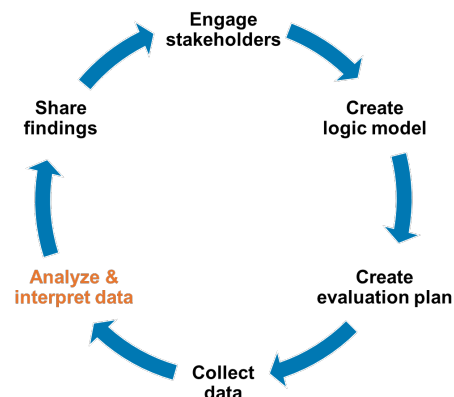


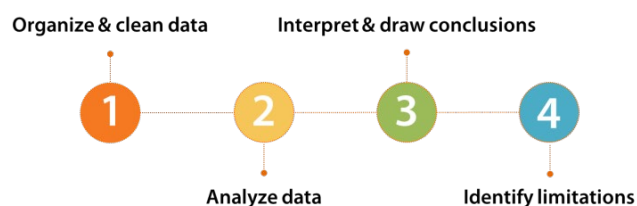
Analyzing and interpreting evaluation data

This tool is part of an evaluation toolkit called Measuring What Matters. It includes information about how to complete this essential step of evaluation, including templates and a case study example of how a typical community organization – *HealthConnect* - might complete this step for their community health worker program.



What are the steps in data analysis and interpretation?

The next step in your evaluation is to organize, analyze, and interpret your data so that you can use the results to make decisions and to improve your program.



Organize

You will need to organize or “clean” your data to make sure that your data are ready to analyze.

Analyze

Quantitative analysis includes activities like tallying responses, counting program activities, or calculating changes in health outcomes. Qualitative analysis includes activities like looking systematically at the stories people shared with you in interviews or survey questions where people wrote in their answers.

Interpret & draw conclusions

What is the analysis telling you about your program? Sometimes it’s useful to compare your data with other available data to better understand results. For example, it can be useful to compare the change you see in health behavior in your participants with existing data about similar changes across a bigger population to understand how similar or different they may be.

Why is data interpretation important?

Calculating numbers or identifying themes is an important first step, but equally important is how you draw conclusions from those data. You can look at data through many different lenses, and each view could change your idea of what the results mean for your program. It may be helpful to refer back to the original purpose of the evaluation and the questions you outlined in your plan to help you interpret the data.

Be sure to involve stakeholders in this work to help you understand the data's significance and to justify conclusions. When stakeholders agree on conclusions, they will be more inclined to act on the results.

How do you analyze and interpret your data?

Data analysis and interpretation can seem complicated, but there are straightforward steps and guidelines for the process. The key is to keep your evaluation plan front and center during your analysis process to stay focused on the questions you are trying to answer.

Analysis & interpretation checklist

Before beginning data collection, it is important to think about how you will organize and analyze your data and set up systems and keep track of what you are learning. Use the items in this checklist to ensure you've followed these key steps and included the quality standards.

□ Step 1: Did you organize and clean the data?

You should have a system in place to **organize the information** you collect. Tracking and managing as you go will make it much easier when you begin to analyze all the data you have gathered. The size or complexity of your data organization depends on how much data you will be collecting.

It is important to put the data into a standard format or template that can be used for your analysis method. Often this is an Excel spreadsheet or basic Word table. The key to recording data is making sure that you're consistent. If multiple people are entering data, make sure to have clear written instructions about how to enter the data, and keep track of any decisions you make about the data (e.g., how you are coding various responses).

If you've collected paper documents (questionnaires, attendance forms, etc.), keep the original documents organized (numbered) in case you need to refer back to them later. If you have electronic data, make sure it is backed up and consistently named and filed.

✓ **Ethical.** Consider the sensitivity of your data and who will have access to it. It may be necessary to mask personal information and use identification numbers on your data (e.g., each completed survey, or interview transcript). It also may be important to store your original data sources and any identifying information separately and securely.

Cleaning the data involves reviewing each item and decided if anything is incomplete, not understandable, or out of line in any way. For example, are there instances in which respondents selected two answers when only one should be selected? Such problematic responses should be deleted from the data set you will analyze. For qualitative data, you should ensure that your notes or transcripts are complete and understandable.

□ Step 2: Did you analyze the data with a method that answers your evaluation question?

Analysis can be very complicated or very simple, depending on the type of data you have and what you want to be able to say about the data. The analysis method that you will use depends on the type of data you collected and the indicators you are using. Your initial data analysis will help you compile lists of patterns, themes and unanticipated results such as high or low numbers, unique perspectives. More detailed information on each of these analysis methods can be found at the end of this tool.

□ Step 3a: Did you interpret the data to answer your evaluation questions?

The next step is to **interpret** the data—to ask what the data are telling you about your program. These are your key findings. What story do your data tell? What key findings would be of most interest to your stakeholders? What do the data say about your organization or program that might need attention? Often you will find that your initial analysis raises more questions than it provides answers.

To help make sense of the data, review your data for patterns, trends or themes that help you to tell a clear and compelling story about your program/organization. For example:

- Compare the results against targets set for the program
- Describe trends in the program data over time by comparing the data you collected at one point in time against data that was collected in the same way at another point in time—for example at the beginning and end of the program.
- Compare with other similar programs that have shared their findings, or compare the results against standards established by others, such as funders or government agencies.
- Look for outliers (e.g., high numbers, low numbers, or unique perspectives) and note expected/unexpected results; consider what insights these provide.

Qualitative analysis involves carefully reviewing responses to survey questions where people wrote in answers, interview or focus group transcripts, and observation notes. The goal is to identify the key points as well as patterns or themes that emerge.

You can use simple analysis methods, like creating tables in Word or highlighting themes on paper copies of responses. See page 65.

Quantitative analysis involves tallying responses or doing familiar calculations like averages and percentages, or sometimes doing new calculations like weighted averages or comparisons.

An Excel spreadsheet can be used for these types of calculations, which are usually adequate for beginning to understand your results. See page 67.

✓ **Accurate.** Involve your team and other stakeholders as you interpret the data. Getting different opinions on meaning and importance will lead you to the most accurate conclusions. It's also helpful to consider different explanations for the results.

□ Step 3b: Did you develop conclusions to answer your evaluation questions?

Now it is time to pull the results together into an overall picture of your program by **drawing conclusions**. Conclusions answer the evaluation questions and describe what you learned.

Depending on your reason for evaluating, you may highlight conclusions that relate to the program's strengths and best practices, the impact it is having, or areas where it is not performing well. What do the patterns in the data or the comparisons tell you?

Key finding	Conclusion
60% of kids who participated in after-school nutrition classes reported eating at least 5 servings of vegetables per day (compared to 25% who had not participated in the nutrition classes).	Over the past six months, the after-school nutrition program contributed to an increase in vegetable consumption.

Extracting meaningful conclusions from data can be straightforward if the data provide clear, direct answers to your evaluation questions. However, it can be challenging if the answers are less apparent or if different data sources yield results that lead to different conclusions. If the conclusions aren't clear, it's a good idea to talk with your stakeholders and see if you need different data to answer your question.

□ Step 4: Did you examine and document the limitations of the evaluation?

An important part of the process is identifying the limitations of the evaluation—that is, any factors that may have affected the results. These may be things directly related to the evaluation, like how the data were collected, poor response rates, or biases that could have been introduced. They could also be things beyond your control, like political or economic changes.

✓ **Accurate.** When you report the results and conclusions, acknowledging the limitations will strengthen people's confidence in your results because you are being transparent about what you can and cannot claim.

For more information on how to analyze qualitative or quantitative data, see the tools available in the appendix.

The Center for Community Health and Evaluation designs and evaluates health-related programs and initiatives throughout the United States. CCHE's *Measuring What Matters* curriculum is informed by the following resources:

- [Centers for Disease Control and Prevention: A Framework for Program Evaluation](#)
- [University of Wisconsin–Extension: Program Development and Evaluation](#)
- [Northwest Center for Public Health Practice: Data Collection for Program Evaluation \[online course\]](#)