Roadmap for Resilience: The California Surgeon General's Report on Adverse Childhood Experience, Toxic Stress, and Health Webinar Transcript

December 10,2020

Jennifer Ryan: Good afternoon and thank you for joining us today for this exciting event. My name is Jennifer Ryan and I serve as the executive vice-president at the Aurrera Health Group, and we are proud to be supporting the Office of the Surgeon General and the Department of Health Care Services on the ACEs Aware initiative. It is my pleasure to have the opportunity to facilitate this webinar featuring the groundbreaking Roadmap for Resilience, the California Surgeon General's report on Adverse Childhood Experiences, toxic stress and health.

Jennifer Ryan: First, a few quick housekeeping items. Thank you to those of you who submitted questions in advance. Due to the amazing turnout today, we will have to have all attendees have their microphones muted, but we do welcome your questions in the Q&A function. We ask that you submit your questions and our ACEs Aware team will be monitoring them throughout the presentation and we will answer as many of the questions as time allows after Dr. Burke Harris finishes her presentation.

Jennifer Ryan: Now let's get started. In 2019, California set a bold goal of reducing ACEs by 50% in one generation, guided by the principles of prevention, equity and scientific rigor. The Surgeon General's report lays out a rigorous scientific framework designed to offer shared language and a shared understanding for these cross-sector efforts. The ACEs Aware initiative is serving as the clinical foundation for that work. We hope that this document, the Surgeon General's report, will serve as a helpful road map for other states and those of you in California as well who are interested in addressing ACEs in your communities.

Jennifer Ryan: With that, it is my great pleasure to introduce California's Surgeon General, Dr. Nadine Burke Harris.

Dr. Nadine Burke Harris: Thank you so much, Jen, and I am so excited to see the turnout for this webinar. This is so exciting and I'm thrilled that we are... We are at the moment. I feel like I've been 18 months pregnant with this report and now for the report to be launching, I'm just incredibly pleased to be able to share with you all. So, let me go ahead and advance the slide. There we go. So, I'm pleased to share with you

Roadmap for Resilience, the California Surgeon General's Report on Adverse Childhood Experiences, Toxic Stress and Health. And the report is available now on the website for the Office of the Surgeon General, osg.ca.gov. You can go there and download the full 438-page report. As well, there are... There's an executive summary and briefs that actually pull out some of the key themes and highlight according... What folks can do by sector as well as some of the key themes, for example, how ACEs and toxic stress are interacting with the current COVID-19 emergency.

Dr. Nadine Burke Harris: I want to thank all of the folks who have shouted us out on social media. You can also find the social media toolkit on the... At osg.ca.gov website. And this public webinar is being recorded and the recording of the webinar will also be available on the website at that time.

Dr. Nadine Burke Harris: Now, I know that many folks know that this key issue of Adverse Childhood Experiences and toxic stress has been a passion of mine. It's been so exciting to see all of the folks across California, all of the folks within government, across our state and in fact, around the world, who have contributed to this report. We could not have done this report without the expertise and contribution of many, many, many experts across fields, and so I want to thank all of the authors on this report as well as our reviewers, both within the state of California and our external reviewers, experts across the world.

Dr. Nadine Burke Harris: And moving forward, what we understand is that Adverse Childhood Experiences and toxic stress represent a public health crisis. ACEs and toxic stress are the root cause of some of the most harmful, persistent, and expensive societal and health challenges facing our world today. And that has never been more poignant than what... In reflection of what we've experienced during this year, 2020. Our multiple simultaneous public health emergencies, the COVID-19 pandemic, the impacts of climate change felt here in California as record-setting wildfires, and our sharper focus on the deep-rooted systemic racism in our society only highlights how important it is for us to have trauma-informed systems to be able to buffer the long-term harms of these stressors because we recognize that our vulnerable and systematically overlooked communities bear the brunt of each new crisis.

Dr. Nadine Burke Harris: And this Roadmap for Resilience report was designed to address the impacts of Adverse Childhood Experiences and toxic stress using... Starting with grounding in a rigorous scientific framework, right? And when we have that rigorous scientific framework, that serves as the foundation for policy action to support a cross-sector and systems level approach. This report and this work is rooted in our core values of prevention, equity and rigor, and throughout the report what

you all will see is guidance on how this science can be applied, both to address inequities and also in the context of the COVID-19 pandemic.

Dr. Nadine Burke Harris: Now, to start with some level-setting, a reminder that the term Adverse Childhood Experiences refers to 10 categories of experiences that were investigated by the CDC and Kaiser Permanente in the landmark Adverse Childhood Experiences study. And those include... Oops, sorry. We're going to go back one more. Those include physical, emotional and sexual abuse, physical and emotional neglect or growing up in a household where a parent was mentally ill, substance dependent, incarcerated, where there was parental separation or divorce or intimate partner violence. And what we see is that across the United States, almost two-thirds of Americans have experienced at least one Adverse Childhood Experience and almost 16% have experienced four or more. Here in California, the numbers are very similar, though slightly higher. 62.3% of Californians experience at least one ACE and 16.3% experiencing four or more. And though we know that ACEs occur in all communities, in all income levels, in all geographies, in every latitude and longitude, we also recognize that certain groups are more impacted. And so, the latest national data shows us that our black and brown communities as well as our LGBTQ communities experience greater levels of ACEs.

Dr. Nadine Burke Harris: One of the key findings of this report is that ACEs are causally associated with the toxic stress response. And I know for many of you who are very familiar with ACEs and toxic stress, you may be thinking, "Wait. Didn't we already know that? Is this one of these findings that's like water is wet?" But it turns out that in this report, one of the things that was very powerful was that we brought together the body of science to really put that through the scientific rigors. Just as a previous U.S. Surgeon General's report established the causal relationship between smoking and lung cancer, similarly in this report, the researchers and scientists that contributed to this report really highlighted that ACEs are causal of toxic stress.

Dr. Nadine Burke Harris: And when we're talking about toxic stress, we refer... We anchor on the definition that was highlighted in the consensus report from the National Academies of Sciences, Engineering and Medicine, of defining toxic stress as the prolonged activation of the stress response system that can disrupt brain development, development of brain architecture and other organ systems, and increase the risk for stress-related disease and cognitive impairment well into adult years. And we recognize that in addition to ACEs, other risk factors for toxic stress include poverty, exposure to discrimination and exposure to the atrocities of war.

Dr. Nadine Burke Harris: In walking through the definition of toxic stress and making this association, determining the causal inference between ACEs and toxic stress, the researchers who contributed to this report really put it through the scientific paces, looking at the Bradford Hill criteria which was adopted by the World Health Organization that really details how do we demonstrate the evidence to establish a causal association. And so, in this report, you'll see laid out the evidence that ACEs are causal of toxic stress.

Dr. Nadine Burke Harris: Now, what we know about Adverse Childhood Experiences, many of you may be familiar, is that ACEs dramatically increase the risk for nine out of 10 of the leading causes of death in the United States, including heart disease, cancer, accidents, chronic respiratory disease, stroke, Alzheimer's, kidney disease and suicide attempts. And the annual cost to ACEs to the state of California alone is $112.5 billion, simply due to the health care costs and the loss productivity from these eight ACE-associated health conditions. In addition, we see another $19.3 billion of costs due to child abuse and neglect on the impact of other sectors, such as education, welfare, criminal justice and looking at lifetime productivity. In North America and Europe, when we look at global data, we see that the annual cost of ACEs is $1.3 trillion annually.

Dr. Nadine Burke Harris: And so, when we think about Adverse Childhood Experiences and toxic stress as a public health crisis, what we mean is that many, many people are affected, two-thirds of Americans. We see that the effects are significant, dramatically increasing the risk for nine out of 10 of the leading causes of death in the U.S. and that the impacts on our society in terms of cost are tremendous. And so, truly, we see that ACEs and toxic stress represent a public health crisis.

Dr. Nadine Burke Harris: And in this report, Roadmap for Resilience lays out a plan for how we move forward in a coordinated cross-sector fashion. Part One of the report does a deep dive into the science, scope and impacts of Adverse Childhood Experiences and toxic stress. Part Two of the report outlines a public health approach for cutting ACEs and toxic stress in half in a generation, looking at primary, secondary and tertiary prevention and highlighting the importance of doing this work across sectors, including health care, public health, social services, early childhood, education and justice. Part Three of the report offers a detailed what, why and how of California's response to ACEs and toxic stress, something of a blueprint that any state, nation or even county, region or municipality can learn from and innovate from California's experiences. What tools and strategies we utilize and how we deploy the work that we did. And Part Four really highlight what lies ahead, our evaluation of some of the key impact... Key parts of California's strategy as well as looking ahead to next steps.

Dr. Nadine Burke Harris: Some of the key takeaways from this report include number one, the rigor. This report combines perspectives on ACEs and toxic stress from global experts across sectors, specialties and discipline. The second is that toxic stress is a health condition amenable to treatment. The third is that prevention is necessary at all levels. An effective response requires primary, secondary and tertiary prevention. None of these strategies is sufficient alone and each extends the reach of the others. And the need for a cross-sector approach. Addressing this public health crisis requires shared language, shared understanding of the problem, clarity of roles, shared metrics and accountability. And finally, we highlight California's foundational leadership to chart the course for cutting ACEs and toxic stress in half in a generation.

Dr. Nadine Burke Harris: So, as I mentioned, a key finding is that toxic stress is a health condition amenable to treatment, and while for many who are in the field of toxic stress, this may seem intuitive, like something that we already recognize, but it was important for us to highlight because one of the questions that comes up that we hear, that comes up over and over again, is, "Oh, okay. So, we identify ACEs, then what? We identify ACEs, but what does it really mean? Why are we screening for ACEs?" And one of the things that we understand is that ACEs are a risk... Are ACEs are causal of toxic stress and toxic stress is a health condition that's amenable to treatment.

Dr. Nadine Burke Harris: So, when we talk about the toxic stress response, I want to start by grounding in the science here and reminding folks that our stress response is categorized in one of three categories. The positive stress response, which involves brief activation of our stress hormones, heart rate, blood pressure, and that homeostasis recovers through the body's natural coping mechanisms. When we talk about the tolerable stress response, we're talking about the stress response that's in response to more severe stressors, a time-limited activation of the stress response that results in more systemic changes, right? And homeostasis recovers through the buffering effects of caring adults and other interventions. I want to... What I want to highlight there is that the difference between the tolerable stress response and the positive stress response is that the tolerable stress response requires interventions. That's where we're starting to see some temotology. We're starting to see effects, but with intervention we can restore the body's biological balance, right? And get back to baseline.

Dr. Nadine Burke Harris: The toxic stress response refers to prolonged activation of the biological stress response that leads to disruption of brain architecture and increased risk of stress-related diseases and disorders. And one of the things I want to highlight here is that... So, colloquially, many folks, when we use the term toxic stress, often use the term to refer to the stressor, right? The toxic stress of X, Y, Z. But we want to highlight, really ground in the science that shows that the toxic

stress... The term toxic stress really refers to the toxic stress response, which is the body's biological stress response. And that prolonged activation of the body's biological stress response is really the thing that we can target for treatment.

Dr. Nadine Burke Harris: This report is based on the latest and most rigorous science in the field of toxic stress. We see that early adversity is impacted by genetic variability and genetic endowment, that early adversity in the context of biological susceptibility can lead to changes in our genetics, reprogramming of our stress and immune regulatory systems and disruption of our neuro development. And these lead to changes in the developmental trajectory, right? In biological changes that alter the long term developmental trajectory that leads to outcomes, both in childhood and in adulthood, an increased risk of cognitive deficits, disease, psycho-pathology and other social problems. And when we simplify this, right, down into a more simple way of saying this, is that early adversity can be buffered by protective factors but is also influenced by pre-disposing vulnerability.

Dr. Nadine Burke Harris: And we really do a deep dive into the science of how early adversity can lead to some of these long term health challenges. We detail in this report the changes to the neurologic and neuro-endocrine systems, the immunologic and inflammatory systems, our endocrine and metabolic systems and our epigenetic and genetic systems. And these long term changes are what leads to the increased risk of health conditions, or what we known as ACE-associated health conditions. And if you go to the ACEs Aware website, as many of the ACEs Aware providers in California will know, on the ACEs Aware website we actually have these lists of ACEs... ACE-associated health conditions, both in adults and also in the pediatric population as well.

Dr. Nadine Burke Harris: This biology of toxic stress we now know, right, that early adversity leads to intergenerational transmission of toxic stress, both directly through biological mechanisms, including stress hormones, neuro-endocrine, immune and metabolic dysregulation and also through behavior. So, we see that parent ACEs are combined with historical and cultural trauma and social determinants of health to inform parent risk of toxic stress, which is this biological... These biological changes in stress hormones and neuro-endocrine immune and genetic regulatory dysregulation. That affects parent factors including the ability to conceive, changes to stress system genes and parent both mental and physical health. This, in turn, affects pre-conception and in utero factors and goes on to affect post-natal factors, influencing the next generation and increasing the risk for child physical and mental health outcomes as well as child behaviors. So, we really detail the science behind the intergenerational transmission of adversity.

Dr. Nadine Burke Harris: So, now that we understand that... In a deep level, that science, right? As we walk through in Part One the science of toxic stress and intergenerational transmission, one of the key take-homes is that toxic stress is amenable to treatment, right? So, this is the hopeful piece of the report, is because new opportunities, advances in the science allow us to more precisely interrupt the toxic stress response.

Dr. Nadine Burke Harris: Allow us to more precisely interrupt the toxic stress response, to break that intergenerational cycle of ACEs and toxic stress and promote an intergenerational cycle of health. We know from the data that early intervention can improve brain immune, hormonal and genetic regulatory control of development. And we recognize that treatment of toxic stress in adults can prevent transmission of toxic stress to the next generation. And within the report, we really detail and highlight the science of how to interrupt that toxic stress response. So we see things like high-quality nurturant caregiving has an impact on the development of a brain structures. We see that responsive caregiving is key in improving cortisol reactivity in children. We see things like time in nature can reduce the activation of the sympathetic nervous system, which is a key actor in the fight or flight response.

Dr. Nadine Burke Harris: And so throughout the report, you'll see that we highlight the science of how to interrupt the toxic stress response and really lay forward the evidence-based interventions that can buffer this toxic stress response, including supportive relationships, quality sleep, balanced nutrition, physical activity, mindfulness practices like meditation, access to nature, and of course, high quality mental healthcare. So we now and in addition, one of the things that the report highlights is the association between ACEs, toxic stress and COVID-19. We know that ACEs increase the burden of ACE-associated health conditions like heart disease, chronic lung disease, kidney disease, and obesity. And these predispose for a more severe COVID-19 disease and increased risk of death.

Dr. Nadine Burke Harris: We also know that those with a history of ACEs may be stress sensitized or more susceptible to the health effects of new stressors. And we highlight the data that widespread infectious disease outbreaks, natural disasters, economic downturns, and other crises have in common. They themselves can directly activate the stress response and lead to increased risk of cardiovascular, metabolic, immunologic and neuropsychiatric risk.

Dr. Nadine Burke Harris: Another key findings of this report is that curbing the intergenerational transmission of ACEs and toxic stress requires a public health approach utilizing a coordinated, multi-sector strategy to advance prevention, early detection and evidence-based interventions. And the good news, and this was one of the most exciting things about pulling together the report, is to be able to recognize and

see that strong work is already happening across sectors, but there is need for coordination. And we recognize that this work must be rooted in rigorous science. Another key finding of the report is that an effective response to ACEs and toxic stress requires prevention at all levels. So when we talk about primary, secondary and tertiary prevention, what are we talking about? That's public health speak for primary prevention is what most of us you and I think about as prevention, it targets healthy people, targets the entire population, and it aims to prevent harmful exposures from ever occurring.

Dr. Nadine Burke Harris: Secondary prevention is what we think about in terms of early detection. It involves screening to identify individuals who have experienced an exposure and prevent the development of symptoms, disease, or other negative outcomes. Tertiary prevention is what we think of treatment or intervention. It targets individuals who have already developed a disease or a social outcome and aims to lessen the severity, progression or complications associated with that outcome. So what we recognize is that none of those is enough in and of itself. We need in order to cut ACEs and toxic stress in half in a generation, we need primary, secondary, and tertiary prevention to be working together in a coordinated fashion.

Dr. Nadine Burke Harris: Similarly, when we look at our multiple sectors who are addressing this issue, no one sector alone is going to be able to solve this problem. This is not something we're going to solve in the exam room. In fact, we need to apply primary, secondary and tertiary prevention in health care, in public health, in social services, in early childhood, in education and in justice. And so part two of the report is a deep dive. The way that it's organized is that there is a section within part two on each of these sectors on laying out what does primary, secondary and tertiary prevention look like in justice and education in each sector?

Dr. Nadine Burke Harris: So when we talk about primary prevention, a great example of this and one of the things that we do throughout the report is really give concrete examples of successful past efforts. One example of primary prevention is the work that we've done on tobacco, right? We see that, that public education about the harms of tobacco dating back to the Surgeon General's report on tobacco. The fact that smoking causes lung cancer really, it was years later when we put into place a really concerted primary prevention effort, which use that science to educate the public, to say don't smoke, quit smoking. And even more importantly, preventing young people from starting to begin with, right? Because once we saw the science that smoking was highly addictive, it targeted our strategies to say we were going to focus on preventing teen smoking and through a concerted primary prevention effort we were able to reduce teen smoking in the United States from 25% of 12th graders who were smoking in

1996 to by 2016 that number reduced to only 5%. We did that in one generation, 20 years.

Dr. Nadine Burke Harris: When we look at secondary prevention, an excellent example of secondary prevention or screening for the purposes of early detection and early intervention, is that a blood exposure. When we understood the science that lead is a neurotoxin that it leads to irreversible brain toxicity. What we did then was we began testing, right? We looked at the science that said that children are most vulnerable to the effects of lead. And so we began routinely screening children for lead levels to assess their lead exposure. And through that process, we were able to look at population lead levels and implement strategic policy initiatives, removing lead from gasoline, from paint, from pipes and other environmental sources of lead to the point that between 1980 and 2000, we dramatically reduced the population lead exposure. We did that in 20 years, one generation.

Dr. Nadine Burke Harris: A great example of tertiary prevention comes from our work here in California on maternal mortality. Now, we know that maternal mortality has many, many, many, many causes, but here in California, the California Department of Public Health partnered with researchers at Stanford University to create the California Maternal Quality Care Collaborative and together they did a comprehensive process of seeking to mitigate and reduce maternal mortality through working in partnership with our hospital systems. And between 2006 and 2013, maternal mortality in California decreased by 55% while nationally maternal mortality continued to rise. And one of the reasons why this effort was so powerful, one of the things that I want to highlight is that that tertiary prevention effort, that hospital-based treatment effort improved outcomes for everyone. But when we break out those outcomes by race and ethnicity, what we see is that our communities that were most vulnerable, who had the worst outcomes in this case, our African-American moms also had the greatest improvement in outcomes.

Dr. Nadine Burke Harris: So that's where we see the greatest declines in maternal mortality due to the California Maternal Quality Care Collaborative. Similarly, it may be a little hard to see here, but the orange line here is our Latina moms. And we see this really steep decline among our Latina moms in response to this tertiary prevention effort. And part of the reason I make that point is that when we think about tools for equity, we recognize that we need all hands on deck. When we think about efforts for equity they need to be in our primary prevention efforts, our secondary prevention efforts, and in our tertiary prevention efforts. Biomedical science and biomedical implementation can be a tool for equity as well.

Dr. Nadine Burke Harris: And a place where... An example that we weave in throughout the report of how this work really, really comes together is with the example of HIV/AIDS. Now, for many of us we remember back to the early 80s when the AIDS pandemic came on the scene. And initially the tools that we had were primary prevention, was education, condoms, and needle exchange, preventing folks from being exposed to begin with. And then we developed the HIV test and that allowed folks to get tested and to know if they were at risk, it allowed doctors to be able to do better treatment of opportunistic infections, but still we were seeing this extraordinarily high death rate from HIV/AIDS. And when we combined that with tertiary prevention and ultimately the development of therapeutic targets to create highly active antiretroviral therapy, what we saw was a dramatic decline in HIV/AIDS deaths. And again, I want to highlight that this top line here in blue is our death rate for African-American males. This next line here is our death rate for Hispanic males. Our next line here is African-American females.

Dr. Nadine Burke Harris: So when we combine these efforts of primary, secondary, and tertiary prevention, the power is not only dramatically reducing deaths and between 1996 and 2016 in the United States, we were able to reduce deaths from HIV/AIDS by 87%. We did that in 20 years, one generation. But in addition, what we saw was that the greatest gains were for our most vulnerable communities. And so we see again, that primary, secondary and tertiary prevention can combine to not only improve outcomes, but reduce inequities. Throughout the report what you'll see is that we take this approach of primary, secondary, and tertiary prevention across six sectors, including healthcare, public health, social services, early childhood, education and justice.

Dr. Nadine Burke Harris: And if you go to the osg.ca.gov website, you can download the brief for those of you, I know that all of you are going to curl up tonight with all 438 pages of the report and read it from cover to cover. I know this, but in case you need to pass on some information to someone who is maybe a little bit less interested than you are. We have created these briefs that are available by sector on the osd.ca.gov website that really highlight what are some of the strategies for primary, secondary, and tertiary prevention for each sector.

Dr. Nadine Burke Harris: Now, another key point that we highlight that is critical for success is that cross-sector coordination requires shared language, shared metrics, role clarity, and clear lines of accountability. And that was one of the efforts that we sought to accomplish in the Surgeon General's report, right? Really it's something that is a new concept of how our sectors can integrate, how we can ensure that we are having primary, secondary and tertiary prevention across all sectors. And how do we in healthcare talk to education, how does education talk to the justice system? How does justice talk to social services? How do we connect amongst

each other? Because that also is a critical point that is necessary in reducing ACEs and toxic stress in half in a generation.

Dr. Nadine Burke Harris: And so we give some highlights of examples of folks who are doing just that. One great example is the Handle With Care program. It was originated in Charleston, West Virginia, and when law enforcement arrives on scene, where there is a traumatic experience happening, whether it's intimate partner violence or an overdose or something along those lines, they get the information about where the child goes to school and without conveying any confidential information they send a heads up to the school to say, this child was on scene at something traumatic yesterday, handle with care. And what that allows educators to do is if they notice challenges in that child's behavior the next day, rather than responding with harsh disciplinary practices, suspending, or expelling that child, they can respond with trauma-informed care, right?

Dr. Nadine Burke Harris: They can be part of that nurturing buffering care for that child to make it more likely that that child's stress response stays in the tolerable zone rather than tipping over into the toxic zone. And so teachers have been trained on the impact of trauma and learning, incorporating interventions to mitigate the negative impact of trauma for identified students. But if those students need some extra support, they can refer those patients, those students to a specialist, to mental health providers, to counselors for them to receive continued behavioral or emotional support. And so this is a great example of our justice sector connecting to our education sector connecting to our healthcare sector. This is the example of cross-sector collaboration that we wanted to highlight in this report to seed innovation. And this is something that at the Handle With Care program is something that's been implemented in two counties in California and I believe that New Jersey as a state just implemented the Handle With Care program.

Dr. Nadine Burke Harris: Another example of, sorry, if you could go back on slide another example of cross-sector coordination is the ACERT team, the Adverse Childhood Experiences Response Team. This originated in Manchester, New Hampshire and ACERT trains a multidisciplinary team made up of a plain clothes detective, a family advocate, and a crisis advocate. And the ACERT team is deployed when a child has witnessed violence in the home or witnessed violence to which the police are called on scene. And what ACERT does after that experience occurs ACERT performs a home visit immediately after the incident and provides education to that family on ACEs, the effect on child's health and development, as well as linkages to necessary support services. In the first three and a half years, they have provided services for almost 1,500 children. So again, that's a great example of how our justice system can coordinate with our social service

system and coordinate with healthcare so that we can do early intervention and improve outcomes for kids.

Dr. Nadine Burke Harris: Part three of the report really highlights California's response to ACEs and toxic stress and provides a blueprint to some of our best thinking in California. The what, how and why and it starts with leadership. In his first hours in office, Governor Gavin Newsom created the role of California Surgeon General and really charged that role of addressing the upstream factors that are ultimately the drivers of some of our most challenging and intractable health challenges. And thanks to Governor Newsom's empowerment and that charge, I in taking the role of the California's first Surgeon General, really number one, this first Surgeon General's report is the result of the creation of the role of the California Surgeon General.

Dr. Nadine Burke Harris: We hope that it provides a rigorous scientific framework to guide our cross-sector action, but we've also worked within and across government, responding to Governor Newsom's charge, right? And we have convened an ACEs Reduction Leadership Team, which incorporates leaders from across health and human services, the Department of Education, our Department of Corrections and Rehabilitation, as well as the governor's office to think about how through our government policies and practices, we can all be part of achieving our bold goal of cutting ACEs and toxic stress in half in a generation.

Dr. Nadine Burke Harris: We recognize that California has made substantial budgetary investments in primary, secondary and tertiary prevention. And when we think about primary prevention we're talking about multi-billion dollar investments in strengthening economic supports for families, in supporting parents and children with things like CalWORKs or earned income tax credit, or paid family leave all of these as primary prevention strategies. We've made investments in early learning and care with a master plan on early learning and care and with the Early Childhood Policy Council that is informing the work that we are doing in the field of early learning. We recognize that we are doing expansions in healthcare coverage, the multi-billion dollar investments that we are making in expanding the Affordable Care Act and making sure that we are providing access to care for all Californians. And we've invested in the California Initiative to Advance Precision Medicine which currently has a $9 million request for proposals for strategies to address Adverse Childhood Experiences and toxic stress through precision medicine methods.

Dr. Nadine Burke Harris: One of California's key tools has been the development and launch of our ACEs Aware Initiative and this initiative, which aims to train our healthcare providers on how to screen for ACEs, how to identify signs and symptoms of toxic stress and how to respond with evidence-based, trauma-informed care. This program

was designed based on the recommendations from the CDC, the National Academies of Sciences, Engineering, and Medicine, and the American Academy of Pediatrics, which all recommend screening for precipitants of toxic stress. Our legislature provided the regulatory, the statutory framework to support screening and-

Dr. Nadine Burke Harris: ... regulatory, the statutory framework to support screening and provider training through AB 340. We provide the language, that bill language for any other states who want to put forth a similar language.

Dr. Nadine Burke Harris: With $143 million investment over two fiscal years, our governor and our legislature have invested in the creation of the nation's largest secondary prevention effort for Adverse Childhood Experiences and toxic stress.

Dr. Nadine Burke Harris: This first-in-the-nation initiative is a comprehensive approach for large-scale screening and intervening for toxic stress. Since January of this year, we have trained over 15,000 healthcare providers on how to screen for ACEs, how to recognize the signs and symptoms of toxic stress, and how to respond with trauma-informed care.

Dr. Nadine Burke Harris: I have to say all of this has occurred in the setting of a global pandemic. So it really speaks to the fact that our healthcare providers across California have been really thirsty for this knowledge of how we do more trauma-informed care, because we recognize that our healthcare community has so much going on right now. In fact, we recognize that the ACEs Aware initiative, the launch of the ACEs Aware initiative could not have been more timely, right?

Dr. Nadine Burke Harris: Because this COVID-19 global pandemic, and as I mentioned, the impacts of all of the events of 2020 have made trauma-informed care and the need for a trauma-informed workforce, not just in healthcare but across sectors, ever more urgent. We are grounding the work that we are doing in California with rigor and science. So we've created our California ACEs Learning Quality Improvement Collaborative. We give the details of the goals and the anticipated outcomes of the learning collaborative in the report.

Dr. Nadine Burke Harris: Finally, I want to highlight how California... We have utilized really a broad set of stakeholders that have informed our process. In creating the ACEs Aware initiative, we have convened something called the Trauma Informed Primary Care Implementation Advisory Committee, and that is a group of a broad cross-sector stakeholders that are informing our implementation of the ACEs Aware initiative.

Dr. Nadine Burke Harris: In December of this year, December 1st, we just announced $30 million in grants for a network of care. We will soon be releasing the network of care roadmap to help providers better be able to understand, "Okay, I've screened, I've identified that this patient is at high risk of toxic stress. Now what?" Some of the interventions I can do here in clinic, but some of the interventions they require connections to community services.

Dr. Nadine Burke Harris: The goal of our ACEs Aware grants is to connect that that primary care home with the community interventions that are required to prevent and mitigate the impacts of toxic stress. That can be our family resource centers, mental health providers, parent, mentors, social services, all of the services that are required to help mitigate the toxic stress response. So we're really pleased that we just released this RFP and we have the network of care roadmap, which is really the science-based, evidence-based roadmap of how we go from identifying ACEs, identifying risk of toxic stress to then deploying services and improving outcomes in a closed loop system.

Dr. Nadine Burke Harris: Finally, I want to highlight that our healthcare provider directory allows for our more than 15,000 healthcare providers who have taken the ACEs Aware training. Those who choose can opt in to be part of a provider directory. So that if you're an educator and you're caring, you've got a student who you're concerned may be exhibiting symptoms of toxic stress, you can go on to ACEs Aware website, go to the provider directory and find a healthcare provider who you know is skilled and is trained in identifying ACEs and identifying risk of toxic stress.

Dr. Nadine Burke Harris: Similarly, if you are a probation officer and you are getting ready to support someone into their re-entry into society and you want to make sure they're connected to a healthcare provider, you can go to the ACEs Aware website, go to our provider directory and find a provider who is trained in recognizing and responding to ACEs and toxic stress.

Dr. Nadine Burke Harris: So to summarize, I want to highlight that this report is really grounded in the strong scientific framework that gives us confidence in our bold vision to cut ACEs and toxic stress in half in a generation.

Dr. Nadine Burke Harris: We recognize that toxic stress is a health condition that is amenable to treatment, and treating toxic stress is key to meeting California's goal of cutting ACEs and toxic stress in half in a generation.

Dr. Nadine Burke Harris: We recognize that prevention at all levels is necessary primary, secondary, and tertiary and that none of these strategies is sufficient alone and each extends the reach of the other.

Dr. Nadine Burke Harris: Finally, really recognizing that addressing this public health crisis requires shared understanding of the problem, shared language, clarity of roles, shared metrics and shared accountability.

Dr. Nadine Burke Harris: We also highlight in part four of the report some of the work that is ahead of us, because we recognize that further research is necessary. There's still work to be done to develop clinically relevant biomarkers to help more precisely diagnose, classify, and assess treatment efficacy for toxic stress and clinical settings.

Dr. Nadine Burke Harris: We need clinical management, right guidelines for clinical management of ACE-associated health conditions, like asthma or diabetes. We have guidelines for treatment of asthma. Every healthcare provider knows the asthma guidelines, but what does the treatment of asthma look like in the context of a toxic stress response? That is some of the key work that needs to happen now.

Dr. Nadine Burke Harris: The identification of therapeutic targets just as anti-retrovirals were key to cutting the death rate from HIV/AIDS. Similarly, the comprehensive strategy for addressing ACEs and toxic stress must include research to advance therapeutic targets for regulating the toxic stress response.

Dr. Nadine Burke Harris: We certainly need further investigation into the complex interactions of how individual differences and biological susceptibility or inexposures, like timing, severity, duration, developmental interactions, right? As we say, no two individuals even with the same ACE score is the same, and so how do we better understand how these individual factors impact prognosis and treatment.

Dr. Nadine Burke Harris: Finally, we need longitudinal studies to better understand the specific and longer-term impacts of clinical interventions that target the toxic stress response.

Dr. Nadine Burke Harris: So next step for our movement to cut ACEs and toxic stress in half in a generation, we must raise public awareness. California took a very intentional approach by starting, by training our providers. Because we didn't want a situation where we were raising public awareness and then people go to their doctor and they say, "Hey, I have six ACEs." What does that mean for their health? Their doctor says, "I don't know what you're talking about." So we started by training our healthcare workforce, but now we need to raise public awareness. Because when we arm the public with the information to be able to prevent intergenerational transmission, right, that is powerful.

Dr. Nadine Burke Harris: We need cross-sector training, as I mentioned, not just in healthcare but in every sector, on how to recognize and respond to symptoms of toxic stress in a way that deescalates and buffers rather than exacerbating the challenge. We

need cross-sector coordination and alignment, and as I mentioned, continued research.

Dr. Nadine Burke Harris: But I believe that with all of you and the excellent work that you all are doing every day, I believe that this roadmap will help us align to have that shared language, to have that mechanisms of coordination and alignment, and to be able to have shared metrics on how we ultimately meet that bold goal to cut ACEs and toxic stress in half in a generation. With that, I thank you.

Jennifer Ryan: Oops, I can't start my video, but thank you so much, Dr. Burke Harris. That was an excellent and informative presentation, of course. We are now going to hand over some questions to you to help augment your presentation and maybe clarify a few things.

Jennifer Ryan: So first question is not a softball. A lot of folks have asked about the role of racism as a risk factor for toxic stress and whether racism is or should be considered an ACE. I wondered if you would like to share a little bit about your thinking on that.

Dr. Nadine Burke Harris: Oh, that's a great question. So part of the reason that part one of the report is really grounding in the science is because the strength of the science provides the foundation for our policy action. One of the challenges that we have... So let me go back and say, the science is clear that racism is a risk factor for toxic stress, right, we understand that, one of the things that's really important as we apply the science.

Dr. Nadine Burke Harris: So when we look and we say, if someone has an ACE score of four or more, their relative risk of ischemic heart disease is 220%. Or if someone has an ACE score of four, the odds ratio for developing Alzheimer's is 11.2. It's because we know which are the inputs into that, right? We're using the ACE criteria, right? So there have been large rigorous studies that have been done in multiple different populations. Those studies with hundreds of thousands of individuals demonstrate an association between these 10 criteria and this outcome.

Dr. Nadine Burke Harris: Now the challenge is that those studies didn't include the assessment of racism. Now there are lots of other studies that do demonstrate the impact of racism on health, but the problem is we can't quantify it to say, "Okay, if you include racism as a factor, then the odds ratio for heart disease or asthma or something else is this number," right? It's a little bit besides the point, because the reason that we highlight ACEs, right, the reason that folks ask that question is racism on ACE, right, is because... Let me reframe this.

Dr. Nadine Burke Harris: What I understand when I hear that question is racism an ACE is, should we be treating racism with the same importance, the same approaches, the same interventions as we are treating ACEs? The answer for that quite simply is yes, right? That is clear. The answer is absolutely yes, because racism is a risk factor for toxic stress. It's really the toxic stress response that is the key piece. That's why we need more work to be able to understand, to be able to better characterize the toxic stress response, because ACEs are generally speaking a fairly crude proxy, but there's really, really strong science to show that ACEs are risk factors for toxic stress. So the ACE screening tool is something that we can use with a fair amount of scientific confidence in the clinical setting to rapidly assess risk of toxic stress.

Dr. Nadine Burke Harris: So I hope that answers the question in terms of should we be using, should we be understanding the science similarly, she would be using the same strategies and tactics to respond. The answer is absolutely yes. Should we be using primary, secondary, and tertiary prevention to try to address not only reducing racism as a strategy for reducing toxic stress? The answer is absolutely yes. Can we say that if someone has experienced racism and three other ACEs that their relative risk for ischemic heart disease is 210%? We can't say that. So that's a long-winded answer, but it's something that I care about passionately, so I'm grateful for the question.

Jennifer Ryan: Yeah, thank you. Very helpful. Dr. Burke Harris, how can we integrate ACE awareness and training in our family court system, training judges, adjudicating custody cases when there are safety risks from parent to child and other types of activities like that? what are your thoughts?

Dr. Nadine Burke Harris: That's a great question. We touch on that briefly in the justice sector, not specifically about family courts but the opportunity for our courts to understand toxic stress as a health condition and really to recognize. We see some opportunities in terms of drug courts or mental health courts, right, where the focus is on treatment as a way of improving outcomes, not only for that individual but as a way to help to break that intergenerational cycle.

Dr. Nadine Burke Harris: So I think raising this awareness, understanding toxic stress as a health condition I think is really important in our court systems. Obviously, it's not to say that people aren't accountable for their actions, but a recognition that treatment is possible. and that it's a very worthy goal.

Jennifer Ryan: Excellent. What are your thoughts about what communities of faith might be able to do to help mitigate racism within individuals and in communities?

Dr. Nadine Burke Harris: Faith communities I think are wonderful partners and allies in this work. Whenever someone asks me about faith communities, I think immediately about ACE overcomers and the wonderful work that they have done in really using faith communities to raise awareness about ACEs, and also to implement some of the strategies that we know make a difference, right? We know that safe, stable, and nurturing relationships and environments are healing. We recognize that community is a powerful prevention strategy and through our faith communities that we can raise awareness.

Dr. Nadine Burke Harris: We can also implement many faith communities are doing counseling, provide services. They provide services for that are along the lines of primary, secondary, and tertiary prevention. They care for the least among us and in doing that work, bringing the science of ACEs and some of the strategies for interrupting the toxic stress responses can definitely be applied through our faith communities.

Jennifer Ryan: Excellent. Speaking of the science of toxic stress, can you talk a little more about the evidence-based and whether there is in your opinion enough evidence to support the importance of screening for ACEs?

Dr. Nadine Burke Harris: That's a great question. So what's really funny about that is folks ask that question, but the CDC, the National Academies of Sciences, Engineering and Medicine, and the American Academy of Pediatrics have all published recommendations to screen for the precipitants of toxic stress. We know that ACEs are causal of toxic stress, right? We make that case for causal association. So really it feels like the science is quite clear that early detection and early intervention can mitigate the toxic stress response and that is some of the data and the research that we highlight in this Surgeon General's report.

Jennifer Ryan: Excellent. We're going to go to the elephant in the room for all of us this year, COVID-19. We certainly know that it's causing the toxic stress response in a lot of people across the globe, including most of us personally from day-to-day. Can you talk a little bit about some of the protector, what the protective factors could look like for people dealing with toxic stress related to the pandemic?

Dr. Nadine Burke Harris: Yeah. So one thing I will say related to the pandemic is, yeah, for many people, there is a risk of developing the toxic stress response. What I want to highlight is for a lot of us what we may be feeling and experiencing still may be in that tolerable stress zone, right? So we're all experiencing the stressor and we all may be feeling or many of us may be feeling increased rates of increased levels of stress hormones and perhaps even having some symptomatology, difficulty sleeping or greater challenges with our mental health, all of these different things.

Dr. Nadine Burke Harris: One of the key parts of the report, and I think that's why the timing of this report is it's very timely, especially as we see that a vaccine is hopefully just on the horizon, is as we look forward to recovery from the COVID-19 pandemic and broad scale implementation and uptake of the vaccine, there has never been a more important time for us to build in and embed these trauma-informed and trauma-responsive systems and strategies that are outlined in the roadmap for resilience report as right now. Because we know that beyond what the tragic immediate impacts of the pandemic has been, we know from history, from data and science that there's a likelihood that this pandemic will have long-term effects, right, on many of us especially on children.

Dr. Nadine Burke Harris: So implementing these strategies, number one, doing this primary prevention, supporting children and families, encouraging, buffering caregiving relationships, implementing the strategies of sleep, exercise, nutrition, mindfulness, mental health, healthy relationships and access to nature, doing better assessments of the toxic stress response and then treating to an end point where we're seeing improvement in the regulation of our stress response, all of those things I think can help to prevent and avert those long-term harms for which we are very high risk right now.

Jennifer Ryan: Absolutely. Getting a little bit to some of the network of care concepts that you delved into so deeply in the report and the cross-sector collaborations that are so important to this effort, can you talk a little bit about...

Jennifer Ryan: Can you talk a little bit about strategies you think that could be useful more broadly in helping to overall kind of reduce the occurrence of ACEs over a generation, things like decreasing poverty, strategies for preventing community violence, domestic violence, et cetera. Do you have some thoughts about where to go from here in that front?

Dr. Nadine Burke Harris: Those are some of the strategies that we talk about and, actually, I think, as primary prevention strategies, those are some of the strategies that we talk about in multiple sectors of the report. For example, supporting economic stability of families, we really talk about that both in the public health section and in the early childhood section, really highlighting how things like earned income tax credit, how things like paid family leave can help to support economic stability, which is an important primary prevention strategy.

Dr. Nadine Burke Harris: In addition, we talk about the importance of things like cross sector training to help to support families who may be experiencing challenges like intimate partner violence or other concerns, which may be both the long term impacts of parent ACEs, but then also risk factors for the next generation. These are some of the things that we highlight in the cross sector strategies, and they're

critically important for prevention, that upstream prevention of ACEs and toxic stress.

Jennifer Ryan: Absolutely. Can you share a little bit if you're aware of some information around kind of the different role of ACEs among Native American populations, tribal communities?

Dr. Nadine Burke Harris: Oh, that's a great question. Particularly when I think about our tribal communities, one of the things that really comes to mind is the intergenerational transmission and some of the science behind the epigenetic regulation because as we see our tribal communities that have experienced significant trauma and, as a result, we see increased rates of some of the long term consequences and the way that these consequences can be handed down from generation to generation. We look to incorporating some of the healing practices... These indigenous healing practices from our tribal communities. I feel like that's critically important. And that's one of the things that I had the opportunity when I was doing my listening tour last year to visit the Hoopa Valley tribe up in Northern California, and really learn about how important it is for us to implement these strategies in a way that is congruent with the tradition and cultures of the community that we are working with. Oh, Jen, you're muted.

Jennifer Ryan: I apologize, my dog was barking. The joys of working from home, right?

Dr. Nadine Burke Harris: Yeah.

Jennifer Ryan: And when you were making your presentation about primary and secondary and tertiary prevention, would you say that the grant dollars that you talked about are available for implementing strategies that are consistent with that approach of primary, secondary and tertiary?

Dr. Nadine Burke Harris: Well, let me be clear. The grant dollars that we are implementing are primarily focused on supporting secondary and tertiary prevention. When we look here in California at our multi-billion dollar investments in primary prevention, everything from CalWORKs to paid family leave, and all of those different strategies, our early care and education. So, there's that. And then we look at our multi-billion dollar strategies in terms of response, in terms of mental health, and what we're doing there are. I will say our secondary prevention strategy, the budget is not quite as much as it is for the primary and tertiary. But when it comes to secondary prevention, I have to say that California is quite in the lead relative to others. It's really the largest secondary prevention effort for toxic stress in the nation.

Dr. Nadine Burke Harris: Rather, this is really... ACEs Aware is part of our secondary prevention strategy. And what we're doing with our network of care grants is more focusing on that cross sector collaboration. We're doing cross sector collaboration within secondary and tertiary prevention. And what we're doing is we're leveraging our provider education dollars and partnering it with the existing investments that we have. We're already investing in a social service system. We already have strong investments in mental health and community mental health. We already have investments in lots of different interventions for responding to ACEs and toxic stress. But one of the challenges is that you have to be, oftentimes, pretty significant in your symptomatology before you get there.

Dr. Nadine Burke Harris: And what we're doing with the network of care grants is connecting that early intervention to that response network that already exists but needs closer coordination with a primary care home and supporting that bi-directional communication. That is what the network of care grant seeks to do.

Jennifer Ryan: Excellent. I think one of the key elements of the network of care will need to be social services agencies, as you said. We have a question here from our friends in Portland, Oregon. And the question is, "We know that children entering the child welfare system present with an average of six ACEs. What would you ask the child welfare system to do to better recognize and respond to that exposure and the health implications that result from it?"

Dr. Nadine Burke Harris: That is such a wonderful question. One of the key things that I think our child welfare agencies can do and our child welfare system is that, for example, I don't know if I'm allowed to say these things but I'm just going to go ahead and say it. I would love to see our child welfare systems require that all healthcare providers who are caring for children in the child welfare system have training on recognizing and responding to toxic stress. Because what we know is that, within the child welfare system, if the average is coming in with an ACE score of six, those children are at very high risk of having a toxic stress response and they're at very high risk of having the long term health consequences. And we actually dive into that in the social service sector of the report, where we highlight that these kids have greater risk of asthma, being hospitalized for health conditions, they have high blood pressure. We're talking young folks with high blood pressure. We're talking about greater risk for many, many different health conditions.

Dr. Nadine Burke Harris: And really, the point here of the report is that toxic stress is a health condition that is amenable to treatment. And if you are in the child welfare system, the likelihood that that child is experiencing a toxic stress response, the prolonged activation of the stress response that's disrupting their brain development, that

is something that also needs to be treated. And so, that is one thing I would highlight.

Jennifer Ryan: Dr. Burke Harris, can you talk a little bit about your position on the issue of universal screening versus risk-based screening for ACEs?

Dr. Nadine Burke Harris: Oh, that's a great question. That's kind of a public health 101. The screening should be based on the prevalence of the condition, and if the prevalence of the condition falls below a certain percentage, then you screen based on risk. What we see is that 16.7% of Californians have experienced four or more ACEs. And more than 60% of Californians have experienced at least one ACE. When you have 60% of Californians who have experienced at least one ACE, you have to screen the entire population to be able to detect that. And I think one of the points that we make is that we, oftentimes, miss the connection between ACEs and non neuropsychiatric health conditions. This is something that if someone has five ACEs and they have auto-immune disease... If someone has five ACEs and they have anxiety or depression, oftentimes, their healthcare provider will make that connection and say, "You know what, we need to address your history of ACEs to help manage your anxiety or depression."

Dr. Nadine Burke Harris: When someone has five ACEs and autoimmune disease, oftentimes, that connection is not made. And when an individual has two or more ACEs, it doubles the risk for autoimmune disease. And so, this is why universal screening is so important because there are many, many, many folks for whom the impacts of that toxic stress response that's impacting their health, that they're impacting their immune system. And one of the things that's really part of the ACEs Aware training is that just because someone doesn't have a neuropsychiatric consequence, doesn't mean that they're not experiencing a toxic stress response.

Dr. Nadine Burke Harris: That's why we need to do better diagnostics for toxic stress, but it's also why we do the training for ACEs Aware and we categorize patients as being at low risk, at intermediate risk or at high risk of the toxic stress response. Because for someone who's at high risk of the toxic stress response and who has autoimmune disease, treating the toxic stress, supplementing usual care with strategies to help to regulate the stress response is an important part of their care.

Jennifer Ryan: Absolutely. I learned a lot about that from you. Several folks ask questions about if there's a section in the report that discusses strategies for preventing ACEs in the first place. Can you comment a little bit on that?

Dr. Nadine Burke Harris: Every section. Every section. There are a couple of pieces of information. Like I said, it's focused the report... Each of the cross sector strategies have strategies for primary, secondary, and tertiary prevention. And so, those primary prevention strategies are there for education, health care, early childhood, social services, and on down the line.

Dr. Nadine Burke Harris: But one of the things we also highlight, as we recognize the science of the intergenerational transmission of ACEs, is that treatment of toxic stress in one generation is primary prevention for the next generation. Just as we recognize that giving AZT in pregnancy could prevent the transmission of HIV between an infected mom and her child. We're not talking about a virus but we do want to disrupt that vertical transmission, because what we see is that there's incredibly strong evidence that parents with high ACEs are more likely for their children to develop and accumulate ACEs down the road. Really, there are multiple frames for how do we achieve that prevention?

Jennifer Ryan: Absolutely. All right, we have just a few minutes left, but I think we can get in a couple of more questions. This one is about the juvenile justice system. We know that youths in the juvenile justice system constitute an at risk population who have disproportionately been exposed to trauma. Can you talk a little bit about the need to integrate the ACEs strategy and trauma informed care into the juvenile justice system?

Dr. Nadine Burke Harris: Oh, whoever asked that question is going to love our justice section. You're absolutely right. We highlight the data. There's data from the United States and Wales that shows that, in our justice sector and particularly in our juvenile justice sector, as many as 90% of youth have experienced at least one ACE and their data reports that show that as many as 50% have experienced four or more ACEs. So you're absolutely right. Very high risk.

Dr. Nadine Burke Harris: And we talk about primary, secondary and tertiary prevention in the justice sector. And in the justice sector, in particular, what we talk about is how we're talking about primary, secondary and tertiary prevention. We recognize that being involved in the justice system is stressful. It can be traumatic. And so, one of the ways that we frame that is preventing involvement in the justice sector to begin with. Things like mentorship. Things like restorative justices practices and preventing the cradle to prison pipeline, reducing zero tolerance policies in our educational settings.

Dr. Nadine Burke Harris: Because one of the things that the evidence shows is that some of the zero tolerance policies in the educational setting lead to justice involvement of youth, based on behavioral problems in the educational setting. And oftentimes, those behavioral problems are symptoms of toxic stress. And so,

really reinforcing and encouraging care for those youth, as opposed to incarceration, recognizing that connecting those youth to care and some of the evidence-based strategies, most important of those being those healthy relationships, those nurturing relationships. As well as mental health intervention as necessary, regular exercise, things like team sports and mentorship and things like that can help to prevent youth from even entering the justice system to begin with.

Jennifer Ryan: Exactly. All right. This will be our last question. During your presentation, you talked a little bit about the Handle with Care initiative, which is underway in a few different locations around the country and really emphasizes some creative ways that the school system can be supportive to families and helping to mitigate the toxic stress response. We had a couple questions come up about silos and what is needed for breaking down those silos so that the cross sector approach that you talk about will actually be effective.

Dr. Nadine Burke Harris: Yes. That's actually something that we talk about quite a bit in our network of care, actually. And really, what does it look like for a community to come together and create a leadership structure for reducing ACEs community-wide. Who needs to be involved in those partnerships? Who should be part of that network of care? How do we communicate to each other? How do we overcome some of the privacy... Let me not say overcome, but let me say, how do we maintain accordance with our important privacy laws like HIPAA and FERPA and, at the same time, share though not have that be a barrier to coordinating care for youth.

Dr. Nadine Burke Harris: And one of the pieces that we highlight in the report is the importance of roles. In the report, we emphasize that screening for ACEs should occur in the primary care home for a number of reasons that we highlight in the report. But our educators have the opportunity to be delivering the daily doses of healing interactions that can make all the difference for a youth who's exposed to adversity. And so, how do we do that? And some of that information is included in the report and some of that information is going to be in much greater detail in our network of care roadmap.

Jennifer Ryan: Excellent. We are at time. Thank you very much for this discussion. I really appreciated all of your candid responses. Would you like to make a few closing remarks?

Dr. Nadine Burke Harris: Yeah. The final thing that I would say is that as we are... First of all, I want to thank everyone who participated, who will read the report, download it, share it with friends, share it with everyone in your community. And as we go about doing this work, I just want to remind everyone, and it's important now more

than ever, that self-care is not selfish. In fact, it is a vital first step to being able to provide trauma informed care. And so, as all of you go to implement this work, I want to thank you so much for your hard work and dedication. And I want to encourage you to start with ourselves and practice that self care.

Jennifer Ryan: Thank you. What a great reminder. Before we close, just want to remind everyone that the application due date for the RFP is December 21st. You can find that application RFP on www.acesaware.org and stay tuned for additional information with the roadmap. Thank you so much for joining us all today and have a good rest of your afternoon.