

Module 4

Developing and Monitoring the Intervention

Slide 1: Title Slide

Thank you for joining us for Module 4: Developing and Monitoring Interventions.

Slide 2: Disclosures for Continuing Medical Education (CME)

(No accompanying text)

Slide 3: Agenda

During this module, we will be reviewing resources available for selecting an intervention, discussing considerations for implementing the intervention, and discussing the considerations for evaluating the intervention.

Slide 4: Objectives

By the end of this module, we hope that you will be able to:

- Name two resources that can be used to learn more about community level interventions
- List two types of measures that can be tracked in an evaluation
- State two reasons why it is important to perform an evaluation
- State why it is important to develop the evaluation concurrently with the intervention

Slide 5: Daily Screen Time

Let's go back to Winnie. When we last saw him, he was at a well child visit, and you were worried about his BMI. As you gather more information to try and figure out how to address his weight, you find out this information.

He used to live in a forest, but when the forest was obliterated to make room for a strip mall 4 years ago, he moved to Ward 8. Unfortunately, the adjustment has been difficult. You note that his BMI percentile has been steadily increasing. He tells you that he watches 4 hours of TV in the afternoon after he gets home from school and does not exercise. You tell him and his mother that he really should not watch that much TV and that he should be outside at least an hour each day.

Slide 6: No Children Allowed Playing in the Courtyard

They politely nod at you since you are the health care provider. But while you are giving them this advice, they are visualizing this sign outside of their apartment complex. Winnie and his mother would love to go to the park every day. But it takes 30 minutes to get there, and there has been an increase in crime around the park.



Module 4

Developing and Monitoring the Intervention

Slide 7: Selecting Interventions

After discussing this problem with a focus group of community members, your team decides to address the lack of safe areas for children to exercise after school. While this may seem like an overwhelming issue to address, we hope to demonstrate that you will not be taking this on by yourself. Public health practitioners, community groups, government officials, and primary care providers all over the country are also working on this and can be used as resources.

The first step is to examine what is currently being done in your community, county, and state. Once you have a better understanding of what is being done in your area, you can look at what communities nationwide are doing. From the literature, you can get an idea of the effectiveness of certain interventions. When selecting the intervention, you will also have to factor in the feasibility, acceptability, and cost of each option. As with every step, it's important to involve the community to ensure that the intervention makes sense for your population.

Slide 8: Places for Physical Activity

In researching the current initiatives in your area, you discover that the DC Department of Health already has an action plan on how to address obesity.

Slide 9: Agency for Healthcare Research and Quality (AHRQ) Innovations Exchange

In doing a search for ways to increase physical activity, you come across this project in the Agency for Healthcare Research and Quality (AHRQ) Innovations Exchange. In this example, the providers write a prescription for recreational activities within the community such as passes for swimming pools, yoga classes, and exercise programs. Local providers such as the county recreation departments have agreed to offer the activities free of charge to prescription holders.

Slide 10: PubMed

You can also look in the peer-reviewed literature to see what others have tried. Here is a paper looking at the effectiveness of referrals to a YMCA weight management program which included counseling, nutrition education, and physical activity.

Slide 11: US Preventive Services Task Force

There are two other resources that are helpful when choosing an intervention. The United States Preventive Services Task Force provides evidence-based recommendations about screening tests and interventions. For instance, they have concluded that the benefits of screening for obesity in adolescents outweighs the harms. In contrast, implementing a community wide program to screen for ovarian cancer may lead to unintended, adverse consequences.

Module 4

Developing and Monitoring the Intervention

Slide 12: Community Guide

The public health panel on preventive services is the Community Preventive Services Task Force. This body reviews the evidence on numerous community level interventions.

Slide 13: Childhood Obesity

Let's go back to Winnie whose BMI percentile is slowly increasing and who does not exercise regularly. Winnie's dad works as a janitor at the local YMCA and mentions the COPC project to his boss. The boss has a lot of respect for the work of the clinic, because let's face it...it's the world's greatest clinic. The director at the YMCA has seen a lot of her colleague's partner with other non profits and primary care offices to start obesity management programs. She approaches your office and the closest elementary school to see if you all would be interested in partnering to start an obesity management program at her YMCA, which is a mile south of your clinic. The school nurse and the principal are ecstatic to join this effort. Together, you decide to include children identified from your office, the YMCA, and the school. The three partners create an after school program that takes place five days per week and includes physical activity and nutrition education.

Slide 14: Implementing the Intervention

Implementing the intervention successfully will require you to consider each of the steps involved in the process. How will the target individuals be identified at the YMCA, school, and clinic? A referral process that relies on providers to recruit children may not be successful if physicians view the process as cumbersome and time consuming. Many providers struggle to deliver all the necessary care within 15 minute visits and may forget to discuss this 1-2 minute item during adolescent visits. Having a separate person identify appropriate individuals and inform them about the project would take this responsibility out of the hands of providers so that they can focus on other issues. However, using a separate person costs money, and this person may not be able to tailor the pitch to families. Unlike the providers, they have not spent years establishing rapport and trust.

Once you have made the referral, you will need to consider the process for tracking to see whether individuals ultimately register for the program. For interventions in the community that involve delivering care (such as administering vaccines), you will have to consider the legal and financial aspects.

Slide 15: Gantt Chart

While we think of evaluation as the final step in the process as demonstrated in the top chart, it really should be integrated earlier as demonstrated in the bottom chart. Designing the evaluation concurrently with the intervention ensures that the project has clear aims and objectives and that you can collect appropriate data while the intervention is running. If you start the evaluation after the program has started, you may no longer have access to the data or may lose key informants to follow up.

Module 4

Developing and Monitoring the Intervention

Slide 16: Evaluation

In very basic terms, here are the steps involved in planning the evaluation.

First, your team will need to determine the purpose of the evaluation. Are you interested in formative evaluations which help you find out what is working and what needs improvement? Or are you interested in summative evaluations which assess the value of the program in relationship to established criteria? Or both?

Then, you will need to identify the goals and objectives of the program. What is your project trying to accomplish? Are you trying to decrease the prevalence of obesity in the community or increase the amount of time your patients spend exercising? Having clear objectives forces you to consider how you would measure these things and how would know if you were successful.

Next, you will identify the appropriate stakeholders who will be involved in the evaluation. Should you gather data from the patients, the parents, the YMCA workers, the staff, the community leaders, the director of your clinic, secondary data sets, or all of the above? The definition of success from the perspective of each of these stakeholders may be different.

Next, you will determine the central questions involved in your evaluation. The domains of the evaluation will be directly related to the goals and objectives of the program.

Finally, you will try to find standards to help you determine whether your project is successful. How do you define success in the program? Are you looking at relative measures of success such as pre and post implementation outcomes or are you looking at those who participated in the project compared to those who did not participate? Or are you interested in absolute measures of success? For example, in other communities, you may find that obesity management programs decrease in the prevalence of obesity by 5%. Subsequently, you may decide that your project is only successful if obesity decreases by 5% in your community.

Slide 17: SMART Objectives

In writing your objectives, it's helpful to make them SMART objectives, which are specific, measurable, attainable, realistic, and timely.

Specific: What exactly is being done and for whom?

Measurable: Is the value quantifiable and can we measure it?

Attainable: Can we get the measurement in the proposed time frame and do we have the necessary resources and support?

Timely: Will the objective be accomplished within a realistic timeframe?

For example, a SMART objective for this project could be:

Module 4

Developing and Monitoring the Intervention

To increase the average amount of weekly exercise by 50% among children aged 6-18 years, participating in the weight management program, over the next 6 months

Slide 18: Outcome and Process Measures

In determining the central questions, it's helpful to think about the measurements of interest in terms of two categories:

1) Outcome measures: These measures examine the long-term impact of an intervention and represent where you want to go. In the intervention directed at obese individuals, the outcome of interest may be the percentage of individuals in the community who are obese.

2) Process measures: These measures examine the steps you had to take to get to where you wanted to go. For example, you may want to track the number of patients participating in the program.

Let's say that I wanted to develop an intervention with the goal of increasing my happiness. I hypothesized that I could increase my happiness by attending more concerts. In order to attend more concerts, I would need to buy tickets, and in order to buy tickets, I would need to check concert listings regularly. To determine whether this protocol worked, I calculate the number of times I checked concert listings, bought tickets, and attended concerts over the past 6 months. I also complete a validated happiness questionnaire (which I also completed at the beginning of the process). In this scenario, the outcome measure is the degree of happiness while the process measures are the steps that it took to complete the intervention.

It's important to examine the process steps because it allows you to evaluate whether this protocol actually works and should be continued. Let's say that the measurements at the 3 process steps and the outcome increased. Then, I would be more confident in continuing with the protocol. If my happiness and attendance at concerts were unchanged, then these data allows me to identify the rate limiting step. For instance, maybe I bought the tickets but never attended the concerts. If my happiness was unchanged but my concert attendance increased, then I would have to re-examine my logic model and determine whether attending concerts is ultimately going to increase my happiness.

Slide 19: Reasons to Evaluate

As we previously mentioned, there are many reasons to plan for a thoughtful evaluation:

First, the evaluation provides feedback. Often, in the process of studying the intervention, you will uncover which aspects of your project are working well and which need fine tuning. Responding to this crucial information will make your intervention even more effective. Second, the evaluation can help your organization allocate its resources more efficiently. In response to the evaluation, your organization may terminate costly interventions that had no effect and re-direct those funds to an intervention that had a greater impact. Third, in studying your program, you may uncover other, upstream health problems that are more pressing or potential interventions that may be more promising. Finally, the evaluation may help you obtain future funding. Funders often want to see

Module 4

Developing and Monitoring the Intervention

evidence that your idea has been pilot tested and was successful on a smaller scale before investing in larger projects.

As with all of the COPC steps, you will want to involve the community in the evaluation process. How do members of the community define success? Once results are available, it is important to include community members in both the interpretation of those data and the determination of the most appropriate next steps.

Slide 20: Reasons to Evaluate (2)

A thorough evaluation can help with funding, which is important to making your COPC project sustainable. These are data from a COPC project in Cambodia that aimed to reduce under 5 child mortality. The y axis is deaths per 1000 live births, and the x axis are years from 1995-2008. The top two lines represent national and provincial under 5 mortality rates. The bottom line represents the under 5 mortality rate for the team's target community. As you can see, the mortality for the target community decreased faster than that in rest of the province. Imagine showing these data to officials in the Ministry of Health and making a case to expand your model to more places. Being able to show them data is much more convincing than giving them anecdotes.

Slide 21: Take Home Messages

Ultimately, we hope that you remember that:

- It's important not to re-invent the wheel. Look at what is already happening in your community and what others have already done.
- Start planning the evaluation while you are planning the intervention
- Outcome measures represent where you want to go while process measures represent how you will get there. Looking at both measures is important when evaluating your project.

Slide 22: Survey Links

(No accompanying text)

Slide 23: To Obtain CME Credit

(No accompanying text)