolled tribal

members, but also citizens of the US and residents of the states in which we reside. So enrolled tribal members is a subset of the American Indian and Alaska Native population. And it's I think from a data perspective and epidemiological perspective, it's very important to remember that the Indian Health Service user population does not represent all American Indians and Alaskan natives. So if we look at the most recent census data, there's well over 9 million people who identify as American Indian or Alaskan native on the census. The user population in the Indian Health Service is about two million. So the IHS database represents actually a minority of American Indians and Alaskan natives. So quite often I see IHS data being used to characterize the entire population. It's probably the best data set we have to look at our population, but it's not inclusive of everyone who's American Indian and Alaskan. That's very important to keep in mind. So to be an active.

User of IHS You have to have been seen within the previous three years at an IHS or tribal facility. So I am not in the IRS database. I've been living in Grand Forks, ND There are no IHS facilities and I have insurance. So why would I go to HS? I can go to a local provider. So someone like me is actually not in the IHS database. So it's important to keep that in mind when we're looking at IHS data. It's a subset of the American Indian, Alaskan native population.

So we've also heard the term Native American, right, and we tend to use Native American and American Indian as interchange interchangeable terms, but there's actually a legal basis for the words Native American as well. So in 1978, there was the Native American Programs Act, and that established the Native American populations as American Indians and Alaskan natives, but also Native Hawaiians and indigenous people to the US territories. So American Samoans are Native Americans. The Chamorro groups in Guam are also Native American from a legal perspective. So I try to be cognizant of the terminology that I'm using. And I know a lot of people prefer Native American because the word Indian, right, We're not in India, but even the word American is interesting if you look at its history. So it was Amerigo Vespucci, another Italian explorer who actually named the two large continents after himself. So we have North America and South America because of Amerigo, Vespucci. So in truth, when we're having the argument over which is the better term, American, Indian or Native American, we're actually having the argument over which Italian explorer do we want to pay homage to. So most of us, or many of us I should say, who now prefer the term indigenous. So the indigenous peoples are the original inhabitants of various parts of the earth. So here in what is now the United States, of course, the original inhabitants are American Indians, Alaska Natives, of course, Native Hawaiians. We're looking at the Pacific Islands. So it's really fascinating. On the census, I have to check the box American Indian and Alaska Native, even though I'm not Alaska Native, right, And American Indian. So I try to be cognizant of the terminology that we are using. And in truth, historically, we did not have a collective term for all indigenous peoples of Turtle Island or North America. We had our own tribal names, but many of those tribes also were renamed other terminology in the process of colonization. So one reason why we have a Center for Indigenous Health at Johns Hopkins. Is that we see a common outcome from colonization across the globe. So indigenous peoples who have gone through colonization tend to have the same types of health disparities. And this was made very obvious to me about 10 years ago or so. I was presenting at the International Diabetes Federation and we had an Indigenous people's panel and there was a Maori academic person from New Zealand and an Indigenous person from Australia, one of the Aboriginal population members. And we all worked at public health schools or medical schools. And we had never met before and we were doing a presentation on diabetes in our indigenous populations and we did essentially the exact same presentation three times in a row, but just different populations. The impact of colonization in terms of diabetes is really ubiquitous across indigenous peoples. And if we think about this, it makes a lot of sense. We've lost access to traditional foods, lost access to traditional economies, in many cases been marginalized or put into reservation communities and then become dependent. On federal government food programs and other types of challenges related to loss of land, loss of sacred sites and loss of natural resources. So not surprisingly, there is an

intergenerational impact and we have to think of this in terms of trauma. And there's many types of trauma, right? There's physical trauma like a physical injury. And in recent years there's been a lot of work looking at emotional and psychological trauma and what is the long term outcome of traumatic events on long term health for individuals. So trauma could be a one time event like an accident or injury or death of someone close to us that can have an impact on our well-being. There's also toxic stress or ongoing relentless stress. And I would put forth that for many of our populations, just living in poverty and living in marginalized communities is a daily source of stress. And we know that stress hormones are not good for us physiologically, right? If we have high levels of cortisol, high levels of epinephrine, that's going to have an impact on us in terms of chronic disease. Then there's other issues related to childhood trauma, and I know people are probably familiar with the ACE study Adverse Childhood Experiences, but we know that there's a long term impact when children are subjected to traumatic events. But it put forth, in addition to physical trauma, emotional and psychological trauma for indigenous populations, there's also a spiritual and cultural trauma. We do have historical trauma, the long term and intergenerational impact of colonization, and then ongoing issues related to loss of land, loss of language, loss of culture, loss of ceremonies. It's a little known fact, but in the United States, a nation that was founded partially on the idea of freedom of religion or religious practices were actually made illegal. So you can look this up. It's the Code of Indian Offenses in 1883, Code of Indian Offenses. There's websites that you can review if you're interested in this. But it made the work of our traditional healers, medicine, men, medicine, women actually illegal, and in particular, the Sundance one of the most sacred ceremonies in my tribal community was actually made illegal. It was against the law to practice traditional religion and traditional ceremony and little known fact, most people aren't aware of this but it actually took until 1978 when we had the Indian Religious Freedom Act to reverse the impact of the Code of Indian Offenses. Isn't that remarkable? And most people aren't even aware of that. And we like to think of freedom of religion as a founding principle for our great nation. But it was freedom of religion for all Americans accept indigenous Americans and that's part of our truth. And that does have a long term impact on populations. And I wish we were beyond the point of marginalization and racism, but we're not. I mean, if we're honest with ourselves and honest as a nation, we have a lot of work left to do to overcome some of these challenges that are creating toxic stress in many of our communities, including American Indian populations. So when I think of this holistically and think of it from more of a cultural perspective, we look at human life as 4 components, and health is being balanced among these four forces of spiritual, mental. Physical and emotional. And obviously we can have physical trauma like injury, psychological and emotional trauma. But again, that deep rooted spiritual and cultural trauma that many of our populations have had to contend with. Well, why is that and what is the history behind that? So I'd like to show this map and say let's talk about Indian country. It's all Indian country, right? This is all indigenous land and I really appreciate the land acknowledgement to start the discussion today to recognize that this is in historical context, this is all indigenous land and of course the colonies, the process of colonization was really devastating to many of the northeastern tribes. So those 13 colonies, we saw a lot of loss of life, a lot of warfare and even the spread of disease sometimes intentional spread of disease. I'm sure people are familiar with Amherst, MA and Amherst College, right? Named after Lord Jeffrey Amherst. And he's very well known in Indian country because he is the one who ordered the distribution of blankets from a smallpox hospital to the regional tribes with the purpose of killing them. And people have a hard time believing this because it's so such a devastating component of our history and does not paint us in a very good light, right? But it is the truth. You can actually Google. I like how Google is a verb, right? We can look this up, but Amherst and smallpox. And you can find these letters that were actually written by Jeffrey Amherst. And I know it's in cursive and a little bit difficult to read. But here he states you will do well to try to inoculate the Indians by means of blankets, as well as to try every other method that can serve to extirpate or get rid of this exerable race, extirpate this exxerable race. I should be very glad your scheme for hunting them down by dogs could take effect. Isn't that remarkable? And this is part of our history, and I find it really fascinating, the time frame that we're living in. There's kind of a pushback against the truth of history in some sectors of our society. But it's important to understand the history, to understand

where we are now. Why is it that we have such tremendous disparities? We have to be honest about history. So I talk about these things not to make anyone feel bad. That's not the point. I talk about these things because it's the truth.bAnd if we are ever going to get to equity, we have to walk through truth. Even when it's unpleasant, even when it makes us uncomfortable. There's no path to equity without walking through truth, and we have to be cognizant of that. So what do we do now? We honor Amherst, right? Amherst, MA. Amherst College. UMass Amherst. So we're celebrating someone. And in truth, this is our earliest documented case of bioterrorism. Purposeful killing of indigenous peoples by the purposeful spread of smallpox isn't that remarkable. And this is a part of our history. It's not a pleasant part of our history, but it is the truth of why we're in the circumstances we are now. So that explains a lot about the Northeast. But what about the Southeast? In 1830, there was a law called the Indian Removal Act. Think about that. Just the title of the law, Indian Removal Act. And that's the law in which we removed tribes from the Southeast to what is now Oklahoma. So it's also known as the Trail of Tears. I'm sure people have heard that terminology as well. So, so think about that. You know, why are we in Atlanta, GA instead of home to the Cherokee and Muskogee nations, it's because of removal. The city of Atlanta was actually established in 1837 and the removal act was in 1830. Get the American Indians out of the way. Indian removal to establish places like this, like Atlanta, GA So how often do we think about that? How often do we acknowledge that that there were policies that led to the removal of indigenous peoples to what is now Oklahoma? Well, in that process it was really fascinating. So some of the tribal members refused to leave their homeland, so they stayed put, whereas others were removed to Oklahoma. So that's why we have this interesting dynamic now where we have Seminoles in Florida, Seminoles in Oklahoma, Cherokees in North Carolina, Cherokees and Oklahoma Choctaws in Mississippi, Choctaws in Oklahoma, you kind of get the idea. So in Oklahoma, there are 38 federally recognized tribes, of which only four are originally from Oklahoma. The rest were removed from other parts of the country. So that's why we had these dynamics now and relatively few American Indians left in the eastern part of the United States. There was a policy basis for this. And think about the loss of land, the loss of territory, the loss of natural resources, the loss of traditional food systems, and then the dependence. On government programs for food. So it wasn't just in the east with the discovery of gold was devastating for the tribes in California. And unfortunately, after the discovery of gold, there was a gold rush and there's a need to basically get rid of the tribal members who are in the way. And the original governor of California, Peter Hardeman Burnett from his State of the State address in 1851, he said “that a war of extermination will continue to be waged between the races until the Indian race becomes extinct. Must be expected. Must be expected. Well, we cannot anticipate this result, but with painful regret. The inevitable destiny of the race is beyond the power or wisdom of man to avert.” And of course, we didn't have census data back then, but it's estimated that out of well over 100,000, I'm sorry, over 150,000 American Indians in California by 1873. So not too long after the Gold Rush, there's only about 30,000 indigenous people left in the state of California. So these are parts of our history that I wish were better. Understood. I wish they even mentioned in history books, you know, that they went through my own schooling and didn't learn about this in school, and I certainly didn't go to medical school planning to become a historian. But it turns out we have to do this on our own to understand the truth of history because it's not generally provided. And we have to look at this in the context of how does this lead to public health disparities and what are the things that we need to do in epidemiology, public health, medicine and Health Sciences generally to better address these challenges. Because one size does not fit all and historically that's kind of the approach that we have taken. So we have to understand the context of history and the communities that we are working with. So in recent years much of my research has been focused on the impact of historical trauma, adverse childhood experiences and other social dynamics on health outcomes and and even more recent years we're looking at also at the strengths of indigenous culture and the resiliency focus that there's so much about our cultures that are protective of health. So it's not just all about risk factors, but I think it's important to acknowledge the the genocide and the historical trauma that has had a direct link to chronic disease disparities today, another component of our history is the boarding school experiences. I'm sure people are familiar with this and in May through Deb Holland's office, the Secretary of Interior, they did put forth a

boarding School Report. And this is the first time that we saw a compiled into one document the the full extent, at least to our knowledge at this point of the numbers of boarding schools and the impact of the boarding schools. So the the boarding school era was an era in which the goal was to basically get rid of the culture of American Indians. And the strategy was putting children into boarding schools and making it against the rules for them to speak their language or practice their culture. So it's a process to integrate American Indians. And the way this was done, the way families were compelled to give up their children, is that when we had the reservation system, we no longer had access to our traditional food systems, right? So we're dependent on the federal government for food distribution or rations. So what the families were told was either give up your children to go to boarding school or we will withhold your rations. So give us your children or starve. Which is why thousands and thousands of American Indian children wound up in boarding schools. And again, I don't say this to make anyone feel bad. That is not the purpose. And and no one here is at fault for what happened well over 100 years ago, right? But I talk about these things because we have to be strong enough as a society to recognize the truth. To embrace it for what it is and then, more importantly, find solutions. But if we don't know the starting point of the disparities, how are we going to find the solutions? We have to really understand these things, even when they're difficult to think about. This is a picture from the Carlisle Indian School in Carlisle, PA. And I know it's difficult to see all of the individual faces, but I have four children and I've seen a multitude of class pictures and I always see laughter and smiling and joy in those class pictures. But I look at this one and I don't see any of that. I see anger, I see fear. I see sadness. All these American Indian children put into basically military type uniforms in Carlisle, PA, in some cases more than 1000 miles away from their homes and put into these environments and I think about the kids who would have had vulnerabilities, How many of them, long before we had an autism spectrum, might have had social or communication challenges? Who was protecting them? So there's just so much pain immersed in in this type of history that's not really well understood and certainly I don't think well enough addressed when we think about the challenges related to intergenerational trauma. And this is not ancient history. My mother is a survivor of boarding schools. She's still with us. She's 84. She's a nurse still working. She she tried retirement. I I tease her that she failed retirement. But there's a lot about the boarding schools that she won't talk about. There's her whole generation that has had to deal with this cause again thousands and thousands of children were put into boarding schools.

This is a picture of the graveyard right next to the Carlisle Indian School. And almost all of these boarding schools have huge graveyards, some with unmarked graves. And why was there so much excess death at the boarding schools? We know that there are outbreaks of things like tuberculosis and influenza over the years, but it doesn't really answer the question as to why there was so much excess death in the boarding schools. Why were so many children dying at such a young age? We probably will never know the full extent as to why that occurred. But my question is, what is the impact on the survivors? What's the impact on children? If you see so many of your friends and playmates dying at an unnaturally high rate, does that potentially have a long term impact on the health and well-being of that child? Absolutely. And this is just a generation ago, right? This is not ancient history. So a lot of the work that we're doing now is looking at epigenetics and trying to understand what are the changes to DNA that occur when there's toxic stress and might some of those changes be transmissible across generations and there's some really compelling evidence that this does occur and perhaps epigenetics will be a scientific platform to better understand the impact of historical trauma. I still come across colleagues and and people who don't believe in historical trauma, you know, they don't believe there could be an impact from what happened in previous generations. But I think anytime there's newer concepts within science, it's not always easily or readily accepted, right? But I think that this will be a scientific platform to better understand intergenerational trauma. So we see these historical issues related to historical trauma and boarding schools, but we also have challenges related to poor food systems. As was mentioned that this is another arena in which I work and looking at the food systems that are available to tribal members. So through the USDA, we know there's the WIC program, right, Women, Infants and Children. And they've done a lot of improvements over the last decade in promoting breastfeeding in the WIC programs. But when I

was a full time primary care physician back in the 1990s, the reservation where I worked the the WIC program was basically a baby formula distribution center, just handing out baby formula and think about the word formula. Does that sound appealing to anybody or come on over, we'll have a glass of formula, right? So it's laboratory generated formulations of nutrition's, not natural. Well, when you think about the culture of poverty and young women who grew up with very little possessions and no access to nice things or expensive things and you're offering them when they're a new mom, just can you know, large cases of formula for free. Are they going to take it? Well, of course they are. So I think one of the unintended consequences of the WIC program is that we saw higher rates of formula feeding in impoverished populations than we saw in more affluent populations. So what we wound up doing is kind of throwing fuel onto the fire if things like diabetes because we know that as a population formula fed babies grow up to have higher rates of diabetes than breastfed babies. And it's important that we understand these things. As was mentioned, I was a staff clinician with NIDDK for a number of years. National Institute of Diabetes and Digestive and Kidney Disorders and back in 2000s now 23 years ago there was a PBS documentary on obesity in America and they interviewed one of our scientists and he was a brilliant scientist, very good diabetes scientist, really understood the pathophysiology of insulin resistance very well. And I I watched the documentary, and he said that that this population has the exact same diet as everyone else but they have higher rates of diabetes, therefore it must be genetic. So I'm curious how many people are familiar with the commodity food program in the USA? A handful of people are. So there's what's called the food distribution program on Indian reservations, FDPIR and it consists of a lot of unhealthy foods and it's really the source of fry bread, right? It's the source of the the bleached enriched flour. I think the word enriched is the the biggest nutritional misinformation ever. There's no nutrition in it. It's just the starch and basically the roots of fry bread are in the commodity food program. So after the our well respected scientists went on national television saying that this population had the exact same diet as everyone else, I went to his office the next day and I asked him, well what about the commodity food program? And you know what he said. What's the Commodity Food Program? So if we don't have diversity in researchers, diversity in public health leadership, if we don't have the lived experience of the populations we are studying, we won't even ask the right questions. And what's even more dangerous is we will spread misinformation based on our own lack of understanding, our own lack of awareness of the truth of the circumstances in which populations are living. Right. So it was remarkable that, you know, went on national television and and talked about being on the exact same diet, but it's not so. The the USDA commodity Food Program has made a lot of improvements in recent decades. But when I was growing up, it was really unhealthy food. Here's some pictures. There's some sort of spam like meat product, you know, canned beef and canned pork. Very unhealthy, of course. Commodity cheese. I'm sure people heard of government cheese, right? The big bricks of cheese. And as a side note, I love commodity cheese. I wish I didn't, but it's good stuff. On the right, this is a container of corn syrup. Another engineered food. Not a natural food, right? It's actually very unhealthy for us pure corn syrup, and I know it's in fine print, but if you look closely, it says use in baby formula. Right use in baby formula. It also says use on pancakes right as a syrup. So these are policy based attacks on public health and we wonder why do American Indians have such high rates of diabetes? There's reasons for this, right? And we have to be cognizant of the fact that there are federal policy decisions that have led directly to trauma, directly to marginalization and directly to diabetes and directly to all kinds of mental health and chronic disease circumstances. We have to be cognizant of that because unfortunately in my own career in my experience, I've seen many of my colleagues kind of blame the victims, right. Well, they, they must be too lazy to exercise or they just don't care about healthy food. You know, there's all kinds of judgment that's being made coming from a place of lack of awareness. I don't think it's, you know, from an evil place. It's just lack of awareness. We need to be more aware of the truth of our history if we're going to develop solutions that make sense. And this is a part of our history. I remember growing up eating these foods and also remember they had a you know, they called it grape juice. I think it was just sugar water with purple food coloring. I Remember my cousins and and friends, we'd all have that kind of that kool-aid smile, you know, the stain of purple on our

face just drinking that sugar water basically. But that that's part of our history, unfortunately. But I do acknowledge that they made a lot of improvements in the commodity food program in recent years.

So there's also adverse childhood experiences. As we're going through history and and looking at more current challenges, I'm sure people are aware of the ACE study, but adverse childhood experiences correlate with worse health outcomes, mental health outcomes, chronic disease outcomes, even infectious disease outcomes. When we have more adverse childhood experiences in terms of abuse, neglect or household dysfunction, we tend to see worse health outcomes in adulthood. So long lasting effects. So even though the diversity could occur before age 18. We could see lifelong impact on chronic disease, higher rates of obesity and diabetes in some forms of cancer, but even impact on life potential when there's adverse childhood experiences. We also see higher rates of dropout from school and long term higher rates of poverty. So this really is at the the root of many of our disparities as ongoing adverse childhood experiences. So I do want to add a shout out to the CDC, particularly the National Center on Injury Prevention. The ACE pyramid historically had adverse childhood experiences at the base of the pyramid. But this is right from the NCIP website looking at generational embodiment and historical trauma at the base of the pyramid, because it's those factors that lead to the social conditions and the local context in the communities that put some communities at greater risk for ACES. So we can't just blame the families. Right. Can't just say Ohh must be a terrible family. No, that there are societal and historical impacts that put some populations at greater risk for adverse childhood experiences. So based on that, we see disrupted neurological development, impact on social development and social behavior, adoption of high risk health behaviors and then earlier onset of disease and disability. Essentially all of the disparities that we see in American Indian Alaskan native populations are also the same types of health issues that are correlated. With adverse childhood experiences, this is where we need to put much more effort and much more resources in terms of preventing ACES from occurring in the first place. I also want to commend CDC and the wonderful reports looking at the impact of COVID-19 on life expectancy and unfortunately we already had shorter life expectancy pre pandemic in 2019. But as we can see we had terrible reductions in life expectancy in the American Indian and Alaska Native population through the pandemic. And if we look at it in terms of years of life expectancy lost for males, isn't that remarkable? Loss of 7.1 years due to the pandemic. And this isn't because of less vaccinations. It's because of all the comorbidities that put us at risk for bad outcomes. So all of those core comorbidities, higher rates of obesity, diabetes, heart disease, lung disease that puts us at risk for more hospitalization, more mortality from something like COVID-19. But it's important that these disparities were in place long before there was COVID-19, right? We're about to publish a report using North Dakota data and If you look at age at death in North Dakota, the red bars are the American Indian population, the blue bars are the white population. In the state of North Dakota, it looks like 2 completely different populations. And look at the infant mortality rates just remarkably higher. You see how high that peak is for the American Indian population before age 1, and you can see the peak of death prior to age 60, whereas the peak for the white population is over age 80. So another way to look at the data we Here we divided out by males and females. The red is American Indian, the blue is white, and the medians at the 50th percent. For males, the median age at death is 55. Isn't that remarkable? So I'd like to remind my public health colleagues that we do not have to cross an ocean to find third World Health conditions, right? We don't have to cross an ocean to find its right here. And that's why I think EIS is so important, so vitally important and needs to be a part of the solution and working more closely with Indigenous communities to address these significant challenges because it does not have to be this way. Most of these deaths are preventable that are occurring so early in life. It does not have to be this way. We just collectively have to make the commitment to invest the resources where they are needed to improve outcomes long term. So again, you can see for males 55, for females 62 and in the white population 77, for males 85, for women in in North Dakota for the white population. So I'm 56. So I guess I've already, you know, passed the the median age at death. It's all gravy from here, right, You know? But it shouldn't be that way, should it? So the data are right in front of us, and I think that we have enough empirical data to prove that what we've been doing is not working. So let's be smarter about this. Let's invest in new opportunities and new strategies. So of course the adversity

does not end at age 18. We also have toxic stress or adverse adulthood experiences. Living in poverty is stressful. Living in marginalization and where we still see racism, these things are stressful to our populations. So we have to be cognizant that there's really a whole continuum of traumas and stressors, many of it policy based trauma. That's actually had and is still having a negative impact on outcomes.

So I'm sure many people are really a trauma informed care and when we think of trauma informed care, we usually think about that in the clinical setting, right. We have to recognize that our patients might be dealing with unresolved trauma. So part of this we have to understand the prevalence of trauma, very, very common. You know we have universal precautions for bloodborne diseases, right? We wear gloves when we're drawing blood. We should have universal precautions for trauma. Trauma is actually much more common than bloodborne illnesses, right? We should just walk into the patients room assuming that they could be dealing with unresolved trauma. And quite often the difficult patients are the ones that are just haven't had that addressed because the health system hasn't even addressed it with them. So we have to recognize how trauma impacts individuals. We have to put the knowledge into practice and actively resist retraumatizing the people that we are working with and as a medical educator one of the things I'm trying to work on is revising the way we train future physicians. Does it make any sense that we're traumatizing future healers in the medical education process? You know, when I was going through my training in the early 90s, there's almost like a sense of pride on how difficult and challenging and traumatic that it was, you know? Is that smart? What happens when our next generation of healers is traumatized? That's not smart. It's not the way we should be doing things. And I know it's the way we've done things. And changing systems is difficult. But again, the empirical evidence proves that what we've been doing is not working. So this is part of our solution. We just need to be smarter about these things. But the trauma informed care extends beyond the clinical setting. We need trauma informed public health. We need trauma informed education. We need trauma informed epidemiology, right. So we'll talk more about this, but I think we have to open our our minds even broader to look at how we might address these things.

So again, going back to the more indigenous perspective and the medicine wheel and looking at the impact of trauma that can occur spiritually, mentally, physically or emotionally actually, there's some really good compelling evidence in smaller scale studies that show the impact of these types of interventions. So mindfulness and meditation, CBT or cognitive behavioral therapy is showing some real promise in addressing trauma. So in cognitive behavioral therapy, being mindful and conscious of what we are thinking about actually has an impact. On the body's Physiology, we can actually see through mindfulness lowering blood pressure, lowering blood sugar, increasing a sense of Wellness to the degree that if it was in the form of a pill, it would be standard therapy. But since it's mindfulness, it's alternative medicine, right? We should be more open to these things because for many of our people, they work also physical activity and movement. Obviously that's important for for physical health, but it's also good for mental health and emotional health and unfortunately in a lot of our communities we don't have safe places to even go for a walk. And many of our reservation communities, the old BIA roads are very narrow, they're very dangerous. There's certain circumstances where it's not safe to even go outside to go for a walk. That has an impact on what we need to be doing in public health to address better outcomes. Also social connectedness. We know that social isolation is bad for health. And think about what's happened during the pandemic and higher rates of suicide, higher rates of overdose, higher rates of depression, higher rates of substance use.

To self medicate the impacts of social isolation. So we know historically that the the connectedness to each other is vitally important for our individual health. And I wish we had never used the term social distancing, right? Six feet apart is not a social distance, that's a physical distance, right? If anything, we need social connectedness during a pandemic, not social distancing, right? We wish we had thought

more about how the terminology that we were using in that space. So we know that social isolation is bad for health, and having social connectedness is actually a protector for health. And there's also, again, it's limited studies, but the impact of prayer, the impact of participation in ceremony and the impact of cultural preservation for indigenous peoples is a protector of health. So we need to expand the work that we're doing in all of these arenas. So some considerations, the several things just to think about, there's been a lot of contributions to US public health from American Indians and Alaskan natives, particularly through our Center for Indigenous Health at Johns Hopkins. Back in the late 1980s, there were a lot of American Indian children dying from dehydration, particularly the White Mountain Apache tribe in Arizona. And they were dying from dehydration due to infectious diarrhea. And there was no PIC PICU no pediatric intensive care unit. It's very rural and remote and impoverished. Very difficult to get an IV line started in children who are going through terrible dehydration. So they started to work on and develop an oral rehydration solution. Johns Hopkins working with this particular tribe and that oral rehydration solution became Pedialyte. So if you ever used Pedialyte, that's actually from an American Indian population that actually studied this and tested it and proved its efficacy and then multiple vaccines including HIB, Rotavirus, COVID-19 and others that have been studied in American Indian populations. Also, again, I used to work for NIH. A lot of what we've learned about preventing diabetes, like the Diabetes Prevention Program, but also treating diabetes and trying to prevent kidney failure of a lot of that was learned from studying American Indian populations. Thus have to promote more respect for indigenous healing systems and methodologies. You know, historically we would use Willow bark as a medicinal tea, and of course that's the source of aspirin, right? Acetylsalicylic acid comes from Willow tree bark. So historically it was Willow tree bark until Bayer discovered it, and now it's aspirin, right. And so now it's a accepted modern Western medicine. You know, we might have some osteopaths in the room. Doctors of osteopathy, the individual considered the father of osteopathy is AT still. He grew up in Missouri and he actually learned the principles of osteopathic medicine from the Shawnee and Otto Indians. Osteopathic medicine is traditional indigenous medicine, but in many ways these things are Co opted and then no longer understood to have the indigenous roots that they do. So we have disparities pre-K to postdoc. We unfortunately a few role models in public health leadership, Health Sciences and higher education. I would like to point out, well, I'll I'll ask how many Deans of a medical school medical school Deans are American Indian in the US. I'll give you a hint. You can count them on zero hands. This is 2023. Zero American Indians serving as the Dean of a medical school. Is that acceptable? Is that the way it should be? But even other agencies. It wasn't until Deb Holland became the Secretary of Interior that we finally had an American Indian in a cabinet level role. Isn't that remarkable? It took till the twenty 20s for that to occur. So few role models and still ongoing challenges including one-size-fits-all approach.

And I know this image is used a lot in different settings. I'm sure you've seen this one or similar ones but we are trying to achieve equity. It's not just the package of services or the curriculum that has to be the same. But we need is equitable outcomes, which means that sometimes we have to do things in unique ways. We have to find unique solutions for populations that have unique histories. In many ways it feels like I'm saying 1 + 1 = 2. But it's very difficult for systems to change and to recognize that some populations need unique interventions, and it's incumbent on us to find those interventions in close collaboration with the communities that we are working with. So I've shown this image for years and a few years ago someone sent me an image that I think is just brilliant and the question is what does that fence doing there in the 1st place right?

Is it the package of services to overcome the barrier, or do we just need to get rid of the barriers? And I think there's a multitude of things that we could consider, things that we should try to do, starting with respecting and integrating Indigenous knowledge and indigenous Health Sciences education. We have our own ways of doing things that are valid. They haven't been adequately studied. We don't

have enough Indigenous researchers looking into these things. But we also have to be able to respect and understand history, right the the true history that has led to some of the challenges we're facing.

We also need a wise practices approach to public health and epidemiology. So quite often we say evidence based practices right. My question is always, whose evidence is it? If it worked effectively in Atlanta, does that mean you can just package it up and plop it down into Pine Ridge, SD and expect it to be effective? Maybe, but maybe not. The context of community is vitally important in developing meaningful solutions. That's got to be part of our approach. So let's look at evidence based and best practices, but let's also use Indigenous knowledge, Indigenous language, Indigenous methodologies when we're applying those practices.

So, in addition to trauma informed care in the clinical setting, again we need trauma informed epidemiology, trauma informed public health and we need to better understand the impact of historical and intergenerational trauma. We need to develop the Indigenous public health evidence base, right. We need more studies, more evaluation of programs that are going on in our communities. And we have so many programs that look highly effective and very promising, but they've never been formally evaluated and we have to respect Indigenous evaluation methodologies. We have different ways of evaluating and think about the word evaluation. The core of that is values, right? What is important to us? Are we even measuring the right things? Are we measuring things in a culturally relevant manner? Right. So we have to open our minds to understand that there's other ways of looking at this. We've had some wonderful discussions in the last day and a half looking at how we could expand the American Indian or Indigenous public health workforce. That's something that's desperately needed. We need more of our own people going into this work, but also more indigenous EIS participants as well, right? That's got to be part of our priority. Very challenging. We need to respect and integrate principles of tribal data sovereignty. That's a challenging task, right? That tribes are sovereign nations, sovereign entities. They own and control their data. But how can we work collaboratively to ensure that we're using the data to address health inequities and to improve health outcomes? Need more funding for infrastructure to support our populations and certainly for data collection as well. So we need those resources and at the tribal level using indigenous methodologies but also engaging communities and focusing on community based priorities and community driven priorities. Quite often the priorities are set at the agency level kind of at a national level and then those priorities and trickle down into the communities whether or not it's their priority right? Is that smart? Is that effective? The I'm from the government and I'm here to help approach is probably not the best strategy in a lot of our communities, right. Let's work in collaboration, let's jointly develop the priorities. Let's jointly develop the evaluation measures that's jointly developed the research questions, let's jointly develop the programming. We need community engagement to do that. But we also need more champions within the these arenas.

So, for all of you as critical allies of public health and indigenous health. We need to respect and honor you and and be inclusive. We don't have enough of our own people in these roles to adequately address the challenges we're facing. We need each of you to work with us. We need allies that are genuinely committed to improving outcomes. And then why not an indigenous EIS programmer field EPI training program? Wouldn't that be a wonderful outcome, Thinking about these discussions. So I'd like to end with a quote from Blackout. Black Elk was a traditional Lakota leader from more than 100 years ago, and I really like this quote from him, he said. “Of course it was not I who cured, it was the power from the outer world, and the visions and ceremonies had only made me like a whole for which the power could come to the two- leggeds. If I thought that I was doing it myself, the whole would close up and no power could come through.” And what he's talking about is humility, and recognizing that he does not own the healing power. And when he's humble and operates in a humble manner, he has access to healing power that he can channel in the right

direction. And I think about that in healthcare. When we lose our humility, we lose our ability to heal and education. When we lose our humility, we lose our ability to teach. In law enforcement, when we lose our humility, we lose our ability to promote justice. And that's incumbent on all of us to have enough humility to recognize that there might be other ways of doing things and when I was a full time clinician, I would think to myself every time I went into that clinic room, what an honor it is that this person would allow me to be a part of their healing process and education for all of my students. What an honor it is that they would allow me to be a part of their educational process.

And I mean this very sincerely, that I'm deeply honored that you would allow me to be a part of your EIS conference and this distinguished lecture. "Speaking in Native Language." Thank you all very much.

"Applause"

Moderator: Thank you all. We have time for questions and I I'm sure that we have many questions that you want to ask Doctor Warren. So please come to the microphone and identify yourself from where you work. I'm going to start with my colleague, Dr. Barfield.

Dr. Barfield: Good afternoon. Hi, Doctor Warren Wanda, Barfield, Division of Reproductive Health, EIS Class 2000. I think your suggestion of an endodontist EIS CSTE. Everything would be fantastic. But the question I have for you is 1 about data sovereignty. Could you just talk a bit about that in terms of what it means, why it's important for epidemiologists and public health officials to understand?

Doctor Warren: Yeah, absolutely. And it's a very challenging. Arena and there's been a lot of recent work and publications addressing some of the challenges from a tribal perspective. But the tribes are sovereign nations and own their own data. And even when we're funding research through NIH that it's clear that there's data sharing agreements where the tribes do control their own data. And I think the challenge is that historically, particularly in the research arena, I think tribes feel like they've been taken advantage of and haven't had their priorities necessarily addressed. So in a in a way, it's almost a pushback against some of the historical challenges. But tribes own their data and they choose how to use it and how to share it. The challenge with that is, and quite often we have smaller denominators, right, we don't have enough data in some of our populations. So ideally, we would be pulling data and accessing it and analyzing it. But it has to be done in a manner that respects tribal sovereignty. So there's ways to do it. There's very good case examples of how to do it with data sharing agreements. And then I just I would love to see in the future with the tribes, tribal epidemiology centers and CDC are just working in close collaboration. For data sharing and using the data to address and measure outcomes. Thank you very much.

Bob Brewer: Hi. I'm Bob Brewer. I'm the former Director of the CDC Alcohol program. Thank you for your excellent talk. As I'm sure you're well aware, excessive alcohol use is a key risk factor. And you alluded to this in your talk for a lot of Aces and of course, a lot of other problems too. And given where you are from the Pine Ridge Reservation, you're probably well aware of what was the environmental disaster, I would call it, in White Clay, Nebraska, right across the border with the Beer Stores that were basically engaging in predatory marketing with the Native American population in Pine Ridge. So the the good news there, as you may be aware, is that those stores were closed down and it was through activism involving members of the tribe, other tribes, and then outside partner groups. But it took a long time and there were an awful lot of harms that resulted in the intervening. So my question to you is, I think you gave us a lot of really good recommendations, but how can we better empower or help to support empowering tribal members so they can push back against environmental hazards like existed in White Clay that are not actually within their sovereign nation that basically are taking advantage of that population.

Doctor Warren: Yeah, it's an excellent point and excellent question. And I think one important starting point is when we look at all of the data sets that address alcohol use, we do have a higher percentage of people who binge drink and that's where we see a lot of the dangerous health outcomes. But in every data set I've seen among American Indians, we also have the highest rates of abstinence from alcohol. So isn't that interesting? We could look at one data set and see there's problems with alcohol, but we could also look at that same data set and say American Indians are the most sober population in the country because we are right. So what is it on that end of the The Bell curve, so to speak, that is providing the strength and the resilience and the cultural factors that are leading to sobriety and very high rates in many of our populations, including Pine Ridge. So I think in the general population, we see lower rates of binge drinking, more social drinking and less abstinence for American Indians, kind of an inverted curve, higher rates of binge drinking, less social drinking and much more complete abstinence. So instead of just the negatives, we also need to as part of the solution identify what are those resiliency factors, how do we strengthen those and how do we invest in those. But it also requires a new way of thinking to invest in culturally based resiliency strategies. But that's got to be part of our solution.

Bob Brewer: Right, and I would just add changing the environment around the tribes around the the reservations, which so often are very toxic,

Doctor Warren: yeah, the border, border communities can be very challenging. Absolutely. So thank you so much for that question.

Parmi Sachdev: Hi there. I'll Parmi Sachdev from CDC Central America Regional Office and in Guatemala. And so I worked my entire career at CDC in in global health, which is really you know about reducing inequities, inequities and focusing on equity. And then and I guess one of the things I've noticed working in Guatemala is, is, is the need to engage with indigenous communities. That's in some ways the elephant in the room in terms of how we can improve health. So, so my question is what's your advice to to those in CDC working in global health on on how they can? You know, apply some of the principles you've discussed in your work here in the US to to working with indigenous communities globally.

Doctor Warren: And it's a very important issue. And I think one one thing to keep in mind is that there's such diversity across indigenous populations, diversity in cultures, diversity and health patterns and diversity and language, but also even diversity in the governance structures of the countries in which they are located. So there wouldn't be kind of a 1 size fits all approach, it would be have to be each population engaged with a unique strategy, but the best way is to have local champions. You know, at least with the community engaged research and other projects that I've done, having local champions who can advocate for these efforts is much more effective than having teams of well trained scientists, for example. So cultivating and growing the the local indigenous champions for these efforts would probably be a good strategy. But I would envision each community would be just a little bit different. Each nation would be different in terms of how that's done. Thank you.

Audience Member: Hi, thanks. Thanks so much for the the talk. I'm part Savastani, I'm a first year EIS officer my my backgrounds in anthropology and so this question is a little bit based in in that past training I had. But one one of the the I don't know concepts or topics that I heard a lot while I was doing my PhD from indigenous scholars was that you know to push against the idea that settler colonialism is something of the past and it's very much active today in the United States and it's. There's it's not just a legacy, it's continuing. And I was just wondering if you could speak about that a

little bit and also you know, speak about how if, if you know what your thoughts are on that. But if we do think of settler colonialism as something that's continuously happening, how does that affect what we think about public health for indigenous communities? You know that, you know some of these offenses are continuing to happen, not just we're not just facing the consequences of something that happened fifty, hundred, two hundred years ago. Thank you

Doctor Warren: Yeah. Great question. There's clear example is this in the state of North Dakota, the Dakota Access pipeline issue for example, the the more direct route and the narrower part of the river where that pipeline would have gone for oil was actually right next to Bismarck, the state capital. But they didn't want it there. So they put it just north of the reservation, the Standing Rock community. So that that is just a clear example of looking at our population as less valued, right. And that's that's still going on now and even challenges in some states pushing back against tribal ID to vote. You know, trying to marginalize even further, you know, so so it's still going on and there's just many, many examples of that occurring now. So we can't think of the impact of settler colonialism or the idea of colonization is just something that's in the past. There's remnants of that activity going on forward and certainly has an impact on public health. Thank you.

Pauline Harvey: Hi. Thank you so much. Pauline Harvey, epidemiologist, Division, Division of Global HIV and Tuberculosis. I was particularly struck by your reference to naturopathic medicine, medicine coexisting along with allopathic medicine. Clearly, you're talking to a population here in this room that primarily practice or within our public health sphere, allopathic medicine. What are your thoughts around pushing this space more in terms of having both coexist and looking more towards leveraging nature and healing and for preventive medicine?

Doctor Warren: Yeah, and you know, it's really fascinating when I think about this. It's really through more of an indigenous lens and the Lakota tribal systems that I was taught from a very young age. And that we have a much more holistic view of health and healing. And that there are remedies that have been used for thousands of years. But once they're isolated in the laboratory, then suddenly they're validated, I guess. But we have so many other types of remedies and interventions that are of value. So again, even think of mindfulness. If the impact and the outcomes of mindfulness were in the form of a pill, it would be standard practice. Right. But since this mindfulness, this alternative and it's not integrated. So I think that what we have to recognize is that in allopathic medicine we're very good at dealing with physically based types of issues. We can prescribe medications to address hypertension or infectious disease. But when we're looking at unresolved trauma, there's no pill that's going to to fix that, right. We have to recognize that not every health condition is going to be resolved in the pharmacy. We have to have other types of interventions. And I love the old saying when your only tool is a hammer. Every problem becomes a nail, right? And that's what I observe in modern medicine. But in traditional, indigenous forms of medicine, we're much more open minded about that. So I think we just need to have the humility to be open minded enough to recognize that there's other solutions. Thank you.

Noah Berg: Thank you for your amazing talk. My name is Noah Berg and I'm one of the Laboratory Leadership Service fellows in the first year. And you talked a little bit about trauma informed care and you talked a little bit about trauma informed epidemiology as a laboratorian I'm curious if you could talk at all about perhaps the concept of trauma informed laboratory sciences within the public health sphere, thanks.

Doctor Warren: Yeah, absolutely. And I think part of what we just have to recognize is that what we're finding in the laboratory data that there is a a unique basis for it for for many populations, not just

indigenous peoples. But recognizing that when we see disparities in outcomes that there are reasons for it. And I think in any setting where we can decrease the amount of maybe judgment that occurs against populations or perhaps even look at how we might have more empathy toward populations in any setting. In the health system, that's of great value. And recognizing that when we're looking at the data, there's a lot of human suffering associated with that. You know, I showed a chart with infant mortality rates, for example, look at all of the tremendous human suffering associated with that. And we have to be mindful of that and cognizant of that and certainly a non judgmental approach toward it. So I think there's just room for all of us and any system within healthcare and epidemiology where we could have more empathy and understand the basis for the disparities. Thanks for the question.

Aaron Moritz: Hey, Aaron Moritz with Environmental Health. Very nice presentation. I grew up in North Dakota, so I feel like I have to say hi to anybody else who lived in North Dakota. But as you've pointed out the this is these are very unique communities and rural areas as well can be very unique communities to go into from public health perspectives. I would if you have just like two or three maybe pieces of advice that you could give to officers especially you know, because their officers go into you know, maybe outbreak situations or very, you know, very high pressure situations. Where, you know, tensions are high. Any advice that you have to give to our officers? I think that would be really helpful. Thank you.

Doctor Warren: Yeah. And that's a great question. I know that quite often when there's a response, there's there's an immediacy and there's challenges just related to getting everything set up. But in an ideal setting, which does not always occur, of course, but having a good understanding of the history of that community that we're working with, What is their history? What is their language? Why is it that they live in the certain arenas that they do? And what are their perspectives on health? What is, what are the sources of some of the challenges? You know, when we had the hantavirus response back in the 80s and 90s, it was really remarkable. They, they actually convened ES, convened traditional Navajo medicine men and they said, well, it's because, you know, we had a lot of rain. An unusual amount of rain upset the balance of things and led to this virus. And one of the CDC representatives was just wonderful. He said, well, that's absolutely true. Because of that there was more of vegetation, there were more field mice. Therefore, there was more hantavirus. So I think being respectful of traditional perspectives and seeing where the touch points are, where there's integration of indigenous knowledge and and and medical science or epidemiological science because those are not mutually exclusive. So as much as we can understand the communities that we're working with and being respectful of indigenous knowledge. Thank you.

Keren Landman: Thanks so much for a terrific talk. My name is Karen Landman. I'm a health reporter at Vox and EIS, class of 2012. STI's are on the rise, especially syphilis and especially especially congenital syphilis. And the racial ethnic group with the highest rates of rise and the highest rates altogether are American Indian, Alaska Native. I wonder what you think are the most important components of a good public health response to this emergency unfolding in these communities.

Doctor Warren: Yeah. And again the messenger really matters in Indian Country, probably any population. The messenger really matters and the more we can do to identify and cultivate champions from within the community who can help share the messaging and who can help with the health education. And again, it's not just, I mean historically and public health. We haven't done a real good job of that type of communication or like really busy posters with lots of words and put it on the wall. That's not going to do anything, right. We actually have to make sure that the messenger is someone who's respected and will be listened to So the more that we can do to identify champions for this type of an issue and effort for response and prevention, I think that's going to be our best strategy is

making sure that the people relaying the messages or actually community members, so it's got to be important part of community engagement.

Swollen Banerjee: Hi, my name is Swollen Banerjee. I'm a mathematical statistician here in CDC in in Center for Environmental Health and thanks for so powerful talk about these issues and it seems to me that I am. I was watching your picture of all these things that you have shown here. This is this is an enormous problem but but do you think that only the epidemiological studies that you are showing can solve the problem? I I was thinking that like what about the political representation so of indigenous people? And do you feel like that you should work towards that? That way you will have like senators, House of Representatives who can take the issues of the indigenous people and they will understand what is going on. Like you pointed out that people really didn't understand what was and even now maybe there are issues that people will not understand. These epidemiological studies of course help people become knowledgeable about it, but I was thinking that, politically do you have any solution to intervene in this society?

Doctor Warren: Well that's certainly a lot of work going on in that space. We need a multi pronged approach. It's a very dynamic challenge. We need a dynamic response. So the political side certainly is a component of that and we just don't have adequate representation. As I mentioned it took until this administration before we finally had an American Indian cabinet level position, you know with the Department of Interior. But we also need more of our own elected officials. The challenge is that where we see the highest concentrations of American Indian population, we also see a lot of political challenges and pushback against ideas related to equity and diversity. So we just happen to be located in states where that's not well received and there's pushback, active pushback against it. But we still need to push in that direction. We need more people even on school boards look at curricula and the books that we're using. We need more people at state legislative decision making regarding things like Medicaid and other real practical programs and solutions to address, address, HealthEquity, but certainly at the national level. And I don't know if I'll see it in my lifetime, but I would love it if eventually an indigenous American was the president of the United States. I would love to see that.

Swollen Banerjee: Thank you.

"Applause"

Moderator: Please. We have time for one more question, I think. Yes,

Eric Moring: Thank you. My name's Eric Moring. EIS class of 2019 and now with the Center for Forecasting and Outbreak Analytics. I was really struck by your comment about values being the central part of evaluation and how different people and groups have different values. They they are working towards different goals and that's an eminently reasonable thing. I wonder if you have some examples of evaluations of public health programs or I guess any other sort of program for that matter. That have really tried to start from the perspective of understanding what are even the the values and the outcomes that that we're trying to optimize as opposed to just assuming that there's some thing to be evaluated and then kind of going off to evaluate that.

Doctor Warren: Absolutely. So when I worked at the Great Plains Tribal Chairman, Health Board, I was Executive Director there and we did have a grant from a federal agency which will go nameless, but we, we actually part of our outcomes evaluation included intergenerational communication. We wanted elders and youth to to come together and what we were told by the program official is that "no, no, no, that's a process." Right. No, no. For us that's an outcome, right. So so and that's just the

difference in values, right. What's more important, I mean from maybe the non indigenous purely scientific perspective that is a process, but for us that's an outcome, you know, so even just how we frame what's process and outcome is purely values based. And again I think with the lack of diversity in those decision making arenas where we're identifying outcomes that we, we tend to see challenges related to culturally relevant evaluation measures. So but that's just one example of many, many that we could talk. Yeah.

Eric Moring: Thank you

Moderator: OK, you can have the last question if you're if you're if you're quick,

Francis Knight: It's a very small question, hopefully not silly. My name is Francis Knight. I'm an incoming LS fellow and I'll be working with the division of healthcare quality promotion and I really appreciated you talking about the terminology at the beginning and I agree like words matter, but a lot of people don't want to bother with it. So when you discussed how indigenous is like kind of the term that captures all these different groups, I was wondering if you think it's important in the future, to change the name of the Indian Health Service to be indigenous instead or is that like technically incorrect or not a battle worth fighting?

Doctor Warren: Yeah, so that's a great question, very timely because OMB is going through reassessing the race and ethnicity designations and the challenges that the word Indian is so embedded into our legal history. It's even in the constitution. Indian tribes are in the Commerce Clause of the US Constitution and there's legal basis for Indian Health Service and Bureau of Indian Affairs, so it would be a huge heavy lift to change of terminology in the future would be wonderful to do but I'd rather see our HealthEquity achieved first, then we could look at some of those other challenges. But, but I agree, I wish we had better terminology.

Francis Knight: I was thinking at least it's already an I so.

Doctor Warren: Very good point. Thank you so much.

Moderator: Good. Well, please join me in thanking Dr. Warren and I'll invite him to come.