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Triumphs & Tribulations: Community Health Through Evidence-Based, Family-Centered Pediatric Care

DR. WARREN JOHNSON: Good afternoon. We're going to go ahead and get started. My name is Warren Johnson. I am a pediatrician. I'm the Chairman of Pediatrics at Swope Services in Kansas City, Missouri and I along with Angie Claussen from the Center for Disease Control and we're going to talk about community health through evidence based family center pediatric care.

First I just want to tell you a little bit about what I do. I work at this location right here which is the Swope Central which is the central site or main campus for a group of community health centers in the Kansas City area collectively known as Swope Health Services. At Swope Health Services we see approximately 45,000—we serve approximately 45,000 people. We have five clinic sites again with Swope Health Central being the main site. Many of the people that we serve come from very poor socio-economic situations. Approximately 18,000 of these people are children. The satellite clinics of Swope Health Services are family practice clinics so many of the children that we serve come to Swope Health Central. Many of these children do receive primary care, pediatric services thru us. However some of these children do not use us as their PCP but use other

services available at Swope Health Central which include behavioral health, dental, optometry, and we also have WIC located at Swope Health Central.

We have two pediatricians, a pediatric nurse practitioner, two LPN's, an RN clinic manager, four medical assistants and we have four Healthy Step specialists which I'll be talking more about a little bit later. A lot of the children that we see face significant challenges. Many of the children that we see are victims of physical abuse, neglect and sexual abuse. The most recent of these being a four month old child that I saw recently who was actually a patient of my partner's. My partner had been following this child very closely for failure to thrive. One day I saw this patient for a well child check because my partner was unable to make it in. I noticed that the baby was losing weight since the last visit and on physical exam the child had a very large liver. Because of the combination of weight loss and having a large liver I decided to go ahead and admit the child for further work up to our local children's hospital. They then—they informed me that they did an x-ray which showed multiple rib fractures. They went ahead and did a CT scan which showed multiple skull fractures. As far as I know the child is doing well but Social Services did get involved and unfortunately that's not an uncommon scenario in our patient population. As a result we have a lot of children who go from foster home to foster home. We also see a lot of children with asthma, a lot of children with obesity; I'm going to be talking about those in more detail just a little bit later.

We have a lot of teenagers who engage in very high risk sexual behaviors and they suffer—we see them for some of the consequences of their behaviors. A lot of the children that we see come to us on multiple psychotropic medications. They have psychiatric disorders that are being managed by psychiatrists and behavioral health clinics. A lot of the children have delayed immunizations, delayed well child checks, etc.

So as you can see we have children who definitely are facing a lot of challenges which also presents a lot of challenges to us as medical personnel. The challenge that we face with these children is how do we take care of the whole child when they're facing these types of complex issues and why is it important to take care of the whole child. Before I answer that let me explain to you what I mean by taking care of the whole child. Historically clinicians have practiced what's known as the traditional medical model of medicine. And the traditional medical model all it's focused on is if you just look at that circle with the word physical above it is just the physical aspect of a child's health. The bio-psychosocial model of medicine which is diagramed here teaches that you cannot separate a person's physical health from their emotional health and from their developmental and behavior health.

Each of these aspects of a person impacts the other. So the physical health of a child, the emotional health of a child and developmental and behavioral health of a child are all inter-related. You can't address one properly without addressing

the other. And this is what I mean when I say addressing the whole child. In addition to that though you also need to look at the child's family environment. Now this is a diagram that just shows some of the possible family influences in a child's world that can affect the child positively or negatively. So what we see here is that a family's physical health can affect the child. A family's emotional health can affect the child. A family's financial health can have an impact on the child. An example would be a child who has asthma. If the family smokes in the house the child is going to have a hard time doing well with their asthma.

Another example would be a mom who is depressed and there are a lot of new studies out there that show that maternal depression has a significant impact on the socio emotional development of a child. Another example would be if a child has parents who are obese, that child is more likely to be obese. If a child needs chronic medication and the family is struggling financially and they're trying to make a decision well do I get my child's medication or do I use the money to put food on the table then there is going to be significant problems there. So looking at the whole child and the family environment is important to properly address a child who comes to us as a clinician that's the only way to address them properly. Most pediatricians however are not doing this and one reason is because of time constraints. It's difficult to address a child's physical health and a child's emotional health and a child's developmental behavior health and then dig into what's going on in the family environment and assess the family's overall health in what usually amounts to a 15 minute period of time.

I can give another example when I first started working over at Swope approximately 6 ½ years ago I remember a child coming in for what is known as a 36 hour physical which for those of you who don't know, 36 hour physical is a physical that has to be done when the child is taken out of their home for whatever reason and is about to go into the foster care system. They have to have a physical within 36 hours of being taken out of the home. As a community health center we're obligated to do this no matter how busy our schedule. So I go into to see this young boy who had asthma and a number of other issues including what turned out was that when he was living with his mother, the reason why he got taken away from his mother is because his mother was really into drugs and dealing drugs and hung out with a lot of people who were dealing drugs and they thought it would be a good idea to use this little boy as a way to transport drugs from one place to another. As you can imagine these people are probably not the very nicest of people and they treated him very poorly. If he didn't do something exactly the way they wanted it done he was tortured basically. He was grabbed by the throat and strangled and choked or burned with cigarettes or whatever. And he is and I have 15 minutes to see him and then there's five other children waiting to be seen who also have a lot of problems. It can get very overwhelming and it's very easy in that type of situation to say I'm just going to take care of the medical part because that's all I have time to do.

Another reason why we as physicians don't—aren't able to address a child properly is basically because of lack of training. But I trained at Michigan State University which is one of the pioneers in terms of teaching the bio-physic social model of medicine. And even with the training that I had when I came to Swope Health Services and with the myriad of problems that the children are having I found it very difficult to properly address all those issues. And you know you can say why don't you have the child come back to address them later because a lot of times they don't come back. And so with me having the training and finding it difficult, a lot of other clinicians are not trained as to how to address all these issues with the child.

It was very frustrating for me because I wasn't practicing medicine the way I wanted to practice. You know we go into the medical profession especially wanting to work in the inner city area because we want to be able to provide the help that these children need and then going there just to find that it's so difficult to do that was very frustrating and I found that I was not satisfied with the type of care that I was giving so there was a dilemma for me. What I found was that the answer to a lot of these problems was actually right in front of me. As I mentioned we have a number of satellite clinics and at one of these satellite clinic there was a woman who was a Healthy Steps specialist who I didn't meet until the end of the year 2004. And it turned out that the Healthy Steps program was exactly what our clinic needed. And let me just talk to you a little bit about Healthy Steps and how all this worked out.

This is an overview of Healthy Steps and these diagrams probably look familiar but Healthy Steps is very much into accessing the whole child with a particular emphasis on the child's development. And there also is an emphasis on looking at the whole family and really establishing good rapport with the whole family so that really what's going on in the family environment is revealed during the child's visit to the clinic.

Healthy Steps began in 1995 as a result of a study funded by the Commonwealth Fund in a way to basically help physicians provide better care to patients.

Historically Healthy Steps access children ages zero to three with an emphasis on child development as I mentioned. It encouraged better rapport with families. I'm just going—I figured it would be easiest to kind of explain how this process works in the clinic. There's a couple of ways that you can incorporate Healthy Steps into your clinic. What we do is we have one of our Healthy Steps specialists doing a developmental assessment on child. So we have our Healthy Steps specialist come in, speak to the parent, get a nutritional history. Go over anticipatory guidance, safety, potty training, a wide variety of issues that a lot of times we as pediatricians don't have to address all those concerns and here she is again accessing this little baby who I believe is six months old.

Our Healthy Steps specialists also use standardized questionnaires that they give to the parents to get a good grasp on how the child is developing. After the

Healthy Steps specialist does her assessment then the physician comes in. That's me washing my hands getting ready to see the patient. And we talk to the Healthy Steps specialist a little bit to find out if there is any concerns and then we go ahead and do our physical examination. So what happened was shortly after I met this lady who worked at our satellite clinic who was a Healthy Step specialist, we fortunately got an appropriations thru Senator Kit Bond for our pediatrics clinic. And what we decided to do was go ahead and incorporate Healthy Steps into our clinic and we placed this person, Carol Detule as our Healthy Steps Specialist Coordinator. We decided even though traditionally at Healthy Steps these children ages zero to three, we decided to go thru age five.

We received this appropriations and under the auspices of the Center for Disease Control we went ahead and implemented a number of things which included family center well child care and we decided to place a real emphasis on chronic disease since we see so many children with asthma and obesity. So here's a diagram that shows some of the things that we did. Under family center well child care again we had focus on chronic disease prevention and management. Now as we got going with Healthy Steps and as this program progressed, what we found was there was a significant number of mothers who had post-partum depression. This is pretty alarming for me having worked there for five years at this point and really never doing any type of screen and seeing that many mothers with maternal depression was pretty eye opening.

Another pleasant surprise was the way the Healthy Steps specialists have so many links to the community to get the appropriate services for children when they came in. I'm going to talk about each of these in a little bit more detail starting with chronic disease management, going on to maternal depression and going into more detail about how we linked parents to community resources.

As I mentioned we see a lot of children with obesity. With this appropriation we started working with the Center for Disease Control and we started tracking the children that came in with obesity. We kept a database that we shared with the CDC. In this database we imputed data that included information about their dietary intake, fruits and vegetable intake, grains, pop, that sort of thing. How much physical activity they were getting? Sedentary activity, height, weight and the body mass index. Now some of the data that I'm about to show you occurred from October, 2005 to October 2006 so it's over a year period. And also I've had a little bit of problem with some of the slides so I'm going to be talking about some updated information here.

So first focusing on children ages two to five. When we do a BMI, body mass index we usually don't do it for children younger than age two. There were a couple of exceptions that we did have, that's why we indicated that. There was a range from about two years to five years. There were a couple of children, I believe one was a 12 or 15 month old who came in and she came in and she weighed about 58 or 59 pounds so we figured that we better track that child.

There was another one who was not my patient that I don't have the data on but a similar situation. We found out that there were no sex or race or no ethnicity differences among the children and there were 83 visits conducted over the year's period in this age group.

Some more interesting data. Because of the young age I would have that these children wouldn't have already been obese, that they would have been on their way to becoming obese. But when you look at the BMI what we do is if the body mass index is between the 85th and 95th percentile for their age they are considered at risk for being obese. And if it's above the 95th percentile they are considered to be obese. What we actually found is that there were more children who were obese and those who are at risk for being obese in this age group which is somewhat alarming. I don't know if we have—let me just back track a little bit here. As you can image, I don't have this slide that there was some significant risk factors. At least one family had—in 70 percent of the cases, at least one family member had some type of risk factor which included obesity, Type II Diabetes, heart disease, hypertension or high cholesterol. Fifty-four percent of these children who are obese in this age group had someone in the family who was obese and 63 percent had someone in the family with Type II Diabetes. Let me go to the next slide. I'm going to update this information in a little bit too. It was actually 74 percent reported more than two hours of physical activity. Thirty-five percent reported more than two hours of sedentary activity.

But the most alarming new information is that 65 percent of these children ate some type of fast food on a daily basis and 35 percent ate two or more serving on a daily basis. Forty-five percent drank soft drinks daily and 23 percent drank three or more soft drinks or juice or Kool-Aid on a daily basis and that's pretty alarming.

I just want to talk a little bit about the children ages six to eighteen that we accessed were obese. We saw 470 of these children and these children made up 606 obesity related visits. If you look at this slide again there were more of these children with a BMI that put them in the obese range then there were children with a BMI that put them at the at risk range. I want you to look at this number. Looking at the BMI mean which was 29.96 but the range was 17 to 83.5. That child—when I was doing this and I saw that I had to pull out the chart to see did we really have a child with a BMI of 83.5. We really did, a 16 year old male, 5'3" weighed 461 lbs. So you can see from the previous slides, those habits are starting early and that's a result of what happens if those aren't addressed early. We also kept track of our asthma patients and we kept a data base with a tracking form which included how many days per week the child was having symptoms. How many nights per month? How many ER visits in the past three months? How much missed school in the past three months which helps us assess the severity of the child's asthma which helps us to appropriately treat the child.

Ages zero to five we had approximately 248 visits during the study period. One hundred and twenty children reported having daytime symptoms during the week. One hundred and thirty-four had at least one night a month where they had problems with their asthma. Sixty-seven had ER visits in the past three months. Forty-two missed school or daycare in the past three months.

Anticipatory guidance basically we're giving these children asthma action plans to help to better control their asthma. I know at one point it seemed like there was an ambulance at our clinic every day. That's probably a little bit of an exaggeration but not much. Every day taking a child to the ER because of an asthma exacerbation. And what we found when doing the study and making sure that these children were getting their asthma action plans that at least during this time period that 33 percent had no visits for asthma flare-ups which again for our patient population is a pretty good number.

Real quickly, children ages 6 to 18 with asthma there were 407 of them and they made up—they had 609 total visits. I have a little bit of updated information on this slide too but as I mentioned I was really surprised to find the number of moms that we saw that had post-partum depression. Now when a mother brings in a child for their newborn visit, for their one month or two month old well child check, the Healthy Steps specialist will administer the Edinburgh Post-Partum Depression Screen when they bring the children in. If a mother has a positive screen, we have a social worker who works with our behavioral health department who is able to get appropriate services for the mother. We've had a

couple of moms who actually had to be admitted because they had serious thoughts about harming their children or serious thoughts about harming themselves. We actually had 379 mothers who were screened. There were 736 screens performed and 59 out of the 379 mothers were diagnosed as being depressed which is 15.6 percent. And that was pretty sobering for me again to think that for five years I was practicing medicine and missing these moms because we know that there is a significant impact on a child's emotional health and behavioral health when a mom is suffering from depression and it is not being addressed. That was actually a pretty scary number for me to see.

In terms of linking parents to community resources, as I mentioned we have behavioral health clinic at Swope and so our Healthy Steps specialists are able to help us get children and parents to our behavioral health clinic if necessary. We also identified a lot more children with developmental delay using the Healthy Steps program. Some of these children needed to be referred to Head Start, to the developmental clinic at the local children's hospital, school district for special education, First Steps and that type of thing.

And so some new things we have on the horizon. What we want to do with Healthy Steps is extended it into we have OB/GYN at Swope. So we want to have our Healthy Steps specialists, at least one working in pediatrics but also in our OB/GYN clinic to start doing some prenatal assessments and really start educating moms before the baby is actually born. So we're really excited about

that. We're also anticipating getting a nutritionist in our clinic to help address obesity and we'll be working with the local children's hospital to actually come up—as I mentioned we do asthma action plans. We're now going to develop what's called obesity action plans to help with the problem of obesity. We want to have one of our Healthy Steps specialists trained as a liaison to Behavior Health so that if we do identify a mother who has post-partum depression, the Healthy Steps specialist would have the training to know exactly what type of resources to get for that mom.

Another thing we see a lot of is ADHD and so we're going to start focusing on that too so we're excited about the potential that we have for using Healthy Steps in our clinic. I can honestly say it has a tremendous impact not only on the families but on the clinic itself. As I mentioned, when you go into the medical profession and you want to work in an inner city clinic your heart has to serve the children the best way you can and for a while it just felt like we were hitting our heads against the wall because it's so hard to address all the issues that come up. But since we were able to incorporate a program like healthy steps into our clinic not only are the patients happier but as a staff it seems like we're happier because we're able to better do what we really want to do and so we're very thankful for that.