

Parent Training Programs to Prevent Childhood Behavior Problems: What Components Are Most Helpful?

Prevention Webinar Presented by the Federal Interagency Work Group
on Child Abuse and Neglect

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Presenters: Sandra Alexander, M.Ed. and Jennifer Wyatt Kaminski, Ph.D.

Melissa Lim Brodowski: [00:00] Good morning and good afternoon everyone. My name is Melissa Lim Brodowski, and I am the prevention specialist at the Office on Child Abuse and Neglect for the Children's Bureau. We're located within the Administration for Children and Families at the U.S. Department of Health and Human Services in Washington, D.C. I'm so pleased to welcome you to our prevention webinar today on Parent Training Programs to Prevent Childhood Behavior Problems: What Components Are Most Helpful? Jennifer Kaminski and Sandra Alexander from the Centers for Disease Control and Prevention will be sharing the findings of their research. The CDC in particular has been a wonderful partner with our Prevention Subcommittee so I wanted to share a little bit of background on this webinar since this is actually our sixth informational call/webinar hosted by the Prevention Subcommittee of the Federal Interagency Work Group on Child Abuse and Neglect.

As some of you know, the Office on Child Abuse and Neglect has the lead on the Federal interagency collaborative efforts related to child abuse and neglect. Catherine Nolan, the director of OCAN—and she has been on a special assignment with the Office of Refugee Resettlement in the last few months—will be coming back soon. But she chairs the Federal Interagency Work Group on Child Abuse and Neglect, and last year we started the Prevention Subcommittee as a way to bring together the Federal staff from the different agencies who share a common interest in child maltreatment prevention. So we have representatives from CDC, as I mentioned, Maternal and Child Health, SAMHSA, NIH, Department of Defense, Office of Special Ed., Department of Agriculture just to name a few of the agencies. As a part of the work of the subcommittee we all agreed that there was a lot of great work happening at each of our agencies that we wanted our various grantees and other partners to know more about. So we agreed to host a series of informational conference calls, and our hope is that through these calls we can learn more about each other's work and really promote greater connections across our systems and programs at the national, State, and local level.

We're very excited at the level of interest in today's webinar; we actually have over 450 people who registered for the webinar and there are a number of folks from several programs across the country, including grantees from the program I oversee, which is the Community-Based Child Abuse Prevention program. I know we have folks from Maternal and Child Health, Early Childhood Comprehensive Systems grants today and grantees and other partners from many

other systems. So we know that we're bringing together various practitioners, researchers, and policy level folks for this call. I'm also very pleased because, as you know, April is Child Abuse Prevention Month, and we are excited to have Jennifer Kaminski, who is a behavioral scientist at CDC, and Sandra Alexander, who is a child maltreatment specialist from the CDC as well, to be here today.

We know that many States and localities are implementing a variety of parenting programs as one of the key strategies to prevent child abuse and neglect, but we also want to have more information about what works and specifically what components of these programs have the greatest impacts. So we're really looking forward to hearing about CDC's research in this area to help us inform our work.

Just a couple logistical notes: The call is operator assisted so we'll have the presentation first, which is being recorded, and then we'll have questions and answers and all the lines will be muted.

With that, I think I will pass it along to Jennifer who will start the presentation. Thank you.

Jennifer Kaminski, Ph.D.: [03:59] Thank you Melissa and thank you of course to the Prevention Subcommittee for inviting us to give this presentation today. We're very excited about this work and getting the word spread out there as much as possible so we really appreciate the opportunity to present this.

My talk today is based on a study that is being published in the May 2008 issue of the *Journal of Abnormal Child Psychology*.

[Kaminski, J.W., Valle, L.A., Filene, J.H., & Boyle, C.L. (2008) A meta-analytic review of the components associated with parent training program effectiveness. *Journal of Abnormal Child Psychology*, 36, 567-589.]

I'll put the citation up again at the end. So if you don't have a chance to write it down that will be back up again. I am, of course, forever indebted to the coauthors listed here with me—Linda Valle, Jill Filene, and Cindy Boyle—for all of their contributions because this study would never have taken place and gotten finished without their hard work as well. And as with all CDC presentations, I need to mention the disclaimer that the findings and conclusions are representative of the authors and not necessarily the official position of the CDC.

To give you an overview of where I'm going today, I'll begin with a short background and purpose behind the study, follow up with a brief look at the methodology behind it, though I won't be delving very deeply into the meta-analytic techniques or details. For this presentation, I encourage you to read the full article if you'd like more information about that or contact me afterwards.

Next, I'll walk through the results focusing on the ones we believe are most important for this type of audience to hear, go through a summary of them—I think the results are quite extensive—

and some conclusions after which I will pass the baton onto Sandra who will be describing CDC's efforts to translate these findings for a wider audience.

A little background ... Within the Division of Violence Prevention here at CDC, one of the areas of focus is youth violence prevention. And because we are within the CDC, there's an emphasis wherever possible on primary prevention or stopping violence before it occurs. One of the areas that we identified within youth violence as an early predictor of youth violence and possible early prevention therefore is early childhood behavior problems. We know from past research that children who engage in early oppositional, aggressive, and impulsive behavior are at risk for becoming adolescents who engage in aggressive, violent, and delinquent behavior. Now, in adolescents these problems get more difficult to change; however, there are a number of interventions that appear to be effective in changing childhood behavior problems. One of those areas is parent training programs.

Parent training programs began emerging roughly in the late 1960s as ways to help parents change their children's behaviors. So instead of having highly trained therapists interacting relatively infrequently but directly with children, therapists started teaching parents how to engage in behaviors that would decrease children's negative behaviors and increase children's positive behaviors. So the parents could use these skills in their everyday interactions to prevent or remediate behavior problems. Over the next few decades, there was a huge proliferation of parent training programs. The number and type of them expanded, as well there was an expansion of parent training programs for other uses. The parent training programs began being used for children's cognitive development, for children's internalizing and anxiety problems, and— of course as this audience is very familiar—the child maltreatment and child protective services fields began using parent training programs as interventions in and around child maltreatment.

There were two major questions that we wanted to find out about parent training. First, how effective is parent training for changing early childhood behavior problems? Secondly, and more interesting to us, is all parent training the same? Looking across the field, it's very clear that there are many differences and wide variability in the content being taught in these programs, the delivery methods being used, the parents and children who are participating, and the quality of the research being used to evaluate those programs. So we not only wanted to know, is parent training working but if those differences really do matter and if so what are the really important characteristics and components to help us get to more effective parent training programs?

We determined that the best way for us to address these questions was to use meta-analytic techniques to examine how differences in programs and the research used to conduct them lead to differences in program outcomes. A couple of important caveats, as mentioned in the last background slide, our focus was initially on youth violence and reliable parent and child predictors of later youth violence. So we were not looking specifically for outcomes of child maltreatment. We certainly know that some of these programs are being used for that intent, and we know that these types of programs are commonly employed to address child maltreatment. So we believe our findings have implications for the field of child maltreatment prevention though we always caution that our original aim was looking towards later youth violence outcomes.

It's also important to point out that we cannot make any statements about causality based on our results. We cannot say that the presence or absence of particular components will guarantee particular outcomes. So you'll hear me talking in statistical terms about components being associated with better program effects or programs that are more likely to contain certain components because I have to be very careful with the science.

What did we want to know at the end is a very interesting question, I believe, for this particular field and that is: What are the components and characteristics that are most often included in programs that work? So what are the components that are most likely to contribute to successful outcomes of parent training programs? A quick overview of meta analysis, though I promise it will not contain a lot of statistical jargon. Most research that you're probably familiar with collects data from a large number of people to draw conclusions about a population. A meta analysis collects data from a large number of research studies so you can draw conclusions about an entire field of study better than you could with any one particular research study. So, in order to conduct a meta analysis, you treat each published evaluation in our case as a research participant and you record details about how the program was conducted, how the research was conducted, and of course what the outcomes were.

But of course, many different programs and many different evaluations have many different outcomes. It would be great if they measured success on the exact same scale and the same type of outcome, but of course they don't because they have different targets. So you need a common outcome across all of your different studies so they're truly comparable, so you're not trying to combine apples and oranges, you really are comparing apples to at least other sized apples. In order to do that we compute an effect size, which I'll be talking a lot in terms of effect size today. Effect size is simply the difference between the treatment and comparison groups on an outcome measure that's expressed in standard deviation units. So it is comparable again across all studies. What that really means is that when you have a large positive effect size that shows that the parents in the treatment group, those that receive the program, had much better outcomes than the parents in the comparison group or those that did not receive the program. Large negative effect sizes mean the parents in the comparison group had much better outcomes than parents in the treatment group, which would be a very bad result for a program. Smaller effect sizes mean there was little or no difference between the treatment and comparison groups. So ideally what you want to find are the components that have the large positive effect sizes so that you know what's most likely to work.

The first thing we needed to do was determine what were the inclusion criteria for studies that we would use to draw these conclusions. And this was based on decisions about what we wanted to be able to draw those conclusions about. We decided to focus on programs that involved the active acquisition of parenting skills to enhance child behavior and adjustments. There are a couple of important pieces to add on to that. These were not simply parent education programs, such as one-time programs in which the facilitators simply present some information or parenting newsletters where the information again is simply conveyed one direction. These are programs that have to have parental involvement in them. The parents are actively learning because we have decades of research in all areas that show that active learning is superior to passive learning. Because our interest was in early child behavior problems and because parenting looks very different for say a 5 year old versus a 15 year old, we included only

programs that involved parents of children aged 0 to 7. These decisions were made mostly to make sure that the scope was not so broad that those conclusions were useless, and we needed to narrow down the field. So we stuck with the young age group.

As is common in meta analysis, we restricted the search to studies that were published in English. The years in which we included studies were those published between 1990 and when we conducted the original search in 2002. We also excluded programs that were unlikely to be generalizable to typically developing families. By this we mean programs for parents for children with a developmental delay or a traumatic brain injury, feeding disorders of infancy, and grieving/bereavement programs were not included in this research. Because specific components of those programs are intended for very specific populations and are unlikely to be needed by the more general category of parent training programs for early childhood behavior problems.

A quick overview of how we began with the original number of abstracts to look at. Our search criteria in the psychology and medical literature search engines provided us with almost 8,600 articles for potential inclusion. Fortunately we were able to reject, just based on the abstract alone, almost 7,500 of them to make sure we weren't including, for example, parent training programs for parents of high schoolers. Those were easily deleted based on the abstract alone if it said that. So of the approximately 1,100 articles that we received and started to read, we were able to exclude another large number of them as inappropriate once we read closer into the article beyond the abstract. Unfortunately, of the 665 that we determined were appropriate for coding, almost three-quarters of them did not have the appropriate set of data or results reported in them to be used in the meta analysis. Those criteria are actually very simple and very minimal; you need means, standard deviations, and sample sizes for the treatment and comparison group at posttest in order to get included in a meta analysis. A full 487 out of 665 parent training program evaluations did not include those minimum criteria. So we were left with 178 studies that did have enough information with which you could conduct a meta analysis.

From there, we reduced to just those evaluations that were looking at what we call a program effect. So the parent training program of interest was being compared to...a group receiving the parent training program of interest was being compared to a group that did not receive that program. They might have received something else. But program evaluations in which a program was being compared in one population versus another population but the same program were not included. An evaluation that included a group that received a program and a group that received that same program plus something else were not included here. Those were a different set. And finally, the last criteria was that there had to be data available at immediate posttest. Again, for just this first pass at conducting this meta analysis, we wanted to see what the differences were at immediate posttest after the program.

So the result I'll be presenting today come from a pool of 77 studies that had immediate posttest data that were appropriate for inclusion in a meta analysis that compared a group that received program X—whatever that may be—with a group that did not receive program X. To give you an idea of the type of range of studies included, the average number of parent participants across all of these 77 studies was about 111 parents with a pretty large standard deviation, which is also expressed there at the range below. The smallest evaluation that was included contained only 15

parent participants, and the largest study that was included here had almost 900 parents in it. There is a good degree of variability in the size of the evaluations that were conducted.

The first thing we noticed when we began coding was the amount of missing information that we had really hoped to analyze and build some interesting results around. Over half of the studies didn't give us information in the publication about parent gender. So we didn't know, for example, if only mothers were involved, if mothers or fathers could attend, if mothers and fathers were both required to attend. In 58 percent of the studies we couldn't tell who was being included as far as the parents. Over one-third didn't tell us any information about ethnicity of the parents or children involved; 44 percent did not report enough information about child age that we could compute a number from. Now, of course we knew from all of them that somewhere they included children between the ages of 0 and 7, but for example a number of them simply said that they worked with parents of preschoolers. So we knew that that met our age criteria but we can't confidently say what age the children were in that particular setting. Most studies did not report on dropout or attrition from the program or about how well the program adhered to what was supposed to be administered, so how much of the actual program and its intent did parents receive.

Perhaps most disappointingly was that we couldn't compute dosage or the number of hours that parents spent in the program for a full 58 percent of the studies. We had some very interesting hypotheses built around more versus less or more efficient delivery systems, those sorts of things that we simply can't answer with this data because the program evaluations did not report for the most part. It is interesting to note that of those studies that did report the number of contact hours parents spent, the range was quite huge with the shortest program being a total of 35 minutes of training instruction. The longest program was a total of 48 hours, and that of course was spread over several years.

Now we get closer to the results. As I mentioned before, the first question we wanted to ask was, is parent training effective? And before you can answer that you have to say effective at what? So here are the nine types of outcomes that we decided were important for this particular meta analysis. There were a number of other types and categories of outcomes that programs may have been measuring and may have been interested in finding out for their own purposes. For our purposes across all 77, these are the nine categories in which we coded outcome information from the studies. They are parent knowledge information acquisition, again specific to parenting not simply parent knowledge of something else but related to parenting; parenting self-efficacy, which is the degree to which parents feel competent in carrying out parenting activities, that is different from self-esteem; parents' attitude or value change; behavior change; skill acquisition; and the actual dyadic parent/child interaction. The child outcomes were child internalizing behaviors, which are things like anxiety, being withdrawn, shy, and depressed; child externalizing behaviors, which are the acting out sorts of behaviors that tend to aggravate caregivers, the oppositional and rule breaking and aggressive behaviors. Child cognitive or school-related behaviors were also coded, as well as basic measures of children's social skills. If those were included in a program evaluation, we coded those outcomes.

In order to answer the question of, are parent training programs effective at changing these things, we averaged the effect size for each study for these outcomes. But for the overall effect

size, each evaluation can only contribute one effect size. Otherwise the results are weighted very much in favor of a program that measured lots of outcomes, and we want to, in this particular analysis, you want to treat each evaluation equally. So each program gets one effect size and then you average them to find out, on average, what are these programs doing.

So the overall effect size across all 77 programs, across all nine of these types of outcomes was a .34, which in real terms tells you that there was about a one-third of a standard deviation difference between parents who received these parent training programs and parents who didn't. Now in the real world, a one-third of the standard deviation is a not a huge difference but definitely a noticeable one. So, for example, if you were a one-third of the standard deviation higher than your spouse on IQ, your IQ would be five points higher than your spouse's. So again not a huge difference, but it is a noticeable one.

The other interesting point here is the range of effect sizes that were computed for each program. The least effective program by this particular computational method showed an effect size of a negative .61, indicating that the comparison group in that particular study had better outcomes than the treatment group. The largest effect size was a 3.69, which is very large in effect size language and suggests that the treatment group did an awful lot better than the comparison group in that particular study. So in addition to this, do they work in general, we wanted to know more about what works in them and what works better. So one of the first questions we asked was, are there differences between outcomes for parents and outcomes for children of those programs? The average effect size on all the parent measures was a .43, slightly larger than the overall. We also noticed the variability—you'll see here in the different categories. The effect size for knowledge and information acquisition, for example, was a .88 being the largest, and we saw much smaller effects for parenting behaviors and skills and for parent-child interaction. This suggests to us that programs found it easier to change parents' knowledge and information than to change behaviors and interactions. Again, not surprising.

In the component analysis I'll describe in a few minutes, we decided to focus on the component here in yellow, the behaviors and skills, because truly of the parent training programs that's one of the most important outcomes that you're interested in: Do parents actually change their behaviors and acquire new skills as a result of the program? As well you'll see from that $n=40$ that that was the outcome for which there was the largest number of evaluations that included a particular outcome.

For the child outcome measures, the average effect size is a .30. Comparing that to the parent effect size of a .43 this suggests that programs had an easier time changing parent outcomes at immediate posttest than they had changing child outcomes at immediate posttest. Again, not very surprising since the goal of parent training programs really is to change the parent's behavior, which is then proposed to eventually change the child's behavior as well.

Across the categories of child outcome measures there was some variability, not quite as much as in the parent measures. For the component analyses, we focused on the externalizing behaviors again because that's the original intent of the study was to look at child behavior problems, which are most generally noticed in externalizing types of measures. As well there was 48

studies that included child externalizing measures, so it gave us more studies to be able to analyze.

What we're really interested in knowing here beyond the average effect sizes were: What are the components of programs and how do those predict effect sizes? So I'm going to run through the components that I'll be describing in the results. The paper discusses a number of other components as well; I'm only going to be presenting here the ones that we really focus on in the results. The first eight components that I'll talk about were related to the program's content or what is actually being delivered, what the parents are getting out of these programs. For each study we use [inaudible] these as whether or not the parent training program reported including this component. So it was a simple, yes, they included it or, no, they didn't in a particular program.

The first was whether or not a program was teaching parents about child development and developmentally appropriate care, such as feeding of children, typical child development and milestones, and providing a stimulating environment. The second was about teaching parents to respond sensitively to the child's emotional and psychological needs—so soothing especially with infants, providing appropriate physical contact, etc. were included in that component. Third was whether or not programs for teaching parents to interact positively with their children and provide positive attention. So, did they teach parents how to follow the child's interest, how to demonstrate enthusiasm for what the child was doing and interested in, and reducing parental negativity in their emotions and in their language?

The next content component was about teaching parents relationship-building communication skills, which are skills that enhance the relationship between the parents and child, such as teaching the parent to engage in active listening and teaching the parent to help children identify and express emotions. The next component was about teaching parents disciplinary communications skills, such as setting limits and the importance of and how to provide clear and developmentally appropriate instructions to children in order to maximize the likelihood that they will comply with those instructions. The sixth component related to content was about teaching parents to promote children's social skills or teaching parents to increase the likelihood that children would get along with others as well, teaching parents how to teach children how to share and cooperate, and teaching parents how to teach children good manners. The last two content components are here.

Number seven is about teaching parents to foster their children's academic or cognitive skills, which included things such as incidental teaching and promoting language or literacy development. Incidental teaching or the little side conversations you may have with children that are slightly instructional and happen in everyday context. So if you are putting the dishes away together you decide, OK, let's count how many forks we're putting in. That's incidental teaching of numeracy for example. And finally for the content components, we looked at whether programs were teaching discipline and behavior management skills. We coded these more specifically because they came up so frequently as to whether programs were teaching parents positive reinforcement and rewards, the appropriate use of timeout and how to make that work, the importance of consistent responding to children's behaviors, and problem solving about child behaviors.

The next four components were about how a program was delivered. Did a program use an established course on parent training? That is, did they have some sort of protocol or curriculum or manual that they followed with each session? Did the program use modeling of skills either live with a facilitator modeling giving instructions to children or recorded video tape presentation of how to do particular skills? Third, was whether or not a program assigned homework to parents, obviously to be completed outside of program hours. And lastly, whether a program required parents to rehearse or practice within the parent training session. We also coded this more specifically as whether they were required to practice with an instructor or an adult peer in the class or whether they were required to practice with their own children while in the parent training program.

Finally, we had two components that we coded that were about activities other than parent training that may have been part of the program. The first was whether or not a program provided separate child instruction or child training over above the parent training. And the second: Did parents and the families receive any ancillary services as part of the program? So did they also receive mental health services, substance abuse, case management, those sorts of things as part of the program. So that if one delivers program X, one also has to deliver these services as part of the package is how that was conceptualized.

And finally, because different ways of conducting an evaluation might actually lead to slightly different outcomes, we coded several important pieces of how the evaluation or the research was conducted. These indicators were chosen because they give ... statistically if they're used in the analyses they give an idea of to what extent an effect size really reflects differences between the treatment and comparison groups because of program participation versus differences between their scores because of some other factor of how the research was conducted. So we coded whether or not parents had been randomly assigned to the treatment and comparison group, whether the evaluators checked to see at pretest if the treatment and comparison groups were similar or were vastly different. We coded whether the comparison group was a true no treatment control group, meaning they received no services, or if they received some other type of program or services in place of the parent training program. Finally, we coded whether or not the treatment group received only the parent training program being tested or did they also receive something else such as services as usual or in addition to the parent training program?

Our first step was to look at these study characteristics to see if they did, in fact, make any difference in the effect sizes. And for three out of the four there were differences. Studies that had randomly assigned parents to treatment and comparison groups had larger effect sizes on average than studies that did not randomly assign parents. When evaluators assessed initial equivalents, that is were the treatment and comparison groups the same at pretest, those studies had smaller effect sizes than programs that did not assess whether or not treatment in comparison groups were equivalent at the beginning. Whether or not the comparison group received some other treatment did not come out with differences in effect sizes. But there were differences in whether the intervention group, the treatment group, received only the parent training program, in which case there was larger effect sizes, than if the parent training was delivered along with additional services. So these are the four indicators of what we call methodological rigor or how

strong the research design was that we are going to control for in the analyses to determine which components are working because they do seem to be influencing the outcomes.

Now the results of the components analysis, which are perhaps most interesting to this group. I want to remind you that we conducted these for two categories of outcomes, for the parenting behaviors and skills outcomes and for the child externalizing problems outcomes. When we did the analyses for parenting behaviors and skills, we not only controlled for the four indicators of study methodology I just discussed, we added a fifth one based on whether or not the program relied entirely on parent self-report of their own behaviors as the outcome. Because we certainly have reason to believe from other research that people are not always the best reporters of their own behaviors on parenting or much else. So we needed to control for studies that only use parents as reporters of their own behavior. Little bit of statistical jargon for those interested, the analyses were actually multiple linear regressions that were conducted to predict effect size while controlling for the indicators of study quality or rigor. What does that really mean? That means that controlling for evaluation methods, what are the content and delivery components that predict larger effect sizes in parenting programs?

First I'll show you the components that were associated with larger effect sizes on parenting behaviors and skills. These are the components for which the programs that included them had larger differences between treatment and comparison groups in the positive direction. There were three of those. Teaching parents to interact positively with their children, teaching parents relationship-building communication skills, and having parents practice with their own child in the parent training program were all predictive of better outcomes in parenting behaviors and skills.

There were also a set of components that were associated with the smaller effect sizes on parenting behaviors and skills outcomes. So these were associated with programs in which there were small or no differences between treatment and comparison groups. Teaching parents about problem solving, teaching parents to promote children's cognitive or academic skills, and providing ancillary services as part of the parent training programs all seemed to be associated with smaller program effects in parenting behavior skills.

Next I'll show the components that were associated with larger program effects on the child externalizing outcomes. So these are the components for which there were large differences between treatment and comparison groups on child externalizing behavior outcomes. Teaching parents to interact positively with their children, which we've seen before; teaching parents to use timeout appropriately; teaching parents consistent disciplinary responding; and then another repeat here, having parents practice with their own child during the sessions. There's also one component that was associated with smaller effect sizes on child externalizing outcomes, which is teaching parents to promote children's social skills and behaviors. That, of course, leaves quite a large list of components that were not reliably predictive of parenting skills or a child's externalizing outcomes. These are the outcomes that were sometimes found in more effective programs and sometimes found in less effective programs. So we don't draw any strong conclusions about any of these particular components: teaching parents about child development, sensitive responding, disciplinary communication, positive reinforcement, using a curriculum manual, modeling the skills by a facilitator, assigning homework to parents, having parents

practice with an adult instructor or peer, and providing additional/separate child instruction all were not reliably predictive of outcomes. So we cannot say whether those are contributing or detracting from parent training effectiveness.

Next, because statistically there's always something more you can do. We conducted a set of more conservative analyses. For those interested, these were mixed effects models that controlled for additional variance associated with between study differences. What this really tells us is more about what are the most robust predictors of outcomes. What are the strongest predictors of better or worse outcomes of parenting programs, the components that we really have a lot of faith in based on the study that we conducted. That left us with two components that were associated with larger effect sizes on parenting behaviors and skills: teaching parents relationship-building communication skills and having parents practice with their own child during the session. And two components that were associated with larger effect sizes on child externalizing outcomes: teaching parents to interact positively with their child and provide positive attention and teaching parents consistent disciplinary responding.

A quick disclaimer of the limitations because no research study is near to perfect, and so we need to acknowledge ours and remind folks of the cautions about these results. First, a reminder that we can say absolutely nothing about the cause-effect mechanisms here. We cannot say that particular components caused programs to do better or will ensure programs to do better. All we can say is that in these 77 studies particular components were more likely to be found in programs that reported better outcomes. We are limited in the use of the published literature. As we're all aware, there are a vast number of parent training programs that are either not evaluated yet or have not been published with evaluations in the academic literature. Those are not represented in the studies that were included here so our results may or may not be able to be generalized to the entire field of parent training programs. We certainly have some belief that some of these components would show out to be effective whether it was published or not, but we cannot make any statements about that specifically. We were of course limited to the studies and the quality of reporting in them of the evaluations. So when programs and evaluations were missing information, we were missing information. Finally, we're limited in our ability to generalize beyond what we included. So we don't know, for example, if these same components would prove as predictive of effects in parent training programs for families with older children, to other outcomes that we did not measure, or to other groups that were not represented in these particular studies.

A quick wrap-up of our conclusions. We have seen from these studies that parent training overall seems to have positive effects across a wide range of outcomes. We also noticed that all parent training programs are not equal; that was evidenced by the wide range of effect sizes that were discovered, some being negative and some being very large positive. Another interesting lesson learned here is that some of the cherished components in the field may be less valuable than typically believed. Things like teaching parents problem solving and providing ancillary services—widely thought to be important and crucial in the field—did not come out as predictive of better outcomes in this analysis. So those are issues that certainly we are going to try and explore a little more in future publications. But of course, we can't say for sure that those components are ineffective, we can only say that they did not appear to be effective in and of themselves in this analysis. It may be that some of the components that we found not to predict

outcomes, they may contribute in other ways or they may interact with other components. So for example, we had every reason to believe that teaching parents to use positive reinforcement would be predictive of good outcomes because we know that positive reinforcement can be a very effective tool working with children's difficult behaviors. However, that particular component did not prove to be one of the strong predictors. However, it may interact with other components or work better or worse in the presence or absence of other components, which we were unable to address in this particular analysis. So it's possible that of the components that we found not to be predictive of effect sizes that they are necessary but perhaps not sufficient to ensure better program outcomes. We unfortunately can't answer that.

Two sets of take-home messages here. First, is the set of components that were associated with either better parent or child outcomes. These are components that appeared to be important in either one or the other domain: teaching parents relationship-building communication skills and consistent disciplinary responding, both of which were extremely robust even in our more conservative analyses. And as well, teaching parents to use timeout seems to be important in outcomes. Here are the two components that were associated with better parent and child outcomes, both of which were identified in the more conservative analysis, so again gives us even more reason to believe these have some sort of power inherent in them to help parent training programs succeed. Those are teaching parents to interact positively with their children and provide positive attention and having parents practice with their own child during parent training.

What's next for us? We are hoping to finalize some analyses around this question of parent training only versus parent training plus other services. In the current analyses it does not look like the parent training plus version is really as successful in changing parenting outcomes, but of course there are various other possible explanations that we'd like to explore further. The second is about whether or not these particular components are also the same components that predict successful outcomes at longer-term follow-up. As a reminder, these results are based on immediate posttest, so as soon as parents finish the program. There may or may not be different patterns 6 months later in the results. Of course, because we're researchers we always have a host of other questions in our back pockets that we are hoping to explore if we can only find the time.

I will now pass it over to Sandra Alexander who will talk to you more about how we are looking to translate this research.

Sandra Alexander, Ph.D.: [48:13] Thanks, Jen. Jen has done a great job at really walking us through the what, the how, and the results of the parent training meta analysis. So the next question is, so what? So what does this mean for the field? We know there are lots of people participating in this call today, but we also know that there are hundreds and maybe even more than that of folks across the country working with parents everyday trying to help them develop positive skills for interacting with their children. So the big challenge is how does this kind of information and other kinds of research and data get to folks in the field and get to them in a way that they can understand it and use it and think about how and if it can apply to the work that they're actually doing?

So one of the things that we've been doing here more in our Division of Violence Prevention is looking at translating some of the research coming out of our division into a document that hopefully will be more easily understood and usable by the general prevention field. So what I'm going to talk about very quickly is why we think this is important, how we've approached it with this meta analysis and with some of our other work, and how we think it fits into the broader scheme of trying to get knowledge to action in the field.

This next slide sort of illustrates how typically research and evaluation gets done. We test prevention strategies, usually the results are written up and published in journals, and then we wait and hope that the field will be able to use that and that things that are found most effective will become useful in the field. That isn't necessarily the best way to do it. In fact, when we're talking to folks about working with parents, we always emphasize that knowledge alone is not sufficient to change behavior. And so it doesn't make sense for us to assume that just publishing results in journals is going to do the trick; we're getting it to all the people who might be able to use it. So there is this big black box between research and ensuring widespread adoption. We look at this as the dissemination and implementation process. So what has to happen in this big black box? So one of the things that we have done also in our division is do some more thinking about this, and we've developed interactive systems framework.

This is just another way to think about that big black box, and we've identified three key systems that we think are important and that is the prevention research system, the prevention support system, and the prevention delivery system. Each of these systems have to work together and interact with information flowing both up and down and all around for it to be useful. We look at the parent training meta analysis and the translation document as being just one part of this system with the synthesis of the literature and translation product falling in this bottom box of the prevention research. But we also see it and hope that it will be one tool for the prevention support system to use and may help build capacity in the prevention delivery system where really the work is happening on the ground.

So the purpose of the parent training meta analysis is primarily to try to make the science more accessible to practitioners who are designing and delivering programs, to funders who have to decide where they're going to put the limited dollars that are available, for other professionals who are working with parents so that they'll be able to better match parent needs with particular parent training resources that are available. So we want the translation to present the finding that Jennifer has gone through very carefully in as simple a way as possible, and hopefully this would be something that could be used to create discussions about how this could apply to practice and where it is appropriate to apply it to practice. By doing this we see this translation document as being something we can make widely available in print and on the web, and again as Jen noted, being careful to let folks know that this is not an endorsement of any particular program. But rather, the meta analysis and the translation piece simply identifies particular components that seem to be associated with certain outcomes.

So in order to engage and learn from both the prevention support system and the prevention delivery system, we've worked with a group of advisors in putting the translation product together. We had representatives from Prevent Child Abuse America, the National Alliance of Children's Trust Funds, Parents Anonymous, Inc., OCAN, and the Center for the Study of Social

Policy working with us as we thought about the translation document, what should be in it. All of these folks helped to review the drafts, and they provided input. And just as importantly, they helped us think about—and they thought about in their own organizations—how can they actually put this to work and use it? And thinking about, what are the challenges that might be there in doing this? Some of the things that they shared with us—and this was across all of the groups—was that they felt it could be helpful to move their organizations, their grantees if they were funders, toward more evidence-based and research-informed practices and thinking. They identified that they would look at ways to disseminate it to their grantees and affiliates, possibly invite the researchers to present findings like we did in the teleconference here today. They would look at presenting the findings to practitioners in the translated form but with an opportunity when possible to discuss what this all meant and how it might be applied to their particular work.

Other things that they mentioned is that they would share the findings in any of the parent trainings that they provided. And they would present this information again as just another piece of information to consider, not as the specific blueprint or action that they necessarily had to follow. They also identified ways that this might help in gaining support and funding for the work that they were doing in parent training, parent support, and felt that they could use the information to advocate for funding of parent training programs that include the effective component. And if they were in a funding position themselves, they might be able to use this information as they looked at where they wanted to put the dollars they had to invest. Of course they all are looking for ways that they can include the translation product information in printed materials and parenting brochures and on websites. And, I think importantly, to figure out if they can evaluate what if anything has changed in their organization or in their particular programs as a result of sharing the meta analysis findings. The translation document is currently in clearance here at CDC. So hopefully it will be available soon, and we will have it distributed as well as possibly on our website and hopefully link to other websites.

Hopefully this has been helpful and given some ideas about how to use this information. Certainly we don't want the translation document to take the place of the actual scientific paper, and we will always be encouraging and encouraging our partners to encourage their affiliates to also read the full research reports as well as working with the translation document. Thank you.

Jean Nussbaum: [57:24] Thank you Jen and Sandra for the findings from this really important study and sharing them with us today so eloquently. We are looking forward to helping disseminate the translation document that Sandra talked about with our grantees and other partners in any way that we can. As we mentioned earlier, we are recording this and it will hopefully still be posted at the Child Welfare Information Gateway so that those who could not participate and listen in today will be able to listen to this really important conversation in the future.

If anyone has any comments or any feedback on the call today, please feel free to contact me at my email address, which is jean.nussbaum@acf.hhs.gov, or feel free to contact the presenters directly at their email addresses which are on the screen now.

[Jennifer Wyatt Kaminski: JKaminski@cdc.gov; Sandra Alexander: JPAlexander@cdc.gov]

And finally, I just wanted to thank everyone for joining us today and to please keep your eye on your inbox for invitations for upcoming prevention webinars. We're trying to have these on a monthly basis so stay posted. Thanks so much again to Jen and Sandra, and thanks for joining us today.