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Outcomes For Success! Webcast Training

KERRI BOOTH: Hi, welcome to the Outcomes for Success webcast training. I'm Kerri Booth and I'm here today to introduce Dr. Marc Bolan as well as explain how webcast training works. You'll see slides that appear in the central window and should advance automatically. The slide changes are synchronized with the speaker's presentation. 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 using the slide delay control at the top of the messaging window. We encourage you to ask the speaker questions at any time during the presentation by simply typing 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 that we know where you are participating from. The questions will be relayed on to the speakers periodically throughout this broadcast. If we don't have an opportunity to respond to your questions during the broadcast, we'll email them to you afterwards. Again, we encourage you to submit the questions at any time during the broadcast. However, Marc will not be answering questions until the end.

On the left of the interface is the video window. 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, you'll see text captioning underneath the video window. At the end of the broadcast, the interface will

close automatically and you'll have the opportunity to fill out an online evaluation. Please take a couple of minutes to do so. Your responses will help us plan future broadcasts in this series and improve our technical support.

It's my pleasure to introduce to you Dr. Marc Bolan. He's with Organizational Research Services with over 15 years of experience in the field of outcome-based evaluation and has assisted non-profit foundations and other organizations in developing and managing outcome-based evaluation projects. He has provided training and technical assistance to clients, including the Washington State Department of Health, the Packard foundation and King county public health. Without further delay here is Dr. Marc Bolan.

DR. MARC BOLAN: Welcome to the webcast training for Outcomes for Success. I would like to thank HRSA and the Maternal and Child Health Bureau and banner poison control for helping us set up this webcast training. What we hope to accomplish in the next 90 minutes is introduce many of you to the field of outcome-based evaluation. Some of you have probably had some significant experience doing evaluations, some of you may know very little about doing outcome-based evaluations. Since in many fields evaluation has become an extremely important part of documenting the impact of your programming efforts, we feel that this should be an important workshop for you to start to get familiar with the field. If we could look at the first slide. Our intent today is three basic outcomes. You'll become familiar with the term outcome since it is the crux of what we're talking about today. First, we would like people to be able to increase their knowledge of the language and framework of outcome based evaluation. Secondly we would like people to

increase their ability to map your program's logic model. A logic model is a technique that we'll talk about that helps programs both plan their programming efforts and then also to be able to evaluate those efforts going forward. And third, increase their ability to identify realistic, relevant and appropriate outcomes.

We will also, if time permits, talk a little bit more about some of the additional phases of doing evaluation. In talking about the language and the logic model and the outcomes we're really talking about setting up the framework for how to go forward. The steps after that, once you've identified what you want to do and what you want to accomplish is to apply methods for measuring the outcomes. Apply measures to document the outcomes and apply measures to the data you're receiving and find out if you're having an impact. We're going to take questions towards the end of the broadcast. And the questions will be open primarily to the content we're talking about. So they will probably be related to some of the issues that we bring up with these identifying outcomes and looking at logic models. Why don't we look at the first -- at the next slide.

So outcome based evaluation, which is a term that some of you may be familiar with and others might have heard out there and you may have heard other kinds of terms that are associated with evaluation, accountability, results-based frame works, it's essential to the crux of outcome-based evaluation it is a systematic way to assess the extent to which a program has achieved its intended result. The key part of the particular definition we're talking about is the term systematic, suggesting that you're going to use a systematic approach to collect information to help understand whether you have achieved what you

want to achieve. So rather than relying simply on anecdotal information that says yes we're having an impact on individuals or yes, we're affecting this community, you're going to identify a core set of measures that you hope to gather information on. You're going to use systematic principles to collect data on those measures and once you've identified -- collected that data you'll use appropriate techniques to analyze that. The purpose is to be able to understand what is the contribution that your program is having in terms of an impact on those that you are trying to affect. And as we talk further in this workshop, those might include your individual clients, they might include participants in a program, they might include families, they might include the community as a whole, or they may include broader systems you're trying to have an impact on. Why don't we look at the next slide.

The key question of outcome-based evaluation is what has changed in the lives of individuals, families, organizations or the community as a result of this program. So many of you who are either poison control educators or those of you who are Maternal and Child health educators are engaged in initiatives intended to have an impact. It might be on clients who use your service, it might be on the general audience who is interested in your services, it might be on the public who you are trying to make them more aware of your services, it may be on day-care providers, it may be on teachers, the whole gambit of different types of individuals or families that you may be trying to affect. By the same token what you're doing might also be intended to impact broader systems or organizations. You may be working as part of a collaborative in the Maternal and Child health field that is trying to impact a system. Trying to improve the distribution of

resources to different organizations. You're trying to make the system of reporting cases or reporting -- or tracking visits to day-care centers, you're trying to enhance the efficiency of that system. The key question to any of these scenarios is what has changed? That's what outcome based evaluation will allow you to identify. Why don't we look at the next slide.

In the past, evaluation really focused on what does the staff do? So up until about five to ten years ago, it was enough to satisfy your own purposes and to satisfy the interests of funders by saying, you provided us with X amount of money to do our program and we served 100 clients and that was kind of the end of the story. And it documented that yes, you were using the money that you were provided with efficiently and you were able to use that money and turn that into services, but the question that always kept arising was well, what is the impact of that? OK, yes, you served 100 clients. You're a parenting workshop and provided training to 100 parents three times a week for ten weeks.

The question at that point was always, OK, so what? What was the impact of what you've done? So the shift toward outcome-based evaluation has folked more on what has the staff caused to happen. We aren't looking at how much of a service you provided, but once you provided that service, how have the recipients of that service changed? Do they know more than they knew before? Do they have different attitudes about things? Are they more willing to engage in certain behaviors? Do they have different opinions? Do they feel more connected to others? Outcome-based evaluation is shifting from saying what is done as to what is the impact of what is done? Next slide, please.

To provide -- what are the uses of outcome evaluation? Accountability. That's a very popular term in the funding world, we hear it in our political realm as well. The term accountability. More and more outcome-based evaluation is an approach that helps you determine for your funders and other interested parties, are you being accountable for the funding that you've been provided? Outcome-based evaluation allows you to assess what is working, what may not be working, who are you impacting and what ways are you impacting and you have at the end of the day the capacity to say that we feel that the funding we've been provided with, we've been accountable for what you've asked us to do. You asked us to have impacts on certain behaviors, we've identified certain behaviors that we think we can impact, then we can show you some evidence that, in fact, these behaviors are changing. Second and maybe more importantly is to help programs improve their own program quality.

Many times we work with agencies or organizations or state departments and such that are involved in multi-faceted programming. They might have a parenting workshop which works with parents. They may have site visits that work with parents and families, they may have educational classes for children. They might be doing an assessment and screening with other children and so what you have is a large agency that is engaged in a large number of programs and there may not be a sense up front of which ones are really working, which ones are not working as well, which ones we feel like we should allocate greater resources to, which ones we feel we should take resources away from. Outcome-based evaluation allows you to determine, based on the program activities and based on

how much of that activity you engage in with a certain number of participants or clients, whether or not these programs are working. And if, in fact, they are working you might determine that we're going to allocate new resources to it. If they're not working as well you might go back and explore what is it about these programs that is not working as well and perhaps adjust what you're doing? That lends into the third use of outcome evaluation which is to support decision making about resource allocation.

More and more as funding becomes tight in many fields and agencies want to engage in five or six different programs and want to impact large numbers of parents or children or educators or day-care providers, more and more decisions have to be made about which of these programs are really most effective. Outcome-based evaluation is an approach that allows you to determine this is working, this is not working as well. Allows you to revisit the programs that you're doing to determine whether you need to reallocate resources. The last use of outcome evaluation has been to help programs market themselves. One technique that we're going to talk about today, the logic model, is a relatively simple framework that more and more funders are asking programs or potential grantees to provide as part of their applications. In many of the realms that we work with, united way, for instance, some of the state public health.

Here in the State of Washington the governor's juvenile justice advisory committee when they ask for applications for violence prevention programs, they all are asking -- they're all asking potential grantees to provide logic models laying out what they hope to do and impact as part of the application and it is a sizeable proportion of how they're being rated

in terms of that proposal. So in one sense doing an evaluation and setting up the framework for an evaluation is a way of kind of making your program known to others out there. Being able to document your successes. You're able to document things that are not working as well. You're able to make a convincing case to funders that we know how to gather data and we know whether or not we're going to have a true impact.

By the same token, the logic model which you'll see talked about today is a relatively comprehensive document that can summarize in a very amount of space, potentially even one page, to people who know nothing about your program. They can look through a logic model and get a sense of what you do and what you hope to accomplish. Many times this is -- you try to accomplish this by writing a summary statement of your program and you distribute it to funders or people who are interested or you try to capture this in a mission statement or your objectives on your website but in many ways a logic model which is a straight, logical frame works will help programs document this in a way that someone who knows nothing about your program after reading this will say this is what you do and this is what you hope to accomplish. We've seen this -- we've had many instances where clients or organizations have told us that they were able to share with a group of people who knew nothing about their program their logic model. At the end people felt more comfortable with what they were doing. Let's look at the next slide.

I want to just briefly touch upon some terms and evaluations only because even as working in the field of evaluations, there seem to be a whole myriad of terms that many of which seem to mean the same thing and, in fact, depending on who you talk to, people

actually have different definitions. So I want to lay out some of the basic terms here so at least we have a common understanding and then if you encounter this when a funder says tell me about your objectives or help me understand your inputs, you realize the language we're talking about. One thing I should point out. I don't know what the interface looks like on your case, these are relatively small. You'll be able to access and update later through this website a PDF file which has the slides and an HTML file as well so if everything is not clear to you at this point you'll be able to see it in more clarity.

So when we talk about the term objective, we're talking about the overall desired achievement involving a process of change and aimed at meeting certain needs of identified end users within a given period of time. And we'll talk about end user. End user, which will be on the next one we talk about is basically the beneficiary of the services. For instance, a client is an end user in the terminology we're talking about. And output. This is where a lot of confusion comes about when people are doing evaluations. An output is the product or service delivered by a program, reports, publications, training. So the activity is expected to produce in order to achieve its objectives. To put this in a better context, an output is essentially what you do as a program. So if you're offering the parenting classes, the output is that you do X number of parenting classes within a given time frame for a certain number of participants. Now, this is a very important definition.

In its simple sense it's not telling you anything about how those end users or the recipients of your services have changed. It just is enumerating what you're doing. This is where the greatest confusion comes about. Many times funders and people doing their own

evaluation confuse outputs with outcomes. Outcomes is the accomplishment involving benefits to end users. They are typically stated as quantitative or qualitative standards and they are a consequence of generating output. So to put that in better clarity, you engage in an activity. You offer a parenting class, you offer a certain number of parenting classes of some duration to a certain number of parents. 30 parents go to your class three times a week for 15 weeks. The outcome is what do you hope to accomplish by doing this? That is, what do you think is going to change for these parents as they go through the course of this workshop? Are they going to know more than they did before? Will they do things differently than they have before? Will they feel differently? Let's turn to the next slide.

Indicators of achievement. You have identified outcomes which, as we'll see going further in our discussion, tend to be broad statements of change. Indicators is when we start to get into greater specificity. You perhaps have also heard the term performance measures. So when we talk about indicators of achievement we're talking about performance measures which are used to measure whether and/or the extent to which objectives or outcomes have been achieved. Indicators correspond directly or indirectly for the outcome which they're used to measure performance. So we can say that an individual has greater knowledge of parenting skills as a potential outcome from participating in a parenting workshop. In that sense we need to be more specific.

We need to find specific indicators of knowledge of parenting skills. So, for instance, perhaps they can identify what are appropriate ways of using discipline techniques and

then perhaps they can also identify three resources that they could utilize if their child is in an emergency. And we find those as specific measures that tell us about, or indicate, that someone has greater knowledge of parenting skills. Indicators of achievement is the bridge that helps us get to the point of measuring things starting to gather data, and what we'll talk about later is that you gather information on these indicators through a whole variety of methods, surveys, focus groups, maybe there are secondary data that's available. Maybe there is calls that come into a poison center. There is a whole range of approaches. Activities. Let's go back to outputs. An activity is what your program does. So we engage, we offer up parenting workshops. That's one activity that our agency does that we believe will have an impact on the recipients down the line. Input. The other term we like to use here instead of input is resources.

So it's the personnel and the other resources necessary for producing output and achieving accomplishments. What do you need to have in place so that you can carry out your activities and thus potentially have an impact? End user we talked briefly about is who is receiving your service, who is the beneficiary? Who is the client? We'll talk a little as we go forward the end user or the recipient of your service or who you expect to change is not always just an individual. You might expect a change in some element of a system or the community as a whole or some organization. External factors. Events or conditions beyond the control of those responsible for an activity but may have an influence on the success or failure of that activity. What are the things you'll encounter as you do outcome-based evaluation is that evaluation, at least the way it's applied in the non-profit world is not the same as doing full blown scientific research.

Many times you are trying to document whether there is a change in your participants that may result from what you're doing but you don't have the capacity to control for other things that might explain that change. In part, because the complexity and the time associated with gathering that information. You know, we might determine that an appropriate outcome associated with our parenting class is that the people who participate in this class demonstrate more appropriate discipline behaviors than they did at the beginning of the course? And we use some kind of method, an interview or survey to gather this information. And if we see change, then we can feel confident in what we can say that we believe that that change is associated with participation in this workshop.

But in reality, if we haven't gathered other information to tell us about other perhaps programs that these parents have gone through or other kinds of demographic or socio-economic factors which we believe might influence why people behave differently or if we gather information about the other -- about the contextual situation set in somebody's household that might also influence whether they engage in these behaviors the best we can say is what we've done we feel contributes to it but we aren't able to control for some of these external factors. So if you don't see change in the behaviors, the question becomes, is it really that your program is not having an impact or are the external factors out there that you really have no control over which you might try to think about how can we account for these? So be very careful that making statements about causality are -- in doing evaluation are always subject to the quality indication of do you believe there are

external factors that may also help explain why you're seeing these changes. Let's turn to the next slide.

So when we help individuals think about outcomes there is some criteria we help them think about first. Because the likely scenario is that if you sit down and brainstorm and you talk about the different activities you're doing, you may come up with a whole range of potential outcomes. Some of which are very direct in terms of changes that you hope to see right away, some of which might be changes that you hope to see in the long term that may only result if you couple your activities with other kinds of activities. But the likely scenario is that you have a large number of outcomes that you're thinking about but realizing down the line that you probably only have the capacity to measure some of these things and not measure them all. So the first thing we help people think about is which outcomes are the most important to achieve. When we talk about important, we're saying which of these are most closely related to the core business of the program? And I will point out this can be a challenging aspect for some programs who try to define themselves in different realms.

There may be -- I'll give you an example, a program that is involved in doing some arts education for at-risk kids may find that the most important outcomes for them to measure is that these kids have certain kinds of skills and competence after participating in their intervention but if they receive funding that comes from a stream that's involved in juvenile justice or violence prevention, the funder might claim to them that the most important outcome has something to do with changes in behavior in the juvenile justice system or

reduced the number of violent acts or reduced discipline referrals in school. So important can become challenging if others are defining what it means. Are your outcomes meaningful? Is the benefit or change something that makes a real change for the participants?

It might be nice for you to document that knowledge gain is a potential outcome associated with your workshops. But if you sit back and say OK, we'll say no more but they can't translate into a changed practice, is that really important for us to tell our story? Is it really important for others to understand we're having an impact? Which outcomes are most useful? Which will provide the best information for decision making or program improvement? As we talked about earlier, since evaluation helps you determine whether the programs you're doing are working or not working, it helps you determine how to allocate resources, you want to identify outcomes that will help you with the decisions. Which outcomes are the most reasonable? Which outcomes can the program be expected to influence in a non-trivial way?

So which ones do you feel that that program should be held accountable for? And once again I'll point out this one is another one that gets challenged when your choice when others are asking you to measure particular outcomes. An example is that a number of programs that we've worked with here that do prevention with parents or with middle school kids associated with alcohol and drug use, many times with at risk kids and the most reasonable outcomes to see with these particular kids is that they have greater knowledge about the dangers of alcohol and drug use. Greater ability to resist use.

Perhaps different opinions about the effects of alcohol and drug use. But one of the challenges becomes that many of these programs receive money from funds that believe the outcomes that are most important and thus would want the greatest information on have to do with a perceived harm or risk associated with alcohol and drug use and with measurements of actual use.

And if you sit down with an individual program they might say given what we do in such a limited time frame, it doesn't seem completely reasonable or we shouldn't be held accountable for changes in alcohol and drug use when, in fact, what we're doing is meeting with kids once a week for 50 minutes to kind of point out the dangers of alcohol and drugs to extrapolate that out to drug use or reduced use as being something that we should start to measure is a challenge and perhaps we aren't going to see changes in this. That's in one sense we're talking about reasonable. By the same token, what is most realistic? Realistic, what do you think you can accomplish in a certain time frame? The scenario I just laid out it's probably realistic for these programs to impact perceptions of harm or perceptions of who is using, or knowledge of the impact of alcohol and drugs. But to expect that in an eight-week intervention that all of a sudden behaviors such as use of alcohol and drugs or harder drugs is going to change dramatically it's probably not realistic. Maybe it's something if you worked with these kids over a longer period of time with a more complex interventions than simple, straight forward prevention. Why don't we turn to the next slide.

So outcomes. Outcomes is the crux of doing an evaluation because you need to identify what do you think is going to change? And there are three common styles of outcomes that we've encountered and we work with clients in defining. The first are change statements. A change statement implies that something has changed over time. But change can be reflected in terms of an increase or an improvement or gain and it can be obviously indicated in terms of a decline or a decrease or something going down. But in some sense maintenance, that is, no change, is still a reflection that you've measured something at multiple time points. This is the key to be able to understand an outcome that is dated as a change statement. You need to kind of know what somebody looks like at one point as opposed to what they look like at a second point. And that way you're able to see, in fact, there is change.

An example, we'll have some examples later on, increased immunization among young children. You look at a population of young children in some time frame and be able to document what were the immunization rates then and look at it in a separate time frame to see if it's gone up or down. Many organizations we work with is a change statement. It doesn't quantify that it has gone up by X percent or gone down by X percent it's a mechanism for a program to be able to say yes, in fact, something has improved or declined over time. When we work with a lot of these organizations and what you should think about going forward in doing analysis, even if your outcomes are simply stated as change statements is you would use appropriate techniques to find out whether or not this is really significant change.

Something could go up over time very small increase in an average on a scale, for instance, but, you know, statistically speaking perhaps that's really not meaningful. As you would carry this out you still want to document the level of change. The second is a target and many times you encounter targets. I know a lot of federal monitoring systems and some of the foundations are interested in this is what people are interested is having you identify outcomes that say you're going to reach a specific level of achievement with the particular thing you're trying to impact. So, for instance, immunize 80% of 2-year-old children in the community according to recommended public health schedule. What you're saying for us to claim that we've had success going forward, that we were able to meet a certain target.

Now, one of the challenges that programs encounter when they are asked or want to set targets is think about the scenario where you're trying to measure something for the first time and it is a measurement that isn't something completely intuitive or if you're asked to identify, for instance, a knowledge measure and it's the first time you're utilizing a particular curriculum or type of intervention and you really don't know what is an appropriate target and you really don't know by the end of the program that everyone should know something or only 50% should know something or 20%. Perhaps any of those things would tell you you're doing a good job depending on what you're trying to measure. So one of the challenges is to -- in thinking about targets is that you're probably better off constructing outcomes associated with targets when you have a good understanding of what you are trying to measure.

If you're a transitional housing situation or perhaps you're a shelter and you've been doing this for a long time and one of your goals is to get some percentage of your participants to move out of the shelter into more permanent housing and you've done this for a longer period of time, you probably have a good sense of what is an appropriate target. Because what the ramifications of this might be is that if you set a target and don't meet that target, and then people look at your program who aren't as astute about what is going on they might say you failed. In some sense that's maybe not true because what you might have done instead of target that is unrealistic or set a target for something you don't really completely understand at this point. Benchmark. When we talk about benchmarks we talk about comparative targets generally to other time points or other organizations. This is where we can start to get into quantifying change.

For instance, increasing the current immunization rate the 70% immunization rate for children age 0 to 24 months to 90% to year 2002. You'll gather data at multiple time points and be able to see what change has occurred. What we mean by benchmark is that it's conceivable that you're engaged in a program or perhaps delivering a curriculum that others are also delivering or that has been done in a number of scenarios and what you might be able to -- what you might want to say at the end is that oh, for instance, after delivering our curriculum 75% of our participants were stopped engaging in violent behavior and in a national sample that used the same curriculum that was only 60%. We can say something to the effect that we think we're doing better than the average participants and maybe it has something to do with the way we're doing our intervention which differs with how someone else might do it. Next slide, please.

So here are some examples of outcomes I tried to construct that might be related to some of the fields that you're involved in. And what I tried to get was a range of things here that -- think about changes for individuals and then also perhaps changes at a more system level. Increased knowledge of home safety procedures with regard to toxic substances. So many of the folks, the poison control educators are going out every day and doing workshops, curriculum intended to help parents know how to deal with these situations and then eventually if the time comes actually deal with those situations. So it's realistic to believe that if you do a relatively short intervention, perhaps a short class or a presentation or curriculum that maybe over time participants could report increased knowledge of these procedures. Increased awareness of resources to contact if there is an emergency.

It's possible that participants who come into your interventions are really unaware of what to do if there is an emergency situation and you could collect information at the end to find out if they're more aware of that. Do they do anything with that information if the time comes? Do they utilize the services? Improve nutritional status of pregnant teens. Let's say that for the maternal and child health providers out there working with pregnant teens and doing some case management and doing some site visits, getting them connected to resources one of the things you might be interested in is over time has their nutritional status improved? You'll see later on a discussion on how to measure some of these things in greater specificity. Increased utilization of pre-natal care services. For those who -- for those pregnant teens who are part of your intervention where you're trying to

make them more aware of what is out there, are they in fact going to use those services? Are they using it multiple times a week? Are they using all the different services that are available to them? Increased ability among statewide providers to access the coordinated MCH maternal child health system. This is a system level change.

Let's think about your activity, your initiative is to try to get the range of hundreds and hundreds of providers in the State of Washington to be able to use a system which allows you to gather more information about potential clients, to gather more information about the services that are available. What you're hoping is that these organizations or these providers over time know and access this system. And this might be an initiative and you may have data that says that at the beginning of the process only 10% of the providers were really using this system, which provides a lot of information to them. And over time maybe by the end of the year, 50% of the providers are using it as ongoing basis to track client behavior, to capture information about other services. Next slide, please.

Levels of outcomes. I gave you some examples of outcomes. I want to point out is that I would say for most of you, your program really is intended on impacting individuals and so we're talking about getting into kind of program-level outcomes or individual-level outcomes. You have clients and those clients could be the public. So the public around us could be the target of an awareness campaign. And you have clients but the intent is that you're to be gathering information from individuals to see to the extent to which they've changed. But that doesn't preclude you from being part of a program or initiative

that is trying to have an impact on a broader entity. Perhaps trying to impact the way a system functions.

So, for instance, as we talked about earlier, that the use of a coordinated system by different organizations. Well, perhaps you're trying to impact the efficiency of particular system. The distribution of resources back and forth and the initiative you're involved in is trying to make things more efficient. Perhaps what you're trying to do is improve the broader community. So what you're involved in in some way, shape or form is trying to change a community-level measure. Trying to decrease homelessness in a particular community or increase the -- reduce the teen pregnancy rates. These are things that are measured at community level. Obviously gathered from individuals that are telling you about changes in a broader community. Next slide, please.

Goals. So when we talk about a goal in outcome-based evaluation sense we're talking about broad statements. So you see goals used in many different ways. What we're going to talk about is the evaluation of the logic model, we're talking about a very broad statement of change. What is the big thing out there that your program is hoping to contribute to? Holding aside you aren't the only program that is trying to impact that. So the homeless shelter and the folks who are working on transitional housing issues might both be contributing to the same goal. And the goal is reduced homelessness, OK? But the mechanisms by which each program would contribute to this might be very different. The homeless shelter might be working with getting people transitioned to permanent housing or getting them job skills or getting them basic needs met so they won't fall into

the situation. The people who are working on transitional housing and rental and real estate issues are coming at it a different direction. They may be trying to impact laws to make it easier to convert single room occupancy. Work on rental issues to make it easier for people to rent homes when they don't have informational data. They're both striving for the same goal, decreased homelessness. Why don't we look at the next slide.

So here is an example of how you connect a goal to an objective to an outcome. The program we're talking about here provides mental health services to individuals suffering from depression. So the goal is to provide comprehensive and appropriate treatment in the most efficient way. There might be many entities trying to achieve this goal. The particular objective, when we talk about objective we're starting to connect -- starting to think about what this program is trying to do. Develop a case management plan, matching individuals to appropriate level and array of services within one week of their intake interview. The objective is starting to point to what are we going to do with these individuals suffering with depression and that's we're going to work with them on a case management plan. A potential outcome associated with that. This is stated as a target, 80% of the clients will improve their level of functioning. Now, if we took it to the next level, we'd try to determine how exactly are we going to measure level of functioning? Then we would talk about the mechanisms for gathering that information. So the goal is broadly stated. Objective and concurrently what we'll talk about are activities and outputs. What are you doing and outcome is what you hope to accomplish. The next slide, please.

We like to use this particular slide to point out that 100% doesn't always mean perfection. And this is particularly important when you are stating target outcomes or benchmark outcomes. It is not always necessary that everyone that you impact does something for you to be able to document success. For those of you who are baseball fans out there you're clearly aware that hitting 400 in a given season is extremely successful. And clearly not doing 1,000%. So be cognizant of this if you're trying to educate your funders who perhaps are not as educated about this that you need to be realistic about what you're setting in terms of targets. Next slide, please.

OK. We're going to start to talk about the logic model. Some of you may have used the logic model. Some of you may have used logic models that look slightly different than what we are talking about today but they all share common features. The common feature is that there are is information that documents what you have in place, what you do, and what you hope to accomplish. You might see the wording as being slightly different than some of the ones you've encountered. There is a united way model or other entities. I'll try to crosswalk some of the language if that becomes difficult. The basic elements of a logic model are resources, to what must this program have in order to function well? Activities, what must this program do to achieve our intended results? Outputs, how much do you do for how many people? Outcomes, so what? What difference does a program make? And the goals. What core community value does my program address? These are the five core elements and we'll talk about each going forward. Next slide, please.

So why do you develop a logic model or what are the benefits associated with doing it?

Well, first of all, what you'll see through the logic model it helps you articulate the process and outcome side. For many of you who are familiar with the term evaluation, you come across people saying I did a process evaluation or I did an outcome evaluation. Process evaluation in a nutshell means that you have collected data to determine whether you have done what you said you have done. So it's really trying to document your outputs. If you said that we're going to engage in three different activities and we're going to do that to serve X number of clients and we're going to do it three times a week and if at the end of the day you find that you, in fact, haven't done as much of the activity that you believe you would.

You didn't serve as many clients as you hoped you would you can do a process evaluation to try to understand well, why? Is it that we didn't have the resources that we needed? Is it that certain logistical impediments came in place that stopped us from being able to offer certain services? Is it that the participants themselves were not accessing the services as we thought they would be doing? This is really when you're talking about process, understanding what contributes to your ability to carry out your services. Outcome evaluation as we talked about is really on the other side. Now that you have engaged in these services, what has changed for the participants? So it helps you clarify each program element so we'll be able to know exactly what you're doing and what you have in place to do those things. It shows the relationships of inputs.

That is your resources and activities, to your expected results or outcomes. One of the things that we'll talk about as we go through this, it's extremely important in a good logic model to be able to make a logical connection between what you're doing and what you hope to accomplish. If you set three or four activities and then set a series of outcomes and somebody who is familiar with your field says, I don't believe that doing a combination of these workshops and these trainings with this duration is really going to impact someone's behavior, then you have to sit back and say, have we made the appropriate connections? Can we show that this relationship makes sense? Helps you identify major questions you want the evaluation to answer. Provides a graphic summary of how program parts relate to the whole. And the next slide which we'll come to in a moment you'll see this more clearly. Make explicit the underlying theory of a program. The logic model helps point to what is the underlying theory that explains why you do what you do? There are other techniques we work with and you may be familiar with known as theory of change models which allow you in greater detail to really articulate how what you do contributes to things in the short term and then eventually in the longer term. Identifies categories to measure and program evaluation. Next slide, please.

A program logic model we talk about is structure with five boxes. Resources, activities, outputs, outcomes, goals, the first three as we noted the resources, the activities and the outputs are helping us understand the process side. The outcome and the goals really help us understand the outcome evaluation side. Now, to point out program state goals that very rarely measure anything associated with those goals, because what we're talking about with the goals is that they are the ultimate impact expected to occur usually beyond

what one program alone can achieve. For instance, it doesn't make any sense for the homeless shelter to collect information on decreased -- the homelessness in the community when that is a broader goal. That is something that can probably easily be captured but it isn't something that just the homeless shelter would want to capture and link to what they've done. It's much -- it's very far removed from some of the more short-term outcomes such as individual clients have improved ability to get jobs. It's so much more farther removed than that and you wouldn't want to equate it with what is happening in this particular shelter.

The arrow going on the bottom that loops back is to imply that many times when programs work with a logic model, they don't necessarily start thinking left to right. So, for instance, we've had many individuals say well, we know what we want to accomplish. We have our outcomes in place, whether they've determined them on their own or whether they've been mandated by a particular funder. The question we have is, can we go backwards and say, we have our outcomes, what do we need to have in place and what do we need to do to get to those outcomes? So the backwards arrow implies this is really kind of a circular model. You can start at any point as long as the other things make logical sense. So the key with logical sense means, is that -- and the example we have here has to do with the development center. The key with the logical -- making logical sense means you feel comfortable that you have the resources that you need to engage in the activities that you want to engage in at a certain level or intensity or duration that you feel is necessary to have an impact on your outcomes.

So it's crucial, as you look through an example of a logic model, that there is detailed information on these resources, and we'll go through some of these examples here to see what that looks like, that there is detailed information on exactly what this program is going to do and for who. That there are outputs that really tell you how much of that activity is happening and that there are appropriate outcomes that if you're sitting there and say I can make a strong argument that if we do this program with a certain level of duration, then I should expect the kids or the youth or the families to change in this way. So the example that we have here is development center in the Seattle area called the wonderland develop center. They work with at-risk and disabled and special needs kids providing childcare services. And I'm going to walk you through this. It may be tough for people to see on their screen and you can print out a copy of this at some point.

Resources.

When we talk about resources we ask, what does this program have in place. Everything this program has to have in place to be able to carry out these activities? Some of the categories we talk about with resources include staff. So, for instance, you need to tell us who exactly is going to be doing these services. In this case occupational therapist, physical therapist, classroom assistant. Perhaps they also have volunteers. Community and parents who will be part of the process. Setting. Where exactly does this program occur? Does it happen in the community, it happens in the center, it might happen in homes. Community linkages. Another term we like to use is collaboration. If you're engaging an activity that requires others to be involved. You need collaborations in place. If you're relying on others it will, in fact, happening. Community linkages. Funders.

You need money and support to make this happen. So many times what you're asked to document in your resources are who are you getting money from and many times they'll ask you how much money you're getting, how much money you're getting from these different entities. Participants. You can't have a program unless you have participants. In this case infants and young children and their families with an emphasis on children with developmental disabilities. Activities. Your activities are what your program does. In this particular center, they're engaged in a classroom program that works on developmental areas and education. They provide some family support. Individualized and also parent groups. They provide family education, such as teaching independence. They provide center and home-based individual therapy. They do testing and evaluation. They have individualized family resourcing and coordination. Even if you know nothing about this program, you can see they're involved in a whole range of different activities that are intended to work with the kids and their families. The outputs.

In constructing a logic model, the best word of advice is that you have an output associated with each activity. So if you've stated an activity such as doing classroom programs, you should tell me classroom program for children two to four hours a week in a small group setting, OK? If you can have that information you might also want to talk about for how many people or how many children you're working with. So when we talk about outputs we're talking about how much for how many and for how long. So parent and support groups one hour weekly, parent and family education, one hour per week. Eight to ten weeks for parents of autistic children. Knowing nothing about this program I

know how much services is really being provided taking youth into these families. This is crucial in thinking about what are realistic outcomes.

If you're a parent -- doing a parenting skills workshop and your duration you've decided to work with 30 parents doing two, two-hour workshops and you've determined that a realistic outcome at the end of this program is that parents are more likely to engage in appropriate discipline behaviors, now I have a different program that works with same number of parents twice a week for 14 weeks and they have the same outcome, improving discipline behaviors among parents, in which case does it seem more realistic? Probably in the second case where I feel like these people have really gone through sufficient intervention for me to expect behavioral changes. Perhaps it doesn't make sense if you just come to two, two-hour workshops. So this is where outputs are particularly crucial in helping to think about what are realistic outcomes.

In this case the potential outcomes all stated as change statements. Understanding of a child's development for children who are participating in the program six to 12 months or longer so there is specificity there. Children 18 to 36 months with developmental disabilities to function in a larger society. Increase parent/family awareness in connection to resources to help support children and families. The ultimate goal -- this is way out there and there are many organizations involved in this with these same children, optimize development with infants and young children. The outcomes of what your program would measure and be held accountable to. Let me give you example for the poison control educators. Let's look at the next slide.

Prevention outreach slide is fine. OK. So prevention outreach campaign and thank folks at banner health. I'm not as familiar with this field. Prevention outreach campaign which I know a lot of the Poison Control Centers are probably involved in. Resources. You have educators, a setting where you're going to do these things. Funding that you've received. You have collaboration. If you're going to do some media you better make sure you're working with media outlets so you can get this information out. Service technology. Prevention materials or knowledge of the field. Examples of activities. A media campaign. Distribution of stories, radio, TV spots, interviews, pediatric outreach. This is not targeting the average person out there but it's targeting individual contacts with physicians, perhaps doing some focus groups with providers, distribution of material packets to providers, physicians, medical professionals and such. Website development. Enhancing the poison center website creating links to other resources. This is how much is done in each of these activities.

So we have a good understanding of does it make sense over time that we see changes in the population that you're trying to target, that we see changes among the physicians or provides that you're trying to target with the pediatric outreach. Five to ten radio/TV interviews, etc. Now, another point of the logic model that I want to indicate here which is important is that you can use the process side looking at the resources, activities and outputs, to have a sense of whether or not you really are going to accomplish what you want to accomplish. Let's say that we look at this and it says we're going to do X number of interviews, going to do staff contact, six office staff focus groups for a year and look

back and I ask myself, for instance, do I have enough staff in place to be able to do all these outputs that I've specified? So if I've specified a set of outputs that is going to point me to saying I really need five or six educators and I only have three educators am I really going to be able to do the intensity and duration of services that I've outlined here?

And if I can't, then are the outcomes I've specified still realistic or do I feel like I have to do something of sufficient intensity or duration to accomplish these outcomes. That's where it's important to look back at your resources. Resources point you to what you have in place. Maybe I don't have the money in place. Maybe we don't have the funding in place to be able to carry out all these activities and thus if they don't happen at the end of the year you have a better understanding of what went wrong. So in this particular case we talked -- we've identified some outcomes. Increased awareness of the poison center. The 800 telephone number, potentially increased use of the 800 number. And increased total call volume, which I would leave all you educators to talk about is some question of whether that's really indicating success or not success in terms of what you're trying to accomplish but it is a change over time.

Increased knowledge of poison prevention among physicians and other providers.

Increased use of prevention materials during patient visits. Increased awareness and utilization of the poison center website. Increased links to the website for those who are creating the website. So what we're talking about are outcomes that this program would feel are realistic over a certain time frame and the next step would be to think about how you would gather information on knowledge of poison prevention or use of prevention

materials or links to websites. In some cases it should be straight forward. In other cases it could be more challenging. That's when you're starting to talk about your indicators.

OK. Next slide.

Briefly, very quick I'll just talk about this. This is another example of referred to healthy pregnant women logic model. I think the things I want to point out in this particular logic model is that there are a series of activities and outputs which are well documented. The outcomes that we've outlined here is to point out that there are -- this particular program, its initial impact is intended for providers. So we're talking about promoting early access, developing a model, publicize a referral line. Hopefully the changes we've documented with the providers, knowledge of a smoking cessation model, counseling clients on smoking cessation, ability to counsel clients on nutrition and weight gain.

The next step these providers take this information and thus are able to impact their clients. Smoking -- decreased smoking, maintained or improved nutritional weight gain status. So the most realistic outcomes for this particular program whose primary audience is the providers, are the changes in those providers. Whatever changes occur among the clients are predicated on how well the providers have been able to turn this information into their own practice. And this is something you will encounter many times and what this points out in thinking about what is realistic or what is reasonable, what you can be accountable for, is that there are more and more external factors that come into play when you try to measure things at intermediate outcomes. Some of the changes in smoking, weight gain, etcetera, among the clients may have nothing to do with their interactions

with the providers that you worked with. This is important to understand. OK. Next slide, please.

Very briefly I want to talk about indicators. We actually do an entire training on indicators in greater detail. Let me just point out, because once again you hear people say well your outcomes and performance measures. In the language that we talk about outcomes is a broad statement of change. We've seen a number of examples as we've gone through this particular training of statements of change over time among the participants. Change in the knowledge, behavior, attitude and such. Indicators is that we need to get greater specificity. So if we say, for instance, that there is greater knowledge among physicians in terms of the particular model that we talked about, the question is, what are some specific pieces of information we can gather that tell us that, in fact, they are more knowledgeable. Next slide, please.

Indicators are detailed examples that can be seen, heard or read that demonstrate that the outcomes are being met. So if we are interested in a change in knowledge what kind of information can we gather from these participants that tell us that they know something more about this or know something more about that? So it's more specific statements that describe how outcomes are being accomplished. And this is particularly crucial to understand. What we find is that indicators is a place where most people get stuck in the evaluation process. And the most common thing that occurs is that individuals identify good outcomes and they identify relatively good indicators. But the problem is, is that they don't identify indicators that tell you about those specific outcomes. They may, in fact, be

telling you about something different. An example, a number of years ago I sat down with a group and they told me that their outcome was individuals will have greater self-esteem. And they said the way they're going to know that is that the individuals they're working with, these happen to be students who are in a classroom setting, is that there would be decreased number of discipline referrals among these youth.

Because that is something they felt was easy for them to capture and document. And the question I asked back to them is yeah, does getting in trouble essentially does having a discipline referral mean that a youth has low self-esteem? In fact, it doesn't tell you anything about their level of self-esteem, it just tells you that they're engaging in kind of an antisocial behavior. What we work -- and so what they have is a good outcome and a good indicator but it wasn't the right indicator for that particular outcome. And this is the thing that you encounter more times than not, which is difficult for a lot of folks to comprehend, is getting the right indicator for that particular outcome. There is one trick that I'll tell you about, which we like to use is if you have identified an outcome and you want to construct some indicators and you start generating some ideas, so we're interested in an outcome such as improved -- well, let's go to the next slide now.

One of the outcomes here that we talked about is an improved healthy lifestyle. And you generate a series of indicators and ask yourself every time that you state the indicator, you use what we call the means of that cry -- criteria. Does maintaining a low sugar diet - here we're talking about a particular set of clients in the diabetes prevention program, so clients with diabetes. Does maintaining a low sugar diet mean that this particular

individual has a healthy lifestyle? Well, it's probably not the only thing that tells you that but there seems to be a close connection. Maintaining a certain diet means healthy lifestyle. Well, that sounds logical to me and I don't have a lot of questions about that. Does undergoing health screenings every two months mean that they are improving their healthy lifestyle? Well, if that sounds logical to you it is probably a good indicator. Conversely if it sounds more like an if then, I'll go back to the example I told you just a moment ago, does having a discipline referral mean that a kid has low self-esteem? That doesn't really sound right to me. It sounds more like if somebody has a discipline referral or has more discipline referrals they may have lower self-esteem. If that's the case, if it sounds more like an if then, then that's probably not the right indicator for a particular outcome.

This is the hardest thing for many people to understand in the process and it takes a lot of time to go through but it is particularly crucial because what happens is that a number of programs might claim that they're measuring the same outcome but in fact a number of them are measuring it in different ways and some not in appropriate ways and it questions the validity of the results. The particular examples on this one have to do with a health promotion diabetes prevention program. You can see some of the outcomes. The key is to get greater specificity. So with access to resources what is access to resource mean? Greater awareness of available resources. They report using more resources than they did before. Perhaps this is gathered through a survey or an interview. Improved healthy lifestyle. Engaging in exercise or physical activity three times a week. Maintaining a low sugar diet and health screenings every two months. Greater specificity. Perhaps capture

this by survey questions, interview with a client and case record. Turn to the next slide and then after that I'll take some questions.

So what I tried to do was for the outcomes I specified earlier come up with some potential indicators of those outcomes. So we talked about increased awareness of emergency resources. So, for instance, the participants that we contacted to collect data from can identify their local poison centers and identify two other places to contact in case of a poison emergency if they're unable to get to the center in some way, shape or form. Improved nutritional status of pregnant teens. Teens report being able to eat three meals per day which is important for nutrition working with at-risk or homeless teens, this may be something they aren't able to do. Teens report less consumption of sugar and caffeine. We're talking about things that tell us about nutritional status that you can capture in some way, shape or form. Increased utilization of pre-natal care services. 80% of homeless pregnant women use services at least once a week. 75% of homeless pregnant women come to all scheduled appointments. These are things telling us about utilization of services. So I'm going to pause at this point and take any questions that have come up.

CADE: We have one question. Can you give an example of an indicator that would be appropriate to use for measuring awareness of a change in resources?

DR. MARC BOLAN: Well, that they -- the awareness is that perhaps a question on -- I'll give it in the context of a survey. The -- you've identified a population that you've targeted through an awareness campaign that perhaps might even just be a random sample of

citizens or something and you're able to access them. And you can identify either say -- the question might ask something like this. Please identify three places in your community where you could -- if an emergency occurred, where -- if a poison emergency could occur that you could contact to get information about what to do. And perhaps even have them, if they can identify, you know, an 800 number or if there is a website or a name of the place and try to get a sense of how many people can actually associate that your particular location is something that would be treated as a resource. Conversely, you could perhaps give a list of places and have them identify which ones would be appropriate places for them to contact if there was such an emergency and to have them try to distinguish which ones are appropriate places versus those that are not.

CADE: At the present time that's all the questions we have.

DR. MARC BOLAN: OK. I will take a couple more minutes on just to give you some sense of the other parts of doing an evaluation. We won't go into any great depth on this and then with that we'll call it a day. Let's go to the next slide, please.

OK. So very briefly. Data collection thoughts. You're at a point where you feel comfortable that you have a good set of indicators and you are starting to get a plan of action how you're going to gather this information. The most common approach is that you'll potentially utilize include surveys which usually are written instruments with certain open ended and close ended questions. Perhaps interviews which are a little bit more open ended, structured. They will probably take longer to do and you probably are unable

to do them with large populations. Observations and I will point out that observations are the best approach -- one of the best approaches to capture information on behavioral outcomes. You have somebody actually observing somebody doing something differently. Case records if you happen to be a situation where you are working with clients on a one-on-one basis in case management scenario and you may be capturing information along the way through your standard data collection. This might be the place where you get information for your indicators. Other kinds of physical or cognitive assessments that you may have encountered. Official records. Data that is captured by other entities. Health records, vital statistics, census data if it's appropriate for what you're doing. Next slide, please.

So the goal is that eventually you put together what is called an evaluation plan. Once you have identified your outcomes and your indicators and your data collection methods and tools, because you may have to construct these surveys or interviews if they're not available to you. You want to think about your evaluation design, your frequency in scheduled data collection and whether you need to do any sampling or sample size or sampling strategy. One thing I will point out with an evaluation design is that outcomes assume change over time unless you specified a unique target. The implication of that is you need to know what an individual looks like at one time point versus another. The most common and perhaps the most accurate way of doing that, especially if you're doing prevention with kids or you're working the curriculum or you have a core set of clients you're working with is to be able to capture that information at multiple time points. Many of the organizations we work with we help with them follow up surveys. Observations are

done at the beginning of a program, at the end of the program. But the implication is that you collecting data at multiple time points suggesting some kind of pre/post, design. Next slide, please.

The particular -- what we lay out here in greater detail when you print this out is the kinds of this innings -- things you're looking for and some of the specifications in terms of data collection in terms of frequency and schedule. We want you to think about how often will you collect the data? Will you collect it from everyone at multiple time points, every six months. Is it going to be a random sample or randomly sample 200 or 1,000? What are the implications of doing each. Next slide, please. And this is a specific example you can look at it in more detail about a particular logic model associated with parent and child literacy. I didn't have an example in here. If you look at the materials later on or there is a book that a number of you purchased which has the details it can give you some specific examples of an evaluation plan. OK. We have questions so let's go from there.

CADE: We have some questions. Any method to use to assess this indicator other than survey?

DR. MARC BOLAN: Which -- is there a particular indicator that you speak of or any indicator?

CADE: I have no follow-up on that other than it's from Evelyn. If she can resubmit more detail.

DR. MARC BOLAN: Let me answer it in this way. There are -- one of the things that you assess any time point is there could be multiple methods to collect data on indicators. So, for instance, if we're talking about the prior example about awareness, you could use an interview method but what the limitation is that if it's built into an interview where you have to have some kind of individual contact with someone and ask them questions about what they're aware of, that could be more time consuming and logistically challenging than if it was a question on a survey that could have been given to hundreds of individuals. As I mentioned about using an observational method to measure behavioral outcomes or indicators, an observational method is not the best way to capture information about an individual's knowledge. It is hard to observe what someone knows. But what you could do is more likely you go in to capture some information about -- you have to ask them in some way, shape or form whether that's a survey which you can tend to do in a more efficient manner with a large number of participants or a focus group where you can get greater depth on what you're trying to measure but it typically has to come from a smaller number of participants. I hope that addressed the question.

CADE: Could you give some indicators that might be appropriate for a disease-management program?

DR. MARC BOLAN: Not too familiar with the terminology but let me try to take a crack at it. As a disease management program would probably be something that is an example might be working with clients who are -- who have a disease and it's progressing along. I

would imagine that some of the really short-term outcomes and thus associated indicators for a disease management program might be that the clients who are suffering from something such as diabetes, if a client has diabetes perhaps has fewer negative episodes. I don't know the field too well to know exactly what fewer side effects or fewer instances of acute diabetes and that you could ask the participants or if there is some kind of assessment form that tracks how often, you know, people are asked to record how often they have negative medical episodes that either of those could be a source of that data. I hope that addresses the question.

CADE: We have another question. The outcomes on the poison prevention example deal with excess of poison -- the access of poison centers. How can we tie this to the reduction of number of poison exposures?

DR. MARC BOLAN: Perhaps it is not tied to -- going back to my -- well, that is something - that is a good question. If your theory suggests that individuals, by being able to access the center and if we treat access not just as using it, but access in terms of gathering more information or getting more insights about how to prepare your home or deal with difficult situations, then I guess what one of the things that access contributes to is that people being more knowledgeable or have greater understanding of the potential dangers, which I guess would, you know, down the line, is something people more knowledgeable, more aware, which comes from that access that they -- that it might lead to this reduction. That's the best I can figure off the top of my head.

CADE: What can poison center educators do to gain more experience in using the logic model?

DR. MARC BOLAN: Well, I can point -- one thing I'll definitely point to is that we have a publication which is available which I think is going to be on the last slide that kind of documents what we've talked about today and provides some greater detail. That's one place that you can start to learn more about the slide that's up now. That you can go to that website and order it. It's a book called "Outcomes for Success" that lays out the object model. Kellogg foundation has done a lot of evaluation. The united way of America has materials also available for understanding how to use logic models and other evaluation approaches and that's probably a good starting point. I don't know what the funders in the realm that you all work in are requiring, but we hear in Washington State more of the different kinds of funders that we work with are, in fact, requiring individual grantees and programs to document logic models. So there may be some funders in the world that you work in who are also have some materials that outline what they're looking for.

CADE: The goal of poison prevention is to decrease poison exposures. How can we measure that outcome? And we also want to inform parents of our services, increase call to the poison center can reflect greater awareness. If we do our job well to prevent exposures less calls might reflect that. Your thoughts?

DR. MARC BOLAN: That's a debate that I don't think I'm prepared to get into. I had this discussion with Ann Marie from banner health the other day. I will put out a similar situation we dealt with in an evaluation where we were asked to measure information on reported sexual assaults and reported rapes, as well as calls to sexual assault centers. I'm not certain how I would address this question. If you believe that the first step in terms of what you're doing is really to gain more awareness, which thus brings in more calls, then potentially maybe in the short term the way you position yourselves is that by getting more calls it actually means that people are more willing to call and that is a good thing. But as this continues to happen X number of years down the line when you have other evidence that suggest that people are very knowledgeable and very aware, then that is problematic. At this point that's the best way I can answer that particular question.

CADE: OK. We have time for one more question. If you do a pre-test and later a post test to check poison prevention knowledge for a group of parents, do you have to be able to match up individuals pre and post test to see if there was a change in knowledge?

DR. MARC BOLAN: Yes, you do. The technique you want to look at this to be analytic techniques predicated on the fact of what is a paired sample. You're looking at the same individual at two time points. Now, we work with agencies. How you do that, one of the most common ways of doing that without -- without making -- to allow for confidentiality is that you can construct kind of a code that people fill out on the survey that is a combination of letters of name and date of birth numbers, if this is easy information for

people to provide. In the end you link based on those codes hoping that people have filled them out correctly and look at those individuals where you have data at two time points.

KERRI BOOTH: Well, I would like to thank Dr. Bolan for sharing this valuable information with us today and also to thank the viewers that logged on today to our webcast. An archive of this webcast will be available in a few days at mchcom.com. At the conclusion of this webcast, the interface will close automatically and you'll have an opportunity to fill out an online evaluation. Please take a few minutes to do so. Your responses will help us plan future broadcasts in this series and improve our technical support. Again, thank you very much.

DR. MARC BOLAN: Thank you.