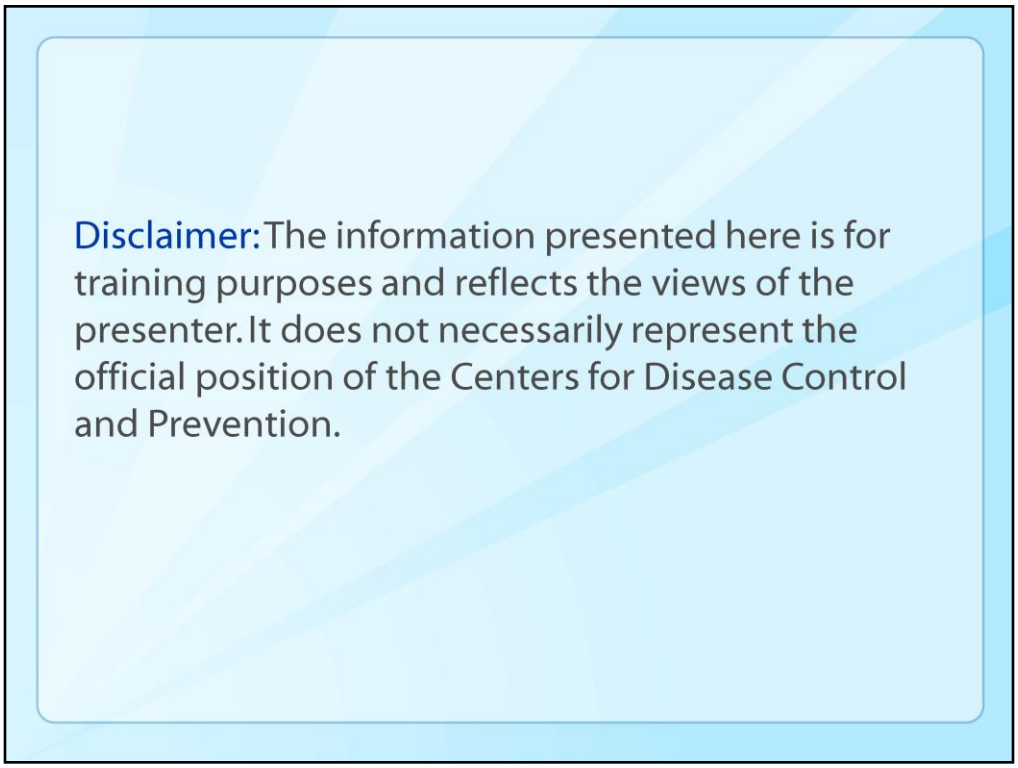
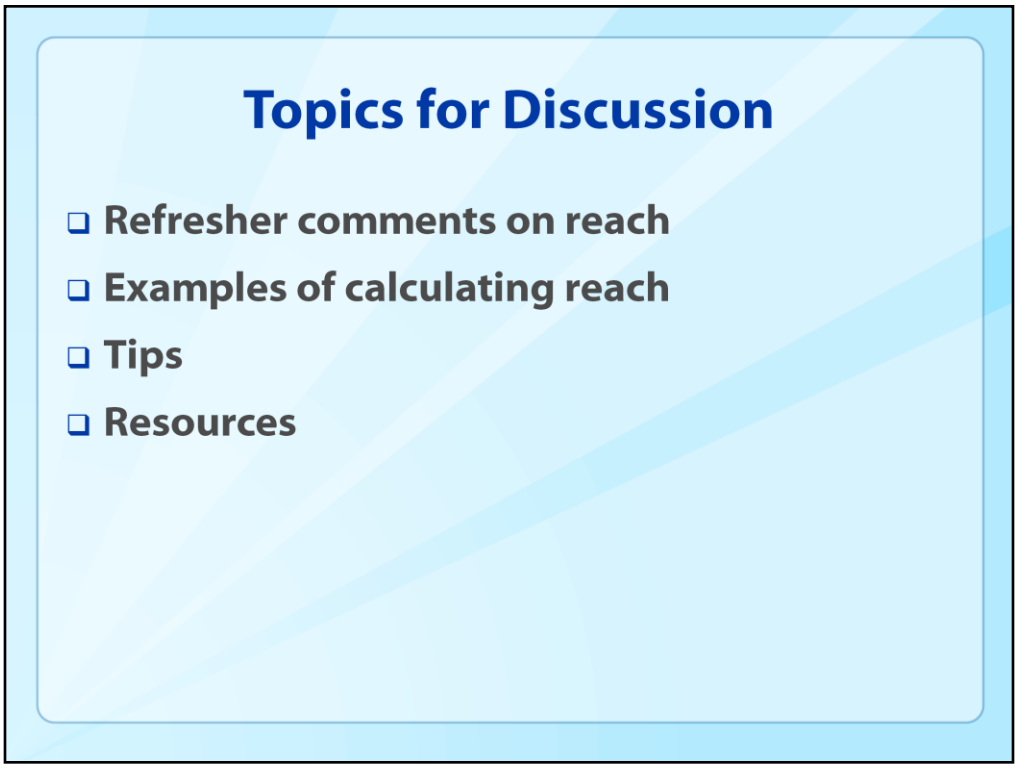
Welcome to today's Coffee Break, presented by the Evaluation and Program Effectiveness Team in the Division for Heart Disease and Stroke Prevention at the Centers for Disease Control and Prevention. We are fortunate to have Jan Losby and Alberta Mirambeau as today's presenters. Jan and Alberta are from the Division for Heart Disease and Stroke Prevention and are members of the Evaluation and Program Effectiveness Team. My name is Martha Bose and I am today's moderator.

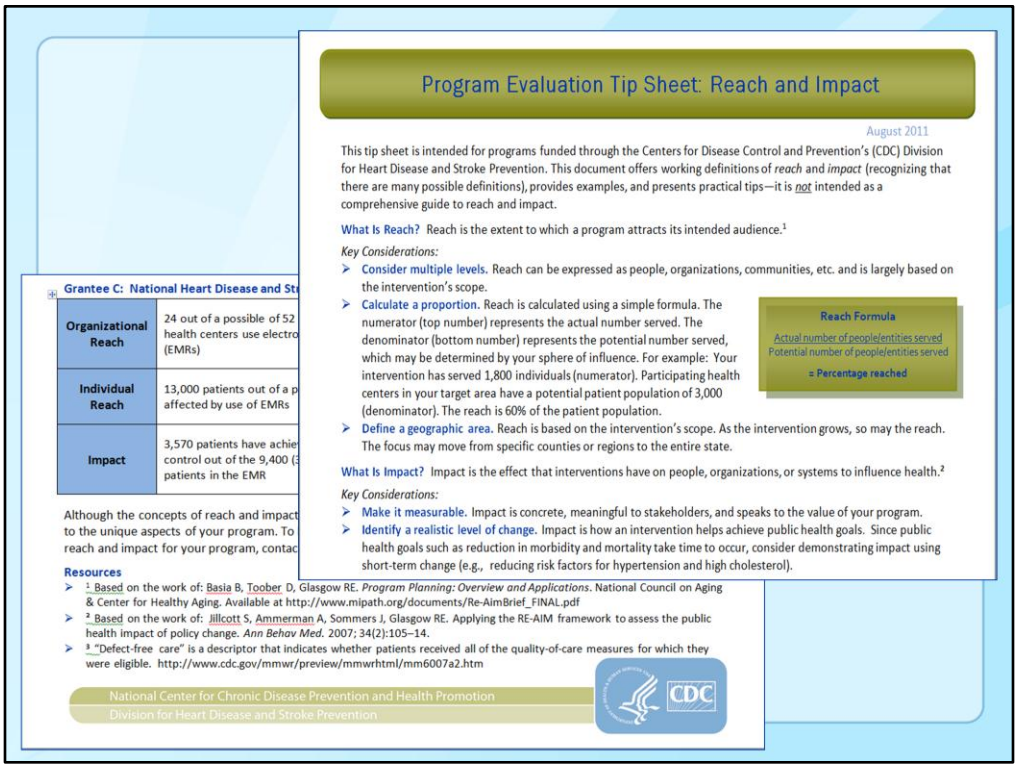


The information presented here is for training purposes and reflects the views of the presenter. It does not necessarily represent the official position of the Centers for Disease Control and Prevention.

*Note: Screen magnification settings may affect document appearance.



We will start off with some refresher comments on reach and then spend most of our time on specific examples to calculate reach. Then we will wrap up with a few tips and resources.



Program Evaluation Tip Sheet: Reach and Impact

August 2011

This tip sheet is intended for programs funded through the Centers for Disease Control and Prevention's (CDC) Division for Heart Disease and Stroke Prevention. This document offers working definitions of *reach* and *impact* (recognizing that there are many possible definitions), provides examples, and presents practical tips—it is *not* intended as a comprehensive guide to reach and impact.

What Is Reach? Reach is the extent to which a program attracts its intended audience.[1]

Key Considerations:

- **Consider multiple levels.** Reach can be expressed as people, organizations, communities, etc. and is largely based on the intervention's scope.
- **Calculate a proportion.** Reach is calculated using a simple formula. The numerator (top number) represents the actual number served. The denominator (bottom number) represents the potential number served, which may be determined by your sphere of influence. For example: Your intervention has served 1,800 individuals (numerator). Participating health centers in your target area have a potential patient population of 3,000 (denominator). The reach is 60% of the patient population.

Reach Formula

Actual number of people/entities served
Potential number of people/entities served
= Percentage reached

- **Define a geographic area.** Reach is based on the intervention's scope. As the intervention grows, so may the reach. The focus may move from specific counties or regions to the entire state.

What Is Impact? Impact is the effect that interventions have on people, organizations, or systems to influence health.[2]

Key Considerations:

- **Make it measurable.** Impact is concrete, meaningful to stakeholders, and speaks to the value of your program.
- **Identify a realistic level of change.** Impact is how an intervention helps achieve public health goals. Since public health goals such as reduction in morbidity and mortality take time to occur, consider demonstrating impact using short-term change (e.g., reducing risk factors for hypertension and high cholesterol).

Grantee C: National Heart Disease and St

Organizational Reach	24 out of a possible of 52 health centers use electro (EMRs)
Individual Reach	13,000 patients out of a p affected by use of EMRs
Impact	3,570 patients have achie control out of the 9,400 (patients in the EMR

Although the concepts of reach and impact to the unique aspects of your program. To reach and impact for your program, contac

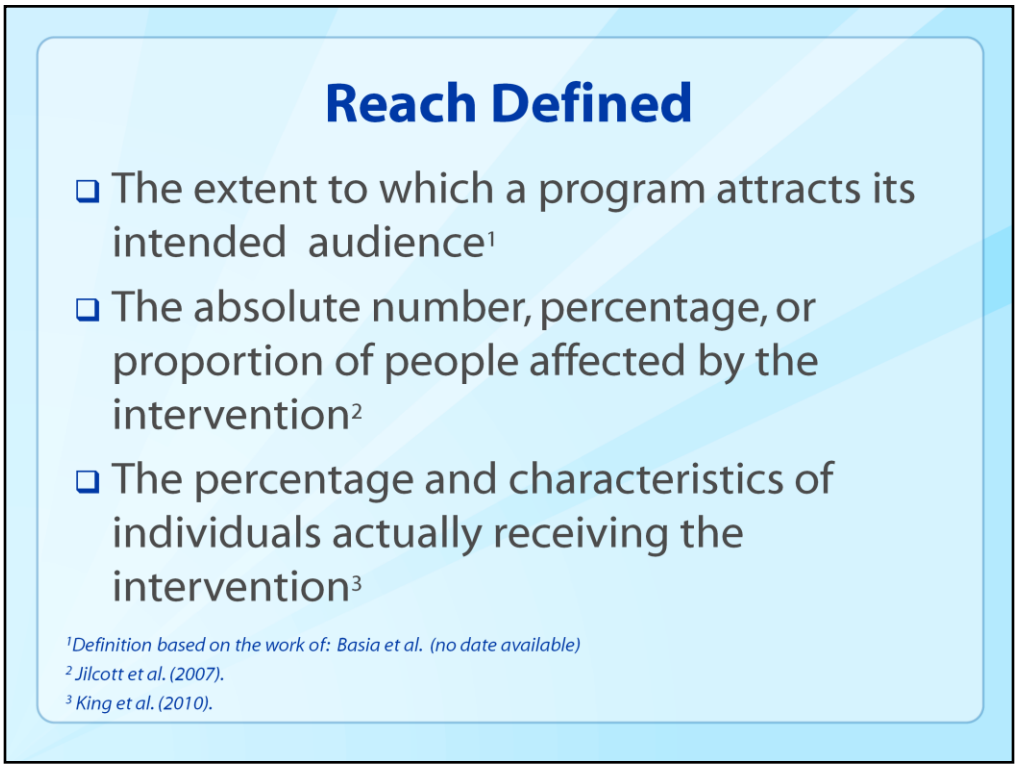
Resources

- [1] Based on the work of: Basia B, Toober D, Glasgow RE. *Program Planning: Overview and Applications*. National Council on Aging & Center for Healthy Aging. Available at http://www.mipath.org/documents/Re-AimBrief_FINAL.pdf
- [2] Based on the work of: Jillcott S, Ammerman A, Sommers J, Glasgow RE. Applying the RE-AIM framework to assess the public health impact of policy change. *Ann Behav Med.* 2007; 34(2):105–14.
- [3] "Defect-free care" is a descriptor that indicates whether patients received all of the quality-of-care measures for which they were eligible. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6007a2.htm

National Center for Chronic Disease Prevention and Health Promotion
Division for Heart Disease and Stroke Prevention

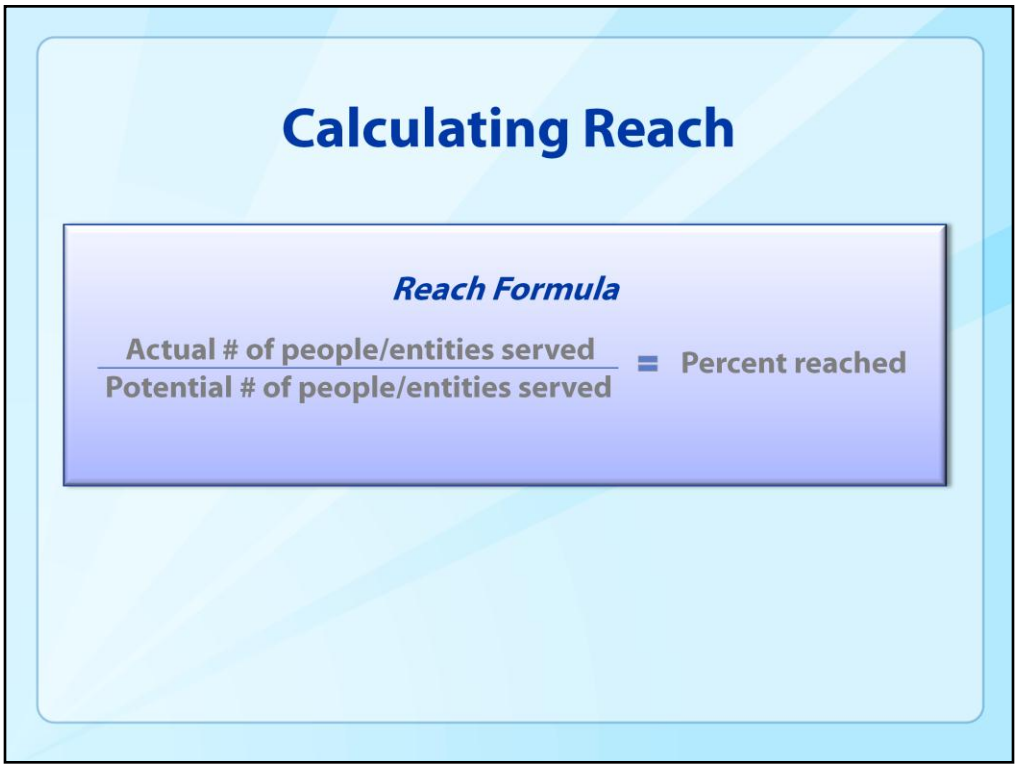
CDC

Alberta and I prepared a tip sheet a while back on reach and impact. This Coffee Break builds on that work and provides some more examples on how to calculate reach. The link to this tip sheet is included on the resources slide at the end of the presentation.

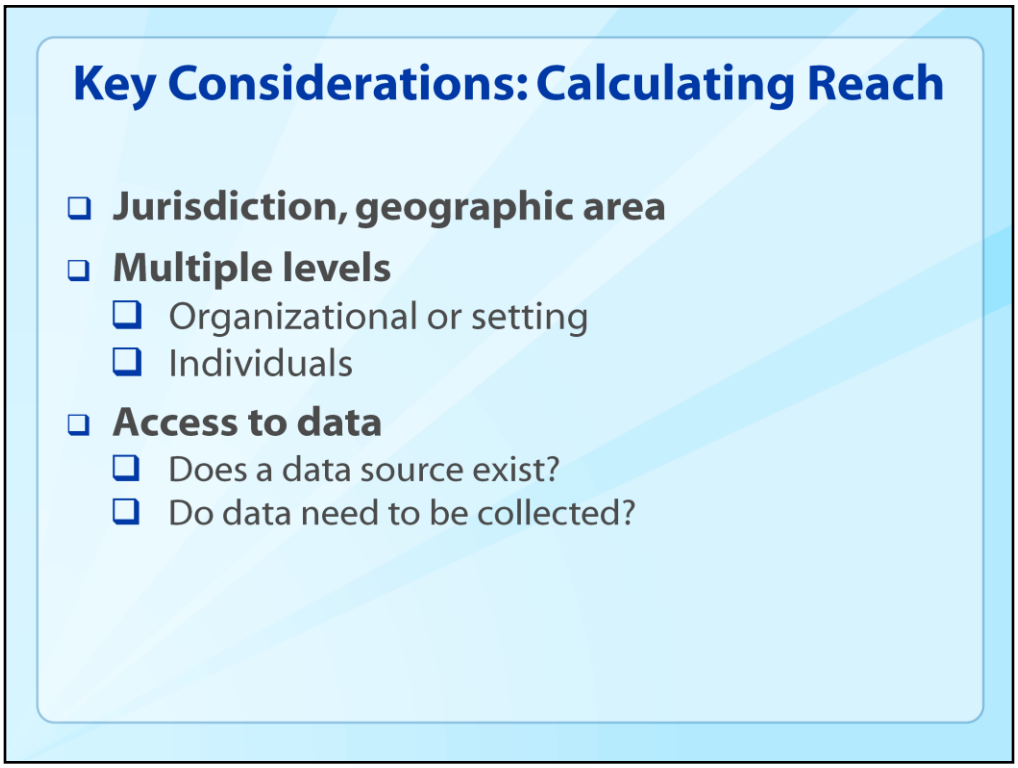


As you can see on this slide, there are several definitions of reach. No matter which definition you adopt they all have several elements in common:

1. Focusing on a program or intervention
2. Identifying the intended people to be served by the intervention
3. Calculating the extent, or the progress made, often represented by a proportion



To calculate this proportion, the formula can be seen on this slide. The numerator represents the actual number served. The denominator is represented by the potential, or possible, number of people or entities. Of the two numbers, it is usually the denominator that can cause the most confusion.



The key to determining your denominator, and ultimately your numerator, is to define your sphere of influence, or jurisdiction. Are you targeting the entire state or a particular geographic or service region? Knowing the scope of your intervention is critical.

Reach also can be expressed in multiple levels. You can look at an organizational reach by defining the setting type—for instance, work site, hospital, school, or community health center—and you can also define reach at the individual level.

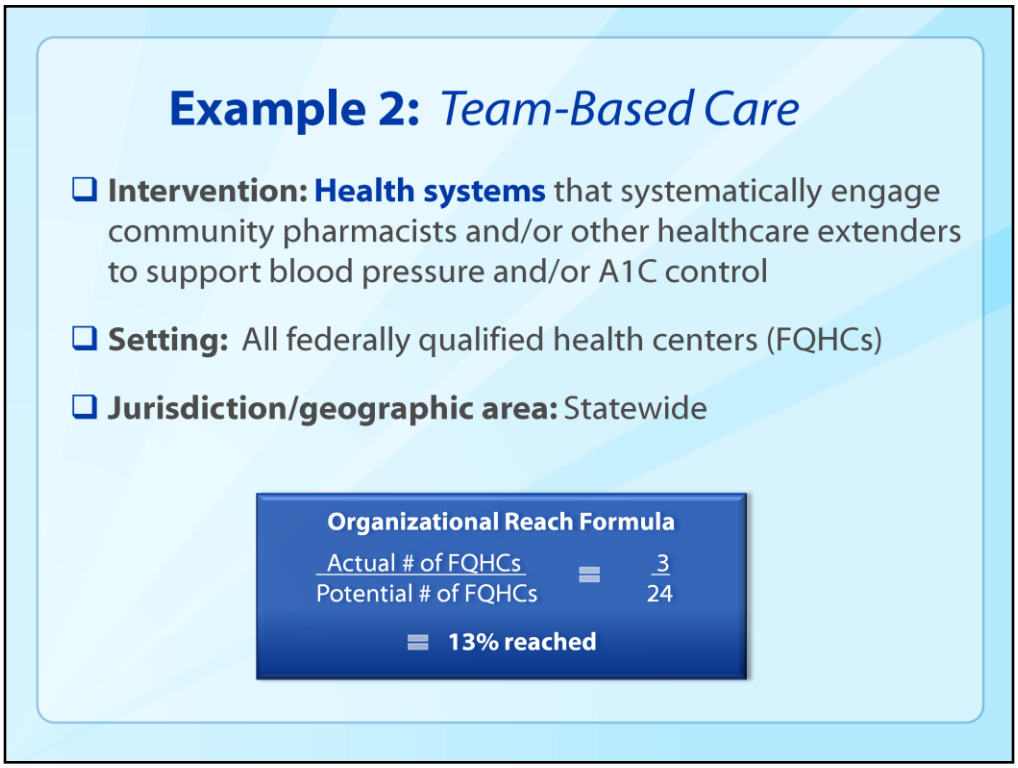
Access to data is an important consideration when calculating reach. Does a data source exist and do data need to be collected?

Why measure reach?

- Reach serves as a management tool. By measuring reach, a program manager can monitor the progress of their program over time. Let's say in a 5-year program, the overall goal is to work with 100 healthcare providers state-wide with a yearly goal of adding 20 new healthcare providers to ultimately reach a total of 100 by the fifth year.
- Reach also helps to demonstrate results of a program communicate outcomes and show accountability.
- Reach provides context. When you say you are working with 10 federally qualified health centers (FQHCs), someone might logically ask, "out of how many?" By calculating reach you place your 10 FQHCs into context by noting that this is 10 out of a possible 40, for example, for a possible reach of 25%.
- From a funder's perspective, by looking at the individual efforts of the state programs, reach can help present a national perspective. If you are familiar with Coverdell, sodium reduction, and the new combined chronic FOA-1305, you have probably seen that reach is an important part of this work.
- As an added "fun fact," reach gives you that perfect elevator speech when someone asks you what you do. You can quickly and concisely share what your program is and what it has been able to accomplish. For example, "I work with 6 out of 10 school districts in my state to ensure that nutrition standards are being met in the food that are prepared for students."

In this first example, if we focus on environmental approaches, we define intervention as mid-size worksites that have food service guidelines that are offered at cafeterias, vending machines, and snack bars. The setting is all mid-size work sites with over 500 employees and the jurisdiction is state-wide. If you look at defining organizational reach, it is 9 out of a possible 14 worksites, for 64% reach.

If we wanted to look at the number of employees within those work sites for this hypothetical example, we have 4,700 employees out of a possible 8,500 employees, for a percent reach of 55%.



We now move to looking at reach in health systems, and we will use a team-based care example. Again, you want to start by defining your intervention. This helps to qualify what you will actually count. In this instance, based on the example before us, we're interested in health systems that engage healthcare extenders, such as community pharmacists. But it is not enough that the community pharmacist works with the health system; we're primarily interested in pharmacists that address blood pressure and A1C in FQHCs throughout the state.

By outlining what pharmacists do, what the intention of the intervention is, and where the setting is, you are clearly setting the parameters of the intervention. Then you will be able to more clearly identify what counts when you are calculating reach. In this formula the "3" represents a very specific focus: FQHCs that engage healthcare extenders who address blood pressure and A1C control. The potential number, or our denominator, of FQHCs represents all FQHCs in the state. Here, our formula calculates a 13% reach.

Example 2 (continued): *Team-Based Care*

- **Intervention: FQHCs** with policies/ systems that engage community pharmacists and/or other health-care extenders to support blood pressure and A1C control

- **Setting:** All federally qualified health centers (FQHCs)
- **Focus:** Patients being served by FQHCs

Individual Reach Formula

$$\frac{\text{Actual \# of patients}}{\text{Potential \# of patients}} = \frac{2{,}400}{17{,}000}$$

= **14% reached**

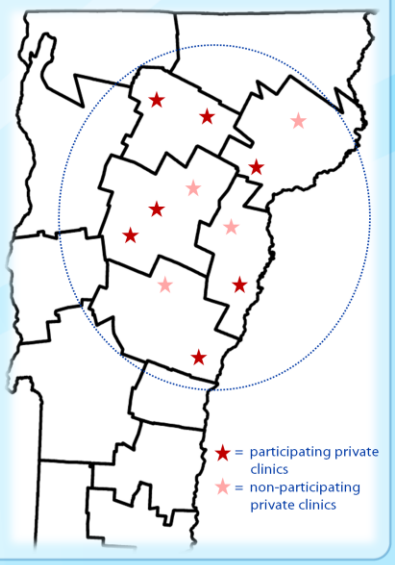
On this next slide we are going to stick with the same example but transition it into individual reach. We also want to point out the significance of looking at both organizational reach and individual reach. That means that organizational reach assesses adoption of your intervention, whereas individual reach gets to more of our long-term outcomes, which is essentially change in population-based settings.

In addition, calculating organizational reach first also makes it easier to calculate your individual reach because you have already identified the number of organizations that have adopted the intervention. This way, you have your focus area right away.

Therefore, you identify the number of patients within the organizations that meet your intervention requirement. Divide that number, or the numerator, by the total number of patients that are part of the entire health system. In this case, we have 2,400 over 17,000 patients, with a reach of 14%.

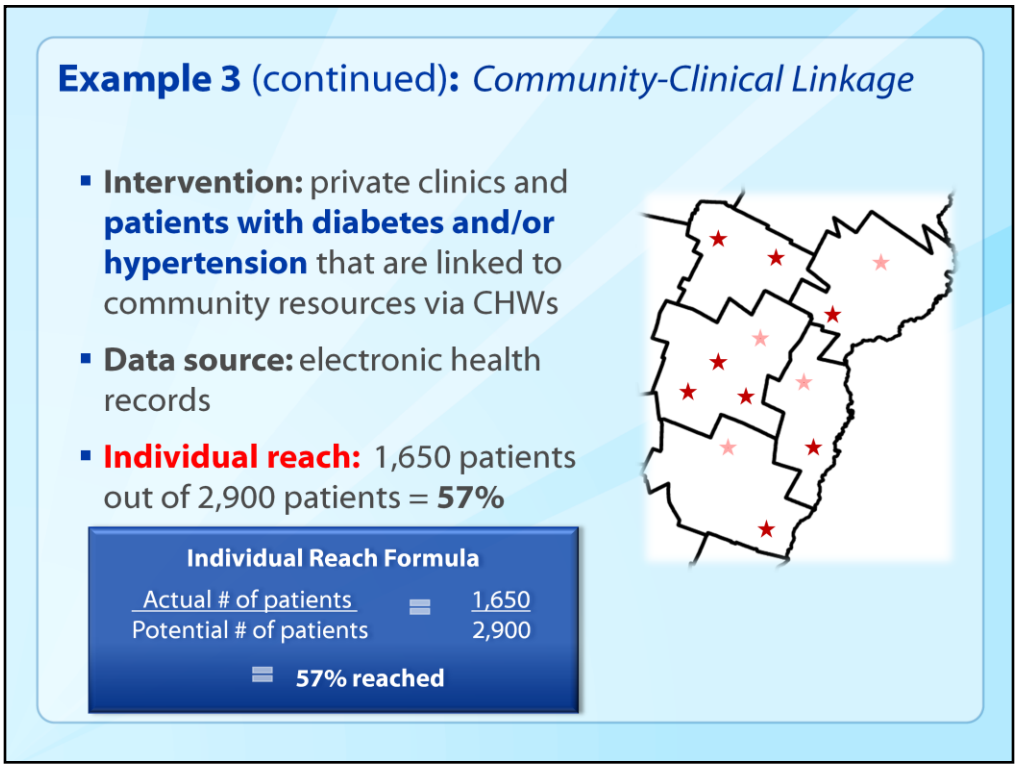
Example 3: *Community-Clinical Linkages*

- **Intervention:** Health systems (private clinics) and patients with diabetes and/or hypertension that are linked to community resources via CHWs
- **Jurisdiction/geographic area:** Private clinics located in 5 counties
- **Organizational reach:** 7 private clinics out of a possible 11 = **64%**



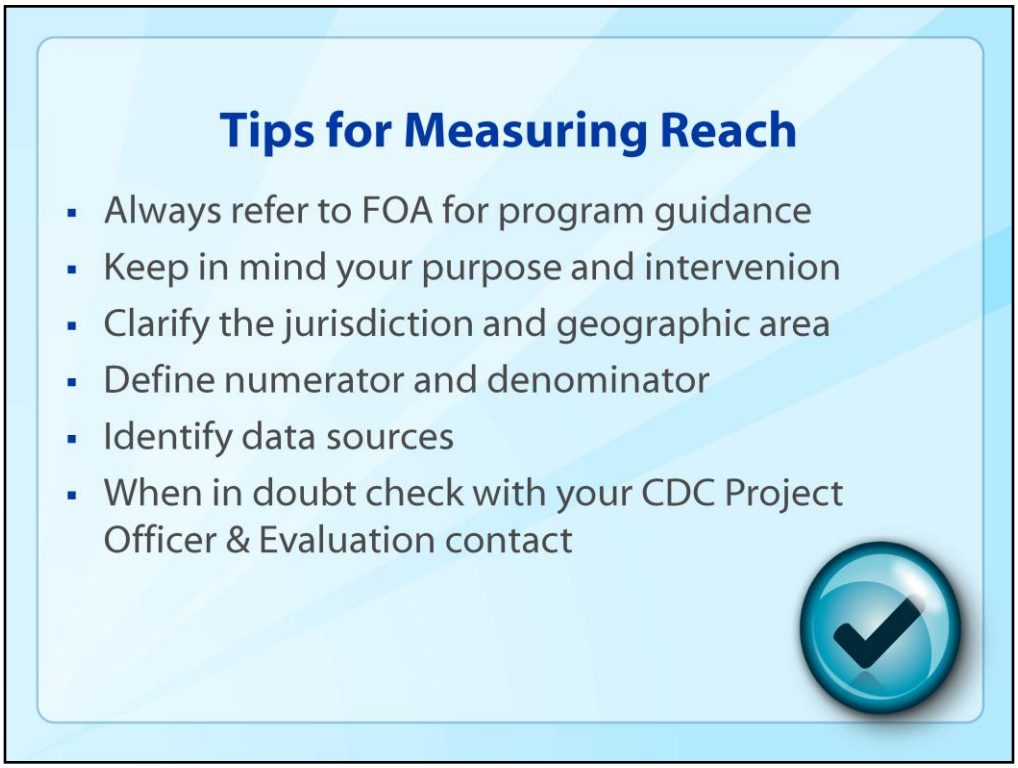
Let's walk through one more example that highlights the importance of defining your jurisdiction when calculating reach. Again, we are sticking with health systems but we are interested in private clinics that engage community health workers that link patients from the health system to community resources. We have clearly defined the intervention but unlike the other examples, our jurisdiction is within a smaller geographic area. There are some cases where the span of your intervention may just be limited to a certain geographic area, perhaps due to piloting an intervention or funding limitations. In these instances, your approach to identify the numerator is still the same; you just have to identify the denominator a little differently.

The map for this example shows that there are 11 private clinics within the targeted area of the state. (We are not including all private clinics in the state—just those that fall within the jurisdiction of this intervention). Based on the formula we have 7 private clinics that have adopted the intervention out of 11 possible in the target area. I want to note that state-level programs, however, should typically have a state-wide scope; therefore, the denominator should always reflect all entities throughout the state



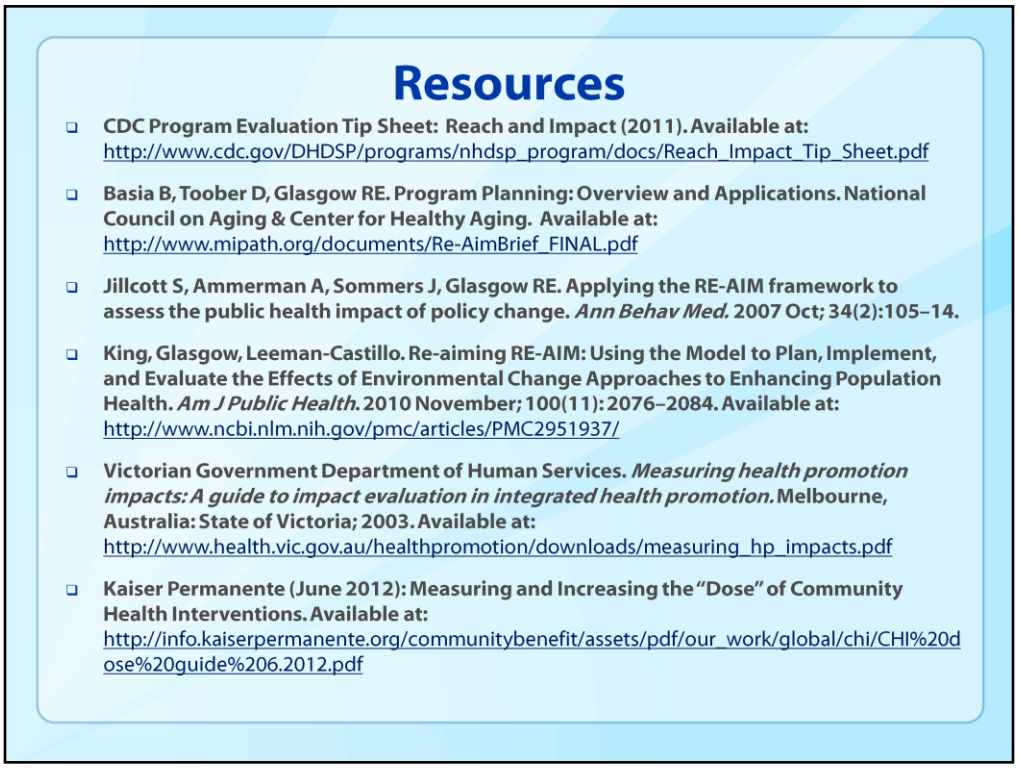
Using the same example, we now shift to individual reach within the same parameters described in the earlier slide. Here, I would like to emphasize that we are not just including *all* the patients that are seen in these private clinics. Again, you want to define your intervention—and that means the individuals within the intervention as well. For example, we want patients with diabetes and/or hypertension. In these clinics there may be patients that are teenagers that come in for their annual physicals, which you would not include. Therefore we only want the patients with hypertension and/or diabetes that have been linked to community resources by the community health worker.

Another point that I would like to emphasize is that you want to ensure that you have access to a reliable data source that will allow you to accurately capture the reach of your population; for example, electronic health records are a very reliable data source. For this example, there are 1,650 patients with hypertension and or diabetes that have been linked to a community resource by community health workers, and it turns out to be 57% of the targeted population within this targeted area.



I would like to close with a few tips and reminders for your consideration:

- Always refer to your funding opportunity announcement and any related documents for program guidance and requirements. The principles we shared during today's quick session can generally be applied to any program, but there may be exceptions that you should be aware of in your particular program.
- Before you can accurately calculate reach, take care to clearly identify and define the purpose and parameters of the intervention.
- When you clarify the jurisdiction or geographic area that will also help you accomplish defining the parameters of the intervention.
- Be sure to have a credible data source.
- When in doubt about what is included or not included in calculating reach, call upon resources that are available to you, such as your CDC project officer or evaluation contact.



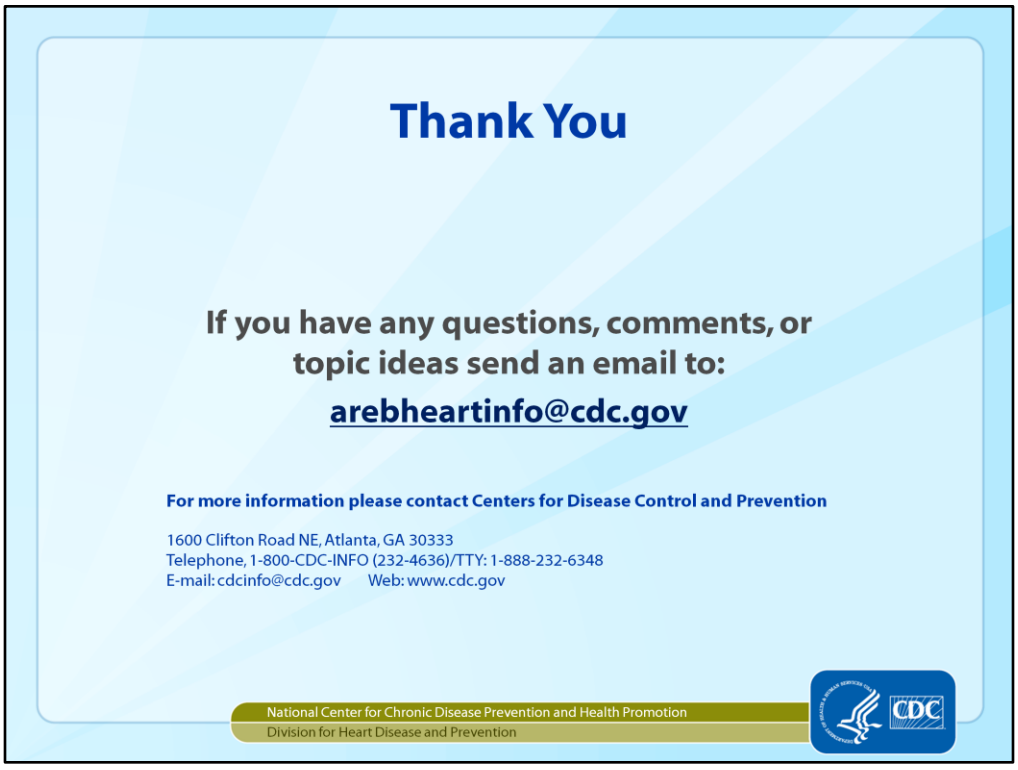
Here is the list of handy resources. The first one is our division tip sheet on calculating reach and impact that Jan shared earlier. There are also other resources that you can reference in your efforts to calculate reach and impact, and to help you also with crafting that perfect elevator speech. Another resource that is not mentioned here for those in the audience that are part of the combined FOA, you can also expect to receive additional direction on calculating reach.

Question 1: Do I have to do both organizational and individual reach or is one enough?

Response: It really depends on your program and available data. Ideally, it is best to have both organizational and individual reach, as Alberta described, but access to data may help you determine if they are both possible. Always check with your CDC project officer and evaluation contact to determine what is specifically required for your program.

Question 2: How often should I be reporting reach?

Response: It depends on the progress of your intervention and who you are reporting to. Ideally, you will want to monitor the progress of your program frequently, which will depend on how quickly you expect for progress to take place. But having a recurring time, say monthly or quarterly, to check in on your reach is suggested so that you are aware of how the program is doing at most times. Knowing the current status or reach is helpful to know; that way you are able to account for your program's progress if asked by your funding source or, again, to be ready for that clever elevator speech.



If anyone thinks of additional questions or topics related to reporting evaluation findings or ways you would like to receive more technical assistance about this topic, please feel free to email us at the address listed on the slide.