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EARLY STRESS GETS UNDER THE SKIN: PROMISING INITIATIVES TO HELP CHILDREN FACING CHRONIC ADVERSITY

A FUTURE OF CHILDREN EVENT

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P R O C E E D I N G S

MS. SAWHILL: Ron Haskinsis also a co-author of the policy brief we're releasing today and a co-editor of the companion volume of the future of children. And I also want to welcome our colleague from Princeton who's with us today. Where is Jon Wallace? He was here a moment ago. Oh, hi Jon. So just a bit of background on this volume. We know that children from less advantaged families start out with poor home environments in many cases. Then they get to school and sometimes they don't catch up even during the school years and it suggests that if we want to have an impact on the lives of disadvantaged kids, we have to work not just on programs for the children themselves, but also for the parents, and perhaps on both of the two together. So that's why this issue on the future of children is focused on what a lot of people call two generation programs -- programs that work not only with the children but with the parents as well. And the journal issue covers a myriad of ways in which parents influence their children, and it also assesses the potential of these so called two generation programs to make things better. The brief was, as I said, co-authored by Ron, but also Ross Thompson, who is here with us today and Ross is one of the leading experts in this field and we are just very, very appreciative of his willingness to be with us today. I have to tell you personally, that I've been trying to understand this new neuroscience of brain development and how that's affected by stress and other environmental influences and I have never read a clearer and more useful introduction to that topic than the one that Ross and Ron have in this brief. And although I don't want to minimize Ron's role, because as I've just said, he's been involved in absolutely everything here, but he's not a neuroscientist.

Now you're going to hear from them later, but right now, I'm really really pleased to get to introduce to you Dr. Debra Joy Perez. Debra Joy is the Vice President

for Research Evaluation and Learning at the Anna E. Casey Foundation. And although we are going to refrain from long introductions about anyone here because you have their bios available to you, I do want to note two things. One, she has a Ph.D. from Harvard in health policy, which I think is particularly relevant to the subject matter of today's event, and the other relevant connection here is that she was a trustee of the Community Foundation in Princeton, and that's relevant in the context of the fact that this is a partnership that we have with Princeton University and she told me a moment ago or told us that she's still doing some work up there. So we're delighted to have you with us today, Debra Joy. I'm going to turn this over to you now, but only after I say we're very grateful for all the support the Anna E. Casey Foundation has provided to our center over the years. So thanks for being here.

MS. PEREZ: Thank you so much. Thanks Belle. So before I begin, I want to extend my thanks to Ron for this generous invitation and The Brookings Institute. I especially want to thank all of the authors in this really important work, which contributes to illuminating the mechanisms that are involved in 2 generation work. I thought the issue provided some very rich and thought provoking framework for thinking about solutions while at the same time acknowledging how much farther we have to go. And before I continue to tell you what I'm going to say in my next very brief five minutes, I want to acknowledge my colleagues at the Anna E. Casey Foundation who are here in the audience -- Arin Gencer, Beadsie Woo (phonetic 5:26.0), Patrice Cromwell, and my colleague in research, evaluation and learning, Cindy Guy, but especially the leader of this work, my colleague, Bob Geloff, who's Vice President for the center for economic opportunity. And Bill understated, a fierce advocate for this work. He's quiet on the outside, but believe me, very strong and passionate about this work. This morning in my brief remarks, I'd like to share with you why the Anna E. Casey is so very interested in

this topic of kind of this dual approach to addressing poverty and by giving a very brief history of our work and how our current work is really informed by some of the research that you're going to hear today. I'll describe some of the present day Casey approaches and strategies and what our version of a two generation approach looks like. And finally I'll close with some caution and maybe at the discussion period we'll be able to address some of those and how we might continue to refine and expand a two generation 2.0 approach.

So for the past several decades the Anna E. Casey Foundation, which considers itself a kids' foundation, has addressed poverty and child development in almost separate and distinct realms and programs and services designed to help adults. We're focused kind of on increasing their financial stability. We're really connected to those focusing on children's early educational experiences. In the jobs realm, children often were seen as an obstacle to the work, so lack of child care, lack of sick leave, were preventing parents from being more engaged in work. And in our early childhood program work, we did little beyond referrals to encourage families to get economically stable. We measure outcomes and successes either on a child level or on an adult level, but in this kind of dual approach, we now see the need for addressing and identifying families as a whole. So this bifurcated approach to reducing poverty and improving outcomes has produced limited results and that's evidenced by the fact that poverty is persistent. I'm not going to go over the data. You'll hear a lot of data and information on stats, though I love them, from other speakers. But I will say that in the research -- in some of the research that's in this monograph, particularly that of Greg Duncan, indicating that even minimal increases of three to four thousand dollars can have significant impact on childhood well-being, and the fact that you'll hear that children in poverty and experiencing this extreme stress, whether it's from housing, abuse,

substance abuse, parental substance abuse, chronic neglect, et cetera, repeatedly exposed to this kind of toxicity and this stress, inhibit child development.

So our experience with what's not working -- this bifurcated separate approach for attacking the problem, coupled with this new knowledge that you'll hear more about today, really causes us to think in new ways, to see the work greater than the individual child or adult success, but that kind of a success together, and working together. The Casey Foundation has a special interest in finding more effective approaches that serves kids and families and we know that child well-being is deeply tied to stability and financial security of his or her family as well as support of parents and caregivers.

So now imagine if you well, the challenge that you might face or have faced, and maybe some of you have, as a low income, and living in a low income family, where you have parents who are trying to do their best, but have no job or have a poor quality job which means they get no paid leave, they have no health care access, they have no quality child care, and often times you're dependent on either family members or even strangers who take care of your children, that the jobs that they have don't pay well, that they don't earn enough to even afford a decent housing option, and that the programs that typically are out there are, in terms of policy that support these families are nearly extinct or extinction. Now imagine doing that either as a non-English speaker or an immigrant. So the two agenda approach that we're taking at the Anna E. Casey Foundation, by Bob Geloff, who's really about ensuring low income families have access to high quality learning and elementary education, helping parents achieve economic stability by giving them job training and financial coaching as well as increasing their access to earned income tax credits, food stamps and the like, we know that these policies matter.

It's a common sense approach, but sadly not common practice and often low income parents often struggle to meet their basic needs and tackling these issues together, the child issues and the parent issues, is one way of encouraging and strengthening the outcomes of these families. So let me just close with my cautions, if you will. There's a lot of work to do in this area. There's more and more we're finding that the challenges around data and research aren't there so we have limited evidence that these joint approaches have long term impacts. We have the limitations of non-flexible funding streams, so the folks who are funding in child development and child well-being, aren't necessarily very friendly with those who are working with their parents, even though it makes good sense. We are doing some experimentation in this regard, working with Head Start and trying to partner with them so that they provide with the families of the children in Head Start, financial coaching and other services.

So here are my cautions. What I took away from the manuscript, other than it was very wonderfully and beautifully describing the issue is that there are some things that we need to keep in mind. And that is, when you're talking about toxic stress, it's easy to kind of really focus on adapting, adaptation and dealing with the toxicity of the stress, which is much further downstream, than dealing with the issues that cause the stress in the first place. So what I worry about is pathologizing the poor kid and the poor parent because they don't have enough grit, or they haven't -- don't adapt into the toxic stress, and there are things that we can do to fix this. But to me that's more the after the problem and rather, focusing on curing rather than upstream, and trying to address those issues that cause the toxicity in the first place. And so the other caution is that a lot of this information needs to be distilled by the different population and impacts. So more around how the situations of immigrants for example, or Latinos, varies from African Americans in similar economic situations for example, two parent versus one parent

households, we know that Latinos and immigrants have more two parent households, so if you're tackling problems from a policy of single parenthood, you're going to miss that group. And then the issues of inter and ethnic differences, so Cubans are very different from Latinos, Africans who come from Africa are different from African Americans. So lots of challenges ahead. I just posit those thoughts for your consideration and again, I thank you for your time.

MS. SAWHILL: Thank you Debra Joy. I think your caveat about we need to be as focused on prevention as we are on what to do after the problems occur is especially well taken. I had to have to comment listening to you about the fact that I don't think it's just too generations that have to be taken to account here. It's the entire life cycle, and you sort of said that. As you probably know, we've done quite a lot of work here on what we call the social genome model, which follows children from birth all the way up through adulthood. And we find that if you intervene with effective programs in every life stage, not just one, you get quite significant impacts on these children's life trajectories. And we recently did a presentation for OMB and the White House in the connection with My Brother's Keeper, the President's new initiative to focus on boys and men of color. And we looked at how much of the racial gap you could close over a child's life trajectory, by intervening with an effective program at every life stage. And we have that available for anyone who's interested.

But back to the focus of this event. We're now going to hear from Ron, and Ron is going to summarize the volume. He worked very hard with our other senior editors at Princeton on this volume, and then we'll going to hear from Ross, who I've already sung his praises as the best person to help us understand how things can actually get under the skin. And then, I'm very pleased that we have also with us, Richard Barth, and Rick is the Dean of the School of Social Work at the University of

Maryland and you can read his impressive bio, but please note that he's authored more than 170 articles, is a recipient of numerous awards and is a well- known expert on child abuse and neglect in child welfare services and related issues. We're really honored to have you with us today Rick. And we'll be hearing more from you later. But now, over to Ron.

MR. HASKINS: I'm glad she didn't add, who doesn't have 170 publications, but --

MS. SAWHILL: Oh, yes you do.

MR. HASKINS: So I want to begin with a stunning insight. Two generation programs, parents -- children, I figure that out right away, as soon as I started reading this stuff. And let me tell you why we're interested in it and why we did a volume on it. It's been suggested by previous speakers, but the first thing is that the intervention programs that we have now, there's a huge argument of course, and I'm going to be -- I'll try to be moderate in my conclusion here, that -- let's say that they're not great. The outcomes are not great. Some are successful, but generally, the outcomes are not great. And I offer as evidence, two pieces of evidence that I think are important. Debra Joy mentioned poverty. We have way more poverty than we do -- among children at least, than we did when we started the war on poverty. But more importantly, kids from low income families -- the gap between their school achievement in reading and mathematics, has increased over the last three decades or so. So if our programs were having an impact on these kids, how do you explain this increase? And keep in mind, this comes at a time when education is more important than it's ever been, and becomes more and more important every year. So that's a problem.

Second thing is, we have astounding data that's just, I think, cannot be challenged, especially from the panel study of income dynamics at University of

Michigan, but other places as well. That if you're from the bottom 20 percent, the chances that you will wind up in the bottom 20 percent are about twice as great as for other children -- twice as great. So income mobility, this is not. Now those are two really significant problems, so we need some new interventions. We need to re-think this area. And so the two generation -- we were especially interested not just in the two generation programs, which Lindsey Chase Lansdale and Jean Brooks Gunn summarized very nicely in this volume that I'll say a few words about in just a minute, but the mechanisms by which parents influence children -- that's what we really wanted to look at, because our thought was, if you can influence those mechanisms, then you can influence a child's development. So mechanisms that through the parent will influence a child's development, and that is really why we picked stress. Stress is an exciting new area -- a lot of people talking about it. I notice that a lot of things that people say are not necessarily completely correct. Everybody's now an expert on brain development. I don't know if you noticed that but I get a kick out of it. So we pick stress because it's a great example of something that happens to parents, and the parents in turn, because of the stress, have a major impact on their children, and there are great examples of this. And then, even better, we found that there are intervention programs that will have an impact, either on the parents or on the children, once they experience this chronic stress and are beginning to show behavioral impacts. So that's what we're all about, is intervention. So that's perfect, and all set up and Ross will tell you about that in just a few minutes.

So now let me just summarize the volume very quickly. I only want to say a few things about each of the mechanisms. Sarah and Irvin and I got together and we talked to the other senior editors as well and we picked out six areas that we thought were really crucial in addition to the two generations programs themselves, and they're

stress, education, health, income, employment and assets. And our assumption going in of course, all of us know, some of the literature in these areas was that these are all ways that things that parents are involved in or characteristics that they have that in turn have an impact on children, and so let's look at the evidence and see if that's really true, and let's look at the evidence and see if we can change those things.

So let's begin -- it's supposed to come up here in Power Point. This is a movie star moment. Drive everybody else off the stage so you can be the center of attention. It should come up here now. Oh, you have to turn it on. Who would have thought of that? Okay, so, here's the volume. Okay, so now, it begins with Lindsey Chase Lansdale and Jean Brooks Gunn -- a very nice chapter summarizing current state, and by the way, this chapter and I think all the others, are very modest in tone. There are no huge claims in here that, boy, if we did this, tomorrow everything will be better and we'll solve the income gap and achievement gap and so forth. So I'm going to say this several times. We should savor small impacts; because that's the kind of impacts we generally get in social intervention programs. And as Belle says, if you can put them together across the development periods, you maybe have even bigger effects. So the basic idea of these programs, as everybody has said, is the adult is in the program, the parent's in the program. Generally speaking, it's a program that tries to help the parent get a job, and the kid is in a high quality pre-school program. That's the general idea. But it could be other things that a parent could do or maybe in addition to finding a job, so for example, education. I'll come back to that in a few minutes. And there were a wave of these programs in the 1980s and 1990s, according to Chase Landsdale and Brooks Gunn, and they showed some modest success, again, not overwhelming impacts. But there's been resurgence now and a great increase and interest in this area, and there are three things that they conclude are really important to this new generation of programs.

The first is the build strong connections, between the components for kids and adults, so that they directly relate to each other and the two programs are well coordinated and the people that run the programs talk to each other and work together to help both the adults and the children, and second to ensure adequate duration and intensity of programs for kids and adults. It's especially a problem for kids. We tend to think we put a kid in a program at age four; everything's going to be fine with one year. And there are a lot of kids that that is not going to be the answer as the outcomes show. And then the third thing is to incorporate advances in preschool and workforce development and I would say there have been many. For example, we know a lot more about teaching in preschool now. We have better instruments to measure it. And we have something fairly new, called coaching, that has been shown to have a real impact on the ability of teachers to do a good job, and not just in instructing children but also managing children in classrooms, which is a crucial part of preschool and public schools for that matter. And the same thing with workforce programs being developed as well, and there have been important new advances. There is better coordination at the state level. There is better coordination between the public programs -- we have something like 20 public programs that try to have -- help parents qualify for and get better jobs. So there are some new developments in both these fields. And then again, same kind of conclusion the authors come to -- that there's moderate evidence of impacts but the authors concluded the time is right for innovation, experimentation and further study and we hope that their chapter will have the effect of stimulating that.

The next chapter is by Nuraj Kurshall. It's on intergenerational pay outs of education and way more than the other chapters; she even reviews international literature as well, which turns out to be quite substantial. In fact, I might say, I was really surprised, and I've been around for a long time, but I was surprised by how much

evidence bears on each of these areas, and the reviews are really masterful. We don't try to review everything, but things that are useful and pertinent and there's still a lot of literature including experimental literature, so this is especially the case in education. So Kurshall concludes right off the bat, there's very strong evidence that parents' education has an impact on school performance, on the health of the child and on the behavior of the child, including child's social and emotional behavior and she reviews twin and adoption studies and other kinds of literature, especially very clever studies of changes in policy that are implemented differently across the states and design is to see what happens with the kids across the state as these education policies are implemented, so very clever. But she comes to the conclusion that there's very strong evidence, however, she also has a very nice section showing that the American education system probably reinforces the differences that kids bring to school because we spend more money on the schools that kids from more advantaged families go to and they have better teachers. In fact, it's an obvious pattern in the schools you detect immediately. When you know something about a school system, that teachers that are really good in inner city or low resource school, they're good and they get the right to leave, especially as they get more and more years in teaching, so the best teachers wind up in the best schools and the worst teachers, the new teachers wind up in -- so this is a problem. We reinforce these socially not economic impacts so education has even more of an effect. And she concludes that the theoretical basis of the two generation programs is strong and compelling but there is success in some design and implementations of the programs which is true in all these areas.

Next is on health and I think I saw Don -- are you hiding back there? Don, do you want to come up and do this? Don Ulrich. So thank you for coming. You want to get Don to Brookings and talk about some paper he wrote and he'll come, I guess

is the idea. So the idea here is better health. If parents had better health, kids would have better health and it would improve their development. And then authors characterize the literature showing that there is in fact massive evidence that healthier parents have healthier children. And in this chapter, like all the others, the correlational evidence is great, and very suggestive, but we really would like to see experimental evidence and there is actually some in this area, and some in all the areas. They also talk a lot in here about not just environmental influences, but this connection in health between the parent and the child as influenced by genetics, by the home environment that the parent provides and by parenting practices. And these things are hopelessly intertwined, so it's very difficult to separate them. Nonetheless, that there are parents, the authors conclude that if there were programs that improve parents health, that health would also have an impact on children's health and their health would improve as well, and they cite as examples the healthy start program and home visiting programs. Healthy start is a pre-natal program and it has been shown to have real impacts on both mother and on the child, so it's a great example of the two generation program. But there are a lot of problems in the way we organize health care in the United States. Access to care is a problem. In fact, we have one situation that really is kind of crazy, which is many kids, virtually every kid under 200 percent of poverty in the United States is covered by health insurance but a lot of their mothers are not covered. And so this is a situation where the mother has no health insurance but the child does and research shows that mothers who are not covered by health insurance are less likely to take their kids for regular checks and so forth. So you lose part of the benefit because the mother is not covered. So the Obama care supposedly, will somewhat mitigate this problem, but not completely by any means. Also, the discipline of medicine itself has some problems here because generally, you either work with parents or you work with children --

pediatricians and they cite very convincing evidence that I'd never seen before, that kids that go for a pediatric visit, the parent's hardly ever involved. They might sit in the room for two seconds, and the parents, same thing. So there's not really any coordination in the medical profession itself, or very little that would help integrate the health lessons, and especially for the children. You can see it would be really important for a mom to know what's going on, here's what you should do and so forth, and there's too little of that in the medical system itself. So this is again, an area, like all the others, that the potential is great, the correlation of evidence is extremely strong. There's even experimental evidence, but we're not taking full advantage of what we could do.

And then a very interesting chapter by Greg Duncan and his colleagues -- many of you may have heard of Greg Duncan, a very well-known social scientist and this may be an area where he is really known the most and in the future will be known even more if things go according to plan. So the basic idea here -- here is an astounding insight. You can only get this stuff from social science. More income is going to help children's development. And low and behold, there's a lot of evidence that shows -- that the correlational evidence is really amazing. The listings near the beginning of the article, that if you compare kids who lived in poverty as children with kids who lived at two times the poverty level or above, the kids who lived in poverty have two fewer years of schooling, earn less than half as much as the other kids by age 30 and so forth. You can read these other effects here. Really very strong effects, and there is actually experimental evidence as well, from income maintenance experiments and from other sources, and authors conclude that there are three pathways through which parent income can influence a child and they cite evidence that all three of these are real and that they probably do have impacts on the kids, maybe all of them simultaneously, family environmental stress, which we're going to talk about in detail in a few minutes, resources

and investment, and we have a lot of really good data now showing a difference in what parents of middle and upper income families spend on their kids compared to low income kids. They have a chart that shows -- and this, by the way -- the difference is increased very substantially. To give you an idea of the magnitude here, middle class parents and wealthier parents spend about, over 9000 dollars on their children, and low income parents spend something like 1400 on their children. So huge difference -- and there are also differences in time investments, differences in how much they talk to the child, the complexity of their language -- there's just all kinds of differences between the parents and the children associated with income, so very strong correlational evidence.

Greg Duncan, I think -- I don't know if you can be more famous than Greg already is, but he may be in five or ten years from now -- he has collected money from many sources including a huge award that he was given by Switzerland. I think they gave him a million dollars. Anyway, he put half of it in this research. So what he wants to do, is a manipulation, random assignment study, representative national samples of low income kids, and give the kids -- the parents -- 4000 dollars more, during the early childhood. His theory is that that's where the evidence will have the most -- that's the evidence shows that we will have the greatest impact, is in early childhood. So imagine this big random assignment experiment, give the parents additional 4000 dollars and then very carefully study what happens to the children, and that -- plans are underway that study will be taking place. I just hope I'm around to see the final publication. That would be good. So that would provide us with experimental evidence, but the correlation evidence suggests that the income is a really -- and I don't think anybody really doubts that income is a major factor. And it would be very interesting to note that the early years are the most important and that's where we should focus the resources.

Then there's also a very interesting chapter by Caroline Heinrich on

employment. So the idea would be if mothers work more, could that influence children? There's good research on both sides of this issue -- the benefits -- more income, which we've already talked about. Parents provide a model for kids. We know we have a huge literature showing that kids, especially young kids, learn a lot through modeling. So kids who grow up with a mother who works, or both parents work, or one parent works but there's always consistently work and income, that that could influence their work as an adult. In fact, there is a very strong correlation there. And then the third thing is good child care. And this can couple with ways I'll talk about in just a minute. And meanwhile there are many problems associated with the mothers that work, so it's not a given that if the mother worked, that it would necessarily -- that the child would benefit. I think the way that really plays out is, I would say that based on their chapter and other information, that generally it is good for the kids if the mom earns more money, but there are, for some families, there are serious problems. And there are some kids that go astray, especially adolescents. And again, there's pretty good evidence on this. So the obvious -- the evidence is split. Both of these things can happen. It could be good, it could be bad. And if we wanted to make sure that more of the kids benefit from their parents working, then we would have higher quality child care, we would have more subsidies for child care. That's a huge problem because a lot of low income moms, even though they're qualified for child care support, they don't get it, because it's an appropriated program and when the money's gone, it's gone. And only about twenty percent or so of the moms who are eligible actually get it, so we could improve the subsidies for child care, and then there's a lot of discussion in the chapter about family leave, which would give most low income mothers as Debra Joy already said, don't have family leave. They don't get any -- they have a baby, they have to go right back to work. The baby gets sick, if they even get time off, it comes out of their salary, so there are a lot

of problems with the work force regarding mothers.

And then finally, there's a very interesting chapter on assessments on assets. I think this is an area that there's been a lot of exaggeration in recent years, that there are huge impacts, and as always happens when you look at the evidence, it's not -- there are impacts, but it's not as huge as you might think, if you just listen to people talk about this area, and that's one thing I really like about this chapter. Grinstein Weiss is a really good scholar. She's been involved in this area, she's very enthusiastic. They are very measured in their conclusions. So you find out that we do have good evidence, that there are some important correlations. There are even some experiments, like American dream demonstration, that actually show -- here's one thing that I think everybody agrees on, that you can get low income parents to save money, even though it strikes you as unlikely because they don't have enough to even meet their needs, but they will save money. And there's more than one experiment that shows that they will do that. But whether it has an impact in the long run, and improves their wealth, improves their education, results in college savings for the kids -- that's not as clear. And that's the kind of impact that we would really like to produce. Nonetheless, in reviewing the evidence, they show that these four characteristics here, could really make a big difference and no program has employed all four of them. So you open an account early in a child's life, it's opened automatically; the parents don't have to do anything. You notify them they have an account, and there's an initial amount in the account. So they start with $200, $500, whatever it might be, and then whenever they put money in the account, it's matched. And you might even match it differentially depending on what they're saving for. If you did those four things then there would definitely be more savings by the parents than you would get otherwise and then, if we did all these four things and studied it carefully in the long run, we could find out if the parents wealth or the children's education increased. So

low income parents can say that's for sure, but whether it has a long term impact, that's where we need to focus in the future.

All right, so the evidence in this volume shows that all six mechanisms -- we have very strong correlational evidence that all six mechanisms have an impact on children's development and in many cases, there's causal evidence as well so it does turn out that if we could influence these mechanisms, that we could improve children's development and have impacts on their school achievement, behavior and perhaps their employment and their income as an adult, and that's really what we're after. The effects are mostly moderate, but that's what we should expect. Intervention, social interventions produce moderate effects, usually.

And then a final thing to say about this is that many of these areas have research, particularly intervention part and this applies especially to stress, are fairly in their infancy or maybe at the most are adolescents. So we're learning a lot and ten years from now, if we did this volume again, I think we'd have even stronger evidence and more examples of programs, of intervention programs that would really produce an impact. So two generation programs are very promising. We're learning, and if we can implement it -- which would require some action on the federal budget I believe, we're going to be much better off that we are now.

All right. So we're going to have a panel now, and an overview of the policy brief, and also we're going to have the key note talk now, so if the panel and everybody would come up here, and I'm welcoming Rick Barth and Ross Thompson. I want to endorse everything that Belle said. Rick has been a friend of mine for a long time. And the reason we invited Rick is because, and the same thing with the policy brief, and you'll see on the panel is, that we can emphasize the practical implications of this seemingly very complex research -- that it does have practical implications, in this

case, in the development of social workers in abuse and neglect. Once again, Rick is the head of the School of Social Work of the University of Maryland. All right, so let's have the panel come up. We'll start with Ross, and then Rick.

MR. THOMPSON: I am Ross Thompson. So, the reason I'm here is to really talk about a theme that unites the chapters that Ron has just been talking about. And that has to do with the effects of stress on children. As every parent and teacher knows, young children experience ordinary stress every day. Sometimes all the time it seems. And part of the job of a caregiver is to provide support, while children acquire the coping skills that enable them to rebound. Our concern is that for many children, chronic adversity is a regular part of their experience. Sometimes in situations where an adult is not capable of providing support and these circumstances are the ones that can potentially prove overwhelming for them. To give you an idea of the prevalence of what we're talking about, in 2012, 22 percent of U.S. children under the age of six lived in poverty. That's more than 6 million children in the United States today. The highest proportion of children entering foster care are under the age of one -- they're infants. Children under six account for nearly half of all substantiated abuse and neglect cases, and more than half the children living with their families in homeless shelters are under the age of six. By many measures in fact, the younger you are, the more likely you are to live in circumstances that are chronically stressful, and that's a serious concern. It's a serious concern because the impact of chronic adversity in young children undermines the chances that these children will get a good start in life to become capable students, competent workers and nurturing parents. But it's important also, and this is the focus of the policy brief, because young children's biological development is still in a very formative stage, influenced significantly by the effects of early experiences. We've long known this to be true with respect to brain development, recognizing that the brain's

openness to experience is a double edged sword. It means that brain development can be shaped in very different ways by children's experiences of nurturing or aversant early care. But what research is now making abundantly clear is that the development of multiple biological systems are affected by chronic adversity. And these effects can have far reaching consequences. Studies show that young children who experience chronic diversity show disruptions in the functioning of stress hormones like cortisol, causing many children to become over reactive to perceived threat, situations that young children would not be bothered by. Chronic adversity also suppresses the immune system, rendering children more susceptible to acute and chronic illnesses. There's evidence that chronic adversity affects gene expression. The stress hormones that are released in the context of chronic adversity also have widespread effects throughout the brain, altering neurobiological systems associated with self-regulation, memory and emotion. The biologic imbedding of chronic stress has behavioral consequences and provides a lens I think, for us to better understand some of the behavioral problems observed in children in adverse conditions, such as their poor impulse control, their threat vigilance, their difficulty focusing their attention and thinking, and trouble controlling their emotions. So these consequences, starting biologically, have behavioral effects with important implications for children's academic achievement and for their social behavior. So that's the bad news.

But there is good news that the science is giving us that has implications for intervention. And one source of good news is this. The fact that early adversity becomes biologically imbedded does not mean that its effects are necessarily permanent. In fact, because young children are developing so rapidly in the early years, their biological systems are still fairly malleable and can be affected by further experience. And this means that we have to identify early those children who are undergoing chronic

stress and intervene helpfully, to provide the kinds of supportive care that will help to normalize these biological systems that have begun to go awry. So early intervention for children at greatest risks can help to correct some of the biological and behavioral consequences of chronic adversity.

Today, we're going to hear one research program that is doing so, in a biologically informed intervention designed for very young children in foster care, Dr. Mary Dozier and her colleagues provide foster parents with guidance and learning how to appropriately interpret children's signals and respond positively and constructively to them and she's also extended this intervention to address the characteristics and the responsiveness of children's biological parents. Her research team has shown that as a result, infants and toddlers in foster care begin to show more typical patterns of stress reactivity and behavioral improvement in their growing attachments to their care givers.

Now the findings of her work and of others, underlies a second source of good news for all of us, and it's this. Supportive social relationships buffer stress for children, both physiologically and psychologically. The quality of care really makes a difference. Of course people of all age benefit from social support, to help us get through tough times, that's a given. But social supportive relationships may be especially important when children are very young, because they rely on their care givers, for protection, nurturance and emotionally responsive care. Research shows that when young children encounter stressful challenges in the company of adults to whom they have a secure attachment, their biological stress reactivity goes down and they become better capable of coping with these situations. In this sense then, one of the most important functions of supportive relationships for young children is that they help to manage stress for the child, and this is one of the reasons why two generation programs are important. By helping care givers function more effectively, and supportively of their

children, they can help children better manage the challenges that they face and as a consequence, enable them to invest themselves further in learning and healthy growth. The program developed by Dr. Dozier and her colleagues is one example of a two generation intervention that enlists adults from outside the family to support young children in adverse family circumstances and in other circumstances, improves care giver support within the family. We need more programs like these that are relationship based and biologically informed, to address the needs of children who have been abused or neglected, who live in conditions of domestic violence, and who face other kinds of chronic family adversity. Interventions like these can enable children to experience a safe, predictable and centered environment in which threat vigilance can be minimized and more constructive social emotional competencies can be encouraged. Research support for designing and testing interventions like these and subsequently funds to scale up and implement them in local communities are warranted to provide much needed assistance to children.

Now in addition to remediating the effects of chronic adversity for children who have already been victimized, state and federal policy should also focus on preventive efforts, to help young children in families who are at risk of experiencing overwhelming adversity. In other words, it's not just dealing with the biological and behavioral facts after they've taken place that's important -- it's finding ways of preventing it from taking place in the first place. That is likely to be much more effective. And there are several ways of doing so. First is expansion of the support afforded by home visitation and primary health care. The Obama administration's initiative to fund evidence based home visitation programs recognizes the value of early support to help at risk families start well and get connected to helpful community resources. Home visitation that begins early and continues through early childhood can reduce parental stress and

strengthen positive family practices that help young children, by emphasizing responsive parent child relationships and shared activities like reading and conversation. Congress should continue to support the Obama home visitation initiative. But because the reach of home visitation programs is limited the pediatric health community should also take up the challenge of helping to ensure that all young families, especially those in difficulty are able to establish a primary source of health care, what some people call, a medical home. In the context of regular pediatric exams, health professionals should screen for health, nutrition, vision and hearing problems that can compromise healthy development, but they should not stop there. Because attention is also needed for early behavioral and emotional problems that may indicate that a child is experiencing significant stress. The pediatric exam is also a good occasion for a family check-up, to see how parents are managing the challenge of child care, despite as Ron mentioned, evidence that basically pediatric professionals rarely devote much attention to what's going on with parents even though their lives are deeply connected. But for many families, a medical professional is the only professional they regularly see who can provide support for effective parenting. And the medical home offers therefore an avenue, for early identification of children and families needing assistance. So that's one avenue.

A second avenue for prevention begins from recognizing that many sources of chronic diversity are economic in nature. With nearly half the population of children under six living in low income families at 200 percent of the poverty level, these families need assistance. Many economic support programs for families have demonstrated immediate and long term benefits for children and they deserve continued support and expansion by Congress. These include the earned income tax credit, the child tax credit and the supplemental nutrition assistance program, otherwise known as food stamps. Economic assistance to families who face difficulty reduces parental stress

and supports their young children's healthy development, which is another example of a two generation benefit.

Thirdly, in addition to health care an income support, another target for preventive efforts, is improving access to high quality child care and education. Early childhood educators have long known that the greatest benefits to high quality early education are derived from children at greatest economic disadvantage, who often have the farthest to catch up. And the research on the effects of chronic adversity in young children suggests that high quality programs are beneficial not only because of the cognitive and language stimulation they provide, but also because young children experience a safe, predictable and child centered environment with teachers who are warm and responsive to them. Moreover, early care and education programs that are biologically informed can incorporate special features that are responsive to the needs of children under stress such as attention to their self-regulatory challenges. You'll hear about one of those programs this morning, developed by Dr. Cybele Raver to respond to the needs of young children in Head Start and documenting benefits for these children in both their cognitive and social function.

Unfortunately, as well know, such well-designed programs are rarely available to the children who need them the most. Instead children who live in adversity are more likely to attend poor quality child care and school programs, staffed by teachers who are themselves stressed by low income and difficult living circumstances. Rather than contributing to children's coping, these teachers often exacerbate the stresses they experience in home and neighborhood. The United States faces formidable challenges in recruiting, training and supporting early childhood and primary grade educators who can have the skills to work with children experiencing chronic stress, and providing them with classroom experiences that will offer them support and foster their classroom

success.

The fact that early stress gets under the skin, reminds us of the vulnerability of the rapidly developing brain and other biological systems in the early years. The availability of evidence based and biologically informed interventions to assist them affirms that although stress can become biologically imbedded, it need not do so, and it need not remain so. Thank you again for being here this morning.

MR. BARTH: Good morning. Thank you for the invitation to be here. I feel like it repays a small debt to Brookings. Every day, I get emails, and I try to open them as if they were the first email I ever got and then being excited about them. That doesn't always work, but when I get one from Brookings, when they announce that they have some new that they have developed from their suite of extraordinary scholars in areas of investigation, I feel that sense of, this is what email was invented for -- to find out things like this.

So, thank you. Thanks to my distinguished colleagues and my many distinguished colleagues in the audience, as well as the panel. My goal is to try to add a little bit to the policy brief, because it was brief, and try to talk, as Ron said, a bit about implementation services. So, I'm going to touch on these four areas that we just heard Ron talking about, and talk about implementation opportunities and challenges. There are actually references at the end. I hope I have time to read each one to you, but that may not happen.

So, they talked about healthcare. I wanted to expand that a little bit, and say we really need to be thinking about behavioral health and healthcare. Of course, those things could be assumed to be together. But it's important to make that distinction, because so many of the stressors that occur occur because of behavioral health problems.

I'm going to drop the names of programs. Most of them do have RCTs behind them. A few of them -- I'm sort of out over my skies, with regard to thinking they're great ideas, but not having the level of evidence that I wished I had.

But one of them that tackles this directly is Howard Dubowitz's Project SEEK. We haven't even looked at that. Families come in, they fill out a seven-item checklist, they hand it to their pediatrician. It's about their stressors. Have they experienced someone in their household who has a substance abuse problem, or family history, food shortages.

The pediatrician talk with them, tries to address some of this, and, if not, says, would you be interested in talking to a social worker? Believe it or not, a lot of them are. And these two RCTs in Baltimore City and County show that they reduce child abuse and neglect, as a result of actually helping people to recognize their stresses and address them.

I agree that we need more continued support for Evans-based home visitation programs, but I think it is important, also, to be clear that they don't really do a good job on parenting. Neither the Nurse-Family Partnership or Healthy Families in America have very strong parenting components, when it comes to the actual sort of behavioral aspects of parenting, rather than the health aspects in the case of Nurse-Family Partnership -- and that really needs beefing up.

If you buy the argument which I'll be making throughout this talk -- and is made, in many ways, also in the policy brief that effective parenting -- what the CDC calls safe, stable, and nurturing parenting is a major mitigator of stress, and the alternative of coercive parenting is a major source of stress, then we need to do more about that.

One of the other things that -- sorry; I think I'm mixing names up, too -- that Ross said before was that this family checkup concept is important, and I agree with

that. And, actually, there's some kind of interesting data about the family checkup model. Some of you may be familiar with this. It's Tom Dishion's work from Oregon, where they do a three -- it started in the middle schools. They contact families. They do a brief assessment with them. They visit them in their homes, and then they bring them back for a third time to help them figure out what array of services they might benefit from, having significant impact on the middle-school population. It's not an easy population to change.

And there's a new study, new data that's come out where they've done this in WIC clinics. So, when a mother comes in, and let's say she's pregnant, and she has a two-year-old and a three-year-old, they do the family checkup model, including this initial assessment, the home visit, and then coming back and talking to them -- in this case, building in a parenting program. And they've shown impressive both academic and behavioral benefits in a seven-year follow up.

So, the reason I give this example is because partly, it's building on what Ron and Ross were writing about, but also because I'm trying to think about ways to build programs onto the existing service delivery systems that we already have. In this case, it's WIC.

So, economic aid implementation -- absolutely critical, for all the reasons we've heard. There's just a couple of other things I did want to mention -- financial literacy, I think, is a growing area. And there is some evidence, and some of it's presented in the volume.

And then the expansion of community schools. Again, here's a place where I don't have that strong -- I wish we had more evidence, but we have a promised neighborhood in West Baltimore, and in those schools, we are feeding kids breakfast five days a week, dinner four days a week, and sending them home with a backpack full of food on the weekends. And that happens because we have community school

coordinators in those schools who can pull all that together.

It also happens because of Title I and other funding that we get, but I do think that a critical aspect of this economic aid implementation and the nutrition implementation is the delivery system. And there are lots of people who are interested in fresher food and in getting rid of food deserts.

But there also needs to be a delivery system, and I think the expansion of community schools is one of those.

Quality childcare implementation -- absolutely critical, and I'm delighted that, uh, you're going to be hearing about additions to Early HeadStart and HeadStart, which, again, involve parents, but don't have strong parenting programs for the most part. And I won't say much more, except to wait for the exciting part of this program, which is going to be where you can get to hear about that.

Another policy piece that I think is very interesting is that most state-licensed early childhood programs do not have any discipline policy. They're silent on what kind of harsh discipline strategies can be used in those programs. And although policies alone don't make a difference, we also then have to come up with coaching and other kinds of support to implement.

It's important at least to start out with a base policy that says, "This is the way that we think kids are going to be healthiest and succeeded. This is the mixture of discipline strategies that are acceptable."

I also would suggest that they start with the PIDS -- the behavior support program. That has very good data behind it and is still fairly infrequently implemented in daycare programs.

Part of this has to come down -- as the Dean of the School of Social Work, I'd be remiss if I didn't talk about the workforce a little bit. We need to get more

information about early childhood training and graduate education. I can't tell you how many graduate programs there were that have gotten expert training about substance abuse. It's in the thousands and thousands of programs. But how many offerings have there been to train our graduate students in early intervention services, or about toxic stress, or about intervention? None that I know of.

So, we need to communicate that toxic stress is just as harmful, and the American Academy of Pediatrics is now doing that -- that the impact of toxic stress could be mitigated. You have to be a little careful about that. We don't know that it can be completely eliminated. We think that it can be mitigated -- and that psychotherapy is not the only answer, that parenting programs can also help reduce the adverse impact of toxic stress.

So, the American Academy of Pediatrics did take this seriously. They have put into their recommendations for pediatrics programs that -- and I had the part in red that's the most salient, I think -- the growing scientific knowledge base that links childhood toxic stress should be fully incorporated in the training of all current and future physicians and all other health service providers.

I would agree with that, and also add that -- and to clarify the reversibility, I would probably better say some of the effects of toxic stress, with consistent, good-quality caregiving.

So, human service professionals don't generally think about good-quality caregiving as an intervention. They think of it as something that you worry about only if it's in the extreme, but there's so much else to that, and I think that's, from a workforce standpoint, something that we need to be paying attention to across the board, not just in pediatrics.

From a policy standpoint, we have something of a framework related to

the Childhood Abuse Prevention and Treatment Act, which is celebrating its 40th anniversary this year. The law says that children who identified as victims of child maltreatment are to be referred to early-intervention services -- that children who are only reported but not substantiated do not have to be referred for early intervention services, and yet we know that they get very few services.

We have very good data from the National Survey of Child and Adolescent Wellbeing. And I won't take you through all this. Probably a picture's worth a thousand words here -- that the more risk factors you have -- and risk factors are in the X axis -- the more likely it is that you're going to have a developmental delay. It's about as straight a line function as you can get, and yet we still are having significant difficult implementing these CAPTA programs. ACF has made some efforts to do this by funding small, two-year grants to try to get the coordination going between child welfare and early intervention services, but that's just a drop in the bucket. Early intervention services have to be better recognized in funding, and these programs to coordinate these services have to be more comprehensive.

One of the other things we know -- it's just maybe a factoid, but I think it's of interest -- is that early adversity is a better predictor of behavior problems than prenatal drug exposure. We sometimes wonder what happens to our federal research dollars, but there is a very interesting maternal lifestyle study that followed kids through -- exposed especially to crack cocaine in the early 1990s -- has followed them over time. And one of the things that they show is that it looks like prenatal drug exposure, especially cocaine, has an impact on executive functioning at ages eight and nine, but if you actually control for the ongoing exposure to an adverse environment, then that relationship disappears.

So, my policy recommendation is not to expose kids to prenatal drugs, but, also, it's just a really important recognition of the reversibility of those factors, as well,

if the environment becomes less adverse.

So, we've all said it. I've said it, and Ross has certainly said it. Early adversity is not irreversible. We have some data about that. We have some data about that from Mary's work, and I'll let her speak to that. I'm going to say a little bit more, because then it will segue well into the child welfare implications, about the multidimensional treatment of foster care pre-project that Phil Fisher leads, and that is an example of what you can do with intensive, consistent, responsive parenting. This is working with kids who have been referred to an intensive foster care program for preschoolers, so as preschoolers, they're assumed to need something more than a conventional foster care program, and they have demonstrated that they can reduce some of the biomarkers of adversity.

So, they compared conventional foster care -- this is not an RCT -- they compared kids in conventional foster care to kids in the multidimensional treatment foster care -- the enriched model that's described in the chapter that Ross led -- and a community sample. And they showed improvements as a result of or associated with being in this more intensive parenting program on cortisol levels, responses to feedback, self-regulation, and placement stability.

And I'll show you pictures of the self-regulation and the placement stability. So, in these graphs -- just because you have to have some neuroscience graphs for a talk like this -- what you see up in the left-hand side is, in the community sample, the blue line and the yellow line are different. When kids are exposed to a task, and they're told, "No, that was wrong," or they're told, "Yes, that was right," they respond differently to the positive or the negative feedback on this no-go task that -- sort of a self-regulation task that Nathan Fox runs.

If you look down here at the regular foster care kids -- behind Ron's head

-- you see that, for kids in regular foster care, there's no difference. They don't respond to feedback in the way that you would expect in the community. Whether they're getting positive or negative feedback, their effects are very much dampened.

The kids instead in the multidimensional treatment foster care program, you can see again that this contingent responsive parenting is associated at least with their responding to positives and negatives, and differentiating between them -- which, if any of you have been parents of kids who don't respond to feedback very well, you know how challenging that is. And this restores this aspect of self-regulation, at least.

One of the things that's really great about this paper is that it also shows that these kids who were exposed to this multidimensional treatment foster care pre would be expected, because they'd already had a high number of placement moves, to continue to move, like that top line shows. And yet, in real life, they hardly moved at all. Once they got into this program, they stayed put, and they didn't have the instability of placement moves, which is also stressful.

So, what are some of the implications of this? One is that, you know, powerful parenting programs can be an important path to improve outcomes for children who have experienced significant adversity. And, at least in intensive foster care programs, they have been successful. I think this approach could also be more broadly tested in family homes.

And yet there's a big implementation challenge. There's not a single replication of MTFC pre. Phil Fisher and his colleagues developed something called KEEP, which is a less intensive version of this, developed as an easier way to implement the MTFC program, and it's now being tested as a KEEP pre-version. It's had very good effects in San Diego.

There are a number of different papers, even helping not only the kids

that the families are working with in these parenting groups, but the other kids in their household who they have subsequent to that. So, good effects, but not widely used.

And a very important point in this is that we have money in 4E to train foster parents. We train foster parents typically without their children, and before they get their children. KEEP and every effective parenting program I know involves coaching over a long period of time. It doesn't always have to be the parent and child together, but it needs to take into account those relationships, and we need to restructure our parenting training -- whichever kind of foster care program they're in, whether it's in kinship care, or group care, or foster care -- so that it is ongoing for at least six months in all likelihood, and has intensive intervention over that period of time, rather than providing all our training in advance.

I'm running out of time, so I'm going to speed through this last part a little bit. So, we need our foster parent training to have almost a complete overhaul. I think this certainly can be done in waiver states. It could also be done in non-waiver states. There's nothing really holding us back from doing that. It should be done while children are in the home, and use the best active training approaches, like coaching. And we do know that it can work.

I want to, though, make one last point, which is that foster care is an example of kids who have experienced the highest levels of adversity. They're often the poorest kids who have, also, parenting problems, issues around homelessness, and so on.

But the issue is much bigger. For 100,000 kids in foster care, we've got at least six million kids every month who are on Medicaid. Not all of them have the problems that we were talking about, in terms of parental adversity because they are poor, but we know that it is more challenging to raise kids without that adversity if you are

poor.

And we really need to think about parenting as a healthcare intervention. So, we think about psychotherapy as a healthcare intervention, but parent training and parent support needs to be thought of as a healthcare intervention. It should be covered under Medicaid and under the Affordable Care Act.

There are strategies to do this. California, for example, has a group rate for group interventions, like smoking cessation. If you edit out "smoking cessation" in a few places, and just leave it to your imagination, you can see that those kinds of billing codes support parenting programs. But we really have to be convinced, and we have to convince others that good parenting and exposure to safe, stable, and nurturing parenting is important for children's health.

So, my summary is, adverse effects of early childhood toxic stress can be mitigated. We have some tools to address some of these effects, yet they don't quite fit into our current funding, although I think there are easy points of attachment, if we really had the will to do that.

Childcare, foster care, and in-home care could all benefit from instituting more effective parenting problems, and I've mentioned five of those at least today.

We need a national initiative on parenting, and I think that really requires that federal government and states come together to focus on that. I think that existing statutory vehicles exist to achieve many of the things that we want to do, but we have to really make a commitment to extend them in order to strengthen our parenting and reduce the impact on our children.

Thank you very much for this opportunity.

MR. HASKINS: All right. So, as you can tell, our concern in organizing the event was to make sure that we threw out the practical implications. This is not just a

bunch of, you know, scientists in a laboratory dreaming stuff up. There are actual, practical implications. Rick did a great job of demonstrating that -- not only demonstrating practical applications, but how we could expand it and even pay for it, so that's exactly what we want to do.

We're going to continue that now. We're very fortunate to have these three people who serve on the panel. First is Mary Dozier, who is a Du Point Chair of Development at the University of Delaware. She's a developmental psychologist, and she's done a lot of work in foster care, so it fits right in with Rick's presentation. I have to say that I noticed that her resume is slightly flawed, because she went to Duke -- too late to do anything about that.

And then next to her is Cybele Raver, from -- she's actually a Provost for Research at New York University. Had a very distinguished career; won many awards and so forth. And she especially is known for studying self-regulation by children in poverty, and has done a big intervention with HeadStart kids in an actual, real-world situation, and how you can influence the teachers. So, that's directly within our area of interest here.

And then, finally, is Lauren Supplee, who's a senior official at HHS. She's the Director of the Division of Family Strengthening. She herself has an impressive background, but I invited her. I was so happy she could come, because she has been overseeing, in addition to other things, the home visiting programs which have come up here several times, and which are another example of the practical applications of the knowledge that the brain science is producing not just brain, but the biological science.

So, we'll begin. Each of them are going to make a statement, and then I'm going to ask them some questions, and then we'll give a chance for audience to ask questions, and then we'll all go home perfectly informed.

So, go ahead, Mary.

MS. DOZIER: Thanks. I'm delighted to be here.

Ross gave a wonderful overview of how stress gets under the skin. And so what I'm going to do is, I'm going to use that as a jumping-off point to get in very specifically to an intervention that we've developed, and tell you about that intervention, and what the effects of that intervention have been.

And what we did is, we identified specific issues that are problematic for young children who have experienced adversity. And the first of these is that young children who have experienced early diversity often develop what's known as disorganized attachment. And by that, what I mean is, they are unable to rely on their caregiver in an organized fashion. And that is predictive, then, of later problems with externalizing symptoms and things like that.

Second, children who've experienced early diversity are often disregulated biologically, as has already been talked about, and behaviorally. And so we wanted to target that.

And how we did that is through three different components. We do this in an intervention that's 10 sessions long and in families' homes. So, these two pieces are very important to how this is implemented.

The three things are: First, we help parents to behave in nurturing ways. And by "nurturing," what I'm really talking about is, when a child is distressed, a parent responding to the child by saying something like, "Oh, honey, are you hurt?" or picking up the child, something like that -- not ignoring, not saying, "Oh, you shouldn't have stepped up on that chair anyway," not distracting, not fussing -- so not all of those. The second -- and we know that is going to help with children's developing an organized and secure attachment. And we also think it'll have downstream implications for children regulating

their biology and behavior.

The second thing we do is, we help parents follow their children's lead. And this wasn't as intuitive to us, how you help a child develop regulatory capabilities. But Cybele's is one of those that is real important in us figuring out that this is a really good, effective way to help parents help children develop regulatory capabilities.

And by following children's lead, what I mean is, when a child takes a truck and is running it along the carpet, the mom doing the same thing -- or the dad doing the same thing -- rather than saying, "Oh, how many trucks do you have? What color is the truck? Or do it this way," or whatever -- or ignoring the child -- so really, following the child's lead.

And what we know about this is that a parent who behaves this way, in terms of everyday interactions, this helps the child develop a sense of efficacy, this helps the child develop a sense of controllability, this helps the child, amazingly, enhance their attention, and be able to sit in school and not do the things that they might want to do, like jump up and look at the window -- but, rather, work on a boring worksheet. So, it is these sorts of downstream effects.

And third, we help parents not behave in frightening ways -- or to avoid behaving in frightening ways. What we know about frightening behavior is that this undermines a child's ability to develop a secure, organized attachment, but, also, it undermines a child's ability to regulate, behaviorally and biologically.

And so how we do this is, we do this by three different ways in our intervention. One is that we have manualized content, where we introduce these components. Second, we provide parents feedback through videotape.

But the most important, the critical thing, is that we get our parent coaches to make comments very regularly about what parents are doing that is relevant

to these targets.

And so within the first five minutes of walking into a home -- and you think how threatening this is for a parent -- we have a parent coach commenting on, you know, "He handed you that, and you took it right from him. That's such a great example of following the lead." We're not going to be talking about that for a couple of weeks, but that's just so important for your child being able to develop his attention.

So, we start this early, and we do this through the 10 sessions. This is the most demanding thing for the parent coaches to do, but, again, the most critical. And it gives parents lots of experience and lots of practice in doing this in their real-world environment. So, we want all their kids there, whoever is grand mom there, dad there, five kids there, if necessary. So, we want parents to do this in their real lives.

Now I'll just say real quickly that this is, as I said, challenging for parent coaches. And so we have developed a coding scheme that helps us monitor whether people are doing this, and help us to know whether people are doing this other places. And that helped us a lot, but what we found that was critical is, we needed parent coaches to actually learn to code behaviors themselves, because then they became great critics. They could see whether they were doing this or not. They could know whether they were doing this, and this enhanced their performance dramatically.

So, to go on, there's lots more detail I could provide about that, but in terms of outcomes -- so we've done several randomized clinical trials, both with foster children and with high-risk birth parents. And what we find is that we see effects on attachment, as we should, or with a high-risk birth sample, what we found is that 32 percent of our parents, in what we call attachment and biobehavioral catchup, showed disorganized attachment, as contrasted with 57 percent in the control intervention group.

So, that's a wonderful enhancement. We see even better results in a

current study that we're doing with foster toddlers.

Second, we see differences in cortisol production. This is what Ross talked about earlier. As I mentioned, cortisol production is thrown off by adversity. And this is a real basic, biological pattern that is thrown off by adversity.

And what we find is, our intervention leads, after an intervention, to a diurnal slope that looks very much like low-risk children among our children in the attachment and biobehavioral catchup group -- and much different in the control intervention group.

Now you might wonder then, for a 10-session intervention, are you going to see those effects long-term? What's exciting is, we're now looking at children when they're five years of age, and we still see that cortisol production looking exactly like it did when it was one month post-intervention. So, we're still seeing those effects.

We see this also in terms of emotion expression. We see children showing less negative affect with their parents that they've been through our attachment and biobehavioral catchup.

And then finally, we see parents' brain activity. It's sort of like the effects that you were showing of Phil's. We look at ERPs looking at brain activity, and what we find is that our parents who have been through this intervention look much more like low-risk parents when differentiating laughing and crying babies, whereas parents who hadn't been through the intervention looked like neglecting babies from previous studies. And that's three years post-intervention, as well.

Finally, we see differences in executive functioning. We see children better able to do some of the skills that are needed when they get to kindergarten and first grade. We've just gotten funding -- just heard yesterday, we've got funding to follow these children to the ages of eight, nine, ten. So, we'll be able to look at whether we

continue to see those effects eight to ten years after the intervention.

MR. HASKINS: Amazing. Thank you very much.

Cybele?

MS. RAVER: Great. So, you know, it's completely an honor and a pleasure to be here, and I think you all have covered the issues around the costs of poverty, in terms of the biological and psychological impacts of poverty on kids' development -- which I was going to spend my first two minutes on, and now I don't really have to do.

But I think what's important to highlight there is that it really differs from previous models of the role of poverty in kids' lives. Before, we really used to think about that as kids just not having enough access to the good cognitive nutrients in experience -- like not having enough access to language, for example -- the classic Hardt and Rizli work.

I think what we're now understanding is the extent to which, from neuroscience and prevention science, biological embeddedness in kids' brain architecture and physiology is really real, as a consequence of poverty-related stressors, in ways that are indicating that poverty's not just a sort of tough luck experience that families have to cope with, but it's actively teratogenic, it's actively toxic, it's actively costly to physiology, as well as cognition.

I thought I'd give you a couple of examples. In one study that I've been lucky enough to be a part of -- the family life study of over 1,000 kids -- with each year that children are in poverty in that sample, kids show clear detriments in their cognitive function, in terms of executive function, in terms of attention and working memory, but also in terms of their neuroendocrine function, their cortisol function.

And what's important to highlight there is, in that very large study of both

black and white families in rural and semirural areas is that parenting is a really key mediator -- that it really buffers kids' experiences.

One of the other issues that comes up in our new work, for example, is that parents' physiology is negatively affected by poverty, just as kids' physiology is. We're currently doing a randomized trial of an intervention with Latina moms in the Bronx, in Queens -- undocumented parents, primarily -- where we're seeing clear evidence of the role of interparental conflict and community violence on moms' physiology and cognition, as much as kids'. And that's, you know, ongoing. We're not absolutely solid on that, but it's looking very promising.

A third example from my HeadStart intervention was that we actually went back and coded kids' exposure to violent crimes as a function of where they lived. And we found that kids exposed to homicides within 2,000 feet of their apartments -- which was a completely random event -- was clearly associated with negative impacts on their attention and impulse control three to seven days later.

All right. So, it's not that parents are opting in or out of better or worse choices in that situation; it is that kids, with equal levels of poverty and equally "unsafe" neighborhoods, are being randomly exposed to high levels of violence, and that violence has clear, negative effects.

So, in short, I really think that the role that research isn't telling us -- that we're really swimming against the tide -- or, rather, families are swimming against the tide when they're trying to support their children's development.

And how we can support those families in that hard swim is really, really critical for us, as an ethical, as well as political, as well as scientific endeavor.

With that, I think I want to focus now on sort of the glass half-full, the scientific evidence for the ways in which those biological and psychological costs of

poverty-related risk can be reversed.

I think what's really critical across all of our conversations here are the notion of reversibility, remedy, and repair -- specifically in the intervention that Ron was so kind to mention earlier on, I and my colleague, Stephanie Jones, did a randomized trial in HeadStart with 600 preschool kids, with clear evidence that training teachers through a coaching model to provide a more supportive and well-regulated environment clearly had positive impacts for kids' neurocognitive function and actually helped to close the achievement gap. Those kids actually looked better in terms of their vocabulary and math skills at the end of that intervention.

Similarly, my colleagues, Lori Brahtman and Clancy Blair, have just shown in early interventions in kindergarten, in HeadStart, that those kinds of interventions can substantially improve kids' cognitive function and their neuroendocrine function.

In this one trial of *Tools of the Mind*, for example, kids really do look better behaviorally, but they also look better physiologically in the treatment group, relative to the control group -- just clear evidence of the ways in which these patterns can be reversed with intervention.

But the question, then, is, if it works in preschool, why target parenting? And my understanding from following my own CSRP sample for eight years -- now that they're in fifth, and sixth, and seventh grade -- is that it's really hard to make those benefits of the intervention stick -- specifically, those kids are exposed to very high levels of a lack of safety -- which I just mentioned -- they're enrolled often in unsafe schools, their parents have faced eviction, job loss, and, you know, the 2008, you know, massive recession, right? So, we can't expect one year of prevention is going to serve as an inoculation for those kids.

The good news from that intervention is that when we've looked at the trajectories of kids' behavioral difficulty over time, we are now finally seeing promising evidence of kids having a higher likelihood of avoiding those negative outcomes when they were in the treatment group.

But that said, I think it's really important to say, I wish I had intervened with the parents, as well. The parents are the most constant providers in those children's lives, and they themselves are the first bulwark against the stressors that their children are facing.

So, what interventions could we implement with parents? I think those can basically bend into two very different alternatives that we've all just discussed. One is really focusing on parenting interventions. We're currently running a trial as part of a larger consortium of researchers that Mary is part of, looking at video feedback, basically showing parents clips of their own behavior when you catch parents doing really supportive and contingent parenting, giving lots of language and lots of support, and reinforce that by showing that to parents, it's an immediate behavioral support. Parents make really quite dramatic changes in the way that they understand and support their children's development.

But, interestingly, we are putting our money on the prospect of that intervention having impacts on parents' physiology -- on making parents experience parenting as more supportive and fun -- and, actually, as a source of empowerment. We are really interested by our home visitors who are saying that they find that the video feedback 12-session mechanism is a way to build confidence in parents that they can make changes in their lives, that they view our launch pads to making other changes, that this is a really interesting way of supporting parents' reflective, more cognitively-skilled approaches to dealing with stressful situations.

So, we're really interested in pursuing parenting as a way of reducing wear and tear on parenting and parents, in the context of poverty.

But the second key intervention focus that I really want to emphasize is the one that Debra Joy raised, right, which is why we keep thinking that the best way to go is to help parents cope with poverty, rather than actually helping parents move out of poverty -- in terms of antipoverty supports like cash transfers, but also in thinking about college access and job readiness -- and working right now on thinking about adult capabilities, how much executive function parents need to be able to stay in a low-wage job or to be able to pull it together emotionally, to handle rejection during the job interview process, to think about ways we could build in supports for parent emotion regulation and cognitive regulation through the job readiness or through college access programs.

Those, I think, would have tremendous potential payoff. We know from Katherine Magnuson's work that one year of community college for a low-wage, low-skilled mom actually yields tremendous impact, in terms of effect size for kids' long-term academic outcomes.

We have not even started to explore the benefits for kids' health or for moms' health, and I think that's the right way to go.

So, in that last little plug for trying to reach further upstream to help families out of poverty, thanks a lot for the opportunity, and congratulations on the great issue.

MR. HASKINS: And they said you should be able to get at least $3 or $4 billion for that idea.

MS. RAVER: There you go.

MR. HASKINS: Lauren, thank you for coming.

MS. SUPPLEE: Sure. So, the benefit and cost of going last is that

everyone has stolen my thunder. So, I'm not going to repeat what people say, but I'm going to lift up a couple of points, and then talk about a few projects that we have going on.

So, you've heard all about warm and responsive parenting, and the importance of that. One thing that actually hasn't been raised up that I think is important is, also, goodness of fit between the caregiver and the child, the child and the environment, and really thinking about even the most warm and responsive parent with a difficult, reactive child may struggle.

And so the benefit and promise of dual-generation approaches is really being able to look at both of the diad. And I also want to encourage us to think about caregivers broadly. It's parents, but it's also foster parents, teachers, coaches, and aftercare providers, in thinking about this warm responsiveness across the spectrum.

And, you know, we know from skills like self-regulation that these are things that develop over a lifetime.

So, we've talked a lot in this panel about early childhood. And early childhood is a great place to start, but, also, realizing that kids need this over their entire development processes. And that's the other importance of these dual-generation approaches, is that parents will be there, to continue to provide that kind of support.

But a lot of the work that's out there is correlational and not causational. And so we really have a need in the field to start looking at causal pathways.

And I think one of the things that our office sees is, really, this opportunity of prevention science, in that we can test the efficacy of models, such as the models you've heard here today, as a way to both look at the efficacy of those programs, but also test these causal pathways, because those models all have a theory of how they're changing behavior, and we can actually then test those theories in those projects.

So, I think it's a dual benefit to that kind of work.

So, I'm going to briefly talk about three projects that we have going on that are related to this topic. The first is the early HeadStart university partnership grant clustered on buffering children from toxic stress.

The second is going to be the HeadStart university partnership dual-generation approaches.

And then third, I'm going to talk a little bit about some of the work we're doing in home visiting.

The early HeadStart university partnership buffering children from toxic stress -- which I'll just refer to as the buffering toxic stress grant cluster -- is really looking at innovative parenting programs, one of which is Mary's program, and Cybele is one of our grantees. These are six grants, looking at the efficacy of these programs to build parents' strength, to buffer children against adversity.

They have a couple of unique features. One is that, because they're in early HeadStart context, early HeadStart is very responsive to community needs and family involvement. So, the grantees are really working to identify this and work with community needs to get these programs into these settings.

Second is that they're really demonstration projects. This is an opportunity for learning, so there's several interventions being tested simultaneously but not comparatively, so we'll learn about a lot of different programs.

But at the same time, the grantees are also collecting some common measures, so that we can learn across the projects. We can also look at the empirical validation of this construct of toxic stress in young children, and start to understand that across the grantees.

The second grant cluster is our HeadStart university partnership dual-

generation grants. These were awarded last fall. There were four grants, and they are testing promising dual-generation strategies. And that was defined in this grant announcement as intensive, high-quality child focus programs, in combination with intensive, high-quality parent-focused services.

And a lot of the grantees are addressing a range of adult outcomes, including employment and training. They're looking at perceived stress and stress physiology, self-regulation, and depression. Like the buffering toxic stress consortium, these are demonstration projects, so we see these, also, as opportunities for learning and contributing to the field.

Two of the grants are actually also looking at parent stress and executive function, and how, in combination, it can improve and strengthen both parent and children executive function and self-regulation, which is pretty exciting. So, these grants, we hope, will contribute to the knowledge base on building adult capacities and the role that HeadStart can play in that.

So, the third is our work in home visiting. As was mentioned, my agency, the Administration for Children and Families, works in collaboration with HERSA to scale up evidence-based home visiting programs. That was part of the Affordable Care Act. And one project in that very large portfolio of work was the supporting, evidence-based home visiting cross-site evaluation. This was a specific project overseen by the Children's Bureau, and it was looking broadly at the infrastructure necessary to scale up evidence-based home visiting in the country.

But in particular, they had a report that came out just a couple of months ago that raises up both some important information and, also, some areas for thought and concern.

So, first is that we have now some data on the kinds of families that

access home visiting. And it's really striking, the level of risk and stressors that these families are facing.

So, for example, about 39 percent of the mothers were younger than 20 years of age. About 78 percent are raising their children on their own. About 44 percent have less than a high school education. And about 69 percent of these moms were currently unemployed. So, these are home visiting programs at scale, in the field. These are the families accessing these services.

On the other hand, the younger, more economically disadvantaged participants left these programs early. They did not complete the programs, even the short-term programs. In addition, the participants who had more demographic risk factors at intake, they actually were as likely to complete six months of service, but much more likely between six and twelve months to leave services.

So, I think this demonstrates to me, there's a really great promise in dual-generation programs. We can build these strengths, we can build these capacities over the long term, to help support parents and children. We can also really access these highest-risk families that might benefit from these services.

On the other hand, I think we need to really think carefully about how to engage families and services, retain them in services to get the outcomes we need. I think we also need a lot more research to test causal pathways of these theories, and how to best serve the highest-risk families and ensure that they're actually getting the services they need to ensure the outcomes that we all desire.

MR. HASKINS: Good. Thank you very much. I think I'm kind of a test case of somebody who learned about this field. I knew hardly anything about it maybe a year or so ago, and we decided we were going to do this chapter in the volume, and I was kind of hoping that somebody else was going to be responsible for that part.

Well, things worked out it was me. And we had a lot of adventures with the chapter. I would up talking to Ross and so forth. So, for the last year, I've had kind of an indoctrination, right? And I'm mostly skeptical about things, but this field has such promise. I feel like it's the first time -- you know, you think about preschool programs, you think about, well, I'm going to have some curriculum; kids will play with toys and so -- but this is much more specific. It has much better theory behind it. I mean, I think the possibilities here are great.

So, I want to take the panel out of their comfort zone a little bit -- maybe not Rick -- but to talk about building a field. If we really were to build this field, the first thing we have -- now I was very disappointed in writing our policy brief. We took some guesses at it, and I noticed you covered it in your presentation. How many kids are we talking about here? I mean, what -- the characteristics of the mothers that come to the home visiting program we just mentioned, I don't think we even know how many mothers meet -- three, or four, or all those -- but we have to have a way to define who these kids are and some idea of how many there are.

So, Ross, how do we do that?

MR. THOMPSON: Well, you and I have been through this before, so we know that a lot of it depends on how we're going to define the circumstances that constitute -- and I'm going to use a term that we've been using frequently here -- that constitutes toxic stress for children. I cited six million children under the age of six, living in poverty. That's a starting point, and the worry, as you pointed out, is that may be an overestimation. Obviously, not all children living in poverty are experiencing toxic stress.

But I also want to suggest that the term "toxic stress" can mislead us here, because, sometimes, experiences that children experience as toxic are not necessarily the ones we would attribute as such. And so we actually run the risk of

underestimating the experience of adversity where young children are concerned.

Let me just give you a simple example. There's a wealth of research suggesting that mothers who are depressed -- that their children, especially when children are young, experience the kinds of stress that has the biological consequence we've been discussing today. Now maternal depression, especially early in a child's life, is rampant within our country. And that may constitute, therefore, one source of toxic stress that we often overlook, because, as adults, we might not see that as toxic.

So, I think the risks of overestimation are there. The risks of underestimation is there, also, which is part of what makes it hard to get sort of a clearer sense -- except that this is a widespread, serious problem.

MR. HASKINS: I agree that --

MS. RAVER: I think --

MR. HASKINS: Go ahead, please.

MS. RAVER: I was just going to say, I think the other thing -- not only who's at risk, in terms of poverty-related risk, but who actually would benefit from a large amount of -- or even a medium amount of investment. We find that the home visitors in the early HeadStarts that we're partnering with are basically reporting similar levels of stress and only slightly higher incomes than the family that they're serving, right?

So, that the intervention -- if we were really smart about it -- would consider the preschool teachers or the HeadStart home visitors in addition to the families -- and the potential payout or benefit -- in terms of cost benefit -- would be not just that those families and their kids are served, but that those families are now in better position to give back to their communities over multiple years.

So, we don't look, for example, at teachers who've been receiving intervention, how they deliver that intervention in year three or four, after our little sample

has rolled through their classroom. Sorry, Mary.

So, you know, how do we count in terms of who is eligible, but, also, how do we count in terms of who benefits? We've been shortsighted, I think, in that. The professional development work that we've been doing is massive. Folks are coming into early HeadStart home visitor positions from being former HeadStart parents with very, very little work skill or experience -- and need to be trained and supported in how to get over their anxiety over using technology, how to think about being in a workforce where they're not really often super well-managed, because they're in nonprofit organizations without really clear management structures, in addition to the communication skills and coaching skills that they're using with families.

So, it's an interesting point.

MR. HASKINS: Yeah. I want to come back to the people who actually do this -- the classroom teachers and the home visitors. But I won't give up yet on how we find out how many kids are there that we're talking about here. I know we don't know the answer, but how do we get it? What steps should we be taking to try to figure out how big this problem is? I'm sure it's a really big number.

I mean, it depends on how you define it, obviously -- but go ahead.

DR. BARTH: I mean, it seems to me that if you sort of took the concentric circles of WIC, Child Welfare, Medicaid, kids who have substance abuse parents -- there'll be some that have all four of those, there'll be some that have two, some that have three, some that have one -- and families that are just low-income. Most of that data would be available either from services data or from household surveys, and it wouldn't be that challenging to do.

The question would be, how much uptake would there be? And so that would be closer to what your real need for services are, but that doesn't seem like that

big of a change to me.

MR. HASKINS: Well, I mean, if we did what you described, it certainly could be, but, as Ross said about poverty, it's hard to believe that every kid in those -- you know, there'd be a higher percentage of kids that had four of those -- that faced four of those problems than they had three, two, one, and so forth, but I think you need something better. This is a recommendation from an outsider. You need something better to characterize these kids, that this is what we're looking for. If we could treat these kids, we'll have a big impact.

Okay, let's talk about the teachers and the home visitors. As you pointed out -- I was going to point this out -- that if it's anything like preschool, the teachers are kind of from the same population. We do have lots of requirements in state preschool programs, and other programs do have more qualified teachers. But who are these teachers going to be? How much do we have to pay them? How can we train them? And, above all, are you confident that if you could train them the way you think you should, that they would have the characteristics that you need to go into a home and be the kind of home visitor that you think could really have an impact on the parents that you're describing here?

How are we going to get these teachers?

MS. SUPPLEE: So, I think the cluster is going to be a great opportunity to answer a lot of those questions, because the federal funding source has really provided us with the resources to look at implementation across very different service providers. And, you know, the challenges that some of us face with working with home visitors with less than a college degree are going to be different than the challenges that others of us face working with masters-level social workers who are working with much higher need, higher risk childhood trauma-based populations, right?

That's a great sort of work -- I think we are in a next generation of dual-generation interventions that think actively about workforce development as part and parcel of what we're delivering, instead of here's a curriculum; good luck and God bless.

MR. HASKINS: Great, great. And it was great that Rick brought up the idea about pediatrics and they're taking an official position.

Let's talk about schools of education. Is there any penetration there? Are schools of education offering this kind of information, and trying to respond to the kind of interventions that you've designed -- that their teachers would be able to do that kind of thing?

MS. RAVER: So, New York happens to be a fascinating example, because of de Blasio's initiative to roll out UPK for 40,000 kids -- and at a very high price tag. It's very impressive that that administration has sensibly partnered with CUNY for a massive pre-service training, and paired that with an affordable wage for preschool teachers, so that it's not going to be the case that those preschool teachers are going to be working at just above poverty wages, as so many preschool teachers are. And the combination of the income support and the extensive pre-service training gives us some hope that it's on the right road.

I think that's a place that, nationally, schools of education and schools of social work could really go. I think Rick is right; we are not training new generations to think in those terms.

MR. HASKINS: Ross?

MR. THOMPSON: I don't want to let go of the pediatric community quite so quickly, by the way. I really think this is an important point of intervention -- and a really effective intervention.

You know, the major pushback that comes from the pediatricians with

whom I work is the 15-minute, you know, well baby check. That's always the problem.

But, nevertheless, there are very good models that are being explored throughout the country that basically ask, why do all aspects of the pediatric visit need to be done by an MD? To what extent can we, as many European nations have done, moved to something that combines a medical specialist with a medical paraprofessional to do a lot of the child screening and family check-in?

That could be a really essential component of both helping families with very young children get off the ground, but also of solving a problem that Rick identified, which is that this bifurcation that you're either a pediatric specialist or you're an adult care specialist, and never the twain shall meet.

Well, the fact is that any medical doctor seeing a depressed mother has to make inquiries about how that child is doing. Any pediatrician who's looking at a child showing signs of stress has to understand what's happening in the family.

And so I think that this is where I said the pediatric community really needs to step up, because for many families at risk, this is the only professional they're in regular contact with -- and, really, somebody whose advice that they will respond to.

MR. HASKINS: Okay, audience - let me caution you to ask a question, not make a big, complex statement. I want to take full advantage of the panel we have here. So, raise your hand, and I'll call on you. Identify yourself.

Let's do this lady right here. Tell us your name, and then ask your question -- right there, yeah, on your left. Yes, yep.

MS. SILVA: Hi. I'm Julia Silva. I'm a Director of Violence Prevention at the American Psychological Association. And so thank you very much. That was a pretty good panel. I'm always coming and saying, where is the mental health?

So, when you talk about teachers (inaudible) you know, about our field --

what psychologists are doing, you know, with the parenting. And I'm very glad to see Jeanne Brooks-Gunn in this journal. And I'd like to have, you know, some of you -- and probably Cybele from -- anyway, you who may have psychology degree -- but I would like to call attention to, you know, the huge contribution that psychologists provide to this issue about early childhood, about, you know, assessments, evaluations --

MR. HASKINS: Do you have a question?

MS. SILVA: -- et cetera. I'd like for them to give us some insight about, you know, psychology.

MR. HASKINS: All right, next. Raise your hand -- right here. It's right here, on your right. Yeah.

MR. PECK: Yeah, I'm Chris Peck. I'm Associate Director of the Pyramid Peak Foundation in Memphis, and we've just funded the first-ever childhood experience project in the state of Tennessee and in Memphis. And, as many of you know, Memphis is, of course, the big city in the country.

But my question is, a lot of the money that is being directed in Tennessee and elsewhere in the country to deal with the impact of poverty is going into no-excuses schools -- KIPP and lots of, you know, very intense programs in schools.

And I'm just wondering -- is there, from your experience, a discussion of the impact of toxic stress, and is there training for these school teachers who are dealing with these kids in programs already, around the country?

So, is the work that you're talking about now -- is it being integrated into this massive education reform effort? And if it's not, how could it be?

MR. HASKINS: Good question. Yeah, go ahead.

DR. BARTH: Quick answer -- I think teachers will know about ACEs -- about, you know, adverse childhood experiences. They will know about the phenomenon

in general, but whether they will actually get training to intervene with parents is a good question. We know parent participation may or may not matter that much -- unless it really is meaningful. I'm not sure that teachers are really ever going to be positioned to have those kinds of meaningful, parent-related interactions with parents.

I think it really is going to require better training and sort of a different strategy for personal service providers who would do the work with parents.

MR. HASKINS: But, Cybele and Mary, doesn't your work show that you can -- and I gather from your write-ups that they're not highly educated teachers that are doing this -- and foster parents don't -- aren't there interventions that could really increase their skills, and make them have the characteristics that you're talking about?

DR. BARTH: It's not that they can't learn the skills; it's that that's not their role and their focus.

MR. HASKINS: It's got to be a central point, because classroom management is everything, and these are the kids you're dealing with.

MS. RAVER: So, there are a suite of interventions that have been implemented in elementary and middle schools -- and some high schools -- that are focused around positive behavioral support, basically. Having well-managed classrooms that lead to really clear evidence of better socioemotional -- and sometimes better academic -- outcomes, the trick is that those have not been tied to models of the risks or adversities that kids are experiencing -- so that they're treating classrooms as a classroom-level target -- which is, in some ways, great, so that the kids aren't stigmatized, and aren't pulled for being from a tough, you know, struggling family.

In others, it doesn't necessarily help with the question, which is, is the workforce trained to provide additional supports, or to figure out how to, you know, work in situations where large proportions of kids in the classroom are facing high levels of

adverse experience.

MR. HASKINS: So, Mary, do you agree that we could have a bigger impact? And if not, how could we do it?

MS. DOZIER: Well, I hate to say it, but my work's really not relevant to be -- I work with babies and young children, so I think it could have implications for a preschool, but beyond that, I wouldn't -- I think it's really different principles -- or, you know, some of the same issues are at stake, but the way in which one intervenes is going to be very different.

DR. BARTH: Let me say one more thing, Ron. In our school, we now have more social work interns than in child welfare agencies. So, they're in the schools, but they don't -- and they all know about family therapy, but most of our students don't get a class in parenting or teaching parenting. And their roles sometimes allow them up to two weeks for that. We have some parenting groups in the schools, but not very many. It's just not something yet that has been absorbed, even by a profession which has, for 100 years, but working in the schools.

MR. HASKINS: Okay, next question -- right in front of you.

MS. FAIRBROTHER: Thank you for the great panel. I'm Jeri Fairbrother. I'm a senior scholar at Academy Hill.

And I'm wondering -- the question that you asked -- how big is the problem -- is a, how can we target kind of question. It's an American question that needs to be asked.

But I'm wondering if it's the best question, generally, and I'm wondering if we could be taking lessons from our peer nations in OECD. And I'm thinking particularly about the IOM report that came out about a year that showed that our peers nations are doing much better in standard public health outcomes, like life expectancy, infant

mortality, despite our spending twice as much as they per person on health.

And when IOM looked for answers why this might be, they looked outside of health, to social service spending, education spending; found that other countries spend about $2 for every $1 in health, on social services. And there, the public policy isn't around finding the highest risk and targeting; it's around lifting up -- putting supports into the population.

And I'm wondering what it would take to tilt public policy that way --

MR. HASKINS: I'm surprised she stumped the panel.

SPEAKER: I mean, what would you say? How to target starts off one line of thinking. Is that the way we should be going? I mean, are there…

DR. BARTH: I certainly think there's a movement towards better integrated primary care and behavioral healthcare, and that's a part of what we should be building -- absolutely. I don't know that we're going to --

MR. HASKINS: Is that among social workers or pediatricians?

DR. BARTH: So. There's pediatrician who, in part, are just working with psychologists, social workers, others to extend their capacity to intervene. It also has to do with psychiatric hospitals and other programs where their big penalty's now for readmitting into care.

MR. HASKINS: Yeah. Can I just -- I don't know how to shift the needle as it relates to federal funding priorities and things like this. I do want to argue, probably, that we are in an historic moment in terms of the possibility of really changing the conversation. And it has to do with what's going on in education. The concern about the early origins of educational disparities and learning that have to do with family socioeconomic status, that we're seeing them as early as age three -- and sometimes much earlier.

And the fact that they are tied to family circumstances. There is so much happening now, in terms of discourse concerning educational reform, but I think, as we begin to understand that these disparities do have early origins, that they're based not just on cognitive stimulation, but also how biology is being shared by early experience. It becomes possible to sort of reshape how we think about what education is and what to do about it -- at least, that's an optimistic hope, right?

Okay, one more question -- up here on the left. Sorry I can't get to everybody.

SPEAKER: Thank you. This follows up on your point about education, and choice, and to the health, potentially.

Dr. Barth, you mentioned the phrase "parent training is a healthcare issue." And I was wondering if you could say a little bit more about what you thought the policy and funding benefits might be of shifting the language in that direction, and why a shift in that direction is justified, based on data.

DR. BARTH: So, it's a great question.

So, I think, given that the Nurse Family Partnership has already sort of broken the ice by being included on the Affordable Care Act. We're, in ways, moving in that direction of saying parenting matters. It's delivered by nurses, for the most part, so it's, you know, considered health.

But I think we could extend that. If we can continue to test models like SEEK, which show that, with parents around their stressors, actually reduces child maltreatment, which saves medical costs, as well as reduces some of the other sequelae we've been talking about of child maltreatment.

I think we need to be thinking. As the evidence accumulates about the long-term effects of poor parenting on health, then we think of this as a preventative

intervention, like we do mindfulness, like we do exercise, like we do all the other things that we have now been able to trace to some health outcome. But we don't want anyone to suffer, and we don't want to pay for it. So, that's sort of how -- I'm not sure that answers your question.

MR. HASKINS: Well, let me thank the panel, and please join me in giving them thanks -- and goodbye.

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CERTIFICATE OF NOTARY PUBLIC

I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

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