

Seminars on Adolescent Health: Nutrition and Physical Activity, Part I (Webcast Date July 30th, 2003)

>> **TRINA ANGLIN:** Welcome to the Maternal and Child Health Bureau, Office of Adolescent Health webcast. Nutrition and physical activity. Part 1. This webcast is the third in a series of four seminars on adolescent health. The topics were selected in consultation with the state adolescent health coordinators. This webcast gives you a foundation and the current status of youth obesity in this country and will highlight the important roles of schools in promoting healthy eating and physical activity. Technical support for the webcast is provided by the center for the advancement of education. From the University of Illinois at Chicago. And I'm and from the Office of adolescent health that will serve as moderator. Before I introduce the panel, I'll like to review technical information. You'll see Power Point slides on the computer screens and hear the voices of the panel. Slides will appear in the central window and should advance automatically. The slide changes are synchronized with the speakers' presentations. You don't need to do anything to advance the slides. You may need to adjust the timing of the slide changes to match the audio by moving the slide delay control at the top of the messaging window. We encourage you to ask the speakers questions at any time during the presentation. Simply type your question in the white message window on the right of the interface. Select question for speaker, from the drop down menu and hit "send." Please include your state or organization in your message so we know from where you are participating. The questions will be relayed to the moderator, periodically, throughout this broadcast. The panel will respond to your questions during the discussion period, which follows the 3 presentations.

If we don't have the opportunity to respond to your question during the broadcast, we will e-mail you an answer afterwards.

And again, we encourage you to submit questions at any time during the broadcast.

On the left of the interface is the audio control. You can adjust the volume of the audio using the volume control slider, which you can access by clicking on the loudspeaker icon.

Those of you who selected accessibility features when you registered will see text captioning underneath the audio control window. At the end of the broadcast, the interface will close automatically, and you'll have the opportunity to fill out an on line evaluation. Please take a couple of minutes to do so. Your responses will help us to plan future broadcasts in this series and improve our technical support. So at this time, we are ready to roll.

Our first speaker is Dr. Steve Gortmaker, who is professor of health and social behavior at the Harvard school of public health. He is also the director of the Harvard prevention research center, a nutrition -- on nutrition and physical activity, funded by the CDC. Dr. Gortmaker will discuss obesity among youth in the United States. Causes and prevention. Remember you can type in questions at any time during his presentation. Dr. Gortmaker?

>> **STEVE GORTMAKER:** Good afternoon. For an overview, what I want to talk about today is just a brief view of the magnitude and growth of the obesity epidemic. I want to talk a bit about the fundamental causes of the epidemic and talk about in some ways the big picture, why the industry is generating the epidemic and find it in their interest to continue their work. I'll be more specific about this later. The basic problem that we are looking at of course is that oh best tea is increasing rapidly among children, youth and adults in the United States. Sometimes it's forgotten that these increases are found in all regions of the United States -- in all regions of the United States, urban, rural, both sexes, all ethnic groups and rich and poor. An epidemic that is affecting us all. You have probably seen these slides by state from the behavioral risk factor system among adults. And I'm just going to go through them rapidly. Basically, on the map of the United States, you look for the states where things turn dark blue or red and it just shows the increasing epidemic of those states where there is a high prevalence of oh best tea. If we go through the years, 1990, '91, '92, '93, '4, '5. '96, '7, '8, '9, 2000, basically see here then in a brief span of one decade oh best tea has just rapidly increased in all parts of the United States. It looks like Colorado is holding out at a little lower rate, but -- I'm told by folks there that they now jumped into the higher rates, also irrelevant.

Also. If we look at data specifically focused on children, these are data from the national health examination surveys and the Hanes survey, we see rapidly increasing overweight among boys and girls, this is at risk of overweight among boys and girls. An increasing ethnic disparities over particularly again over the last decade.

Oh best tea is increasing quite rapidly. Now, what are the causes of this epidemic? I think an important issue or a couple of important obesity fundamentals have to do with clearly it's caused by excess energy intake over expenditure. That is clear. What makes it difficult from a science perspective is that the daily imbalance that we are talking about is on average quite small. I think James Hill from Colorado has noted that the epidemic in the United States seems to be driven by about 100 calories a day excess. Basically, about the equivalent of a small can of sugar sweet beverage. Lots of small seemingly inconsequential acts seem to add to obesity over time.

So when you gain fat cells in childhood and ad less accepts, you don't lose them. So we tend to ratchet up and our bodies find it difficult to lose weight.

The other important oh piece tea issue here is the obesity issue here is the behaviors are influenced strongly by their context. And I'll talk more about that later.

The important issue, if we look at the overall picture of energy intake and energy expenditure is that we have one important force here, and that is the food producers and the fast food industry, their goal as an industry, and they are not bad people, they are just trying to do their job, their goal is to, if they are successful, is to help us all eat more for less money. And I think it's clear they have been quite successful at that.

The growth of the fast food industry, and increasing portion size, make it easy for children and youth to over eat. Here is a picture of a McDonald's dollar menu, it's amazing how many calories now you can get for a dollar. And quickly, in just a few minutes.

I love this quote from some of our colleagues over at children's hospital here. C. Ebling and Dave, they note that a large fast food meal, it could contain about 2200 calories, which would require a full marathon for a child to burn off. And I think this is where we are at today. The over sizing, the success of the food industry which just allows us to consume tons of calories and we don't really have a chance to burn it off.

New, one of the areas where we have done some research, and I think is substantial contributor to the epidemic is in the area of sugar sweet enid beverages among children. We had a study a couple years ago now showing a direct relationship between the consumption of soft drifts, sugar sweetened beverages, and obesity, both change in BMI and incidence of oh piece tea in a sample of youth over time. The slide says soft drink consumption, but it consists of any sugar sweetened beverage, things like sodas as well as drinks that might be called food drinks, but are mainly sugar, and just a small amount of juice, as well as things like lemonade and fruit punch and ice tea or sweetened ice tea.

This next chart shows the substantial increases over the last 30 years in the intake of soda among children. And the decline in the intake of milk. It seems that sugar sweetened beverages just displaced milk as one of the beverages in kids' diets. You have calories replacing more nutritious beverages.

A second really important force is the industry's television, film production industries, that really are encouraging sedentary behavior in kids' lives, sit, watching video screens. Again, the goal of this industry has been to, all kids at the margin, to spend more time being inactive. Watching. And I think they have been successful. There is clear evidence of that.

The way in which television viewing affects the epidemic though is really a dual role. How can television cause obesity? Well, through two mechanisms, and I'll give some evidence and some notions of how this operates. Through two mechanisms. One is just the inactivity of sitting. If kids are spending 3 and a half hours a day on average, that is a substantial amount of their discretionary time when they could potentially be more active and they are just being sedentary.

But on the other hand, television is a major source of advertising for food. So, it very likely affects dietary intake, too, and we have direct evidence of this.

There is lots of evidence of the impact of television viewing on obesity, probably more than any other single behavioral risk factor. First of all, we have epidemiological data. There are 13 studies in the United States, both cross-sectional and longitudinal observational studies and nine studies in our country, showing relationships between television viewing and obesity. The next slide shows two studies that we conducted. One from 1967-70. Those show the direct relationship between TV viewing and obesity and the other from 1990, showing a steeper slope related TV viewing and obesity among kids.

And in these studies, we are able to control a lot of potential of potentially confounding variables and both were longitudinal studies. So we have lots of observational data.

In addition, we have randomized control trials showing evidence for the of television viewing on obesity.

Probably the most well controlled one is one that Tom Robinson did in the primary grades, where he found substantial impact on the mean BMI. The only thing he focused on there was changing television viewing. He found affects on reduced violence. Observed violence in playgrounds. And also with reductions in TV time of also reduced requests for gifts. Like Christmas gifts.

The effects of TV are wide ranging.

There are a couple of really well done clinical interventions by Epstein's group focusing on the treatment of children and youth which shows substantial impact on these interventions on reducing overweight of these children and reducing inactivity is a substantial component of the intervention.

There is also a new article which I didn't list which is a randomized control trial that just examines the impact of increasing television viewing time on kids' dietary intake, and activity levels. And in that study, which I suppose you could question how ethical it was, but he randomly assigned kids to watch more TV. About an hour and a half more a day and found an increase in calories, about a couple hundred calories a day and a decline in activity, about 100 K cals, 100 calories a day. Those are interesting randomized control trials.

The final school based intervention is middle school intervention, which is one that we conducted, where we found reductions in obesity among girls in this study with the intervention and found that the affect was mediated by the reduction in television viewing, and I'll talk more about that.

That is our planet health study, which is now a published curriculum by kinetics press.

The goals were four behavioral targets, to reduce television viewing, decrease consumption of high saturated fat foods. Increase physical activity, increase consumption of fruits and vegetables. The effects of planet health as I mentioned, we found reductions in obesity among girls. Found substantial reductions in TV viewing among both boys and girls. Among girls for each hour of reduction of TV, we found reduced obesity. And he odds ratio there is about the same one that we found in our longitudinal observational study.

We found increases in other words, the girls in the control schools increased their energy intake over time. But, the girls in the intervention schools increased less.

When we examined this intervention impact by schools, for girls we found evidence for intervention impact in four of the five schools. If we could drop the one ineffective school site, we got a larger effect than the other schools. And among males, if we could drop this one school, we got an effect overall in reduction of obesity among males. Of course, when we published our original article we didn't drop that one school. But it's just one of those things that I think it's useful for people to see.

We actually found the largest impact of the intervention among African-American girls, a very substantial drop in obesity among that population. We also, in a subsequent study that one of our colleagues here at children's hospital, he presented this as an abstract and it will come out as an article. It was found that among girls in the intervention schools, they had a lower incident of disordered eating behaviors. In other words, among non-dieting girls, the onset of disordered eating was 11 times more likely than in the controlled schools. So that is another I think positive effect of the intervention. Very likely we got the effects because the planet health intervention never focused on obesity per se, but rather just on healthy eating and reducing TV time and becoming more active.

So, getting back to our big theme here, our important forces, the food producers, television and video film production industry and advertisers, all these forces on the one hand the food producers are at the margin, trying to get everybody, all our kids, to consume more at lower cost and they are doing that. And the TV and video film production distribution industry, they are getting us to spend more time being sedentary and being exposed to the advertising that is driving both of these industries. Ultimately, I think these are the industries that are responsible for the epidemic. And I think to think that kids can just ignore this broader environment and be successful at resisting all this advertising, I don't know if you have young kids, but I have an 8 and a half year old kid, and I'm astounded that even though they watch very little television, they are still saturated with Ads. I mean all the free animals and the tie-ins with music and movies, the advertising is just astounding. So these industries have been very successful and they will continue to be so.

The consequences of the obesity epidemic for kids in many ways is profound. There is clear evidence for increasing risk of cardiovascular, diabetes and other things. It affects every organ system. The frightening part is we don't know the magnitude of these effects. Never before have our children and youth been so overweight and we really don't understand all the consequences for adults, either. You probably saw a recent report just a couple months ago, an article in the New England journal, citing the substantial relationship between obesity in adults and incidents of cancer. And this was taken as kind of new evidence, have been though that evidence has been around for a while, I think that people really haven't understood how obesity will affect so many outcomes, so many health outcomes and yet we really don't know right now the impact.

One of the things that is happening, however, is that the growing relative weight of the US population has other consequences beyond these strictly health outcomes, like morbidity, mortality and quality of life, actually a major quality of life issue is just a loss of work. And then discrimination in the labor market and other areas of life. But other things are happening. The need for larger clothes, cars, seats and public transportations, home furnishings. One thing that I don't think has been talked about enough is the fact that individuals who are larger have a higher need for food intake to sustain weight given the physical activity. And thus what is happening with the food industries over feeding of the population is in some ways they are just growing a larger market.

Can the epidemic be halted? Well, I think it can. But it is going to require, really, very broad and multifaceted approaches. We can't just say to our young children, kids: Well, just, you know, eat a little less. I think we have to help them and make sure they have healthy environments in which to eat and healthy choices. And to tell you the truth, that is not happening. We don't have much evidence for the efficacy of treatment of obesity, that is true. So we really have to think about prevention and primary prevention among kids. And I think the fundamental problem that we have to come to grips with is that the causes of the epidemic are rooted in the success of the food, television, video game and advertising industries and the fact that these industries are unlikely to change, I guess why should they when they can make money and continue to increase the size of their market?

Well, what are the first steps? There is a nice article in the Lancet that some colleagues put together and at the end of the article they provide commonsense ideas for prevention and treatment of childhood obesity. If we think about the prevention side, there are simple things that families do, set aside time for healthy meals, physical activity. Parents can be good role models. Limit television viewing. The simplest piece of advice for any parents is not to put a TV set in the room where kids sleep. This adds about an hour of TV viewing a day. 60 percent of kids in the United States, who are about age or grade 5 and above have a TV set in their room. And this is something that is unnecessary.

There are a variety of things that we can do in schools and we will hear about these from some of the other folks on the webcast alleges later. We don't have much evidence for effects of changes in urban design, but I think these should be part of our discussion. And of course, we have to think seriously about what we can do in terms of limiting the influence of marketing to young kids.

Those -- that would be high on my list of priorities of things I'd like to get us to talk about. But I think that's about the end of my talk. And so we can bring our moderator in at this point. And thank R thank you --

>> **TRINA ANGLIN:** Thank you for your excellent presentation. Our second panelist is Bonnie Spear, associate professor of pediatrics at the University of Alabama at Birmingham. She serves as nutrition faculty for leadership education and adolescent health and plays a key leadership role in the American dietetic associations project in the partners for program planning for adolescent health initiative. Both programs are funded by the maternal and child health bureau. Bonnie will discuss programs, interventions and resources. Remember that you can type in questions at any time during her presentation. Bonnie?

>> **BONNIE SPEAR:** Thank you. Dr. Gortmaker gave an overview of obesity epidemic focusing on the environmental factors affecting the problem. I want to focus on existing problem, interventions and resources of programs that are already trying to address the problem. All of these programs have outcome data that were published and materials that are available for others to implement these projects.

Let's first focus on schools. The school environment is recognized as having a powerful influence on students' eating behavior. Reimbursable school meals offered through the USDA school lunch program must meet federal guidelines. But competitive food served outside the cafeteria, such as vending machines, have no guidelines. A recent study demonstrated a negative and adverse association between physical factors in the school environment, such as the a la carte program, snack vending machine, being served daily to students and the students consumption of fruit, vegetables and dietary fat. Interestingly enough, they found that the beverage vending machines were not a significant correlate of any dietary behaviors studied. That concluded that the school environment and the influence on dietary behavior extended beyond the school lunchroom. Students are exposed to food throughout the school day, and this repeated exposure especially to less healthy foods is likely to influence food selections outside the school as well.

I want to briefly mention some of the school health programs and policy data published in 2001. This was discussed in-depth in the next talk but I just want to hit a few of the facts addressing competitive foods. And in the 2000 data, nationwide, about 76 percent of high schools, 64 percent of middle schools and about 50 percent of elementary schools offer hamburgers, pizza and sandwiches at lunch. 22 percent of schools offered brand name fast foods as well.

Looking at the vending machine data, we found that 95 percent of high schools had -- high school students had access to soft drink and vending machines. Most of the audits including these vending were high in fat, sugar, sodium and quite energy dense.

Of interest, too, is that 50 percent of the districts surveyed actually contracted with soft drink companies, and of these that contracted, 79 actually received a percent of the profits, and 63 percent received cash or school supplies for their contracts.

Continuing on is that only about 20 percent of school districts actually required fruits and vegetables on the a la carte line. But the good news in high schools, is that 90 percent of high schools offered fruit or vegetables in the cafeteria. Others offered low-fat cookies, and other things as well, to offer a more healthy food choice.

We often -- you often hear from food service workers or from people in the schools, well, even if we offered healthy foods, the kids wouldn't eat it. All they want are French fries and Pizza. I'll examine the pricing strategy on fruits and vegetables in the high school setting. They looked at service of fruit, carrots. And they monitored that for 3 weeks and then reduced the price by 50 percent. The sales were monitored and then the prices were returned to the original price and sales were monitored again. And what they found out, was that the sale of fruit, when they dropped it to 50 percent discount, increased from about 14 to an after of 63 pieces of fruit sold. For the carrot sales, they went from 35 to 76, 77 packets sold.

And but there were no significant differences in the salad sales. The results of this showed that lower pricing for fruit and vegetables, with minimal promotion, there was not a lot of promotion, increased sales of these items among high school students. So again, if the price is right, maybe they will buy it.

What about the vending machines? There also were pricing strategies done in vending machines. They looked at low-fat foods, in the vending machines and identified them by orange dots. They didn't adjust what was in the vending machine, they just identified them. Low-fat, less than 3 grams per package. After 4 weeks, prices were reduced on the low-fat foods by 50 percent. During the price intervention phase, purchases of low-fat foods actually increased by 80 percent. From 25, almost 26 percent to almost 46 percent of total sales of the vending were from the low-fat.

Once the purchases returned to baseline, prices returned to the purchase -- the purchasing returned to normal. Results of this study showed that without affecting over all sales volume, the sales volume was identical, sales of low-fat foods from vending machines increased significantly when prices were lowered, in the absence of concurrent nutrition education.

But what are the problems with this type of pricing? Concerns about the financial feasibility and long-term sustainability of the price reduction strategy has prevented it from being widely adopted as a way to promote healthy food choices. Schools are basically concerned with providing healthy food choice, yet as a business operation, they must look at that as the bottom line. The pricing strategy that simultaneously raises prices on higher fat foods, but addresses the issue of long term financial sustainability. However, increased revenues from the small increase may or may not offset the revenues from the lower fat foods.

Ala cart and vending machine sales to students generate an important revenue stream for schools. Alternate funding must be found to identify and replace the student as a revenue generator and their health at risk within the environment of the schools.

Let's look at physical activity a bit. Nearly half of the Americans youth 12 to 21 do not have any vigorous physical activity on a regular basis. And we no that physical activity declines from childhood into adulthood.

Looking at the shift data again is that the requirement even for PE in school falls as grade increases. For example, first graders actually 51 percent are required to enroll in PE. And it drops to 5 percent by 12th grade.

The next slide shows the -- using the national child and youth fitness study and the youth risk behavior survey, it shows that once you hit 9th grade or high school, the number of kids enrolled in PE classes drops tremendously.

So let's look at some intervention programs. If we group school and community interventions together, because most of those fall into each other's -- most school interventions include the community. And community usually includes the schools. They tend to be culturally and linguistically sensitive. They incorporate values such as eating, physical activity, value, community and families. And they include a comprehensive curriculum focused on two of the follows, nutrition, school meals, health education, physical activity, sedentary activity, which is decreasing sedentary activity and behavior modifications.

Low cost to the participant, not necessarily low cost to the provider. Most of these are funded through research grants or through the federal government. They seem to be easily accessible, school or community-based and the keys are available to all youth. You don't stigmatize the overweight child because all youth are participating in the program. And as Dr. Gortmaker said, these are not totally related to obesity, but improving healthy behaviors.

School based programs in particular, from the results of those different programs that -- the results include reduction in hours of TV watched, increasing in the duration of physical activity. Decreasing of total fat and saturated fats. An increase in fruit and vegetable intakes, reduction in rate of increase of BMI percentile, but not necessarily just look at obesity. And a couple had improved blood lipid levels.

Community program based programs are a bit different in they address more the policy. They increase awareness of health risk of overweight and importance every healthy lifestyles, such as the policy to change school meals.

They look at environmental changes. More walking paths, bike line, sidewalks and increasing the availability of low-fat nutritious snacks in vending machines, and store, but again more of a policy change.

On this slide I listed many programs. There are many programs that we don't have time to talk about. But some of the highlighting programs that are available through the community. And if you look at this it addresses the grade level and whether they address physical activity or reducing sedentary behavior or both. And whether they look at food service, such as changing the service, the food service given to the children. Or nutrition education and behavior modification.

And as you can see, they are fairly comprehensive. The two programs, catch and pathways address the food service component. But everybody addressed behavior modification. Unfortunately, few programs exist solely for ad cents. But many programs target young children and families and the programs may impact the total families, including the adolescent members of the families.

Let's look at a couple of these a bit more specifically. The healthy start program was to evaluate the effects of nutrition education and food service intervention on cholesterol and fat intake in 3 to 4 year old children. They saw increases in blood cholesterol levels. And there was an increase in nutrition knowledge and health and a decrease in fat and saturated fat content in the preschool meals and snacks.

The goals for the Take 10 program were provide a curriculum that combines activity and academics and provides schools to K through 5 teachers to implement the program. And this just focused on physical activity. The 10-minute period or take ten is where the ten minutes comes from. They were integrated into the academic concept highlighted in the national core curriculum objective much the program is now used by more than 300 school districts in 32 states. An example would be the fourth and fifth graders learn multiplication tables through invisible jump rope. They acted like they jumped rope as they did multiplication. Results included reducing sedentary behaviors, integrated physical activity into the

classroom time and 75 percent of teachers felt this was an excellent addition to their classroom. The key is one year later, 60 to 80 percent of the teachers sustained this program within their classroom.

The next program is Pathways. The Pathway Project is a multi-centered program designed to implement a culturally appropriate school based intervention in grades 3 through 5 that promotes healthy eating and increased physical activity to prevent obesity in the Native American population.

The outcomes showed, besides introducing a close working relationship with school staff and education and travel authorities, they were able to introduce American Indian children to a have a variety of physical activities and a variety of different foods and they developed a series of four curriculum components. All are available on line at the website listed on this side.

-- on this slide.

Dr. Gortmaker presented the data to planet health so I'll not go over that. But, it is one of the few community programs that actually targets adolescents in general.

The next one is the Girls Health Enrichment Multi-site Program. And the goals were to reduce the risk of obesity and associated problems by developing family based and community-based programs. And they were able to increase over all levels of physical activity, increasing the consumption of fruit and vegetables and decreased high fat foods in their population.

But if we look at individual intervention programs, probably the leader or the person that was it in -- in it the longest was Len Epstein. He looked at 6 to 12 year olds, who were above the body weight and implemented a 6-month program of behavior modification to improve diet and physical activity. In the years follow-up, 34 percent had at least a 20 percent weight decrease from the original and 30 percent were not obese. That means they fell out of the obesity category. If you look at the table, you have the control group, which you have just regular care. Intervention with children only and intervention with children and parents. And a ten-year follow-up, the intervention of children and parents tended to have the most long-term results.

And these children were 6 to 12. We don't know if this data would hold up if you're talking about the older adolescent, which often don't want parents involved at all. But we know that intervention in families tends to make a difference.

If you look at group or individual programs, the key components to those are healthy eating, increasing physical activity, behavior modification, family based change, and the use of an interdisciplinary team. Here I listed several of the team members involved in some of the programs, but many others are also included.

The first program is shape down. The goal of shape down were to enhance self-esteem, adopt a healthy habit and normalize weight. The outcome basically was gradual weight loss through the program and then a ten year follow-up study with them also showed that it remains effective at ten years.

The next program is called kinder ship or kid shape. And the goals of these two programs were to increase awareness and promote a healthy lifestyle while building self-esteem for the entire family, with overweight or obese children. And there were two programs. Two, four week modules for 6 to 14 year olds, and six weeks for parents every 3 to 5 year olds. The outcome showed that the families lost weight and this includes all family member, not just the kids. And 80 percent kept it off for two years.

The next program is entitled committed to kids. It is an individualized approach to weight management conducted as an outpatient group setting. They have a fourteen-week session and you're classified as severe, moderate, mild or maintenance and you enter into the program depending on the severity of the obesity. It started just 6 to 18 years of age. And you can move along this continuum as you improve. You have ten weeks and then another ten weeks type of thing. and the outcomes showed a significant decrease in body weight, body fat and BMI. 62 percent of the people who complete the program, and at one year, 70 to 75 percent rate for success rates. And this is one of the higher ones for many of the programs.

Let's eat smart and exercise right. It's an 8-week program focusing on balanced diets, increase in physical activity, addressing emotional relationship with the family around weight, food and activity and it tends to be more dietician led. The outcome of this program showed significant decreases in skin folds and BMI. And a decrease in calorie and fat intakes over all.

We also need to look at programs based in primary care offices. There are few of these. I want to look at two programs and then two programs that are under developed. As we look at getting more and more research and more and more outcomes that we need to look in the primary care setting as well.

The first evaluative program is called healthy habits. It's an office initiated weight control program for adolescents. Computer assessment of behavior and guidance of change. The adolescent enters into the computer and runs through it and decides how they want to target the intervention. They meet with the physician to finalize all the plans. And then they have weekly calls with counselors and biweekly. So there is long-term intervention. But mainly done by phone instead of in the office.

And the next slide shows kind of 7 month follow-up. At baseline, the two subjects were equal. And you look at the physician care, normal physician care versus the intervention from healthy habits, you can see at 7 months there has been a significant loss in percent of overweight with the intervention.

The next program is pace place, and it's a computer based counseling in MD's office, targeting only four areas. Moderate physical activity, fruits and vegetable intakes and others. The adolescent does their own assessment and chooses the area they want to target for improving their overall health. Results showed that the individuals who used this system significantly improved their selected targeted behavior, more than the non-targeted behaviors. And it's highly rated by all participants as useful information. The physician gets a copy of what the targeted behaviors are of the adolescent and can reinforce these as well.

The next one is the 10,000 step program. This is not an adolescent program but I thought it's worth mentioning. It was developed by health partners, which is an insurance company based out of minimum so the tackle and what they were finding a lot of their members wanted some form of intervention to help reduce obesity. And so they targeted adults 35 to 50 who were interested in becoming more physical active. One of the components was the use of pedestrian other, meters. They have logs that the people kept and reminders. But we just want to talk about the pedestrian oh meter. The average steps were 2,000 to 4,000 steps a day for the average person. The moderately active were 5,000 to 7,000 a step. The results of their initial study showed that 69 increase in the number of steps -- 16 percent increased the number of steps in the first week. 31 reached their goal of 10,000 steps. But 50 percent who didn't reach that goal felt they -- for physical activity levels improved over this 8-week period.

There is a one other study that looks at the outcomes of use this 10,000 step and that was with diabetic patients. And they -- the goal was to increase rather than 10 -- the goal was to increase to 10,000 steps a day and many approached 19,000 steps a day. And the outcome of that, when activity was significant, weight, this was significant weight loss and improved insulin sensitivity in the patients that achieved greater than 10,000 steps a day. As far as I know, there are no outcome studies done using this in children. And 10,000 steps may or may not be the appropriate number for kids. What is their baseline and what do they need to reach and some of this has been -- is ongoing.

I do know that in programs that use this with adolescents, they tend to really enjoy the meter initially. But they get tired of it fairly quickly.

Let's look at two programs that are under development now. First is the pediatric research in office settings, sponsored by the American Academy of pediatrics. And the Kaiser aim for healthy weight. If you look at the Prose pilot data this is done in a pediatrician's office in a randomized control trial. It's targeting 3 to 7 year olds at risk for obesity and guidance about healthy activity and eating. This includes indoor and outdoor activity. Scheduled home cooked meals and snacks, healthy food and drink in the house. And they will look at two-year outcomes of changes in BMI percentile and changes in eating and activity behaviors of these children at 2 years out.

The next program is aimed for healthy weight and from the work of Kaiser offices in northern California and Georgia, they developed a method for assessing and managed behavior, called aim for healthy weight. First you advise all pediatric patients and parents, did daily physical activity, portion control and reducing sedentary time. This is short and brief messages.

Second goal is to identify children at risk or who are already overweight and -- by screening for the BMI beginning at 2 years of age. The third is motivate families at risk to make small changes by showing the child's BMI and the growth curve, educating regarding short and long-term complications and assessing readiness to change, exploring feelings of why they don't want to change, providing materials and referring them to a weight management program, if needed.

Both of these are in active research to determine if this type of approach will actually work.

What are we talking about future goals in healthcare programs? There needs to be evaluation and dissemination of program outcomes. You can see there is very limited. This includes short and long-term changes in BMI. Health behaviors, and emotional psychological function and change. Looking at the whole component of how kids do better. We have to match programs to patients. And matching -- making them readily available for many low income individuals, there are no programs available. And finally, help for the primary care provider. We need to -- programs that tend to work, increasing time available to the patients for these types of interventions, decreasing barriers and increasing reimbursement for counseling or intervention in the primary care setting.

Thank you.

>> **TRINA ANGLIN:** Thank you Dr. Bonnie Spear for that, really, outstanding overview.

Our third panelist, Dr. Howell Wechsler, chief of the research application branch, division of adolescent and school health at CDC. His presentation will ask you to the following question: How are the nation's schools doing in promoting physical activity and healthy eating? And remember, that you can type in questions at any time during his presentation.

>> **HOWELL WECHSLER:** Thank you, good afternoon everybody. As Bonnie and Steve so amply demonstrated, there are many components of our society that are integral to addressing the problem of physical activity and nutrition in adolescents. But clearly, schools are central to any efforts to promote healthy eating and a physically active lifestyle among adolescents. The schools are not the end all, they will not solve the problem on their own but they are an essential piece of the puzzle. And they are getting a lot of attention these days. So it's important to get a handle on what is going on in our schools and that is my job this afternoon, although we have a great Head Start with the information that Bonnie shared with you.

The information that we have is remarkable compared to what we had five, six years ago. But it's still fairly limited and we need to be aware of that. Because most of our data comes from surveys, not from observations. So we are lacking key aspects of what is going on in schools, such as the quality of health and physical education instruction, which you can really only get through observation.

Most of the data that I'm going to share with you comes from the SHPP study that Bonnie mentioned. That's SHPPS. School health policies and program study. We here at CDC conducted that study in the year 2000. And it's information on state policies in all the states and then a tremendous amount of information from nationally representative samples of school districts, schools, and then it tells us what is going on in the classroom for health education and physical education.

Go to the slide, we can get started with it. See what is going on for physical education. Healthy people, 2010 and a whole slew of other documents tell us that it's best for students from K through grade 12 to have daily sessions of physical education. But as you can see, that recommendation is not reflected in existing state mandates for physical education. But nearly all states require schools to offer some amount of physical education, there is only one state that requires daily physical education for all students from K to 12, while one other state requires daily PE for all students from grades K through 8. All the other states offer considerably less. Most require high school students to take only one year of physical education or less.

Slide 3 shows data from the SHPPS study which indicates how the percentage of schools that require physical education decline steadily as kids get older. So you see about half of schools require physical education for kids in each of their elementary school years and that drops to a quarter to a third of schools in the middle school years, and then the great majority of schools do not require physical education across the high school years.

The bottom line recommendation is daily physical education for all students and slide 4 shows that only 8 percent of elementary schools and only 6 percent of secondary schools are meeting this target.

The next slide shows some trends data. This is on trends in daily participation in physical education among high school students over the past decade. In 1991, 42 percent of high school students were in physical education class every day for at least one semester. But by 2001, it declined to 32 percent. There is some good news perhaps, promising news, in that most of this decline took place in the first half of the 1990s, and since 1995, participation in daily physical education has been inching back up

ever since that. We have other data that clearly indicates there has been a substantial drop in enrollment in physical education over the past two decades.

Besides the quality of physical education, we want to increase the quality of physical education classes. And we don't have data that allows us to make inferences about the quality of physical education instruction across the nation, but studies do show that the qualification of teachers is among the most important factors contributing to high quality physical education.

Slide 6 shows that required physical education courses are taught only by trained physical education teachers in about two-thirds of schools. Well, that is good. That means that inadequately trained people are running physical education classes in about one-third of our schools.

Beyond physical education, schools offer many other opportunities for physical activity. Including after school physical activity programs. Most promising are after school intramural activities and physical activity clubs, those are the programs that reach the children most at risk for physical inactivity. Those who will not try out for the interscholastic sports teams.

Nearly all secondary schools offer intra-class particular sports teams, but less than half offer club programs. And those that do offer those, very few provide transportation home, which makes it difficult for many students to participate. So you can leave the slide there, I'd like to just summarize the bottom line take home message here is that we know that the opportunities for our young people to participate in physical activity at school and to obtain skills from physical education classes, that can help them stay active for a lifetime have seriously declined in recent decades and are far below recommended levels. We don't have data on the quality of school physical activity programs, however I think that most experts would agree that while many students are still not exposed to quality physical education instruction, the field has made tremendous progress in recent years and there are a whole lot more high quality health and lifestyle oriented physical education programs than there were in previous decades. So we are improving step by step, but we have had some setbacks in quantity of time for physical education.

Let's move on to nutrition in slide number 8. There were tremendous changes in the school nutrition environment in recent years. Since 1996, federal regulations required that school lunches and breakfast meet the standards set forth in the US indict guidelines. The best information to date, with USDA school nutrition, dietary assessment study, number 2, they call it number two, because there was a previous one done. The more recent one was done in 1998, 199 school year and the first one was done in 91, 92 so we can compare. What we see in the more recent study is that school lunches continue to meet or exceed requirements for nutrients. So they are giving the kids the nutrition that they need. But if you go to the next slide, you'll see that school lunches are now significantly lower in fat. Since 1991, there has been a substantial reduction in the amount of fat and saturated fat in school meals. We were closer to the dietary guidelines for fat and saturated fat content but the standards have not yet been met. But if we do a study perhaps more up to date study, we will find increased progress.

The next slide shows that in 1991, hardly any schools met the standards for fat and saturated fat. But by 1998, between 15 percent and 22 percent of schools had done so. So again, substantial progress in the nutritional quality of school lunches. The same can be said for school breakfasts. In fat, the fat and saturated fat targets were met in 98 and 99 for school breakfasts offered. And in recent years, most schools increased the amounts of fruits, vegetables and grains that they offer to students.

The next slide, about milk, comes from SHPPS 2000. It shows the type of milk by fat content being offered in the schools. This is important, because a key strategy for helping schools meet the dietary guidelines is to encourage the consumption of low or nonfat milk. Almost two-thirds of all the milk ordered by school food service programs was whole or 2 percent milk, which are high in fat. Most of the milk offered is still high in fat, even though more than half of all the milk offered was chocolate and flavored milk. You can make a case for having flavored 1 percent milk or 1 percent -- or flavored skim milk, but it's hard to make a case for offering kids flavored whole milk or flavored 2 percent milk.

Quality school meal programs require the leadership of highly skilled food service program directives. School food service directors have complex and varied job responsibilities. If we have to try to feed 1 or 2 or 3 kids, can you imagine trying to feed 2000 kids and running it as a business at the same time. But as the next slide shows, the great majority of states do not require and they don't even offer any kind of certification for either district or school level food service coordinators. And perhaps it's not surprising to see that only 60 percent of districts, and about half of schools, have certified food service coordinators.

Only 40 percent of district food service directors and 14 percent of school food service managers have undergraduate degrees.

The next area we are going to talk about is USDA's competitive food regulations. Bonnie mentioned that briefly and I'll add more, because this is as you all know, the hottest issue in school nutrition and the hottest issue perhaps in school health, the issue of competitive foods. They are the foods and beverages sold outside of the federally regulated meals. It's about the Ala cart offerings in the cafeteria, vending machines, fundraising events that seem to go on all the time at schools. As Bonnie mentioned and it's important to get this clear, there are no federal regulations on what can be sold outside the school dining area, even just outside the cafeteria door. And the only items prohibited in the dining area during meal time are carbonated soft drinks, chewing gum, water ice, and some sugar based candies. Schools are allowed to sell soft drinks outside cafeteria door at lunch, which many do, and in the cafeteria in direct competition with the school meals during lunchtime, they can sell items that most of us would classify under the heading of junk foods, things such as potato chips, chocolate candy bars and donuts.

As the federal policies show, states, districts and schools can impose additional restrictions. The next slide gives you a picture of what is going on. And you see that 32 states have not taken advantage of this authority that they have been given and have no regulations besides the very minimal USDA regulations.

However, the flip side is that 18 states have gone for that, an increasingly within school districts and schools go further than the USDA regulations. Two states established nutrition standards, so that any foods and beverages that don't meet the standards are not supposed to be sold on school campuses. Four states have limitations on these extra foods being made available in elementary schools, to protect the younger children. And then other states limit the time when students can buy either competitive foods in general or the more limited foods of minimal nutritional value as defined by the USDA. That means they capital buy the items, typically anywhere on campus during the lunch period or in some places it's stronger and they don't allow any of those sales from the start of the school day until the end of the last lunch period.

The next slide takes us to the Ala cart items that Bonnie touched on. As you can see, there are a lot of high fat, high sugar items that are available on the Ala cart line. And those tend to be the most commonly sold items. But a majority of schools do make available items that we would want the kids to buy. Fruits, vegetables, 100 percent fruit or vegetable juice. The next slide talks about student access to competitive foods and beverages. And it gives a summary of just how omnipresent those vending machines are. They are in just about every senior high school, three quarters of middle schools. And surprisingly, a lot of people just assumed that they are not widely available in elementary schools, they are in almost half of elementary schools.

The types of foods that are available are, as you might imagine, largely high in fat and high in added sugar. And if you go to the next slide, you see that the most commonly available items are soft drinks, sports drinks or fruit drinks that are high in added sugar.

There are some, on the positive side of course, is that about half of schools do make available in the vending machines 100 percent fruit juice and bottled water and we know that those numbers are increasing in the last year or two. Vending machines are typically in direct competition with the school meals, more than two-thirds of the schools with vending machines allow students to buy things high in fat or sodium or sugars during the lunch period. And there is a lot of data to indicate that student access to competitive food in schools increased dramatically in recent years. But we are starting to see a turning of the corner. Several large cities added more restrictions on high fat, high sugar items in the school setting. And many, many schools and school districts across the country are starting to do the same. Although the great majority of schools are still making these foods and beverages available to our kids in schools.

In summary, recent years have seen dramatic improvement in the nutrition quality of school meals offered to students. While at the same time, students probably had greatly increased access to competitive foods and beverages, typically high in fat and sugars. We don't have data on the quality of school meals as related to the attractiveness, appeal to the students. But as with physical education, most experts in the field would say that really great progress has been made in the field of food service. While many students probably still don't have access to appealing meals, there are certainly many more

high quality food service programs serving meals than there were in the past. Clearly it can be done and increasingly is being done.

The next slides, quickly, they basically show that more than three quarters of all schools require classroom instruction on nutrition and physical activity. That is a key component of how we are going to make a difference in this area. But as the next slide show, very little class time is spent on these important topics. The amount of time that teachers spend teaching about nutrition and physical activity, only about 3 to 5 hours per year for each subject.

These are subjects that need to be taught, but it's not likely that enough time is allowed for the type of quality instruction that would give our young people the skills and motivation they need to adopt and maintain healthy behaviors.

That's an overview of the national data we have available. I think it shows that while physical activity and nutrition continue to be a component of the American educational experience, they have become in recent years increasingly marginal components.

That is a lot of information I know. But you're probably curious as to why you can -- where you can get a lot more information. The next slide shows you some reports that we have available on SHPPS 2000 and the website where you can go to get the data. You should know that I've given you just a small slice. SHPPS provides data on health services schools, counseling services, family and community involvement and many many other things. It's a tremendous wealth of information. The next slide where you see my former boss, the former surgeon general, Dr. David Thatcher is for an organization called Action for Healthy Kids. I hope you're familiar with it. It's a brand new national, nongovernmental organization that Dr. Thatcher chairs the board of. It's largely funded by the dairy council and they form teams in every state. The reason I bring it up, in the bottom right hand corner, you see what's happening? They have done a really good job of putting together profiles of what is going on for physical activity and nutrition in each of the states. And I highly recommend that to you. I want to close by giving you a sneak preview of a new data source that is coming out in this area. You'll see on the slide, it says profiles 2000. It is a data collection system from CDC called the school health profile. The 2002 edition will be coming out in a couple of months. And that is the first one. This is done every other year in the even numbered years. The 2002 data is the first time we collected data on physical activity and nutrition and you can see in the methods that what is really unique about this, unlike SHPPS, which gives national data. This gives us state level data. You can look for your own state and get a picture of what is going on in schools across your state. You can trend it over time and then compare with other states as well.

The next slide gives you an idea of the different nutrition topics that are going to be addressed and we will get information on those competitive foods, the vending machine issue, in each state. And I believe in 2002, there were about 40 states that participated in this survey.

And then finally, the last slide shows physical activity topic, and that is the of information that we will be getting. That comes out in a couple months and then we will do it every other year in the even numbered years. There is a lot of good data out there. And we at CDC would be delighted to answer any questions and help you access these data.

Thank you.

>> **TRINA ANGLIN:** Thank you very much, Howell. Now we are ready to move to the discussion period. And thanks to our speakers, very much sticking to their time allotment, now we have a bit more than 20 minutes. We also have received a lot of questions.

And I think that what we will do is just move through the questions in the order in which they were received.

And if we have time after our panelists have answered these questions, there are some other in us that perhaps we can talk about. The first question addresses an issue relevant to cultural competence. And specifically it asks how we can overcome the mistrust among African-Americans in accepting and understanding the importance of health interventions, especially those around obesity.

And I think that any of our panelists can feel free to attempt the answer to this very important point.

>> **STEVE GORTMAKER:** I think the first thing I would say is that it's really important to involve the community or the broader community. So, when we developed our -- well, the key materials, we worked

closely with the community in Baltimore, including public school teachers, principals, and families and students in developing the materials, making sure that they thought the materials that their needs resonated with what they thought were the important issues, as well as what our perspective on the science was.

So, I think that from my perspective, that is probably the most important issue is to work closely with the community.

And I know in working with public schools, like the Baltimore system or in the Boston area, we worked with a number of different school systems, including the Boston public schools, one of the things that school systems are always looking for is for materials to be -- to work with all of the students in the system. And I think that what we have tried to do when we develop the school curriculum is to make sure that the broad messages resonate with different groups of students, including African-Americans and white students and Spanish speaking students. And in general.

But then to make sure that we have additions or exchanges where teachers can add things on. For example, have students bring in some particular foods that their family uses at special times of the year is a way of tailoring the intervention materials, so that they are really relevant to particular individuals. But getting back to the, I think the thrust of the question, I would think community-based participatory research is a really important part of this process. I don't know if others want to add to that.

>> **BONNIE SPEAR:** Just briefly, and also being really clear of what you're going to do with the data. Again as you work with the community groups, is what are you going to do with the outcome data? Because that is a real fear in a lot of special populations of how is this going to be treated and how is the sustainability? So you come in and do the program, are we going to be able to keep it? How can we keep it up after the funding is gone. So planning that into the overall program is essential.

>> **TRINA ANGLIN:** Thank you. Our next question is from Texas. And asks whether we know whether there is any impact on the addition of growth hormones to animals that might be present from the meat that we eat and how they might contribute to obesity problems. Any takers?

>> **STEVE GORTMAKER:** It's not my area of expertise. Howell is this your area?

>> **HOWELL WECHSLER:** I don't think we have enough information to make a statement about that.

>> **TRINA ANGLIN:** And it's my sense that the addition of growth hormone might allow animals to become larger more quickly. But it doesn't necessarily mean that the meat that ultimately we consume is higher in fat content. A very interesting question.

>> **HOWELL WECHSLER:** And there are many many other alternative explanations for the obesity epidemic as Steve showed that clearly give us the direction as well to go in.

>> **TRINA ANGLIN:** Okay. A third question comes from Maryland, and it's very very specific to SHPPS. And that is: Do we know how many schools that offered healthy foods were in urban areas?

>> **HOWELL WECHSLER:** I know that's a great question. I imagine we could do that analysis. That is a great idea. Whoever thought of it should tell me and we can work on that together. That would be a great analysis.

>> **TRINA ANGLIN:** Okay. And another question. It's really kind of like the -- needs a little more conceptual answer. And that is. Why are schools offering less physical activity opportunities for adolescents? And this has been noticed both across time as well as compared with younger students.

>> **HOWELL WECHSLER:** Well, I'll take a crack at that one. I think this is part of a larger trend towards pressures on schools for accountability. The whole wave of educational reform that started in the late '80s, and just picked up steam through the 90s and the present day. The idea of holding schools accountable and what that translates to is essentially increasing student scores on standardized tests. And you can have all sorts of feelings on different positions on that. But the bottom line -- one of the

bottom line results of that is that everything that is not seen as contributing to increasing test scores has been relatively marginalized. So this issue of physical education is not the only thing. People who work in arts education, music and art education have had the same experience.

So, it's really fighting for a time in a very crowded school day. And the school calendar that was set up in the 19th century to suit the agricultural calendar, it's simply hard to get in that limited school day all the things that must be -- that the society feels are important to teach the young people and now add in all this pressure on increasing the test scores, and there just wasn't a proper appreciation of the importance every physical education. Now the society with the obesity epidemic, the society does seem to be speaking out and emphasizing the importance of it again. But it's very, very hard when educators, principals, and superintendents and school boards, when their jobs are -- depend almost entirely on improving those test scores, it's very hard for them to focus on things that may or may not contribute to improved test scores. But are not high on the list of things that they think contribute to improved test scores.

>> **BONNIE SPEAR:** And I think one of other things that we don't have the data presented today is also the reducing the lunchtime, too. Many school kids have 15 minutes from the time they hit the door until the time they have to leave to eat, so that is affecting that and again that comes back to the academics. We need less time for kids just sitting and more time for kids to be in academics.

>> **STEVE GORTMAKER:** I know a lot of people don't want more data. But one thing that can be helpful in communities is schools are already collecting weight and height data for kids, to start reporting yearly the rates of overweight and obesity in schools. Just like you report test scores. So that it can become an issue that people start to focus on. I think sometimes data can really help drive local action.

>> **TRINA ANGLIN:** You know, I think that all of you answered this question that actually came in more recently, really asking why is it that we are not paying more attention to the contributions that healthy nutrition and physical activity can add to academic achievement, in terms of the accountant of schools, and thinking that if we do a better job with this, that perhaps we will have a win-win proposal to educators and their administrators.

>> **HOWELL WECHSLER:** Well, actually, everyone is trying to tell educators that their type of program is going to have an impact on test scores and the reality is that in the history of education and research, there are few things that have been unambiguously shown to have an impact on test scores. It's such a complicated phenomenon of democat lick -- what contributes to improved academic performance at school. There were little research done to document the effect of physical activity and healthy eating on academic performance. There are -- there is some work that shows that having kids spend more time in physical education did not hurt their performance on test scores. And that is a positive development.

But it's going to be hard to show just as it's hard to show that many educational innovations and practices contribute to improved test scores.

>> **STEVE GORTMAKER:** I'd like to follow up on that, too. I think it's a mistake to try to design physical activity programs or nutrition programs to improve test scores. I think it would be great if that happens, but I think it's probably unrealistic. You know, we should look to improve nutrition and physical activity for a whole range of health reasons. And that should probably, as well as making kids feel better. And that could help a bit.

The best evidence for improving test scores is actually to just focus on kids practices though -- practicing those tests and that leads to really sort of, well, not exciting days for kids, but that's the one area, where if you want to improve test scores, you have kids practice the questions day after day.

But, I don't think that is the way to design a curriculum, either.

>> **TRINA ANGLIN:** This is a specific question again, probably related to SHPPS. And that is do we know what personal of students are actually eating the provided school lunch, versus eating Ala cart food or just snacking from the vending machines?

>> **HOWELL WECHSLER:** No. I don't think we have really good data on it. We know a large number, 27 million or so kids that are participating in the school lunch program. But, we don't have any great recent data to indicate that. Everything does seem to be pointing to the fact that the Ala cart sales, and competitive food sales were increasing recently. But there is no great data on that.

>> **TRINA ANGLIN:** Here is another real specific question about schools and then we will move into a different area. And I imagine Howell you'll want to answer this one. What is the one state that requires physical education for grades K through 8 and the one state that requires physical education through grade 12?

>> **HOWELL WECHSLER:** Through 12 is Illinois. They have manage I had -- managed to maintain that, but it's a little misleading. Because one of the problems is that school systems allow a lot of exemptions. So students -- or even school systems, school districts can get out of that requirement if they follow some bureaucratic procedures. So there are a fair number of students that are exempted from physical education and school districts in Illinois that get out of it. Although it's still -- much better to have that policy than not to have it. The state that requires daily physical education K to 8 is Alabama.

>> **TRINA ANGLIN:** Thank you. Now, there are a few question, thinking about the prevention of obesity and intervening with obese kids in primary care providers offices. In general, how can we help primary care providers to do a better job in this area, remembering that it takes a lot of time and they are under a lot of time pressure and they might not have additional staff to address obesity. So any ideas.

>> **STEVE GORTMAKER:** I think it's a great topic, and I think fundamentally, because of the time pressures, people say, a lot of the family practice doctors, pediatricians I talk to say well, if there is something that we can do in 2 or 3 minutes, and then seeing kids once a year maybe at most, it really means that they can't do too much. I think that given the huge limitation of time and limited sort of opportunity to intervene, the one thing I think that is really kind of important is were the clinicians to work to identify kids who were very overweight or obese, and to do a good job doing that and helping the parents at that point. But, we really need more research to give some better guidance to clinicians, because the only protocols that are available, like Len Epstein's work, the protocols are expensive and need a lot of staff and most places don't have that sort of -- they are not staffed up to do that. Bonnie?

>> **BONNIE SPEAR:** Yes. I think the two programs that I briefly mentioned, the AIM, and the PROS data hopefully we will see some things. And those are designed to be rapid interventions. And looking more at getting the student at risk, you know, the child at risk, and starting some earlier interventions and becoming aware of that. I think, also, is making sure physicians and nurse practitioners understand how to use the BMI and how to target at risk kids ahead of time with that with brief introductions. It doesn't exist right now. Plus there is no reimbursement to physicians to do any kind of intervention and I think that is what was one of Steve's comments and one of mine that we need to look at that as well.

>> **HOWELL WECHSLER:** Neither the PROS nor the AIM materials were evaluated yet.

>> **BONNIE SPEAR:** They are in the process of being evaluated now. So we are looking forward to seeing what the outcome of that is. So they may not work, but hopefully there are other people working on programs that do rapid, within a primary care office.

>> **TRINA ANGLIN:** Also, thinking in the primary care context, given the fact that young children, younger than 2 years of age, have multiple visits to -- for immunizations and to monitor their growth and development, is there research looking at whether attempting to help parents during all of those visits mit be able -- might be able to help decrease obesity in those kids once they become older?

>> **STEVE GORTMAKER:** I think it's an excellent area for some innovative work. One of the issues that I think is important is that in the early years, preschool years, kids are growing rapidly. And yet that doesn't really predict very well their relative weight, let's say five, ten years after that.

And so I think that lots could be done during those early visits, but I still think that we frankly need to try out some potential ideas and see what seems to work best. And at this point in time, I was just talking to some people the other day about this, to run a bunch of programs in the Boston area and you really can't advise too much. I think just because of, again, this time constraint. Usually there are so many concerns that parents have when they come into these meetings with clinicians, that it's going to be tough to get on the clinician's agenda to start adding other topics, unless they see some real evidence that it makes a substantial difference. Bonnie?

>> **BONNIE SPEAR:** Yes. And I think just early intervention with making sure the kids are getting adequate physical activity and a nutrition screen, which is a component of primary healthcare is one of the big culprits is the beverage consumption of kids. Just targeting one or two items as a preventive measure.

Again I can't reinforce enough of early screening, using growth charts and especially the BMI in kids over 2, so that you can see even mild changes in kids that tend to be getting at risk.

>> **TRINA ANGLIN:** And then are there any evaluated interventions that are focused on intergenerational efforts? Explicitly that would include both parents and teenagers at the same time. A family approach to trying to intervene with obesity.

>> **STEVE GORTMAKER:** The family approach? Well, if the focus is on treatment of children who are overweight or obese, then you can just look up all the work of Len Epstein group and that's a family based approach, where the parents are required to work with the youth and professional help.

If you're talking about it from the prevention point of view, I think that is another interesting issue. We found, for example, that with kids in planet health in middle school, it was actually a better focus of the intervention, to really focus on the youth. Because in many ways, they are interested in starting to make a lot of their own choices, and so we focused a lot of our time on them as opposed to the parents.

>> **BONNIE SPEAR:** Think all the community programs had a family intervention or that. And in all of the intervention programs, committed to kids, all of those, also had a family components. So they all looked at that component. Even Len Epstein's work, when you get to the older adolescent, that he is not sure what the role of the parent is at that time. As they get older, the more emphasis needs to be on the child or the teen.

So there is not a lot of data with older kids involved in weight reduction programs.

>> **TRINA ANGLIN:** Here is a very interesting and important question, and that is how do you implement healthy and advertise kal activity programs in ways that don't add to the stigmataization of overweight and obese children and youth?

Especially trying not to make them feel guilty about meals, food purchasing or activity habits that they might only have limited ability to alter.

And so what messages can we give to adults who want to be helpful, so that they do no harm to these kids?

>> **STEVE GORTMAKER:** I'd like to tackle that one. This is Steve. I think the main point I'd like to make, and I think it's an important issue about stigmataization because there is a lot of discrimination against individuals who are overweight in our society. I think it's really important to not focus on obesity.

If the goal is prevention, I mean, if the focus here is on treatment with someone who is very obese, then that is different. But, if the focus is broader prevention in the population, I think the focus should be on healthy eating, and reducing sedentary behaviors, like television viewing, increasing physical activity in a whole range of way, whether that's through walking or on sports, but the focus should not be on obesity per se and those are two different things. You can focus on treating obesity if a child is very obese and that will lead to other sorts of things you want to do. But if the goal is prevention, I think the focus should be on healthy eating, reducing inactivity and increasing activity.

>> **BONNIE SPEAR:** And that's what the school programs do. Obesity was not an intervention variable, but they did look at changes, but it was on healthy behaviors, as opposed to the obesity and the key is that every child participated, not just overweight kids.

>> **TRINA ANGLIN:** I think we have time for one more question before we wrap up, because it's almost 4 o'clock.

If you did not have your specific question answered, we will try to get answers to you electronically. Most of the other questions that have been asked have been very specific or kind of narrow in focus. So we will try to answer your questions over the next several days.

But this one final question, is from Florida and wonders what programs that work for high school students would you recommend for them, that they are -- they are working with youngsters who live in low income areas, that specifically address physical activity, and that they do not have a lot of resources to implement any program.

>> **HOWARD WECHSLER:** I'd like to refer them to folks out in California, project LEAN, they have a high school program called food on the run, which I don't think requires a major amount of resources. And it's a very positive program that gets young people involved in analyzing their -- the food and physical activity environment of their schools and communities. And they can get more information on that from the California project Lean.

>> **TRINA ANGLIN:** Thank you. Any concluding thoughts from our panelists?

>> **STEVE GORTMAKER:** Thanks everybody for participating.

>> **TRINA ANGLIN:** Okay. So, and this is your moderator again, and it is time to conclude our webcast. And all of us hope that you enjoyed it and found it to be a really good learning experience. Our next webcast is scheduled for Wednesday, August 27th. And it will be part two of the series on adolescent nutrition and physical activity. So thanks again to the expert panel. Steve Gortmaker, Bonnie Spear and Howell Wechsler. We appreciate the technical support every CAID at the University of Illinois at Chicago. And finally, we thank our audience for your participation in generation of very important issues and questions.

We invite you to spend a couple of minutes evaluating the webcast. A link will appear automatically after the broadcast ends. The responses will help us plan future broadcasts and improve our technical support. The archive of this webcast will be available for viewing within several days at the webcast. You'll be able to download the slides at that time as well. This concludes the webcast on adolescent nutrition and physical activity, Part 1. Thank you.