You are connected to event:

HamiltonRelayRCC-IECMH-VA3828

May 1, 2023
12:30 p.m. Session
>> JACKIE BROCK: All right, everyone. Welcome to our second annual Infant Mental Health, 2022 Workplace Investing "Reflective Spaces: Practices, Communities and Selves". My name is Jackie Robinson Brock. I'm the infant and early childhood workforce director. With me I have Tracy Walters Virginia's Infant Mental Health and Kristen Stahr, Virginia's endorsement coordinator.
>> Kristen: Hi, everyone. Thanks for joining us today.
>> JACKIE BROCK: Thanks, Kristen. Funding is made possible for support of our largest funder, Virginia Department of Behavioral health and developmental service and in part by the head start collaboration office within the Department of Education. All sessions are being recorded and the recordings will be posted to our event website. Recordings are available for 90 days after our conference. Certificates are also available and will be sent to you automatically once you complete the evaluation and that link will be put in the chat at the conclusion of our webinar.
Evaluation links are also posted on the website so if you are watching the recording you can access them in that way. Our day 1 conference theme is "Reflective Spaces: Practices, Communities and Selves". Before we get starded started I want to

go over technical features of our webinar. If you have questions please use the question and answer feature. You can also use the raise hand feature if you have a question and you can unmute yourself to speak. We will have time set aside at the end of our webinar for questions. And you can also use the chat feature to interact with us.
So to make sure our chat feature is working properly, if you can put your name, organization and state in the chat, that would be great.
We have people who will be monitoring the chat throughout our session. If you have any technical questions or issues. All participants are muted to reduce background noise. Unfortunately we are not able to see your videos. We have captions which are being provided and we will drop that link in the chat for you. Also please keep an eye on your mailbox. If you haven't got one already, we have sent out swag bags to all of our registered attendees with some great conference goodies in there. And fifty lucky winners will also be getting a copy of Dr. Ferguson's newest book. Be sure to hop over to our Facebook page, early childhood mental health Virginia and use our hashtag #rootedinrelationships and also visit our conference website where you can see anything and everything you need related to the conference. So on our first page we have each day of the conference. When you click on it, you will get detailed information about each session and evaluation links. You will see our schedule at a glance. The Google calendar and we encourage you because our conference theme is reflections,

to take the opportunity after each session, each day to write down some reflection points on this sheet.
With that I would like to hand it over to Tracy who will welcome and introduce our speaker.
>> TRACY WALTERS: Oh my gosh, yes, thank you, Jackie. Welcome, everyone. We hope you were with us for our keynote this morning and are so excited to be back online with you guys for our first breakout session. This is going to be a presentation that is packed full of information that you will be able to take with you, back into your work with children and families. We could not be more thrilled. Our breakout session is going to be presented by Dr. Bela Sood. And she is doing a presentation on translating developmental science and through healthy lives. This will be an opportunity to learn more about toxic stress. The echo bio developmental framework and how practitioners serving children birth-6 can translate science into healthier lives for children in our community.
Dr. Sood has so much experience and knowledge to share with us today it's like having a celebrity online. She was appointed by governor Warner for a four year term in 2005 and Tim Kaine as the mental health expert through the blue ribbon panel Virginia tech massacre of 2007. She serves on two statewide initiatives for systems of care, reform and child mental health and early intervention. And development of child mental health policy. She has advocated for initiatives of the Virginia Council and adolescent psychiatry lobbying for American academy and child

adolescent psychiatry workforce initiative in Washington D.C. and nationally. She was elected councillor at large for the AACAP executive Council in 2005 for a three year term and currently secretary-elect. Dr. Sood received YWCA award for women in sciences in 2007. The professional achievement award for WISDM in 2007. Distinguished service award in 2008 and flight award from Lily for distinguished work. Dr. Sood has special interest in the reduction of stigma around mental health issues. Outcomes research, mood disorders, ADHD and the training of an adequate workforce in child mental health. She is passionate about providing optimal mental healthcare for children of Virginia, focusing on innovation of technology, such as telemedicine to bring care to rural areas in our state.
In addition to her clinical education, Dr. Sood is a 2005 Fellow of executive leadership in academic medicine through drexel university and completed masters of science in health administration through the health administration program at VCU in 2006. She is also commit today improving mental health and well-being of kids across the globe. Publication, social justice for children and young people.
With that, Dr. Sood, I will turn it over to you, so that our attendees can hear all of the information that you have to share with us today. Thank you so much for being here.
>> BELA SOOD: Wonderful. Can you see my screen?
>> TRACY WALTERS: We can.
>> BELA SOOD: Thank you, Tracy. That was

great, kind of a lot of stuff but as you can see my interests vary widely.
A lot of my tertiary work taking care of young children with serious psychiatric illness was the appreciation of the fact that a lot of the stuff that we see in our clinical work really, really stems from early childhood issues. And it dawned on me in the early 2000's perhaps we need to be putting efforts in prevention of childhood trauma and things that are controllable. Which are really in our hands. That is what sort of got me interested in early childhood. I'm so glad that in Virginia we have a very vibrant organization, Kristen and Jackie and Tracy are all parts of that and I have interfaced with them over the years and so excited things are maturing to the point all of you are here to rub shoulders with each other, learning from each other. And learning on those ephemerol issues. How eco bio behavioral issues impact young children and what we can do to help prevent those and develop system that's can get kids on a firm foundational footing as they enter into their lives.
This is my disclosure. Let me go over, the role of toxic stress and how it gets transferred intergeneration alley unless we do something to prevent it. And pull that into eco bio developmental framework. None of us are functioning in a vacuum. But we can bring all of these concepts together, whether background is psychology, social work, in child care as well as you know, providers who are doing tertiary care work.
And how early childhood professionals might

advocate translating courses in early science into healthier life work. A lot of this was married into the psychology, observational psychology. But as of the last three decades have shown the development our understanding of the neurobiology of the brain has given us some concrete foundation for understanding what our observational data what is going on in the brain. Let me start with the connection between childhood adversity and the life long consequences.

You have heard of the concept of ACES, adverse childhood events. This was anders work, when young children are exposed to trauma, it doesn't stop right there. It has significant consequences which really go into unhealthy lifestyles both from a physical standpoint and mental health standpoint decades later.

This is that study I was talking to you about. Let's take a look at some of these categories, which people in the field of psychology, social work and mental health, this is like, you know, stuff that you do every day. This is your bread and butter. We all know about the concept of emotional physical sexual abuse. That definition has further, we have come to know it doesn't have to be a direct abuse but it is witnessing things that go on in the home. Household dysfunction, mom gets thrown around, or a child witnessing a parent who is substance abusing, therefore distant and can't really take care of them. Divorce within the home, or when parents go into jail and the child is again sent to grandparents or kinship or wherever but there's always a psychological stress that induces.

There's a cost to neglect obviously. Contradiction to abuse, whereas neglect is really an act of commission and act of omission. Both of those things could have a major impact upon young kids, physical abuse, so on and so forth.
The higher the ACE score, they engage in a bunch of high-risk behaviors, serious social problems and usually pay for it in the way of kids going into correctional centers and the amount of money they have to put into taking care of their health needs, mental health needs and eventually poor life expectancy. I will go into it in just a bit how the pyramid stacks into early mortality.
Aces is higher propensity for developing cancer, you could have heart disease, cardiac problems, autoimmune illness, cancer, COPD, liver disease. How these high stress elements produce long-term problems.
What I'm doing, I'm making a case for why the two are connected and why we need to intervene early because these are thing that's can be stopped from occurring. Let's take a look at Shankov's work, talks about the concept of how we are nurtured by supportive relationships. A parent who is looking after us, our needs, both from a physical as well as mental health, providing us with stimulating experiences. And environments which really allow the child to kind of flourish as you go along. This leads to development of a healthy developmental trajectory. That's what we expect. When we have adversities like the ACES and other things that go on, it pushes that curve downwards and we get impaired health and developmental outcomes.

So this is the pyramid I was talking about. As we start of the adverse childhood experiences we kind of see how the pyramid goes onto eventual early death. How it is impacted, the children research supports the notion that when young people have had bad high risk experiences when they are kids they end up really engaging in risky behaviors. They are making wrong choices. The kind of foods they eat. The kind of peer influences they choose, other things. These have very much related to early childhood experiences which then leads to mental health deteriorating, physical health deteriorating and bad outcome eventually. Social emotional cognitive impairment.

What is adversity and stress? Not all stress is toxic. Sometimes you need stress. Anyone of you have read Selma freeburg's book, some stress is good. We have to think in terms of not all stress is bad. Bad stress is mediated through what is called the HP axis, the organ in the brain, the hypothalamus and the pituitary. Fight or flight, the feedback loop stops the cortisol from being secreted in the normal body. When a person is continually been exposed to stress, the cortisol is not responding to the feedback loop. It causes cell death and atrophy of the brain, which leads to a lot of consequences later on.

Shankov talks about the notion of positive stress, tolerable stress and toxic stress. Toxic stress is the one we are obviously concerned about. Let's talk about positive stress. All of us who have kids and interact with the stress, knows the child who falls down and picked up by the mom and the little boo-boo is kissed knows that I got to watch

where I'm going. I've got to not stumble and fall down because I get a boo-boo. That's how they kind of learn about life. When they begin school and they have to be separated from the parent, that is an essential point of how a child's growth is occurring. The big project in the middle school which they feel is much larger than them, but they then learn how to conduct themselves in that situation.

So these are brief, infrequent, hopefully mild to moderate and the child is hopefully able to overcome that. What helps a child is when they are supported by folks who are supporting them. They have adults providing that supportive environment which allows the stress, the feeling to come back to the baseline. So that is what we call positive stress. It builds motivation and resilience. And as freeburg has talked about, it's essential. We all have to experience that kind of stress. Positive stress is not the absence of stress, it's actually good for you.

So let's look at what is toxic stress. Usually the kind of stress that hangs around, chronic in nature, it's unpredictable in some ways and you know it's going to occur and you wait for it, and that is what causes the H.P axis to go into over drive. We talk about some reasons that happens. Usually in these families these kids as we all know from clinical experience is that there is the unavailability of someone who is supportive of who is emotionally available. Because the two sort of go hand in hand. There is that inability to kind of be coached out of a toxic situation. Or to help the child kind of debrief and reprocess, which

most parents do, who are affected and are supportive in nature.
So all of these buffers are usually missing in these kids. So all of these things go hand in hand, it's a double whammy, triple whammy, all kinds of things like that.
These are those environmental stresses we call epigenetics. it causes genes to either be turned on or kept off. When they turn on that's what leads to the release of certain toxic chemicals in the brain, certain neurotransmitters in the body which leads to cell atrophy and death and then has an impact on the way the brain is wired. So you can see what an impact it is has on the child because they are experiencing that environmental stress, the gene is being turned on, it's producing certain neuro peptides and certain toxic stress hormones which bathe the brain, bathe the body and really cause problems. These genes don't necessarily need to be turned on. And this concept is the notion of epigenetics.
The genes are turned on and off and when and where, this is determined by the kind of environment which the child lives and the genes and interaction between the two.
They cause an impact on a molecular level. At a cellular level, molecular level which may not be available to the naked eye, but they produce the phenotype, the expression of the pathology at a later portion in the child's life. A child for example who has had a very noxious environmental event occur in a chronic fashion perinatally. They present with ADHD symptoms because the brain is impacted at that point. Observational data

being connected to what's happening on a leblg Lar level based upon some studies which have been done both on rodents as well as observational data from childhood, observation. So I hope I'm getting this point across to you, we are born with certain genes the environment supported or not supported will lead to production of these things that will cause a problem with the way each cell connects to the other. That is the synapses, which are those portions between each cell which cause the neuro transmitter to talk to the next cell. This is where on a molecular level, the babies or toddlers or the young child's brain is impacted through experience and is very much activated dependent. It's exciting to know because it has potential for prevention in a way we have never known before and we can make a case for that.

So when we look at how the vicious cycle of stress connects to childhood adversity, it begins to make sense. Why it's important there's a certain portion of a child's life where the brain is plastic. Meaning if you re-change or change the environment or supports which are around the kid, the brain is plastic enough to change the way it sits.

But as we go later and later into life, the cellular plasticity of the brain becomes less. And because it becomes less, it limits the ability for remediation to reduce any impact as we go along. Again, early childhood is the time early interventions need to be made. They are look erosion on the face of a rock. The groove is formed based on the way the water runs through

the rock, and after a while, no matter what you do to the rock face, that groove which has been formed will remain. That is why those permanent alterations have got to be stopped. We know by age 3, 80% of synaptic connections have already been made. By the second decade of life this levels off and this following slide shows you how the brain synapses look. You have a huge amount of cellular growth, up to the age of 5-6. And then the brain is really pruned all of its synapses are kind of pruned and it's made more efficient as you go along. It's not a static organ, but there are a bunch of things that are going on that are Kecked to the environment.

So let's take a look at how does early stress impact, again, I'm repeating myself, by it's worth repeating. When we have stress it causes the profusion of the body and the brain adrenaline and cortisol. These are good neurotransmiters and peptides but only a certain amount. After a while when they have gotten over just the right amount they begin to start causing changes in the brain architecture. And not of the good kind. And you get this hyper responsive to the smallest amount of stressors there. Which is why children by the age of 10 or 11, when you look at them wrong they go off the deep end and have a tantrum. You can't understand why such a small stress causes such a cataclysmic reaction. Their body has been conditioned to very small amounts of stress, which causes an over reaction to stuff. Which is unavailable to us because we don't know the trauma history and what has occurred in early childhood. The cycle of toxic stress producing

cortisol causing changes in the brain architecture and brain which is so sensitized that the slightest amount of change in the environment will cause them to go off the deep end. You see a lot of these kids in residential facilities, foster care, adoptive homes where they have no idea where the next stressor is going to come around. So their reactivity to stress is huge. That causes behavioral changes which then produces a reactive cycle of rejection and further cycles of abuse that go along, which makes the matters completely, just unremediatable.

This kind of brings it full circle how we bring the biology, which is what the good God gave us. Often times the apple doesn't fall far from the tree. The way the parent is genetically molded and causes their behavior to create changes secondary to the environment which the child lives it changes the developmental trajectory of the child. So it's a combination of all of these things, understanding how the biology interfaces with the ecology and then has an impact upon the development, which is really how the child learns, how they interact with others, their social relationships and the choices that they make as far as the health seeking behaviors are concerned. Very nuanced but exciting slide which tells us how the science of early brain and child development is connected to so many other things downstream which has to do with educational achievement. How they choose their health-seeking behaviors. How they intervene to stop something from going downhill. As well as the economics of this in the price that they pay.

Many of these kids end up in correctional institutions.
There's one science with many implications and the critical challenge here is how to translate all of that in the work that we do with young children, right?
So the really game-changing from the perspective what we use to observe 30 years ago from a psychological perspective and understanding it in dynamic terms and how we have begun to connect it to the neurobiology of the brain. If we are able to intervene early we will have a major impact upon what these kids do as well as long-term productivity.
That's where we all come in, right? Caregivers create the environment for range development and they can turn off the physiological stress within the brain by addressing the child's developmental needs, their safety needs and so on and so forth.
When we do that, the child's own reaction to the environment is calmer. They are more reflective. They are more capable of paying attention to what is being taught and it promotes healthy relationships and attachment.
So what we really kind of want to emphasize is how do we teach both the caregiver as well as the child, the foundational coping skills as they come out.
As early childhood professionals we can have an impact upon policy, based upon the knowledge that we have and we can speak out where laws are being made about the funding that goes into early childhood and my feeling is my own sort of

part of this, this is perhaps the most important portion of a person's entire life, where you really do what you can do as far as shutting off the epigenetic pipe to stop the bad genes from starting up. This brings me to the orchid child. You may have heard it, I won't belabor the point. This is a study done by a psychologist, this is actually David dobs journalist, article in the Atlantic, if you Google the orchid and dandelion. Dandelion is the kind of child who can grow in any environment, they manage to hang in there and do their best despite what kind of environment they are. But there are some who are the orchids are fragile, when they are in a supportive environment they bloom.

It tells us which are the orchids verses dandelions. When they get the right kind of care they can become the most productive people in our society, otherwise they end up stressed, drug addicted or in jail. When we change the environment, that many of these kids who are at-risk can really turn out to be profoundly blessed and talented young people in our society. So read up about the dandelion and the orchid kids.

Let me now quickly go very swiftly through the neurobiology of the developing brain.

When the baby is in the third trimester, their hands are formed, body and spine is formed. Now the good God works on the brain. And in the brain, there are these neurons which have the capacity to become anything as they go along. So as they kind of go to different portions of the brain, they migrate. Once they reach their

eventual place they become differentiated. This differentiation allows them to produce a certain type of neurotransmitter. It could have something to do with sympathetic portion of our body and so they form the sympathetic neurons, others produce norepinephrine, some produce serotonin and epinephrine. They have the synapses, end of the formation of the developing brain. This development occurs in the third trimester of pregnancy. The third trimester is most important to us in area of mental health because the body is formed in the second first and second trimester, the third trimester is the brain development. That's why what happens in environment for the mom are very important, alcohol, drugs, particularly nicotine. Nicotine and alcohol are the most noxious agents that cross the placental barrier getting to the fetal brain and have an impact on the firing of the brain. That is why any type of intervention with high-risk moms in the third trimester has far-reaching consequences and that is something that we need to kind of develop and do a better job of it. As well as perinatally when the brain is continuing to mature and develop. The first are the noradrenergic neurons. Stranger anxiety is the first order of business for the kids, they begin start differentiating themselves and their moms from others. That's why they don't want to go to the grandparents which is the stage I am with my third grandchild. He hasn't developed stranger anxiety. He has to learn who is mom and dad and who is grandma and that's when he will reject me. The second one is serotoninergic neurons which have to do with

mood, maintenance, aggression, sleep modulation and serotonin is the second order of business that comes up. Just kind of telling you, this may not make any sense to you, but the brain neurons don't develop together. They are in tandem and they each have an impact upon the second developing neuronal cells. If they don't develop well, they have an impact upon the rest of the brain development.

Dopaminergic neurons have to do with reward system. If there's an abnormality or lesion here it causes classic problem with ADHD, that usually comes into play when the child has to sit for 45 minutes in first grade, or even earlier. Because the dopamine neurons are impacted.

Cholinergic neurons is memory. The knowledge that the memory, those neurons have still not developed inside the baby or toddler's brain. It's only after that they begin to have memories of these things. These are important concepts to know, they are important developal connect to behavioral phenotypes. Gabaminergic neurons have to do with sedation, calmness in the brain and when there are lesions you get seizures and anxiety.

This is the basic thing I trained in and now we have many more neuro transmitters and steroids et cetera which we know are connected to high stress levels. Glucocorticoids. They cause a reduction of brain weight, dendritic spine, the fingers which talk with each other. They become stumpy, they are no longer talking with each other. These are the noxious hormones related to stress which lead to this. Critical concept I have

already spoken about is the third trimester is where the fetal brain development is occurring. Both neglect and abuse can produce different phenotypes. These sensitized neurons, secondary to the stress, now respond downstream at age 10, 12, 14, 18, to very tiny, tiny stressors in the environment.

So as I said, the person watching the child cannot understand why this intense reaction to whatever. That is because the threshold for response of this neuron has really come down based on these earlier traumas. Why it helps us, we begin to understand behavior, around the child understand response and reaction of the adult can be muted or mitigated which allows the child to get a feeling of calmness or support. The child is not retraumatized. That knowledge is really important in a very important way, particularly in foster care and adoption, et cetera.

So the point here is that diseases like depression are what we call state. There's a beginning to the depression and there's an end to the depression. On the other hand which there are certain traits which get grooved into the brain because of early emotional trauma, remain like traits for the person. These traits define things like personality, response to stress and the way you react to trauma whenever it occurs.

So that's why there's a big difference between a single trauma, what Linuxer calls -- trauma. Really changes the brain architecture in a way which contributes to the essence of the person as they grow up. Very difficult to change and that's why therapy often times, by itself, can be a very

-- an intervention which doesn't produce a bunch of change unless the person hangs on and really reorganizes and changes the way they react to things through long-term work. That's why it's slow and it is much more long-term. You can imagine again, this makes a big case if you are able to prevent the trauma, you are able to save yourself. Save the economic impact of the downstream and these kids not getting into trouble, such as the extreme case of ending up in juvenile justice system or having a lot of problems with the environment.

In addition to this, I would really like you to be aware of the rule of oxytocin and dopamine. I won't go into Beta endorphin, glutamate because I've spoken about cortisol. I will speak about oxytocin. It was considered that neuro peptide released from the brain after the baby was born and caused the uterus to contract, eject the kid and take care of the bleeding from the uterus. But now we learned the role is much more extensive. It's really important the touch which produces the release of oxytocin leads to a lot of maternal behavior. Rearing of the child, in rodents et cetera, licking and cleaning the baby. Feeding, attachment is very much an oxytocin based response. Reciprocally when the mother touches the baby, it releases oxytocin, which is a highly positive event in the baby and mother interaction. So this oxytocin function facilitates the proximity of the mother to the baby. You heard of the concept of primary maternal preoccupation, which is the falling in love of the mother with the baby based upon the interaction that the baby has with

the mother, the cooing back and the reciprocal interaction which causes then the mother to feel this baby loves me and I need to take care of them. It's very much oxytocin dependent. That's been shown from a variety, probably been one of the most studied neuro transmitter in the body in the recent years. Most fascinating to me is the concept which is such a wonderful concept to grasp. Which is oxytocin is not just about the new mom and the new baby connecting and bonding. But it's also setting into play neuro transmitters within the baby which is going to predict what kind of mother they will be when they grow up. So it has this intergenerational transfer of developing those kind of neuro wiring which allows the person to engage in maternal type of behavior when they grow older. So in some ways we are giving a lexicon, verbiage to the observed data, where you become the kind of parent that you, the kind of parenting you had as a baby. So now we know the neuro biology of that, that is coming from the oxytocin literature, it tells us, it sets the wiring of the baby's brain in such a way they become an effective parent when they grow older.

To me that's fascinating and has such an intergenerational consequence we must pay a lot of attention to this. These are some of the studies which I won't get into but believe me when I say to you, in summary oxytocin is a major anti-stress agent. It is usually released by the safe touch, massaging, pair bonding, acts of giving, mediations of trust. All of those positive human behaviors and the connection of the mom,

which is why baby kind of after being born, being put on the mother's chest is a very good sort of intervention that neurotologists and newborn nursery folks have observed and allow at this point.
When my third grandchild was born, very different from my first grandchild because the child wasn't taken in the nursery, they had to stay in the same room as the parent. It comes from this observation of why this is so important.
It also has protective effects against cortisol and other negative things we had talked about. And improves the ability of the baby to weather stress when it comes up and so on and so forth.
On another note, oxytocin seems to promote faster wound healing. It's a great agenda there.
-- agent there.
The second is dopaminergic. Related to reward and attention span and has to, in a very muted way is very similar to the oxytocin system. Appropriate functioning of the dopaminergic system is responsible for care giving. If there's a lesion in this area, it leads to the rats not retrieving the pups. There is low licking and grooming and low maternal behavior. We extrapolate to the human brain and we know lesions in these specific areas can have a dil tier yus impact. It has an impact of the mother not attaching to the baby leading to perhaps more abusive behavior and this is where the prevention piece comes into play that when you see high-risk moms having difficulty with attachment, the presumption of the attachment or helping the attachment to form can have a preventive impact

upon physical abuse, emotional abuse and neglect. It's also connected to addiction and maternal neglect. All of these things are very nascent neurobiological knowledge. I think in 20 years will become right center stage. I'm happy to be sharing this with each of you to whet your appetite for more. In summary early maternal care giving plays an important role in programming these oxytocin and dopaminergic system. This sets the connection not only between the infant and mother and inoculates against abuse and neglect. But also sets in stage for the baby to become a better parent when they are older. And connects to what we have always observed that you sew what you reap and vice versa and transgenerational transfer of parenting versus neglect and abuse.

So this is just a cartoon diagram of how, when you have a lot of buffers like a mom who is available, social determinants in health that are positive in nature. When the baby, for whatever reason is under stress that what of releases is this notion of all of those positive neurotransmitters which kind of come into play and they lead to the production of the healthy fetus and child. If that doesn't happen and it's the opposite where you get, what you get are noxious neuro transmitters floating inside the amniotic fluid like beta which bathes the fetal brain which produces infant with low scores that tell us how the infant is, how healthy they are, what is their skin color, muscle tone, their ability to suck, all of those things. Those epguards are usually low and we feel very strongly these neuropeptides released in response

to stress in the mother because of how she is experiencing her environment can be deleterious to the baby who is born.
How do we address this toxic stress? Obviously universal interventions to make stress positive instead of tolerable or toxic in the kind of environments in which the baby is being raised. And that we know that it is impossible for us to make the world a beautiful heaven, it just doesn't happen. But how do we create within the baby the ability in the toddler, the ability to come out of adverse situations by being resilient. Those are all of those things that you and I know, that form the basis of creating those buffers for the child. And that's why you are reading, rhyming, routines. I always tell parents the best parent is parent who is very boring, who has routines because children love routines and the repetition forms centeredness in the child. But obviously routines enviewed with a lot of interaction that goes on. Developmental relationships which are reciprocal and nurturing really forms the healthy child. And we all know the kind of things we have already talked about, the ACES how we reward those as we go along.
Be thinking in terms of universal primary preventions we will talk about. Targeted interventions and evidence-based treatments. My life is generally in the evidence-based treatment arena. But as a child psychologist I believe we have to teach, work with pediatricians, we have to work with child care providers, we have to work with anyone who touches a child's life to look at social emotional development as a vital portion of

this toddler's life. For me, every child that you can kind of save from that, is where you put these basic skills in place.
High-risk kids, you know, we want to look for these risks that we talked about. Moms with depression. Moms with high ACE scores themselves. Mom with substance abuse. Mom who has had high adverse events themselves. How do we watch for these kids and really intervene on that level?
When they come to me usually I'm looking for presence of psychiatric diagnosis and looking at how to put the best evidence-based interventions in play. So you can prevent further mobility and mortality. These are some of the things whenever we think in terms of stress, we can't make everything wonderful. But if you think of it from a public health perspective, of primary prevention, secondary prevention and second evidence based. CBT trauma focused is an evidence-based intervention. Parent child interactive therapy. We can help the parent, put a bug in their ear to work with the child in the presence of someone who is trained, the mother, the parent is the one taking the bull by the horns and really changing their style of intervention with the child.
So generally these treatments where they come to us is very costly, very reactive. As the child grows, brain plasticity decreases and we have less of people like me, there are 8,000 of us, we need 33,000 child psychiatrists that's why the Virginia mental health access program is something they are doing in Virginia, working with pediatricians to do some of the primary and secondary

intervention to help the parent parent the child effectively without development of these dopaminergic norepinephrine, serotoninergic you know, disorders that go on.
The thing that I would like to say is that this talk, perhaps gives you an underlying foundation of the neurobiology of why this is important and why we must ipt vein at that primary level to prevent abuse. How do we figure out children how to turn off the stress response, increase resilience and recognize the importance of connectivity of people around them is a really important element. Purposeful partnership with pediatric partners. How do we screen, refer and follow all children. So many screeners available which can help us understand what is happening with the kids very early on. And this field is developing, in leaps and bounds. Intervening early for those children who are unable to turn off the stress response. Because some ways, sometimes these kids just don't have the capability of, are not surrounded by all of those buffers or the supports which are there. So as providers what can be done for them is important.
I think it makes a lot of sense for at-risk moms to learn about this material. I truly believe no mom would like to expose their child to alcohol or drugs or the noxious effects of parental behavior or what the parent themselves, and wants to educate and train and tell them what is going on, I think they become more informed. And they can make decisions about how they are going to deal and interact their child. Learning their own adverse childhood experiences and almost serving

as a therapist for them in the moment condition be very positive and empowering. Because they have an ear that is listening to them.
So hopefully this has given you a sense of where this is coming from, my heart. Parable man by the river, hears someone drowning. Being a good swimmer, he rescues the person, before catching his breath he hears another in need and another, the man, exhausted begins to walk away. Many of us as practitioners have this feeling. I had this feeling in the early 2000's. I was like I don't know what I'm doing. It creates a great sense of burnout and exhaustion in ourselves to look at the look at the broader picture of all of this. He said I'm going upstream to prevent others from falling in. That's such an important one in my mind, you can play such an important part in it.
As we look at the Howard -- Harvard study of developing child. We put these healthy interventions, all these things in a very proactive, not a reactive way, when stresses do appear, they do not have the impact of changing that curve. And keeps it on the right sort of trajectory.
So we are in the business of building physical health, developmental health, relational health.
I will leave you with this thought, it's easier to build strong children than to repair broken men.
Hopefully this will give you something to chew on. I'm sure you have already know the stuff, I'm sure it's not new. But I hope the neurobiology foundation, brings things together for you.
>> TRACY WALTERS: Dr. Sood, thank you so much. That was such a powerful presentation. And I think it brought so many things to mind for

so many of us. There are several questions in the chat for you, that I would just like to get to.
I would like to say that I really appreciate, this is a message of hope. I see it as a message of hope. If we get through the prevention and promotion and really work with these mothers early on and these children early on through all the disciplines on the call with us today, it really shows up in the end. There won't be as much focus on the treatment and intervention if we can get in the prevention and promotion. I really thank you for that powerful message today. I do want to get to one question that came from one of our attendees, Sue.
She said in the severely premature baby are they able to continue to develop serotonin directly if they are no longer in utero?
>> BELA SOOD: Yes, it's a sequential progression. The premature child is always at risk. They carry that risk of being either neglected or abused. Obviously those in NICU, the staff are careful. We have to bolster some of the supportive stuff. Even if the baby is very premature, there are lots of hope that can capture the milestones 8 months. I can give my own personal experience of my middle son, he was born in California while I was at a conference, he was 28 weeks and about 13 ounces. My mother h kind of came from India and supported me. Shawn ended up catching up. I got him tested at age 4, as a child psychiatrist I was always very aware. He was well taken care of it, as a child psychiatrist at that time a very young one. At that time psychology was more drug all of that, not

the neuroscience. There was not any discrepancy in his IQ. He was a pound 13 ounces at birth, in the NICU for about three months. He is now a lawyer with Meta. I can say with the appropriate nurturance, but the other ancillary problems if someone had an intra-cranial bleed or neglected or put to the side because the parent feels I don't know if he is going to survive. That's the psychological piece. I don't want to attach myself. That has to be sort of looked at. All of those things allow for the brain to develop. You got to stop the outside environmental factors that you could possibly stop things from going awry. What ends up happening from a biological perspective in the way of, if you had a stroke, for example? Because you were too tiny. Or intra POD, if they are in fact and produce the ecological supportive environment, there's no reason the baby will not develop appropriately.
>> TRACY WALTERS: Thank you for answering that. That response really brings up that grief and loss process too, right? For mothers and families.
>> BELA SOOD: Many times they will not name the baby. Because they just don't want to get attached. To understand that, and to help the parent process it and say what's going on here? And getting them to the point where they can attach and if they do lose how to go through their grief is a much better trajectory than allowing the disconnect to happen. Because they are the only person in the child's life in some ways.
>> TRACY WALTERS: Absolutely. Thank you for that. The second question comes from Dr. Sagora. Have there been any studies on the effects of

parents phones and inadvertent neglect or lack of serve and return with their babies? She sees a lot of this in her exam room.
>> BELA SOOD: Yeah, I think that to me is a big, in some ways it is a neglect right? You can't be reciprocal. I don't know if any studies have been done. We are flailing around with even screen time with kids and how much time parents are spending. Clearly you are kind of not able to attend in the same way. Or you pretend that you are. I do think it's a good area to study. I will look it up, honestly. It is sort of a form of neglect. Because you are now disconnected. As we are talking, this conference of yours, the name of it is called reflective parenting. I think reflective parenting is that notion of being in the moment and being with the baby in some ways. Emphasizing that with new mothers is really important. And I think if we forget that, I see that all around me, very educated people do the same thing.
>> TRACY WALTERS: It's a constant distraction, is it not, for all of us. To really be mindful is something that, you know --
>> BELA SOOD: Mindfulness is something these days have you to teach yourself, it doesn't come naturally to any of us.
>> TRACY WALTERS: Absolutely. It looks like we maybe have time for one more question. Suzanne McDonald, she said she knows this will be a full session but would love your thoughts how the pandemic may or may not have affected social emotional development. She is an early intervention and sees a lot of kids who are

dysregulated right now.
>> BELA SOOD: I think the pandemic has had, generally speaking, there's some positive slivers of good things that happened with the pandemic and we have to acknowledge those. But by and large, the general read on the pandemic is because it constituted such a change in switch from how things were, so there's an element of switching your complete life around. And then it led to bunches of isolation. It led to the roles of parents being redefined in the way of being both a professional and parent within the same household. And so parents were kind of caught in this real difficult thing. In the past there were delineated roles they would go to a provider. The parent went to work. And here you were kind of combining the thing. I think it had a very negative impact on a lot of people. Unless they decided to not work and then the ones that didn't work, I think that led to a bunch of resentment. So that has an impact upon your role as a parent. And whether you are fully into it or do you see that as an encumbrance. I think the pandemic really did have a negative impact. Because it's such a broad topic. And I kind of experienced that in my clinical work, you have to parse it out in individual people. Where you see it, you can call it, ask about it. Statistics are statistics. Every individual person you are interfacing with that you are feeling is being impacted that needs to be addressed. That's all the good work the folks in this session obviously do. Anyone who works with kids are very reflective. Very individual, very one to one. You can't warehouse the kids every child

is different.
>> TRACY WALTERS: That's important in our work, are we individualizing the practices and digging into social determinants of health and how that is impacting. I know you mentioned that earlier in the session. Really thinking about how all of those intersections really show up in the life of a child in a family. And then how do we serve that family and child well by getting there.
>> BELA SOOD: Even we talk about gun violence and statistics. I think it trivializes the impact of it. I think every family and every person, we know the technical piece of it. Every child who is affected by gun violence or someone dies, 137 people are impacted by it. We know. But individually when you are working with the person, that individual sort of thing has to be married with the technical knowledge and you bring the two and hypothesize what is going on here. That's how I like to use the knowledge I have, how does this link with this particular kid.
>> TRACY WALTERS: Yes, thank you for that. The clarification that you lent today on the neurobiology for us, really allows us to make the case for intervention, right? And really make the case for infant and early child mental health and how important that is around the state and around the globe. How we should be paying careful attention to what these children and families need. I thank you so much. I will check the questions and see if I have missed anything there for you. But everyone is asking in the chat if your information can be made available. I think you have many fans in the group that would like

to reach out to you, Dr. Sood, about your work. So I will let you answer that as to whether you would be willing to share contact information. And we can get that to the attendees after.
>> BELA SOOD: Absolutely. You have my information.
>> TRACY WALTERS: Thank you so much. I see the answers are, looks like we have answered everything in the questions. So thank you so much for the presentation. And really, the message of hope, that in the work we are doing through early intervention and infant childhood mental health we are on the front lines and taking the information you gave us will give us more skills in homes and classrooms. And back in the spaces. It takes the entire community with pediatricians, psychiatrists, teachers, home visitors, all of us early interventionists to really care for the family is so important. We thank you for that message today.
>> BELA SOOD: Thank you for having me here. It's always -- this period of our lives is such an important one. Kids, yes.
>> TRACY WALTERS: Yes, it is. It really is.
>> BELA SOOD: The good work you guys are doing. I will talk to you.
>> TRACY WALTERS: Thank you. Thank you so much. And thank you for being here, Dr. Sood.
>> BELA SOOD: Take care.
>> TRACY WALTERS: Take care.
[Recording stopped]