Transcript

Logic Models & Outcome Measurement

Making sense of what happens as a result of our efforts

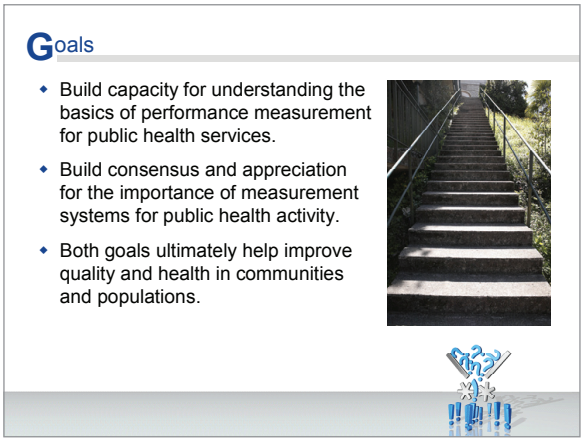
Logic Models and Outcome Measurements

Hi, my name is Betty Bekemeier, and I'm from the Northwest Center for Public Health Practice. I've been faculty at the School of Public Health at the University of Washington since 2001. Before coming to the University, I worked in practice in local public health settings mostly throughout Washington State. Once at the University of Washington, I also worked with numerous state health departments throughout the US, in connection with my role with the Robert Wood Johnson Foundation's Turning Point National Initiative.

Today I'll be providing you with an overview and basic introductory information on logic models and outcome measurement. This module takes most people about 45 minutes.

Overview

I'd like to start with a bit of an introduction. Outcome measurement is all about measuring and articulating what we do and what we want to accomplish when we do it. That's what I'll be talking about in this module. First I'll talk about why outcome measurement is important. Then I'll talk about what the process looks like, what it means for us, and how you might do this. At the end I'll briefly talk about what comes next and a little bit about ways in which you might use this process.



Goals

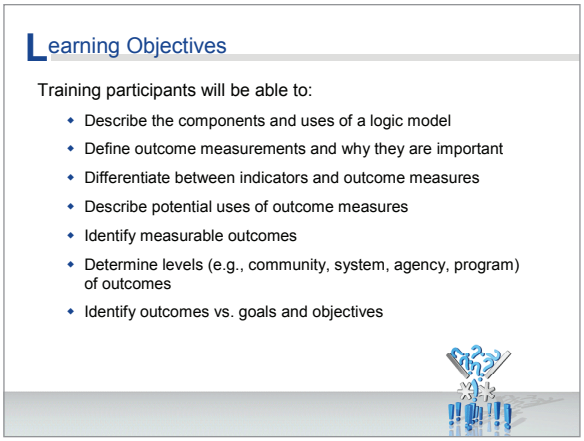
The goals of this module are pretty simple.

Our first goal is to build capacity in the local public health workforce for understanding the basics of performance measurement for public health services.

Our second goal is to build consensus and appreciation within the local public health workforce for the importance of measurement systems for public health activity.

And of course, both of these goals are ultimately to help all of us improve quality and health in our commu-

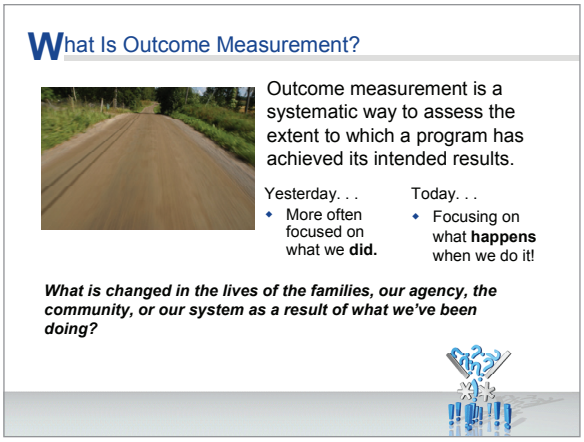
nities and populations. This training will not make you an expert. Instead, this online module is designed to provide a basic overview and give public health staff some common language so that we can work together better and improve our programs and activities.



Learning Objectives

Since every training module ought to start with learning objectives, I want to say a little bit about what you'll be able to do by the end of this module.

First, you'll be able to describe the components and uses of a logic model. You'll able to define outcome measurements and why they are important. You'll also be able to differentiate between indicators and outcome measures. You'll be able to describe some potential uses of outcome measures within your own agency and your own programs. You'll also be able to identify measurable outcomes. You'll be able to determine levels of outcomes, for example, community, system, agency, or programmatic levels. And, lastly, you'll be able to identify outcomes versus what are commonly referred to as goals and objectives.



What Is Outcome Measurement?

Let's start with the most basic question. What is outcome measurement?

Outcome measurement is just a systematic way to assess the extent to which a program has achieved its intended results. Traditionally we've often been more focused on what we did. We've gotten very good at counting how many times we've made a home visit or given a shot or saw so many clients in our clinic. But more and more we need to focus on what happens when we do the things we do. So, to get there, outcome measurement starts with a very simple but important question: What is changed in the lives of the families, or our agency, or the community, or our system as a result of what we've been doing?

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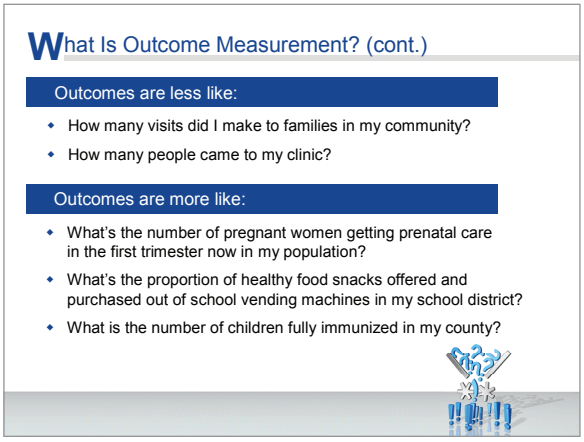
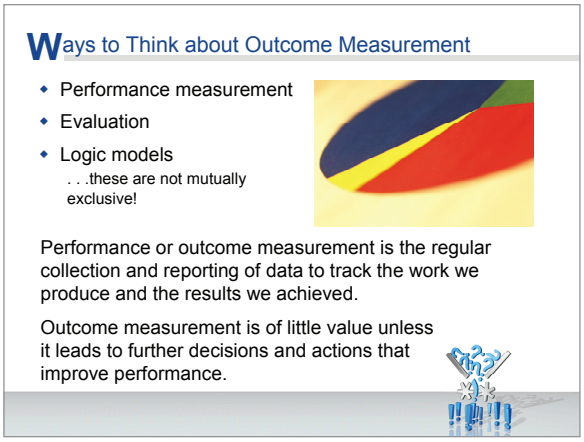


What Is Outcome Measurement? (cont.)

Outcomes are less like, for example, "How many visits did I make to the families in my community?" or "How many people came to my clinic?" Instead, our questions are more like: "What's the number of pregnant women getting prenatal care in the first trimester now in my population?" or "What's the proportion of healthy food snacks offered and purchased out of school vending machines in my school district?" or "What's the number of children fully immunized in my county?"



Ways to Think about Outcome Measurement

Performance measurement, evaluation, and logic models are all terms you will hear in conjunction with the idea of outcome measurement.

People sometime use these terms to mean overlapping things, and occasionally use them interchangeably. None of these terms are mutually exclusive from one another, and they're all interrelated. When we talk about outcome measurement, it's something we do when we evaluate our programs. Logic models are one tool we can use to perform outcome measurement.

In any case, these terms are sometimes like moving targets. They mean different things to different people, but they all advance what we are trying to do, and that is, measure our outcomes. Performance or outcome measurement can be understood to be something like the regular collection and reporting of data to track the work we produce and the results we have achieved or are achieving.

Ultimately, however, outcome measurement is not an end in itself, it is rather a means to an end. Outcome measurement itself is of little value unless it leads to further decisions and actions that seek to improve the performance of a program, or of an agency, or even of an individual.

Why Do We Need to Do This?

So, why do we need to do outcome measurement? It's hard work. Well, for one thing, there's a lot of talk these days about accountability. We need to provide accountability. Also, outcome measurement helps us to improve our program quality. It can help support decision-making about how we allocate

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Logic Models & Outcome Measurement

Why Do We Need to Do This?

- To provide **accountability**.
- To improve program **quality**.
- To make decisions about **how we allocate resources**.
- To help us **market our programs** or help programs **market themselves.**
- To improve the health of our communities.

Accountability
Nationally, there's been increasing emphasis on our contributions to the public's health. We need to be accountable.

Program Quality
Many state and local health departments have been setting standards. This relates to program quality.

Resource Allocation
Measuring our outcomes helps us establish the contribution of our resources. This relates to decisions about how to allocate resources.

Program Marketing
Articulating the contribution of our resources and activities helps us market our programs.

resources. It can help us market our programs or help our programs market themselves. And, again, all of this is ultimately to improve health in our communities. Now, I'm going to talk about a few examples of these different bullet points.

In terms of accountability: Nationally, there's been increasing emphases on articulating what we do and what our contributions are to the public's health. This is related to, for example, funding pressures. The outcomes of our programs really need to support what we are doing with our finances—in all of this we need to be accountable.

Many of our state and local health department systems, or public health systems on a larger scale have also been setting standards for themselves. That relates to program quality—or making certain that the public can expect that we are striving for a particular standard of health in our communities. Standards also relate back to accountability to the taxpayer.

Measuring our outcomes also helps us establish the contributions of our resources, our staff, our buildings, and our technology to the health of our communities. This can direct decision-making about how we allocate those resources.

Articulating this contribution of our resources and activities also helps us market our programs and what we do.

This is all about improving health in our communities. We don't do this just to give people jobs or to sell a product.

Everyday Example: Marathon Runner

- **Goal:** To make a better time than last year
- **Resource:** New running shoes
- **Activities:** Running workouts
- **Outputs:** Train 5 days a week; keep increasing #s of miles
- **Outcomes:** Training times/mile, overall time/distance, better energy level or blood pressure

Everyday Example: Marathon Runner

Now, let's see what this might look like. We'll start with a scenario outside of public health. We'll look at a marathon runner who wants to run her second marathon. Even if you're not a runner it is easy to see that when a runner trains at various distances and keeps track of the time and distance of a run, these activities can assist her in determining whether some change in her race strategy might make sense in order to improve last year's time in a race. Let's look at the components of this example. If I'm a runner:

My goal might be to complete the marathon and make a better time than last year and thereby to improve my performance.

My resources could be that I want a new pair of running shoes. I think a better pair of running shoes, for example, will really help me run better. Besides making me look good, of course.

My activities might be that I'm going to have a regular running workout for myself.

And, specifically, my outputs might be that I train five days a week and I keep increasing my number of miles.

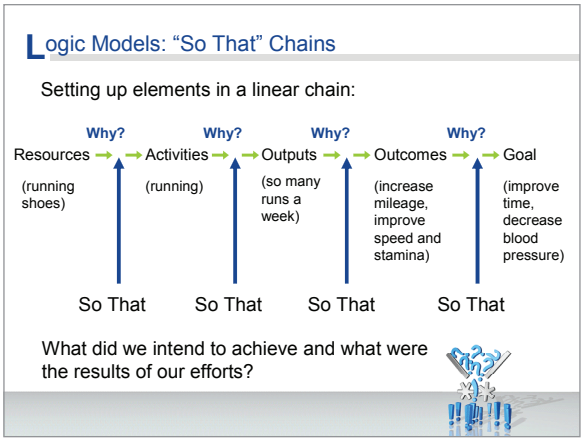
My outcomes might be that my training times per mile improve by a certain amount, my overall time and distance improve, and maybe my energy level is better or I get a better blood pressure out of this activity. There could be a variety of different outcomes I might be looking for.

How Do We Do This?

So in terms of how we do outcome measurement, let's take a look at what I just did with the runner example.

First, I set a goal for myself. I'm going to run a faster marathon. I define my activities. I'm going to train five days a week, and increase my number of miles. I identified my inputs, or resources. I'm going to buy a new pair of running shoes. And, I define my outcomes. I'm going to develop my physical conditioning and increase my endurance.

We also put down here "build consensus around these measures." That's because that's something we often do in outcome measurement. In the case of this running example, maybe I'm going to do this with my best friend and the two of us need to build consensus about the outcomes we are going to measure for ourselves as a pair.



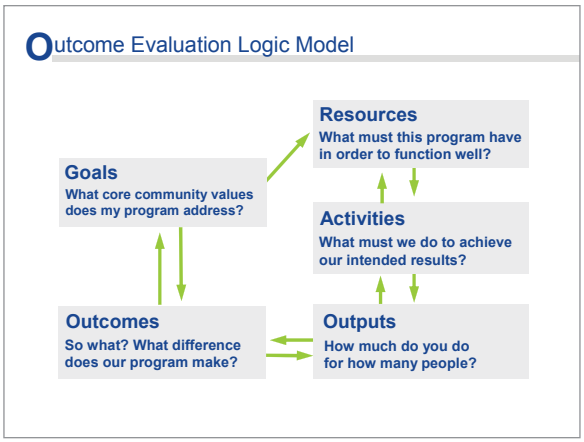
Logic Models: "So That" Chains

Now, if we can set these same elements up in a linear chain, we start to see what we call a logic model. So, if we think first in terms of my resources, those running shoes, remember? And we say, why do I need those running shoes? Well, they are so that I can go running. So, why do I go running? Why do I do my workout activity?

I do this so that I can make sure and get in so many runs a week and work my way up to at least 20 mile runs before the day of my marathon. These are my "outputs" or my units of activity. But why do I need to do this many units of activity? It's so that I can ultimately go the full 26 miles and improve my speed and stamina. So why do I want to do that, why do I want to go through all that hard work? It's so that I can improve my time from last year. Or perhaps my goal is to decrease my blood pressure.

In the past we often stopped putting the "so that" statements after our inputs. The work we did in our health departments or in our public health

settings often kind of stopped after we looked at how many of something we did, or how many clients we saw, or how many shots were given. This is what kept us sometimes from answering the real questions that are related to what we intended to achieve and what were the results of our efforts. That's outcome measurement.



Outcome Evaluation Logic Model

We can look at the "so that" logic model chain in another way. We might start with our goals. As we define a common goal, we might ask ourselves, what core community values does my program address?

Then what are the resources we have to achieve this, or what must this program have in order to function well?

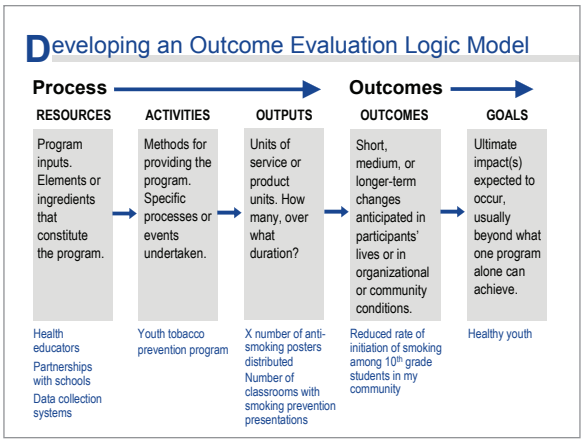
Then we look at what activities we have. What must we do to achieve these intended results? And what might be our interventions to improve individual or family life in our communities?

And then, how much of this do we have to do and for how many people to reach our outcomes, that is, what difference has our program made?

Then again, look back at our goals.

There are different ways of looking at this diagram. If we go clockwise in the direction of the arrows, that's what we're doing when we're evaluating our program and seeing how we did.

We might also go counterclockwise and that might be what we're doing when we're planning in our communities and in our county. We look at what goals we all have together and what outcomes we would like to see achieved, and then how much would we need to do of what, what activities, and thereby what resources, and so on.



Developing an Outcome Evaluation Logic Model

A more typical logic model might separate out the elements in terms of the processes and the outcomes.

First, in terms of processes, that might be the resources we look at: consider those running shoes for our marathon, or in the case of a youth tobacco prevention program, it might be our health educators, our partnerships with schools, or our data collection systems.

Then, what are those activities that we need to have to

conduct the work, that is, the specific processes or events we undertake. In this case the activity is our tobacco prevention program.

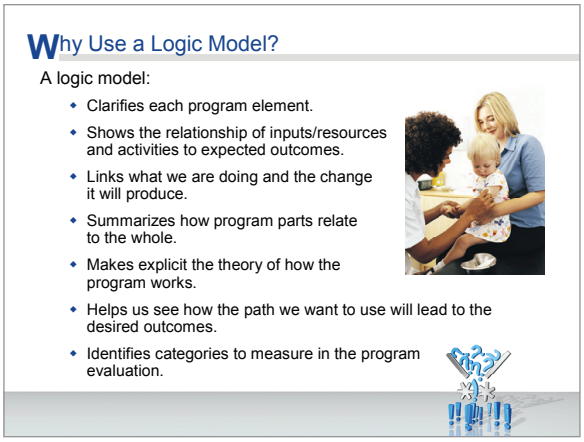
Then we define our outputs. Outputs are units of service or product units. So how many did we do of what over a particular period of time. In this example, outputs include a certain number of anti-smoking posters distributed, and a number of classrooms receiving smoking prevention presentations from our public health educators.

Then we start looking at our outcomes. Outcomes might be short, medium, or long term changes that we anticipate. In this case, the outcome is a reduced rate of initiation of smoking among 10th grade students in my community.

And, ultimately, our goals are the ultimate impact that we expect to see occurring. Our goal in this case is healthy youth. Goals may be much bigger than just our program. Goals are often things that our program contributes to but which are also supported by other things going on in the community, such as among other providers, or other activities going on within our public health agencies. Goals are bigger than just our one program, or our single activity, or the processes we're looking at.

In any case, we look at this diagram and we see that logic models are not linear, they are in fact, circular. Remember that a logic model or outcome measurement is not an end in itself, but really a means to an end. Ultimately, we need to go back and look at our outcomes and make decisions about: whether we need more resources, whether we are achieving our goals or our outcomes, and whether we should make changes in our programs in terms of the activities or outputs that we are performing.

Exercise 1



Why Use a Logic Model?

You may be asking yourself, why should we use a logic model? We don't have to use a logic model to do evaluation or measure the outcomes of our programs. But, logic models are a very handy way of clarifying each element in our program. They also help us see the relationships of the inputs, that is, our resources, or our activities to our outcomes. It's that link between what we are doing and the changes it will produce. We really want to be looking for how these links are made.

A logic models is also a graphic summary in clear language of how the program parts relate to the whole, making explicit the underlying theory of our program as well. This helps us understand questions like: how does this program really work?

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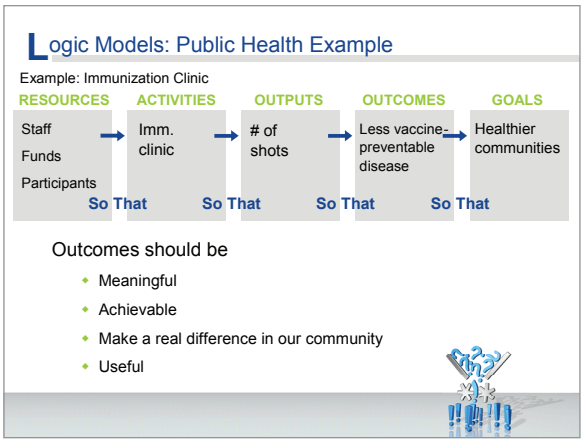
A logic model helps us see how the path that we want to use in our program or processes will (or perhaps won't, given its current process or the way we're currently doing it), lead to the outcomes that we'd like to achieve with people. And then, the logic model identifies those categories we want to measure for our program and our evaluation. It helps identify the major questions, those outcomes that we want to answer. And this takes time, but it's time well spent.



Logic Models: Public Health Example

We've talked about a marathon runner, but now let's talk about an example related to public health. Let's look at an immunization clinic.

We can start by looking at our resources or our program inputs. In this case, they might be our staff, our funds, even our participants that come to our immunization clinic. So why do we have these staff or resources?

It's so that we can carry out our program, in this case, conduct our clinics. We have this immunization clinic so that we can conduct our outputs such as services or product units, in this case, the number of immunizations we give.

These resources, activities, and outputs all create the outcomes of change in our community such as less occurrences of vaccine-preventable diseases. This will happen ideally as a result of our specific efforts in this immunization clinic.

Outcomes should be directly related to the core work we're doing, they ought to be meaningful, they ought to be achievable, they ought to make a real difference in our community. And they ought to be useful, they should help us in our decision making.

So now, in this case, it's not just our immunization clinic that is creating healthier communities, but our immunization clinic is contributing to the bigger, broader, goal. There are other programs in our agency or in our community that also contribute to this goal.

Writing Outcome Statements: Change

I've been differentiating a bit between outcomes and goals. Writing outcome measurements can be one of those more difficult things to do in a logic model, so I'd like to talk a little bit about that in terms of the different kinds of outcome statements we can write or provide. How do these outcomes differ, what do they look like? Outcome statements can be written in terms of change statements, targets, or benchmarks. So, first, let's talk about change statements.

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Writing Outcome Statements: Change

- Can be difficult to write
- Can be written in terms of change statements, targets, or benchmarks

Formula for writing a good change statement

The change or desired effect	In what	For whom
Increase	Attitudes	Population group
Decrease	Perceptions	Program participant
Maintain	Knowledge	Client
Improve	Skills	Individual
Reduce	Behavior	Family
Expand	Agency	Neighborhood
	Organization	Community
Example:		
Increase	*immunization rates*	*among children in our community*

A change statement is an outcome measurement that we're going to write when we talk about increasing or decreasing something. In our vaccine preventable disease example we could say we want to increase the immunization rate among children in our community. We can use this formula to help write a change statement by using one of these words for a change or desired effect. And then, what do you want to change, in what, and for whom—for the people in your community.

Writing Outcome Statements: Targets

Formula for writing a good target statement

The target	For whom	In what
Percentage	Population group	Attitude
Rate	Client	Perception
Ratio	Individual	Knowledge
Amount	Family	Skill
	Neighborhood	Behavior
	Organization	Condition
	Agency	
	Community	
Example:		
80%	*two-year-old children*	*will be immunized according to recommended schedule*

Writing Outcome Statements: Targets

Alternatively, your outcome statement could use targets. Using our immunization example, we could say we want to immunize 80 percent of two year old children in the community according to the recommended immunization schedule. This is more specific than the change statements talked about previously. Here we really want to provide the target we're looking for be it in a percentage, a rate, or the amount for whom in what. We're displaying what we want to accomplish.

Writing Outcome Statements: Benchmarks

Benchmarks are more specific and use comparative targets.

Amount of change	For whom	In what	Against what standard
Example:			
Increase rate to 90% by 2010	*children ages 0–24 months*	*immunization*	*as compared to current rate of 70%*

- Need a baseline
- Build baseline into evaluation

Writing Outcome Statements: Benchmarks

When we use benchmarks in our outcome statements, they're even more specific, and they use comparative targets, like maybe we'll increase the immunization rate to 90 percent by 2010 for our children age 0 to 24 months, as compared to the current 70 percent immunization rate for this age group in my community.

If we use an increase by so much of a percent, this means, that we'll need to have a baseline in our communities. We have to have this already in place, or build it into our evaluation.

Outcome Levels

At the beginning of this module, I mentioned that there are different ways to look at outcomes in terms of levels.

We can use logic models to look at our own individual performance if we want to. On the job I might use a logic model to improve my own work. Or I might use one with a staff person.

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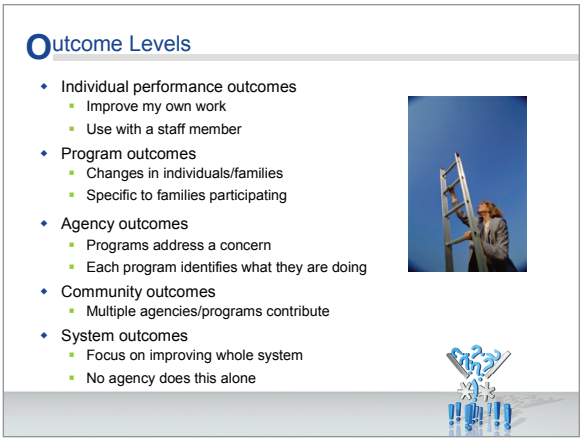


We often use logic models for program outcomes. We might want to see changes in individuals or in a number of families that we think are influenced by our program alone. These outcomes are going to be specific to the families who are participating in our program or with our organizations.

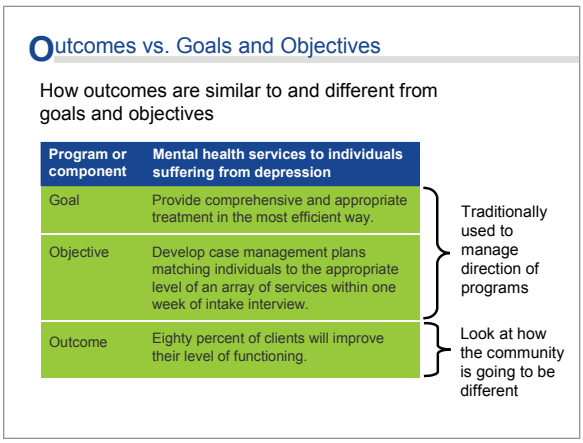
Outcomes can also be at an agency level. One agency I worked with decided on a certain set of priorities that all staff members were going to work toward together. One priority was reducing tobacco use in their community. The agency looked at each of their programs and asked each program to identify what they were going to do or were already doing to reduce tobacco use. As an outcome, the agency is making certain that all of their programs are addressing tobacco use.

A community level outcome might be based on a number of organizations or programs. This might be a joint effort by multiple agencies, funders, or community based organizations. For instance, the community as a whole might decide to decrease teen pregnancy in their county. Each agency or each community-based organization is going to see how they can contribute to that broader outcome.

And, finally, we have system level outcomes. This might be a group of agencies working together to improve their overall responsiveness to emerging public health issues. They might all be working on improving their systems as a group to be ready to respond to any new health threat such as the arrival of West Nile Virus. Again, this is focused on improving a system as a whole, and no one agency would be doing this alone.

These outcome levels can overlap and aren't hard and fast. They are different ways of looking at how we can use our logic models.

Exercise 2



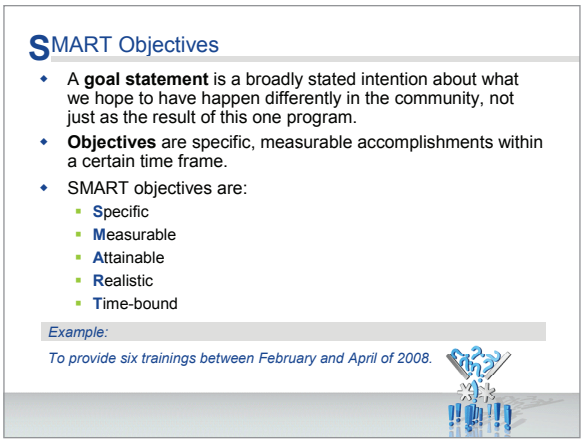
Outcomes vs. Goals and Objectives

Let's talk for a minute about outcomes and how they are similar to and different from goals and objectives. This quite often gets people hung up.

This slide gives us an example of a mental health services program to aid individuals suffering from depression. The goal of this program might be to provide comprehensive and appropriate treatment in the most efficient way. The objective, however, is to develop case management plans matching individuals to the appropriate level of

an array of services within one week of an intake interview. But our outcome in this case might be that 80 percent of these clients will improve their level of functioning.

Goals and objectives are what we have traditionally used to manage the direction of our programs and our organizations. But when we shift to outcome measurement it supplements our goals and objectives with more carefully considered outcome statements that really look at how our clients are or how the community is going to be different as a result of what we are doing.



SMART Objectives

A goal statement is a broadly stated intention about what we hope to have happen differently in the community in a broad way, not just as a result of this one program.

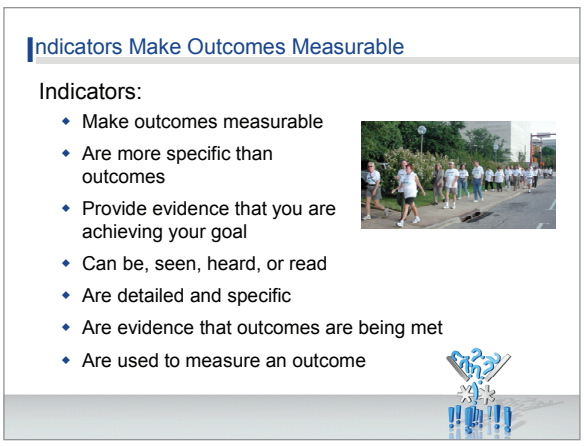
In contrast, objectives are specific measurable accomplishments within a certain time frame. They always begin with an action verb.

These objectives are SMART. You may have heard of SMART objectives. That means that the "s" is specific, the "m" is measurable, the "a" is attainable, the "r" is realistic, and the "t" is time bound. An example of a SMART objective might be to provide six trainings between February and April of 2008. It's what I'm going to do, or what the staff are going to do.

Again, our outcomes are what is going to happen in the community or with the client or with our system as a result of these activities.

So, remember our number one question that we're always asking ourselves: what has changed in the lives of these families, or individuals, or community members as a result of this program? That's our outcome.

The notion of SMART objectives can also help you write a better outcome statement. Outcomes can also be SMART, that is, specific, measurable, attainable, realistic, and time bound.

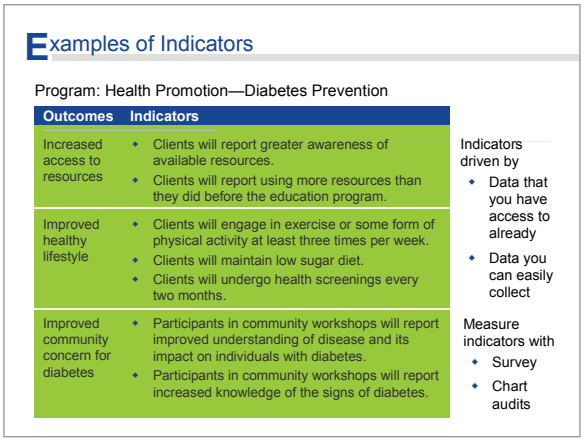


Indicators Make Outcomes Measurable

Another sometimes tricky point is the difference between outcomes and indicators. Indicators are how we make outcomes measurable. Indicators are more specific than outcomes. They provide the evidence for you and for others that you are achieving your goal. Indicators are something that can be seen, heard, or read. They're very detailed and specific. They are evidence that the outcomes are being met.

So, even if you don't see the indicators in the logic

models I've been showing you they really are part of an outcome, they are the part that allows us to measure that outcome, or what's happening as the result of our efforts.



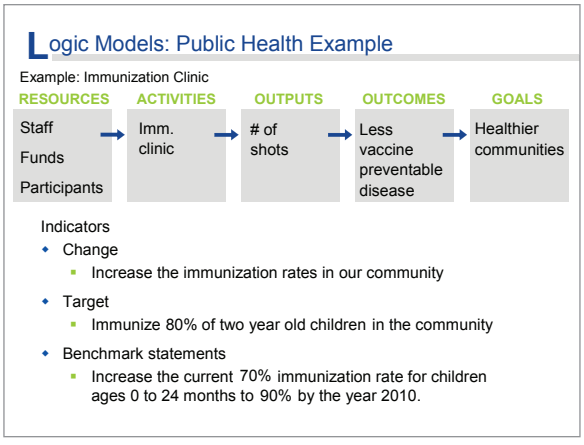
Examples of Indicators

This slide is an example of what I mean by indicators. You'll see in this health promotion diabetes program that we've listed three outcomes. In this case, they are change statements. For each, there are two or three indicators. Please take a minute to read the outcomes and indicators and see how they relate.

Typically, you will have two or three indicators for an outcome unless that outcome is very straightforward. Indicators are really just a more precise way of measuring your outcomes. Sometimes indicators are driven by what kind of data you have access to already, or what kind of data you can easily collect. In this case, an outcome for this program is increased access to resources. An indicator here could be that clients will report greater awareness of available resources, and that clients will report using more resources than they did before the program.

You might measure these indicators, with a survey, for example. You could be surveying participants, or you could do chart audits or go through various other means.

These indicators could be even further detailed with the number of clients who report a certain amount of awareness or a certain number of resources they are using and over a particular period of time. You can always add more detail to your indicators. These are just some examples of what you could do with your indicators to make your outcomes more measurable.



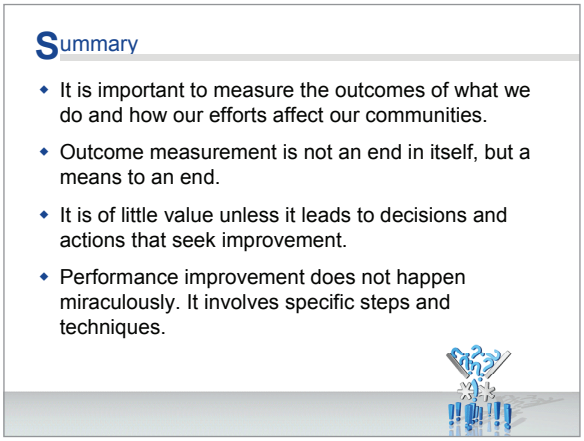
Logic Models: Public Health Example

Let's look back at our public health logic model example, one more time. We've talked about the resources, activities, outputs, outcomes, and goals in this logic model. Now, let's look at possible indicators. How are we going to make this outcome, less occurrence of vaccine preventable disease, measurable?

Remember, outcome measurements can be written as change, target, or benchmark statements. This logic model already contains an implicit change statement. A change statement is an outcome measurement which talks about increasing or decreasing something. In this case, we want to increase the immunization rates in our community.

However, maybe our logic model would benefit from a more specific outcome measurement. In this case, we could use a target statement. We could say we want to immunize 80 percent of two year old children in our community according to the recommended schedule. Eighty percent of two year old children is the target that we are working to reach here.

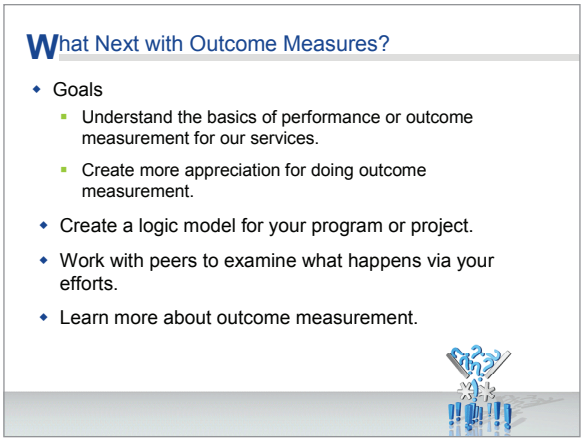
Finally, if we want to get even more specific, we could use a benchmark statement with comparative targets. We could say we want to increase the current 70 percent immunization rate for children ages 0 to 24 months to 90 percent by the year 2010. Seventy percent and 90 percent here are the comparative targets and they let us know where we started and where we plan to go.



Summary

Now that we've talked a bit about outcome measurement and logic models, I hope I've increased your appreciation for how important it is to measure the outcomes of what we do and how our efforts impact our communities. Remember, outcome measurement is not an end in itself. It's rather a means to an end. Our outcome measurement is of little value unless it leads to further decisions and actions that seek to improve our program, or our agency, or my own work performance.

Performance measurement and improvement of our programs does not happen miraculously. It involves a number of specific steps and techniques. These steps are used in and outside of the field of public health to improve quality and performance.



What Next with Outcome Measures?

You might be wondering, what should I do next in terms of outcome measurement?

Well, if you remember, a goal of this training was for you to understand the basics of performance or outcome measurement for our services and to create more appreciation for these processes. So, one way to explore this further might be to experiment with creating a logic model for your own program or project. Or you might have a director in your department or a leader in your program who's doing this already. Work with them or work with your peers to examine what happens via your efforts, what happens in your community based on what you've been doing. Another option is to learn more about outcome measurement. Remember, this is just a basic training and there are many more resources available.