

# Children's Emotional, Behavioral, and Developmental Well-Being: New Data and Tools for the Field

February 9, 2010

3:00 – 4:00 p.m. ET

## Program Transcript

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### Reem Ghandour – HRSA/MCHB – Public Health Analyst

Good afternoon, everyone. My name is Reem Ghandour, and I am a public health analyst in the Maternal and Child Health Bureau's Office of Data and Program Development. This DataSpeak program, like all of the DataSpeak series, is sponsored through the Office's Maternal and Child Health Information Resource Center.

Today's Web conference focuses on children's emotional, behavioral, and developmental health, and was developed in conjunction with a chart book entitled *The Emotional, Behavioral, and Developmental Well Being of Children: A portrait of states and the nation 2007*, which should be available to the public in the very near future. We will be sending out an e-mail to everyone who registered for today's program as soon as the chart book is released.

I am pleased that we are joined today by two presenters, both of whom are distinguished clinicians and scholars in the field of children's mental health. The first is Dr. Jim Perrin, Professor of Pediatrics at Harvard Medical School. Dr. Perrin serves as the director of both the division of general pediatrics and the Center for Child and Adolescent Health Policy. He is also associate chair for research at the Mass General Hospital for Children. Today, Dr. Perrin will be discussing the increasing rates of chronic conditions among children and the corresponding increase in emotional, behavioral, and developmental disorders with a special focus on autism.

We are also fortunate to be joined by Dr. Jane Foy. Dr. Foy is Professor of Pediatrics at Wake Forest University School of Medicine, as well as coordinator of the integrated primary care mental health program for the northwest area health education center. Dr. Foy also serves as chair of the American Academy of Pediatrics' taskforce on mental health. She will be discussing the role that the public health community can play in addressing what many would call an epidemic of pediatric mental illness, and will share resources developed by the taskforce on mental health.

I will also be serving as a presenter today. In this capacity, I'll be sharing national and state level data on emotional and behavioral conditions from the most recent national survey of children's health. Just a note to our audience, we have changed the order of presenters today in order to improve the flow of the program. Dr. Perrin will be opening our discussion today, followed by myself and Dr. Foy.

Now before I begin, I'd like to introduce Gretchen Noonan, the moderator for today's program. Gretchen?

## **Gretchen Noonan – DataSpeak – Moderator**

Thank you so much, Reem. First, I'd like to welcome all of our presenters today and all the participants who have taken their time to join us. We're excited that you could be here. Before we begin the presentations, I have some very brief technical guidance for everyone in the audience.

First, you should know that your phone line will be muted during the presentations. At the completion of the program, we'll be having a question and answer session. The operator will open the phone line for questions, and she'll provide instructions on how to queue at that time. If you'd like to post a question during the program, you can do so using the questions box at the left side of your screen. Type the question in the box, and hit the arrow that is the enter button.

Second, I'd like to point out that you're able to download today's PowerPoint presentations directly from the screen that you're seeing right now. Click on the presentation that you're interested in to highlight it, and then click "save to my computer."

Finally, I would like to call your attention to the DataSpeak Web site, which we hope you'll visit after today's program. There you'll find resources on today's topic, including some that our speakers will highlight in their presentations. There you will also find archives of all the DataSpeak programs going back to 2000. The slide on your screen shows some of the most recent programs that are available and the address that you can use to access them.

Now I'd like to turn to Dr. Jim Perrin, our first presenter. As Reem said, Dr. Perrin is a professor of pediatrics at Harvard Medical School. He's also a director of the division of general pediatrics and director for the Center for Child and Adolescent Health Policy and associate chair for research at the Mass General Hospital for Children. Jim, thank you so much for joining us today.

## **Jim Perrin – Harvard Medical School – Professor of Pediatrics**

Thanks very much, Gretchen, and I appreciate the opportunity to be with you all today. I'm going to start by talking broadly about some of the changing rates of chronic conditions in general among children, and then talk more about mental health conditions and some of the issues relating specifically to children with autism.

These are the data that come from the National Health Interview Survey, but they help to frame our discussion because, if you look to the left of this slide, in 1960, about 1.8% of all American children were considered to have a chronic health condition severe enough to interfere with regular daily activities: playing with friends or going to school. By the late 1990's and, frankly, into the early 2000's, that rate had more than quadrupled to almost 8%, so a tremendous increase in the rates of conditions, chronic conditions among American's children.

Among the more common conditions that we tended to think about are things like cystic fibrosis or spino bifida or sickle cell disease or hemophilia. These are numbers from the mid 2000's that are estimates of the total numbers in this country of people under age 18 with these conditions, so about

22,000 with cystic fibrosis, about 37,500 with sickle cell disease, etc. Common, but, frankly, the really major conditions are what we see on this slide, which are vastly more common conditions than things like cystic fibrosis or even diabetes, but rather represent the three major groups: obesity, which now includes about 11.25 million children. Now that is out of approximately 80 million children in this country.

Five million, two hundred and fifty thousand children with asthma, and four million children with ADHD, three million children with depression, 500,000, probably more like 750,000 children with autism spectrum disorder. These are vastly higher rates than the conditions on the previous slide. And it's really these new epidemics of old conditions, in general—obesity, asthma, and children's mental health conditions—that represent much of that growth from not quite 2% to about 8% of children with some chronic health condition today.

Why do we have this major growth in children's chronic health conditions? From 1960 to 1980, indeed, a substantial amount of the improvement in those numbers, the increase in those numbers, reflected improvements in survival of a number of chronic conditions, things like cystic fibrosis, which had a dramatic improvement in longevity, or children with leukemia who died, essentially all of them in the early 1960's, had a tremendous improvement in their longevity as well. And one can run through a variety of other conditions.

However, the data are interesting because they pretty much show that by 1980, we'd already achieved about 80% of the achievable improvement in survival. Today, it's about 95% there, which really means that much of the increase from 1980 had to represent something else going on. And, indeed, it was the new epidemics of these common chronic conditions, the obesity, asthma, and children's mental health conditions. One might ask questions about a couple of other conditions, very low birthweight, infant survivors in the neonatal intensive care units, children who are exposed to toxins *in utero*, or children with AIDS, and they probably do all add marginally to these numbers, but they have nothing like the same impact as those three major groups of conditions do.

These are just some examples. Looking at children in the early 1980's in green, and in the early 2000's in blue, obesity here measured is greater than the 95<sup>th</sup> percentile, went from 6% to 16%. Extreme obesity, greater than 99<sup>th</sup> percentile, quadrupled from one percent to 4%. Asthma and ADHD both approximately doubled during this period of time, so a really major growth, continuing major growth in these conditions.

What are the long-term implications? I think they're ones that we need to be very much prepared for, but probably aren't yet. One is major public health burdens in the next decade, not two decades from now or three decades from now. The major public health burdens coming now from rising cardiovascular disease among young adults, primarily reflecting their being overweight and the Type II diabetes that comes along with that, increased pulmonary disability, and we already see signs of that in adolescents with major asthma problems now, and certainly higher rates of mental health conditions that will tremendously affect these young people's needs and capability.

This is going to lead to decreased workforce participation, decreased quality of life, and substantial increase reliance on disability programs. This will also lead to major new expenditures in the area of public health and healthcare coverage in general, which will come very soon as a result of these epidemics.

What are some of the explanations for these substantial increases? One, as I mentioned before, is really amazing biomedical advances and tremendous improvements in surgery for certain kinds of childhood conditions. Indeed, children with chronic conditions live longer. Many children who would have died by age five now survive well into adulthood. Along with these amazing biomedical advances have been what I label regressive social changes, and I will get to those in just a moment.

There are genetic components to essentially all of these conditions. We know that genes play a role in obesity. They play a role in asthma and so forth. On the other hand, it's very hard to explain these tremendous increases in these conditions simply by speculating that the genetic background of America's children has changed dramatically over 30 or 40 years. It certainly has changed some, but there have got to be other things that are environmental that are going on that trigger these genes and make these kids become far more susceptible to these three major groups of conditions.

We know relatively little about, but are learning a lot about now, changing physical and toxic environments, and those are probably things where, especially in utero, infants are exposed to potential toxins that probably do affect many parts of their growth and development. And, unfortunately, we don't have a lot of data yet. The national children's study and some other ways may help us understand more about this. My guess is we're going to learn a great deal more about this in the next decade that will really influence what we've tried to do in the areas of prevention and also treatment.

The cleanliness hypothesis, you may have heard about, is one of the explanations, especially for the growth of asthma, which is that we protect children so much from getting dirty these days that they're not exposed to many allergens very young. And when they get exposed at older ages, they have an exaggerated response that leads to an increase in asthma. That's probably much less important than some other things that are going on. And I thought, or a few minutes, we might focus briefly on changing social environments for children.

These are the four areas that I think are most in need of our attention. One is all of us as parents do our jobs very differently from how we did them 50 years ago. For example, most school-age children would come home at lunchtime and have a meal with their moms and dads, usually a hot meal, actually, at lunchtime. Of course, that essentially never happens today, except when they're right now in Washington where everyone is stuck home together and having hot meals together. But, in general, parents are often employed at great distances from their homes. Parents are increasingly stressed as a result of that, and what it essentially does mean is that children now typically have multiple adult caretakers in relatively less consistent single parents to help them find their way through a complex series of growth and development.

Second, TV, the most unstudied social experiment in our history, has a tremendous impact on children's health and development in a couple of ways. We know that children who watch more TV also tend to be

heavier because they're commonly sitting in front of the TV and just munching away. And the TV, for children especially, is showing really loving pictures of dancing Doritos and other things that are very attractive for them to be eating.

They're also much less active. They're sedentary. They're sitting on their couches. They're not outside and playing, so TV has had a tremendous impact on that. TV, as you remember, even for certain programs that we think are child oriented, tend to be very fast moving, require very little attention. They don't require the sort of looking at the TV over a period of time to sort of see what's happening. So, in fact, they help to support inattentive behaviors among children.

Physical activity has changed dramatically. Far fewer children walk to school than they did in years past. It's about 13% of the U.S. population today. Very many schools, especially in poorer neighborhoods, don't offer much in the way of physical activity or recess. Parks are often not available, so physical activity has dropped dramatically, and it's also partly because children are seduced to stay inside and watch their TV.

Diets have also changed for children with much more fast food, larger portions, sugar sweetened drinks available in many ways, and children, in fact, these days get more of their vitamins from fortified drinks than they get from their regular food, so children's environments have changed dramatically. And some of those changes are in fact associated with the growing epidemics in these three areas: obesity, asthma. Why does asthma grow as a result of this? Well, children are spending more time indoors where they're more exposed to secondhand smoke. For poor children especially, cockroaches and mites are common causes of their asthma. We don't think there are any more cockroaches in our communities than there used to be, but children are sure as heck spending more time in intimate contact with their cockroaches than they used to.

I might say the good news here, which we have a paper coming out in JAMA in about a week or so, where we looked at children over a period of time. The bad news is that as we looked at children over three cohorts, we showed a substantial increased rate of chronic diseases among them from 1988 to the year 2000 and then 2006. Importantly though, almost half of the children who had chronic conditions in 1988 didn't have them when rechecked in 1994. The same thing was true of all three of the cohorts. In other words, a lot of squirreling and editing about chronic conditions, all of which would imply that if we do things right, many children can get rid of their chronic conditions and have much more improved outcomes.

I want to move, in my last few minutes, to talk about the prevalence of autism and autism spectrum disorders. There was a paper that was in Pediatrics that was headed by Mike Kogan, who is a colleague of Reem's, using the national survey of children's health. And this really asked parents to say whether any physician had ever given their child a diagnosis of autism spectrum disorder, PDD, or Asperger's. And also asked if your child were ever diagnosed, does your child still have that condition?

The rates of that were basically a little bit higher than one in 100 children that were reported as having autism today. The male rates were about four times those for female, which meant that something on the order of one in 60 males were reported in the study as having autism. There were lower rates of

autism among black and multiracial children. And, of tremendous interest, 40% of those who had ever had the diagnosis no longer had it, which is much higher rates of that loss among black children than among white or Latino kids.

Again, this is interesting and disturbing evidence about the growth of a condition. It also provides some interesting ideas about variations by race and ethnicity, and it also provides us some opportunity to think through, again, what are the ways of improving outcomes for children.

In final, much of the increase in autism rates may reflect increased ascertainment in awareness. I.e., children whom I might have diagnosed 30 years ago as having non-specific mental retardation, I would label today as having autism. But there's other evidence that would suggest that there's a real growth in this condition as well. And I would say that autism probably fits into these other increasing epidemics. The dynamic nature of these conditions, especially mental health conditions, though, indicates the need for longitudinal surveillance, the importance of prevention, and the importance of early intervention. Thank you very much.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. Thank you so much, Jim. That was wonderful. I'm sure we're going to have a lot of questions coming in. But in the meantime, while folks go ahead and type any questions they have for Jim online, we'd like to turn to Reem. Dr. Reem Ghandour, who we heard from at the beginning of the program today, she's a public health analyst for the Maternal Child Health Bureau. Reem, I'm so glad that you are a presenter for us today.

### **Reem Ghandour – HRSA/MCHB – Public Health Analyst**

Thank you very much, Gretchen. Well, my goal for this presentation is to provide just a little more context for our program today, and I'm going to do this by sharing the latest data from the 2007 National Survey of Children's Health on the prevalence of emotional and behavioral conditions and treatment received by children with these conditions. You'll also notice that this presentation will have a special focus on geographic disparities at the state level.

For those of you who are familiar with the subject, you'll know that there really has been a great deal of work done in the area of child mental health. Nonetheless, we felt that it was important to do this analysis using the National Survey of Children's Health for a couple of reasons. First, many of the most frequently cited studies have a limited geographic representation, so that is, either they are not nationally representative or, if they are, they lack the capacity to drill down to the state level. And this is important because so much of the policy and program work related to mental health, particularly for kids, occurs at the state level.

The second reason is that we often see the use of broad measures of mental health, which combine emotional, behavioral, and even developmental conditions. While this metric provides an estimate of the overall burden of such conditions, we believe that independent assessment of different types of conditions can also be important, particularly for clinicians and families. For these reasons, we felt like it

was important to capitalize on the strengths of the NSCH, which allowed us to produce state level estimates and to investigate different types of mental health conditions. You can see our questions of interest at the bottom of the slide.

Just a few words about our data source, we used the 2007 National Survey of Children's Health, which is the second such survey funded by the Maternal and Child Health Bureau and fielded by the National Center for Health Statistics, the first survey having been fielded in 2003. In brief, the NSCH is a cross-sectional, telephone-based survey in which parents and guardians are the respondents to a wide range of questions about children's physical and emotional health, as well as questions about family and community level factors, which can influence children's well being. Overall, data were collected from nearly 92,000 children under the age of 18 between April of 2007 and July of 2008.

For these analysis, we used three questions capturing parents' responses about whether a doctor or other healthcare provider had ever told them that their child had depression, anxiety problems, or behavioral or conduct problems. We also made a couple of analytic decisions that I want to mention upfront, and which I'd be happy to discuss at greater length after the presentation.

First, we limited our analyses to school-aged children, so our analytic sample included just over 64,000 observations. Second, we decided to combine depression and anxiety. And, third, we chose to focus our analyses ever diagnosed rather than only those who had a current diagnosis, as reported by their parents.

And so I'm sure some of you listening today are interested in separate or current estimates for these conditions. You'll see that these will be included on some of my slides, although I'm not going to discuss them in great detail during the presentation. I'm happy to answer questions about that later.

That said, we found that 7.8% of children age 6 to 17 had ever been diagnosed with depression or anxiety, while 4.7% had a current diagnoses. As you can see from the bulleted points, comorbidity was an issue for children with emotional conditions with about half of children diagnosed with one condition also having ever been diagnosed with another such condition. And, you can see that there were a number of sociodemographic and health related factors that were significantly associated with having ever been diagnosed with an emotional condition, including being male, older, white, or multiracial, being poor, near poor, and having publicly funded insurance, being in poor physical health or having a comorbid mental health condition, and having a mother in poor mental health.

Here you can see a state-by-state presentation of the unadjusted prevalence of diagnosed emotional conditions. Just to orient you to the presentation, those states with a darker fill have the highest prevalence, while those with a lighter fill have the lowest prevalence. Overall, we found the prevalence to range from a low of 4.8% in Georgia to over 14% in Vermont. We also found that just under 5.5% of school-aged children had ever been diagnosed with a behavioral or conduct related condition, while 4% had a current diagnoses. Again, comorbidity with other mental health conditions was an issue for these children, but somewhat less so than those who had ever been diagnosed with depression or anxiety.

The sociodemographic and health factors associated with behavioral conditions were similar to those seen for emotional conditions with a few notable differences. First, age was not associated with having ever been diagnosed. And the racial and ethnic profile was somewhat different. In this case, non-Hispanic blacks were more likely to be diagnosed with behavioral conditions. Finally, although poor physical health was associated with either type of diagnoses, the association was much stronger for emotional conditions. This was also true for poor maternal mental health and school safety.

The geographic presentation of unadjusted prevalence estimates for behavioral conditions was almost the reverse of what we saw for depression and anxiety. Here, many of the high prevalence states are those with the darker fill are in the South and Mid Atlantic. Overall, the prevalence ranged from a low of 3.2% in California to 9.2% in Louisiana.

Turning now to the results of our multi-varied analyses, after we adjusted for factors known to be associated with mental health conditions and diagnoses among children, we found significant state level differences in the odds of ever being diagnosed with depression or anxiety. In fact, children in 18 states had higher odds of ever being diagnosed with either condition, particularly those in New England, Montana, Ohio, and Washington State. Consistent with our bivariate results being older, having public insurance, being in poor physical health, or having another mental health condition, and having a mother in poor mental health were also associated with higher odds of ever being diagnosed.

For behavioral conditions, we found that although the range of adjusted prevalence estimates was similar to the unadjusted estimates, the picture looked a little bit different, and I'm asking you to kind of think back to the map I showed earlier. Once we adjusted for factors known to be associated with mental health conditions among children, we found that actually Arizona had the highest prevalence rather than Louisiana. That said, overall, we found very little significant variation in the odds of diagnoses with children in only two states, those in Arizona and Pennsylvania having higher odds of ever being diagnosed with a behavioral or conduct related condition. Finally, again, consistent with our bivariate results, we found that being black, having publicly funded insurance, poor physical or mental health, and a mother in poor mental health was associated with higher odds of diagnoses.

We investigated the prevalence of treatment for mental health conditions in two ways, both for all children, and for children with particular diagnoses. For the former, we found that nearly 10% of all school-age children, regardless of whether they had a mental health problem or not, received some kind of mental health treatment or counseling in the past 12 months prior to the survey. We also found that the prevalence of treatment varied by state of residence with about 6.5% of children in Texas having received treatment and over 15% of children in Pennsylvania receiving treatment.

When we limited our analyses to children who had ever been diagnosed with an emotional or behavioral condition, we found that about 55% had received pass-through treatment, while 62% of those currently diagnosed had received treatment or counseling. We also found that the prevalence of treatment varied by state of residence for kids with different types of diagnoses. In particular, I draw your attention to the second bullet for behavioral conditions. Here we see that while nearly 80% of ever

diagnosed children received pass-through treatment in Pennsylvania, less than one-third did so in Louisiana.

Overall, we found that the treatment picture was similar across states for children with depression or anxiety, so children in only four states had higher odds of not receiving treatment if they'd ever been diagnosed with depression or anxiety, and those four states are Idaho, Kentucky, Louisiana, and Nevada. This was not the case for behavioral conditions where children in 17 states had higher odds of not receiving treatment, most notably Louisiana, Oklahoma, Nevada, Mississippi, Illinois, and Florida.

We also found that being uninsured, not surprisingly, was associated with higher odds of not receiving treatment, while having ever been diagnosed with another mental health condition and having a mother in poor mental health was associated with lower odds of not receiving treatment. In this case, these factors might be called protective against not receiving treatment.

There are, like any study limitations to note, I think the most important is the fact that we were limited to parent report for both the diagnoses and treatment items. So we weren't able to independently verify that a child had or no longer had a mental health condition. We also were not able to identify specifics about the nature, extent, or setting of the treatment received. So this is, at best, sort of a rough definition of treatment, but in some ways a very generous definition of treatment.

By way of summary, I've restated our research questions on this slide, along with our results, and I would draw your attention to the third item, as I think it really summarizes the takeaway message for the presentation and what we found. Basically, there really was significant state variation in the prevalence of diagnosed emotional conditions among U.S. children and significant state variation in treatment received among children with behavioral conduct related conditions.

Just a couple of additional points worth noting: First, our estimates represent a significant change in the prevalence of these conditions since the last National Survey of Children's Health in 2003. And it's possible that this reflects actual changes in the prevalence of mental health conditions among children, but we also believe that it might be capturing, instead, changes in the way that parents and healthcare providers are approaching these conditions, particularly developmental conditions, which often have a behavioral component.

Second, in thinking about the significant state level differences in diagnosed emotional conditions, we wanted to emphasize that states with a high prevalence diagnosed depression or anxiety may not necessarily have a greater burden of disease, and they might, but they also may simply be doing a better job of screening, identifying, and communicating with parents of these children. In this case, a high number may not necessarily be a bad thing. But a lot more needs to be done in order to tease out the individual circumstances at the state level that are contributing to some of these numbers.

We also spent some time thinking about the significant state level differences observed for receiving pass-through treatment among children with behavioral and conduct related diagnoses. Specifically, we were worried that our results were capturing an aging out effect where children who had an early diagnosis, grew out of the condition and, therefore, didn't need treatment at a later age. Unfortunately,

we've repeated these analyses with only the currently diagnosed kids and found almost an identical geographic pattern, indicating that observed state level disparities in the receipt of treatment really do require some additional investigation.

Finally, we believe that it's important to emphasize the finding that a significant minority, between 40% and 45% of children ever are currently diagnosed with a mental health condition are not receiving treatment. Given what we know about the reoccurring and comorbid nature of mental health problems, we believe that it's important to consider the needs of both children with current diagnoses, as well as those who have been previously diagnosed.

I'm going to close for now, but I'm happy to answer any additional questions after our next presenter.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. Thank you so much, Reem. I'm pretty sure that we will have questions. We have a lot coming in. We have a large audience. We have lots of questions coming in already, so we'll be speaking to you again very soon.

Now I'd like to turn to our final presenter for today. She is Dr. Jane Foy. As Reem mentioned, Dr. Foy is Professor of Pediatrics at Wake Forest University School of Medicine, and she is the coordinator of the Integrated Primary Care Mental Health Program for the Northwest Area Health Education Center. Dr. Foy also serves as chair of the American Academy of Pediatrics' taskforce on mental health. Welcome this afternoon, Jane.

### **Jane Foy – Wake Forest University School of Medicine – Professor of Pediatrics**

Thank you so much, Gretchen. My purpose will be to discuss the role the public health community can play in addressing the epidemic of pediatric mental illness. I think the data presented by Drs. Perrin and Ghandour make the case that we are beyond a one child at a time approach. Mental illness is a public health issue. It's also clear that it will take an entire community, a village, if you will, to assist families experiencing mental illness in a child.

Public health professionals will be very familiar with the concepts illustrated in this slide, which was developed by Dr. Perrin and his colleagues. Continuing the metaphor of it takes a village, this diagram depicts that idealized village. At the center of the concentric circles is a family of a child or youth with special healthcare needs. Though this term is often used referring to a child or youth with physical or developmental disabilities, it can also encompass those with mental health problems and, in many situations, of course, a child will have both.

Immediately surrounding the family in the diagram are the family's informal supports. They might include extended family and neighbors, volunteer organizations, spiritual resources, boys and girls clubs, and other recreational resources. And, around them, we see the formal supports and services, perhaps including many of those provided by folks listening in on this call: public health, mental health, the medical home or primary care provider, the education system, and so forth.

Note the separations between them. Too often, these formal supports function as silos without knowledge of the services others are providing to the family. This is especially true when mental illness is a child's issue because of the stigma the family experiences and the strong culture of privacy in the mental health community.

Wrapped around the formal services in this ideal village is a coordinating mechanism or system driven by the family's needs and preferences. This is often called system of care in the mental health community. In the public health community, it might be called child services coordination or system of systems or comprehensive system of healthcare.

In some communities, mental health and public health coordination mechanism exist in parallel. One of the important roles the public health community can play is to join with the mental health community to create one system for each family in need.

Many barriers prevent families of children with mental illness from achieving the support of this ideal village. Only 20% to 25% of children and youth with mental disorders receive treatment. Forty to fifty percent of those terminate services prematurely because of inadequate finances or insurance coverage, transportation difficulties or stigma.

The public mental health system is chronically underfunded and must focus on individuals with the most severe levels of impairment. This leaves it with few resources for children with emerging problems or with mild to moderate levels of impairment, and often none for preventive services.

This brings us to workforce issues, which are closely related to the issue of underfunding. There are insufficient numbers of child mental health providers. By this, throughout this presentation, I mean substance abuse, as well as mental health. Insurance plans typically have cumbersome intake processes and provide access to a limited number of mental health providers, many of whom may not have expertise in child mental health, especially mental health of the very young.

These forces often lead families to seek mental health services from their primary care provider who is often a trusted figure and a logical, accessible choice. Yet the pediatric primary care workforce also faces many challenges: lack of comfort, training, evidence of best practice in children, payment, just to name a few. We also may have limited mental health resources available to help us provide this care, and may be unfamiliar with those that are accessible. The silo mentality I mentioned earlier and privacy concerns often impede our communication and collaboration with mental health providers.

What is the role of the public health community? I've mentioned the importance of including children with mental illness in our concept of children and youth with special healthcare needs and systems to support them. Here are some additional strategies you might consider.

The public health community can provide the population perspective, as in this conference today. Publicize these mental health trends, identify and address risk factors for childhood mental illness, and identify and enhance protective factors such as high quality preschools, effective schools, physical

activity and safe outdoor play, opportunities for children to be involved with positive adults and peers, freedom from racism, sexism, discrimination, and poverty.

The public health communities experienced at reaching across silos to embrace new partners, you might give special consideration to those I've highlighted in red here on this slide. Families experiencing mental illness and their organizations such as the National Alliance on Mental Illness, the Federation of Families, professional associations of mental health providers such as licensed clinical social workers, psychologists, substance abuse counselors, academic and primary care pediatricians, developmental behavioral specialists, child psychiatrist, and I also want to mention the regional Area Health Education Center or AHEC, which I can personally attest is an extremely valuable partner in addressing the deficits in education and training faced by so many mental health professionals and by primary care clinicians.

Here are several concrete ideas for projects that can bring new partners together across the silos in a community. Developing a community protocol for the assessment and care of children with problems of attention and behavior in the classroom such as ADHD. Developing a community protocol for managing psychiatric emergencies. Developing a pediatric mental health resource guide, mixers, my name for social educational sessions, ideally with food, that bring primary care and mental health providers together for case discussions and problem solving.

I mentioned the key role of the primary care community in creating access to preventive and early intervention services. The public health community can recognize and support this role. It's greatly enhanced when primary care clinicians provide the full range of health supervision services recommended in Bright Futures, which incorporates mental health into every visit.

A primary care practice can also enhance mental health services by integrating a mental health provider within the practice. Viability of this model requires that these folks be paid for screening and early intervention, as well as traditional mental health treatment. The public health community can advocate for appropriate payment of prevention and early intervention in all models.

Here are some other examples of preventive strategies public health professionals can champion. I mentioned Bright Futures. There's also the nurse/family partnership model of David Olt and his colleagues, providing a nurse partner to high-risk mothers during pregnancy and the first two years of a child's life. This program has demonstrated positive social mental health and education outcomes decades after the intervention.

There are evidence-based parenting programs, which can help to prevent later mental health problems in a child. Examples are the Incredible Years, PPP, Circle of Security, Parents as Teachers. You can take environmental health interventions to eliminate neurotoxins such as lead and mercury. And you can promote healthy lifestyles, good nutrition, physical activity, sleep, stress management, which may also help with other public health priorities such as healthy weight and good cardiovascular health.

Here are some examples of early identification strategies a public health community can champion. Routinely screening children for psychosocial problems, publicizing warning signs of depression and

family distress, training school and childcare personnel to recognize mental health and substance abuse needs, assisting families make the transition from early intervention programs to school.

Just as the public health perspective can bring new resources and strategies to bear on mental health, mental health considerations can enlighten public health practice. This slide highlights some of the areas where the mental health perspective can contribute very significantly to traditional public health programs and responsibilities. Child service coordination, disaster preparedness, childcare consultation, maternity care coordination, and I've put several explanation points by school health. A comprehensive school health program articulates policies and practices that promote students' mental health. These are critical to creating effective schools and students with strong attachments to those schools, both important factors in mental health and resilience of children and adolescents.

Here's another classic public health strategy. Educate the public about these issues. This includes addressing the stigma of mental illness, which causes many to not seek care. You can battle stigma with facts. Mental illnesses are not character flaws, a sign of moral weakness, or anyone's fault. They're treatable. Children and adults living with these illnesses can achieve recovery and lead full and productive lives. People with mental illness need and deserve support and resources in order to achieve their full potential. All of these are important messages for the public.

As the public health community advocates for system reforms, it can consider mental health issues. Fully implementing insurance parity, finding a way to make child psychiatry consultation accessible, as folks have done in Massachusetts and several other states. Addressing mental health needs in community and regional early childhood health plans, such as those developed through ECCS.

And, finally, the mental health community can monitor trends and the impact of changes on those trends. Here I've listed some of the measures that may reflect child mental health and accessibility of child mental health and substance abuse services. The number of mental health providers with pediatric expertise participating in a particular health plan or serving a community. The number and type of mental health services provided to children on Medicaid or SCHIP insurance in a given community or region. Wire BS items pertaining to mental health and substance abuse. Users of mental health services by race and ethnicity since disparities are common, as we've heard, and may reflect problems in the cultural appropriateness of available services. Abuse and neglect data out of home placement, high school dropout rates and suspension rates, graduation rates, juvenile crime rates, each of which may have mental health causes or consequences. Injuries, which often have mental health or substance abuse etiologies, and, importantly, consumer and provider opinions about the effectiveness of mental health services.

I'll close by saying that the American Academy of Pediatrics has made mental health a strategic priority for the last five years and has created a number of resources you may find helpful in addressing the mental health needs of your community or region. Two recent AAP publications are listed here. The first resource on this slide is a kit that includes a number of public health strategies. You can find it and other resources on the AAP's mental health Web site. Coming this spring is a supplement to the Journal of

Pediatrics entirely devoted to the topic of enhancing pediatric mental health services at the community, practice, and individual practitioner levels. I hope you'll look out for this.

Here's contact information for me and for Linda Paul, Manager of Mental Health Initiatives for the American Academy of Pediatrics. Thank you for this opportunity to discuss mental health as a public health concern. Now we look forward to your questions.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. Thank you, Jane. There are questions, so you won't be disappointed. And I want to thank, of course, as I said, thank you, Jane. And I want to thank Jim and Reem again for joining us. We are in the question and answer portion of our program now. As I mentioned at the beginning, we'll be taking questions, both online and on the phone. And I see that many of you have already figured out how to use the online question forum because we have plenty coming in.

To post a question online, there is a question box on the left side of your screen. Just type in your question there, and hit the arrow or the enter button. And I'd like to ask our operator, Shea, to come on and tell people how they can ask a question over the phone.

Operator

(Instructions given.)

### **Gretchen Noonan – DataSpeak – Moderator**

Great. Thank you, Shea. We'll start off, while people are doing that, we'll start off by asking a few questions that came in online. We have plenty to choose from. I'll go ahead and start. We'll go back to Jim. We spoke to him at the beginning. Jim, we've had a lot of questions come in about the racial difference in the rates of autism, and maybe you saw this question coming. I don't know. But a lot of people want to know if there are any hypotheses out there for why there's this racial difference. Also, someone noted that a lot of CDC material say that race has not been determined as a significant factor in autism prevalence, so they'd also like to know if that understanding has changed at all.

### **Jim Perrin – Harvard Medical School – Professor of Pediatrics**

It's a great question, and I think it's important to recognize that the CDC the national surveys use somewhat different strategies for collecting their information. One is really parent report, where the CDC strategies are a little more detailed clinical data behind it. I think that if you think about what are the causes for the growth in the diagnosis of autism, as I mentioned before, one of them really is that we're diagnosing it better than we used to. We're more sensitive to it, and parents are, as well, more sensitive to this diagnosis.

Along with that, of course, comes certain kinds of services often times, whether they're SSI or early intervention or other services that are really helpful to children. I think that also happens as well. I think one explanation for the findings we had in the national survey data really could be that certain families

in our society have much more difficulty getting access to services. It really may be that African American families, for example, find it difficult to get really good access to early intervention services or other services that may be helpful for their children with autism. From their viewpoint, therefore, there's less need to sort of keep that diagnosis and make sure to have it. It may more indicate, in other words, a lack of access to services by certain members of our society.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. That was actually one of the other questions that we got, so I think we just took care of two birds at once there. That was great.

While we're also waiting for people to queue, I'll go ahead and ask another question. Reem, we had a couple questions about your analyses, and one of them was if you could explain a little more about the analytical decision to use "ever" instead of "current" mental health diagnoses. There was some question as to whether that had to do with sample size, or if it was something else.

### **Reem Ghandour – HRSA/MCHB – Public Health Analyst**

That's a great question, and actually it was a little bit of both. Statistically, it was very helpful for us to have the additional numbers in terms of accounting for both the "ever" and the "current". But there was also a theoretical decision being that, and that really has to do with the evidence that suggests that mental health conditions, particularly emotional ones, tend to reoccur throughout adolescence and even into young adulthood. And also that if it's not the same condition reoccurring, they can sometimes lead to other mental health conditions later on. We felt like it was important to consider that reoccurring nature of the conditions. But we also, from a statistical standpoint, felt like we had a little firmer ground to stand on by using the slightly larger sample size.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. Thank you so much. I understand that we have a question on the phone, Shea. Is that correct?

Operator

Yes. Our question comes from Gayle Stewart from Henry Ford Health Systems.

Gayle Stewart – Henry Ford Health Systems

I'm just questioning how I can download all of your presentations.

### **Gretchen Noonan – DataSpeak – Moderator**

Sure. On your screen that you're seeing right now, there's a download pod, and there's something that says presentation slides. You can highlight that and click "save to my computer", and they're also available on the DataSpeak Web site.

Gayle Stewart – Henry Ford Health Systems

Okay. But my particular screen doesn't have that for some reason. It must be the way I opened it up.

Chris Weaver – Altarum

You may have a button on your screen that if you have the slides on full screen, just click the full screen button again to go back to the view where you can see everything else, and then you should be able to download the slides okay.

Gayle Stewart – Henry Ford Health Systems

Okay. Thank you.

### **Gretchen Noonan – DataSpeak – Moderator**

Thank you, Chris. Shea, do we have anyone else on the phone with us?

Operator

We have no other questions on the phones at this time.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. While we're waiting for folks, we'll go ahead. Reem, I'll ask you another question here. Someone asked, with regard to the mother's mental health, they wanted to know if the survey differentiated between current and ever diagnoses, and also whether the survey asked about other caregiver's mental health.

### **Reem Ghandour – HRSA/MCHB – Public Health Analyst**

In answer to your second question, yes, we also had data on father's mental health, and this is self-report by whoever was answering the question. And since moms were the most likely to be the ones answering the survey, we really felt that it was best to go with mom's reports of their mental health rather than using fathers, although we also did look at that. And in terms of the timeframe, it was mother's current mental health. However, they reported their current mental health or their physical mental health ... physical health.

### **Gretchen Noonan – DataSpeak – Moderator**

If I could just ask you a follow-up to that, we just had a question come in. Someone would like to know if the parents were asked if an educational professional ever told them that their child had a mental health disorder, or if it was some sort of self-report. And, with that, do you think that that means the data is an underestimate?

## **Reem Ghandour – HRSA/MCHB – Public Health Analyst**

Let me just clarify. Are they asking about the child's mental health?

## **Gretchen Noonan – DataSpeak – Moderator**

The child's mental health, sorry.

## **Reem Ghandour – HRSA/MCHB – Public Health Analyst**

Okay. The question is, has a doctor or other healthcare professional. Yes, it is possible, depending on how the parent interpreted that, that we aren't necessarily capturing kids where, you know, somebody at the school told them that their child has this. So we're really focusing on – the questions really focus on healthcare professionals.

## **Gretchen Noonan – DataSpeak – Moderator**

Great. Thank you. Shea, do we have a question on the phone?

Operator

Our next question comes from Monica Harris from the Institute for Child Health Policy.

## **Monica Harris – Institute for Child Health Policy**

Yes. We had a question for Dr. Ghandour about the national health survey. Did you interview only the parents of children, or did you also include foster children?

## **Reem Ghandour – HRSA/MCHB – Public Health Analyst**

That's a good question, and this, I'm actually not sure what the percentage is, but it's a telephone survey, household survey, so essentially whoever is the parent, guardian, or caregiver at the household who knows the most about the child's health served as the respondent. So it did not have to be a biologic relationship or anything like that. It was whoever in the household was going to answer questions about the child.

Monica Harris – Institute for Child Health Policy

Okay, so you were unable to determine then the relationship between the child and the person answering the questions.

## **Reem Ghandour – HRSA/MCHB – Public Health Analyst**

**That information is available. I didn't sort of look at that specifically in my analyses.**

Monica Harris – Institute for Child Health Policy

Thank you very much.

### **Gretchen Noonan – DataSpeak – Moderator**

Thank you, Reem. Shea, do we have anyone else on the phone?

Operator

No one else at this time.

### **Gretchen Noonan – DataSpeak – Moderator**

Okay. We have a question that I think Jim touched upon in one of his answers. Jim, someone asked how much the lower rates of autism – excuse me. It says lower, but I thought it was higher rates of autism among African American youth might reflect the lack of access to care, and I think you did touch upon that, but if you could be a little bit more specific to that question.

### **Jim Perrin – Harvard Medical School – Professor of Pediatrics**

Sure. Well, I think that to get the diagnosis of autism made really accurately, you need a pretty extensive evaluation. Indeed, I think we know that many neurodevelopmental centers have incredibly long waiting lists for children to get this diagnosis appropriately, and I think there is some real difficulty, especially for poorer families and families of color, getting access to many of these services. I think that's a really big issue that we need to address.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. A related question, which you might answer, or anyone can chime in. Someone asked if there's any data showing whether the availability of mental health resources might account for differences in treatment. Does anyone know if that data exists? No. No one wants to take that one. Well, that's something we can think about. We go ahead and, any of the questions that aren't answered today, we do have the presenters answer over e-mail, and we post it to the Web site, so we can think about that one and come up with an answer for that.

Jane, I have a question for you here. Someone asked if a model of care where primary and mental healthcare are integrated works well, and I think that's certainly something you can speak to considering.

### **Jane Foy – Wake Forest University School of Medicine – Professor of Pediatrics**

I'm really impressed with the potential of these models. We're seeing them spread in our part of the country in North Carolina. They do a number of things. They reduce the stigma for the family. They create closer collaboration between the primary care clinician and the mental health professional. And there is a growing amount of evidence to say that not only is provider and patient satisfaction greater, but folks are more likely to get the services they need in that circumstance. So I'm very encouraged by

the success of these models and hope to get more information out to folks about how to successfully implement them.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. While I have you, I had another question here. Someone asks, what type of screening would be recommended in a primary care setting, given the short timeframe that most visits occur? It says, is there a universal screening tool similar to the Edinburgh that's used for post-partum depression?

### **Jane Foy – Wake Forest University School of Medicine – Professor of Pediatrics**

There are some screening tools that can be used at different ages during a childhood and during adolescence. There's a tool, for example, called Pediatric Screening, the PSC, the Pediatric Symptom Checklist. And there is also a strengths and difficulties questionnaire, and SDQ that can be used for children from about the age of four up.

Primary care practices are very hectic places to introduce new producers, new screening tests. But lots of folks are beginning to do these in advance of the visit, either by computer, by questionnaires mailed in advance to the family, or even in the waiting room. In these ways, they are finding that routine screening can be incorporated into the primary care visit and can be a very effective way to identify those who have occults, problems.

### **Gretchen Noonan – DataSpeak – Moderator**

Thank you, Jane. Shea, I understand that we have another question on the telephone.

Operator

Yes. Our next question comes from Zira Alsabera from Ohio Department of Health.

Zira Alsabera – Ohio Department of Health

Yes. Hello. I found this a very interesting presentation. I heard recently on the, well, it was the late news, and I hadn't had a chance to look thoroughly at it yet. But there was some correlation with a mother's age and autism. Could you speak a little bit on that?

### **Jim Perrin – Harvard Medical School – Professor of Pediatrics**

I have actually not seen the report myself, I have to admit, so I haven't read the actual data here. This was a report that in fact shows that moms who were substantially older had a substantially higher rate of autism than did younger mothers. One of the things we do know is that children who are in multiple births, triplets for example, have higher rates of autism than do singleton births. And, of course, as you may know with ... technology, that is more common now among older mothers. I'm looking forward to reading the actual report on this to see if that flows from this variation in parity or numbers of babies in the mother who delivers at the same time.

Zira Alsabera – Ohio Department of Health

Thank you.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. Thank you, Jim. I'd just like to mention that our presenters were kind enough to agree to stay on for a few extra minutes to address some of the unanswered questions that we have here, so anyone in the audience that can stay with us, we'd love to have you. Jim, while we have you on, someone asked whether – you spoke about the loss of an autism diagnosis, and they'd like to know a little more about whether that means a child grew out of it or if it has something to do with the diagnosis or treatment that they're receiving.

### **Jim Perrin – Harvard Medical School – Professor of Pediatrics**

A couple things about that: One is, we actually don't think the child typically or commonly grows out of this diagnosis. In fact, a number of children who had this diagnosis at one time now have diagnoses of other neurodevelopmental problems, but maybe not autism at this point. It may reflect, to a degree, the real difficulties in making a diagnosis accurately, say, in the child who is 18 months of age. We can do it, but, frankly, it's very, very difficult to do it really accurately at that age. That's one thing that may be going on here that reflects that. The other, as I said, is that many children have other conditions that become more apparent as they get a bit older, and that's part of where children are so-called losing this diagnosis. Very few of these are kids who actually, shall we say, grew out of the condition and became children who had no apparent neurodevelopmental problem.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. Thank you. Jane, if we could turn to you for a moment, we've had a few questions about the shortage of mental health professionals, and one question here says, is there any consideration in the industry to add individuals with a social work, the psychology background to help with this shortage of mental health workers? They noted that it may be a lower cost alternative, and that these people could conduct a basic level of assistance.

### **Jane Foy – Wake Forest University School of Medicine – Professor of Pediatrics**

Well, I would include them in my definition of mental health providers, so I'm a little bit confused by the question. But, for example, in many of the integrated models that I mentioned, a licensed clinical social worker or a licensed psychologist would integrate into the primary care practice and deliver services. These folks might also be in community practice, or they might be a part of a health system or hospital system. So there are many ways in which we are drawing on our folks with social work and psychology backgrounds already. Let me know if there is some other element to the person's question. The bottom line is that there are simply insufficient numbers of folks, and particularly folks with pediatric expertise and expertise in the care of young children, and the diet of mother and child that is so critical to treating very young folks with emotional difficulties.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. Thank you. We have another question here for you, Jane, while you're ready to talk. Someone asked here. Actually, they stated that in some communities, especially, for instance, refugees or immigrants, that mental health isn't really taken seriously in general as a health condition, but rather, a childhood phase. And they're wondering if you have any thoughts about that and what the public health community might be able to do to help shift that thinking.

### **Jane Foy – Wake Forest University School of Medicine – Professor of Pediatrics**

Well, I think there are very striking cultural differences in the ways folks view mental health, and I don't think it's necessarily a matter of conversion to our way of thinking, but rather to understand the frame in which that family and that culture sees the difficulties the child is having. I would not worry so much about labeling, but rather extending the kind of help and support that seems relevant to that particular family.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. Thank you. Reem, are you still with us?

### **Reem Ghandour – HRSA/MCHB – Public Health Analyst**

Yes, ma'am.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. I have a couple quick questions for you here. Some of them are about the National Survey of Children's Health, so I'm not sure exactly how well we'll be able to address them here. But like I said before, we can always ... answer the question and post it to the Web site. But one of them is wondering whether it's possible to do the analysis on mental health for children who are under six using the National Survey of Children's Health, and especially at the state level with a small sample size.

### **Reem Ghandour – HRSA/MCHB – Public Health Analyst**

You can. One of the reasons I limit it to the school aged kids is that a lot of the responses are missing for kids who are in the zero to six range. So it's not that you can't include them in the analyses, but I just found that I was just coming up with lots of missing, and it wasn't necessarily giving me the strongest estimate. So it's possible, but may be challenging.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. Sort of as a follow-up question here, someone wanted to know if, I'm not sure ... but this is a good question, whether for the next round of the National Survey of Children's Health, whether children

are being considered as respondents and if they have any additional specific child mental health indicators that are currently under consideration?

### **Jane Foy – Wake Forest University School of Medicine – Professor of Pediatrics**

In answer to the first question, to my knowledge, parents and caregivers will remain the respondents. There are a lot of issues in terms of having children be respondents, as I'm sure folks listening in know, so just in terms of getting permission to talk to kids. I think, for now, we are sticking with parents and caregivers being the respondents. And, as far as additional questions, we're actually in the process of planning for the next survey, and we were supposed to have a meeting on Monday. For those of you watching the news, you know Washington has been under—

### **Gretchen Noonan – DataSpeak – Moderator**

Paralyzed.

### **Jane Foy – Wake Forest University School of Medicine – Professor of Pediatrics**

Yes. Snow-mageddon, I think, is my favorite word for it. So I think that's certainly under consideration. It's hard to get into some of the specifics of it, but we know this is an issue that's really important to parents, to clinicians, and to kids, and so we want to make sure we do the best job of addressing it in the next survey.

That said, you know, it's very nice to have comparability from survey-to-survey, so we may not change things a lot, and so there's really a balance there between making sure we can provide consistent estimates across surveys, but then also get at some greater detail, and so we're really weighing all of that.

### **Gretchen Noonan – DataSpeak – Moderator**

Great. Thank you. I think we have time. I think everyone agreed to stay an extra ten minutes, so we have time for one or two more questions. Here's an interesting one, and I'm not sure whether it was intended for Jim or whether it was for you, Jane. But someone asked what has been done in Massachusetts in particular to increase child psychiatric consultations. I don't know if there's....

### **Jane Foy – Wake Forest University School of Medicine – Professor of Pediatrics**

Yes. I mentioned that in my presentation. I'd be happy to take this. Jim is actually from Massachusetts.

### **Gretchen Noonan – DataSpeak – Moderator**

Right. That was my confusion. Yes.

## **Jane Foy – Wake Forest University School of Medicine – Professor of Pediatrics**

What's happened in Massachusetts is they have divided the state into regions. Each region has a full-time equivalent child psychiatrist who is partnered with a social worker and another sort of care coordinator type of person, as far as I understand it. This team supports the primary care clinicians in that region, as they care for children with mental health problems. In this way, they've been able to greatly increase the confidence and comfort of physicians, as they manage these issues in primary care. It is a very cost efficient method compared with having each child go individually to that psychiatrist. A psychiatrist might relate to this whole cluster of physicians, and might also provide education to the practice and other sources of support and referral. Jim, you have other insights about that, the way that's working in Massachusetts?

## **Jim Perrin – Harvard Medical School – Professor of Pediatrics**

Just to say that it's really been great. It really means that those of us in primary care, if we have a child in our office, and we sort of want to check out, is our treatment of this kid quite right, or how could we sort of improve her psycho ... management. We can get someone to help say, you know, you're really fine, or you might change in this particular way. It's made the primary care community feel much more confident in what they're doing in the management of depression and the management of ADHD, and so forth.

It's also been available, so if I have a child in my office that's 15 years old, and has got bangs over his eyes, and isn't really making eye contact, it's really hard in an office visit to do the kind of in-depth interview to let me know if this child is depressed or if this child has got something else going on. They will actually take on this child, not for ongoing care, but to interview this child for one time or two times, and then make an appropriate disposition. So it's an incredible value to the primary care community and let's us do our jobs much more efficiently and also makes the primary care doctor feel far more confident and comfortable in knowing what he can do and where he or she can get some help.

## **Jane Foy – Wake Forest University School of Medicine – Professor of Pediatrics**

My understanding is that it's funded with state dollars, and it's available to any child regardless of insurance status.

## **Jim Perrin – Harvard Medical School – Professor of Pediatrics**

Right. It's really funded through our Medicaid program, but it's not limited to children insured by Medicaid. It's a great program.

## **Gretchen Noonan – DataSpeak – Moderator**

Great. Thank you. I definitely think that answers their question. They said they were interested in finding out about models that can really maximize the reach of a limited number of providers, so I think that they'll really enjoy that information.

I'm afraid that we are well over time today, so we'll have to wrap things up. I'd like to thank everyone, our presenters, and everyone in our audience who stayed on today. If you think of any more questions, you can e-mail them to us through the end of this week using the e-mail [mchirc@altarum.org](mailto:mchirc@altarum.org). That's on your slide there. We'll respond to the questions as soon as we can. We will archive them on the DataSpeak Web site within the next week or so. Also, an archive of this entire program will be available on the Web site within the next few weeks, so you can access it at your convenience.

Before you go, we'd like you to know that we'll be broadcasting several more DataSpeak programs in upcoming months, and announcements about these will be sent out via e-mail to everyone who registered today, and we'll also post those on the DataSpeak Web site.

Finally, before you log out, we're really hoping that you'll take the time to provide us with feedback on today's program. You can click on the program evaluation link that's on your screen right now, and the survey will open up in a new window. Thank you for your feedback. Thank you for your time, and the program is now adjourned.

## About the MCHIRC

The Maternal and Child Health Information Resource Center (MCHIRC) is dedicated to the goal of helping MCH practitioners on the Federal, State, and local levels to improve their capacity to gather, analyze, and use data for planning and policymaking.

The MCHIRC is funded by the Maternal and Child Health Bureau's Office of Data and Program Development under the supervision of Gopal Singh, Ph.D. The Project Director is Renee Schwalberg, MPH.

The transcript can be found online at:

<http://www.mchb.hrsa.gov/mchirc/dataspeak/events/2010/0209/archive/QandA.html>

*March 5, 2010*