

# What is program evaluation?

## A beginners guide

### Produced by

Gene Shackman, Ph.D.  
Free Resources for Program Evaluation  
<http://gsociology.icaap.org/methods>

## What is evaluation

This is the first in a set of handouts on the key questions about program evaluation.

This handout starts with the first question: What is program evaluation?

People often think of program evaluation as looking to answer this question:

- Does the program work? And how can it be improved?

However, there are many equally important questions

- Is the program worthwhile?
- Are there alternatives that would be better?
- Are there unintended consequences?
- Are the program goals appropriate and useful?

That is, an evaluation can help a program improve their services, but can also help ensure that the program is delivering the **right** services.

See this resource for additional information:

Evaluation 101, Juliana M. Blome  
NIH <http://publications.nigms.nih.gov/more/ppts/blome/>  
Slides 3 and 4

## What is evaluation

Evaluation is a systematic assessment. Evaluations should follow a systematic and mutually agreed on plan. Plans will typically include the following:

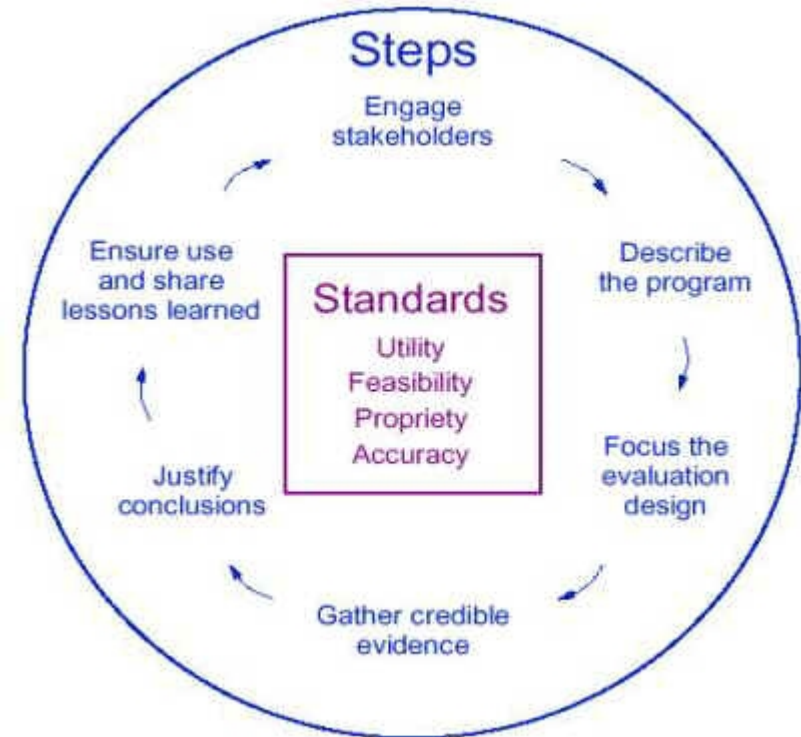
- Determining the goal of the evaluation: What is the evaluation question, what is the evaluation to find out.
- How will the evaluation answer the question: What methods will be used.
- Making the results useful, how will the results be reported so that they can be used by the organization to make improvements.

### Additional resources about evaluation:

Centers for Disease Control and Prevention. Framework for Program Evaluation in Public Health. MMWR 1999;48(No. RR-11). <http://www.cdc.gov/eval/framework.htm>

## What is evaluation

Evaluation is a process



The process is a continuous feedback loop. Each step provides information useful in the following steps.

## What is evaluation

The process involves:

- Getting stakeholders (people involved in the program) actively involved in the evaluation
- Developing a complete understanding of the program
- Using the knowledge to determine what information is needed and how to gather it.
- Gathering the evidence
- Interpreting the evidence, making sure it makes sense.
- Using the results, making sure they are useful, getting stakeholders to use them, which depends on stakeholder involvement throughout the evaluation process.
- Following up, continuing communication among all involved, about the evaluation, implementing any recommendations, sharing feedback about the evaluation.

Diagram and information from:

Centers for Disease Control and Prevention. Framework for Program Evaluation in Public Health. MMWR 1999;48(No. RR-11).  
<http://www.cdc.gov/eval/framework.htm>

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## What is evaluation

This is the second in a set of handouts on the key questions about program evaluation.

This handout starts with the second part of evaluation: What is the evaluation question?

**One way** to find the question is for the evaluator and program people to develop a very good description of:

- what the outcomes should be,
- how the program will get there, and
- why the program leads to the outcome.

This description helps to identify how the program should lead to the outcome, why the program activities should lead to the outcomes, and where to evaluate the program to check whether it does.

This method is called a *program theory*.

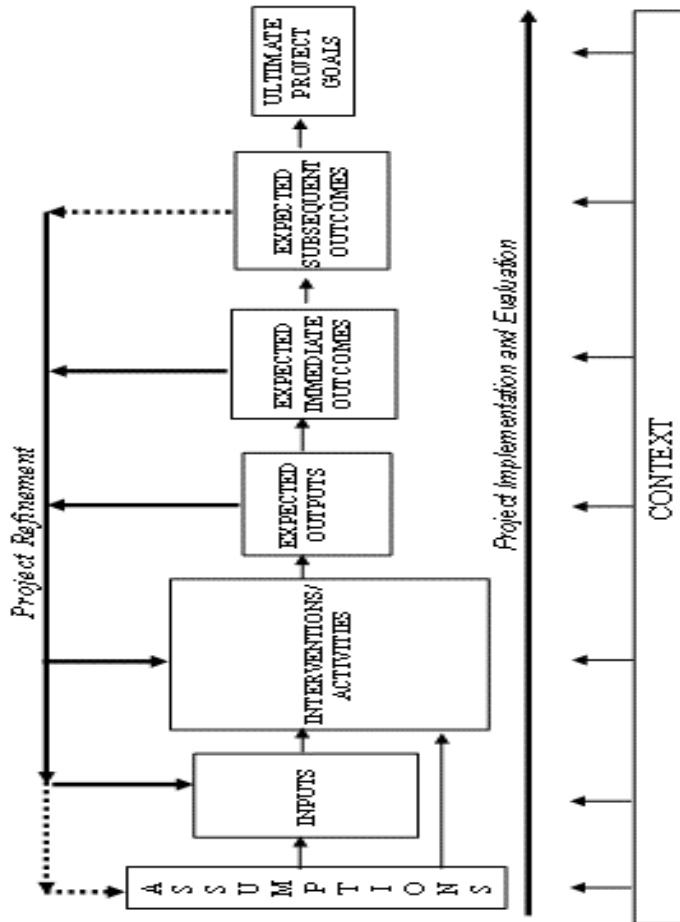
“A program theory explains how and why a program is supposed to work. ... It provides a logical and reasonable description of why the things you do – your program activities – should lead to the intended results or benefits.”

From Program Evaluation Tip Sheets from Wilder Research, Issue 4, October 2005 - Program Theory. [http://www.ojp.state.mn.us/grants/Program\\_Evaluation/](http://www.ojp.state.mn.us/grants/Program_Evaluation/)

A useful tool to help work with the program theory is a *logic model*, which visually shows the program theory, how all the program goals, activities, and expected outcomes link together.

## What is evaluation

Logic model example:



from  
 Creating and Using the Logic Model for Performance Management.  
[http://www.acf.hhs.gov/programs/cse/grants/resources/logic\\_model/section1.html](http://www.acf.hhs.gov/programs/cse/grants/resources/logic_model/section1.html)

## What is evaluation

*Use the program theory or logic model* to come up with evaluation questions

- Does the program have a positive outcome?
- Are people satisfied?
- How could the program be improved?
- How well is the program working?
- Is the program working the way it was intended to work?

### Additional Resources

Developing Evaluation Questions  
 David B. Langmeyer, Ph.D., Gail S. Huntington, Ph.D.  
 ARCH National Resource Center for Respite and Crisis Care Services  
<http://www.archrespite.org/archfs13.htm>

Developing Process Evaluation Questions. At the National Center for Chronic Disease Prevention and Health Promotion. Healthy Youth. Program Evaluation Resources  
<http://www.cdc.gov/healthyyouth/evaluation/resources.htm>

## What is evaluation

However, there are limits to program theory and logic models:

- Models are linear, programs are complex, interactive
- Models are static, programs may change over time.
- Models may not take unexpected consequences into account
- Models may not account for conflict, power, control issues
- Theory or model assumes the model is correct.

Use program theory and logic models, but be flexible, and open to change and feedback. Review and revise them often, as necessary.

### **Additional Resources about logic models.**

Usable Knowledge's Interactive logic model tutorial  
[http://www.usablellc.net/html/links\\_we\\_like.html#logic\\_models](http://www.usablellc.net/html/links_we_like.html#logic_models)

Program logic - an introduction  
from Audience Dialogue  
<http://www.audiencedialogue.net/proglog.html>

From: Logic Model Basics. At the National Center for Chronic Disease Prevention and Health Promotion. Healthy Youth. Program Evaluation Resources  
<http://www.cdc.gov/healthyyouth/evaluation/resources.htm>

A Guide on Logic Model Development for CDCs Prevention Research Centers (Sundra, Scherer, and Anderson)  
<http://www.ojp.usdoj.gov/BJA/evaluation/guide/pe4.htm>

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# What is program evaluation?

## A beginners guide

### What is evaluation

This is the third in a set of handouts on the key questions about program evaluation.

This handout is about: What methods to use.

There are many methods, each with their own uses, advantages and difficulties.

Evaluations could use any, not necessarily all, of the various methods, depending on the question and goal of the evaluation.

This handout lists various methods, each of which are described in more detail in the following handouts.

QUALITATIVE<----->QUANTITATIVE						
Participant Observation	Interviews (open)	Focus Groups	Interviews Semi-structured	Document Review	Observation (with score check list)	Surveys

This table and the next one are developed from:  
Program Evaluation: Background and Methods  
Evaluation Methodology  
[http://ed.fnal.gov/trc\\_new/program\\_docs/eval\\_meth.html](http://ed.fnal.gov/trc_new/program_docs/eval_meth.html)

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## What is evaluation

Qualitative	Quantitative
<ul style="list-style-type: none"> <li>• Tells how, why</li> <li>• Open-ended</li> <li>• Reseacher as instrument</li> </ul>	<ul style="list-style-type: none"> <li>• Tells what and how much</li> <li>• Closed format</li> <li>• Instrumentation protocols, formats</li> </ul>
<p><b>Benefits ("rich data"):</b></p> <ul style="list-style-type: none"> <li>• Descriptions, narration</li> <li>• Understandings</li> <li>• Perceptions/perspectives</li> </ul>	<p><b>Benefits (numerical, measurement):</b></p> <ul style="list-style-type: none"> <li>• Information from a large sample size</li> <li>• Information cheaper to collect</li> <li>• More objective</li> </ul>
<p><b>Drawbacks:</b></p> <ul style="list-style-type: none"> <li>• Information from a small sample size</li> <li>• Information expensive to collect - labor intensive</li> <li>• More subjective</li> </ul>	<p><b>Drawbacks:</b></p> <ul style="list-style-type: none"> <li>• May miss important data - such as perceptions, values and unintended outcomes</li> </ul>

### Additional Resource

Overview of Data Collection Techniques  
 Designing and Conducting Health Systems Research Projects  
 International Development Research Center  
[http://www.idrc.ca/en/ev-56606-201-1-DO\\_TOPIC.html](http://www.idrc.ca/en/ev-56606-201-1-DO_TOPIC.html)

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## What is evaluation

*Randomly or systematically* choosing people to respond to surveys means using some defined method to select people. For example:

- Systematic selection – a typical method is to start with the 5<sup>th</sup> person and then select every 7<sup>th</sup> person after that. The numbers, the 5<sup>th</sup> and the 7<sup>th</sup> are chosen randomly.
- Randomly select locations to be in the sample, and then survey everyone in that location.
- Group locations, randomly select sites within groups, then systematic selection of people at selected sites.

Random or systematic selection means that the group of people you select are more likely to be similar to your clients, in general. You aren't excluding any particular groups, or including only certain groups. You are avoiding bias, in sampling terms.

If you **do** use random or systematic selection, then most likely you **can** use your results to make conclusions about your clients.

If you **don't** use random or systematic selection, you can **NOT** use the results of your survey to make conclusions about your client population. That is, you cannot generalize from your study to your client population. You can only say “The people who took this survey said ...”

### Additional resource

G. David Garson Statnotes, chapters on Surveys and Sampling

<http://faculty.chass.ncsu.edu/garson/PA765/survey.htm>

<http://faculty.chass.ncsu.edu/garson/PA765/sampling.htm>

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## What is evaluation

This is the fifth in a set of handouts on the key questions about program evaluation. This is about focus groups, interviews and observations.

*Focus groups* are structured discussions among small groups of people.

Generally, a facilitator leads a group of 6-10 people in a discussion about selected topics with planned questions, while allowing for interesting, new or unplanned follow up questions.

Typical focus group questions are like these:

- What is your overall impression of the program?
- What are the things you like or dislike about the program?
- What have you gained in this program?

From: Qualitative Evaluation of the Project P.A.T.H.S. Based on the Perceptions of the Program Participants. Shek, Daniel T.L., Lee, Tak Yan, Siu, Andrew, Lam, Ching Man. The Scientific World Journal. November 2006, 1, 2254–2264  
<http://www.thescientificworld.co.uk/headeradmin/upload/2006.01.354.pdf>

## Additional Resources about focus groups

Basics of Conducting Focus Groups  
Carter McNamara, MBA, PhD, Authenticity Consulting, LLC  
<http://www.managementhelp.org/evaluatn/focusgrp.htm>

Focus Groups.  
From the National Park Service Northeast Region  
[http://www.nps.gov/phso/rtcatoolbox/gatinfo\\_focus.htm](http://www.nps.gov/phso/rtcatoolbox/gatinfo_focus.htm)

## What is evaluation

*Key informant interviews* are qualitative, in-depth interviews of 15 to 35 people selected for their first-hand knowledge about a topic of interest.

Conducting Key Informant Interviews. Performance Monitoring and Evaluation. USAID Center for Development Information and Evaluation.  
[http://www.usaid.gov/pubs/usaid\\_eval/](http://www.usaid.gov/pubs/usaid_eval/)

Key informant interviews also include a planned set of questions on the topics of interest.

Key informant interviews are useful when candid information about sensitive topics is needed. Group discussions may inhibit people from giving candid feedback.

Interviews should include a very diverse range of people.

### **Additional Resources**

Key Informant Interviews  
University of Illinois Extension  
<http://ppa.aces.uiuc.edu/KeyInform.htm>

## What is evaluation

*Observations* are methods that yield a systematic description of events or behaviors in the social setting chosen for study.

Observation methods can be highly structured, for example:

Systematic Social Observation - a field research method in which teams of researchers observe the object of study in its natural setting. Researchers record events as they see and hear them and do not rely upon others to describe or interpret events. The researchers follow well-specified procedures that can be duplicated.

Systematic Observation of Public Police: Applying Field Research Methods to Policy Issues. Stephen D. Mastrofski, Roger B. Parks, Albert J. Reiss, Jr., Robert E. Worden, Christina DeJong, Jeffrey B. Snipes, William Terrill. National Institute of Justice, December 1998.  
<http://www.ojp.usdoj.gov/nij/pubs-sum/172859.htm>

Observations can also be unstructured, for example, participant observation, or taking an active part in group activities.

The premise underlying participant observation is that the researcher becomes a more effective observer by taking an active role in the performance of regular activities. In other words, knowledge gained through doing is of a higher quality than what is obtained only through observation. In many cases, involvement with ordinary chores will not only enhance the researcher's understanding of the processes, techniques, and words associated with these activities, but will also result in better rapport with informants.

Documenting Maritime Folklife: An Introductory Guide  
Part 2: How to Document. Participant Observation  
American Folklife Center. Library of Congress.  
<http://www.loc.gov/folklife/maritime/twopo.html>

## What is evaluation

Focus groups, interviews and observation are *qualitative* research methods, that is, methods that are less likely to rely on statistical analysis.

### Advantages

- Useful to help figure out major program problems that cannot be explained by more formal methods of analysis.
- The evaluator may see things that participants and staff may not see.
- The evaluator can learn about things which participants or staff may be unwilling to reveal in more formal methods
- Useful when it's not clear what the program problems might be.
- Useful to give good ideas of what topics program participants and staff think are important.
- Useful in developing surveys, in determining what questions or issues are important to include.
- Useful when a main purpose is to generate recommendations
- Useful when quantitative data collected through other methods need to be interpreted.

## What is evaluation

### Disadvantages

- The evaluator's subjective views can introduce error.
- The focus of the evaluator is only on what is observed at one time in one place.
- Information from observations/ interviews/ groups can be time consuming and difficult to interpret.
- Focus groups could be dominated by one individual and their point of view.
- Generally, information from focus groups, interviews, and observations CANNOT be used to describe the client population.

## What is evaluation

*Advantages and disadvantages* of focus groups, observations and interviews **quoted from:**

The Handbook for Evaluating HIV Education - Booklet 9  
Evaluation of HIV Prevention Programs Using Qualitative Methods  
[http://www.cdc.gov/HealthyYouth/publications/hiv\\_handbook/index.htm](http://www.cdc.gov/HealthyYouth/publications/hiv_handbook/index.htm)

Conducting Focus Group Interviews  
USAID's Center for Development Information and Evaluation  
[http://www.usaid.gov/pubs/usaid\\_eval/](http://www.usaid.gov/pubs/usaid_eval/)

Conducting Key Informant Interviews. Performance Monitoring and Evaluation. USAID Center for Development Information and Evaluation. [http://www.usaid.gov/pubs/usaid\\_eval/](http://www.usaid.gov/pubs/usaid_eval/)

### **Additional Resources:**

Ethnography, Observational Research, and Narrative Inquiry:  
Commentary  
- Advantages of Qualitative Observational Research  
- Disadvantages of Qualitative Observational Research  
<http://writing.colostate.edu/guides/research/observe/pop2d.cfm>

Strengths: Data Collection Methods  
Washington State Library, Connecting Learners to Libraries, 2006  
Retreat  
[http://www.secstate.wa.gov/library/libraries/projects/connecting/retreat\\_2006.aspx](http://www.secstate.wa.gov/library/libraries/projects/connecting/retreat_2006.aspx)

Different Methods of Collecting Information  
in What's the Best Way to Collect My Information?  
<http://www.ed.gov/pubs/EdTechGuide/whatbest.html>

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With contributions by Michael Quinn Patton.

## What is evaluation

This is the sixth in a set of handouts on the key program evaluation questions. This is about whether programs caused outcomes.

### *Did the program have an effect?*

How do you know whether the program improves people's lives?

One commonly used way to find out is to ask whether the program **caused an outcome**. If the program caused the outcome, then one could argue that the program improved people's lives.

On the other hand, if the program **did not cause** the outcome, then one would argue that, since the program did not cause the outcome then the program did not improve people's lives.

How to figure this out?

Determining whether a program caused the outcome is one of the most difficult problems in evaluation, and not everyone agrees on how to do it. Some say that randomized experiments are the best way to establish causality. Others advocate in-depth case studies as best. The approach you take depends on how the evaluation will be used, who it is for, what the evaluation users will accept as credible evidence of causality, what resources are available for the evaluation, and how important it is to establish causality with considerable confidence. (This paragraph suggested by Michael Quinn Patton.)

This handout introduces some of the methods and issues involved in addressing whether a program causes an outcome.

## What is evaluation

These are three approaches frequently used to establishing whether a program causes an outcome.

- comparison groups – comparing people in the program to people not in the program
- multiple evaluation methods – comparing results from several evaluations, each using different methods
- in depth case studies of programs and outcomes - showing that the links between what program participants experience and the outcomes attained are reasonable, empirically validated, and based on multiple sources and data. The linkages between program and outcomes are direct and observable. No alternative possible causes offer a better explanation.

The particular method that is used should reflect a careful discussion and understanding of the pros and cons of each method, and agreement among all parties involved.

## What is evaluation

### *Comparisons groups and cause:*

#### Comparison groups and random assignment

The idea is this:

**Randomly assign** people to either be in the program (the 'treatment' group) or to be not in the program (the 'comparison' group).

Since people in the 'treatment group' were randomly assigned, then before the program the two groups of people should be pretty much the same.

Measure the treatment group after they have been on the program and compare them to people in the comparison group.

After the program, if the 'treatment' group people are better off than are the comparison group people, then the difference should be from being in the program, and so it is reasonable to argue that the program caused that outcome.

#### **Additional Resources:**

Why do social experiments? Chapter 7 in The Magenta Book, from Policy Hub, National School of Government.  
[http://www.nationalschool.gov.uk/policyhub/evaluating\\_policy/](http://www.nationalschool.gov.uk/policyhub/evaluating_policy/)



## What is evaluation

*Advantages and disadvantages* of random assignment to treatment and comparison groups.

Advantages:

- The 'treatment' or program effects can be isolated, and other factors can be excluded from causal explanation.
- Provides results that are easy to explain.

Disadvantages:

- Often not practical to do. Can't randomly assign people to program or not program, and may be unethical to randomly assign someone to no treatment.
- Randomly assigning people to be in the program is not how programs really work, so results of the evaluation may not apply to the program as it really exists.
- Can't be applied to causes that operate over the long term or to programs that are very complex.
- Can tell whether a program caused outcome, but doesn't give much in depth information about why or how.
- People in treatment group know they are getting treatment so outcome may be due to knowledge, not to treatment.

This is a summary of points from:  
(Munck and Jay Verkuilen) "Research Designs,"  
<http://www-rcf.usc.edu/~munck/research/methods.html>

The last point is one of many from:  
A Summative Evaluation of RCT Methodology: & An Alternative Approach to Causal Research. Michael Scriven. Journal of MultiDisciplinary Evaluation, Volume 5, Number 9. <http://jmde.com/>

## What is evaluation

Comparison groups and non-random assignment When random assignment is not possible, quasi-experimental design can be used. In this method, people "are not randomly assigned to groups but statistical controls are used instead."

Quasi-experimental designs. In Statnotes: Topics in Multivariate Analysis, by G. David Garson <http://www2.chass.ncsu.edu/garson/pa765/design.htm#quasi>

There are several versions of this approach:

- Comparing people already on the program to those who are not on the program. One example is to observe (O) people before they join the program or there is an intervention (X), then observe both groups after :

Pretest-posttest design

-Intervention group	O <sub>before</sub>	X	O <sub>after</sub>
-Comparison group	O <sub>before</sub>		O <sub>after</sub>

- Measuring the client many times before they join the program (or before a new intervention) and many times afterward, then compare before to after. One example is:

Time series design

-Intervention group	O <sub>1</sub>	O <sub>2</sub>	X	O <sub>3</sub>	O <sub>4</sub>
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- Combination of the two above

Time series design

-Intervention group	O <sub>1</sub>	O <sub>2</sub>	X	O <sub>3</sub>	O <sub>4</sub>
-Control group	O <sub>1</sub>	O <sub>2</sub>		O <sub>3</sub>	O <sub>4</sub>

## What is evaluation

A major challenge to non random assignment approaches is that people on the program may start off being very different from the people not on the program.

That is, only some people choose to be on the program. Something made these people different and it may be the something which caused the better outcome, not the program.

One way to deal with this is to collect as much information as possible on characteristics of the people and program that relate to the program outcome, and use this information in statistical analysis to “control” for the differences between people on the program vs people not on the program.

The problem is that there may be differences, some critical, that are not observed, and for which the evaluator has no data.

### Additional Resources:

AllPsych On Line. By Dr. Christopher L. Heffner  
Section 5.3 Quasi-Experimental Design  
<http://allpsych.com/researchmethods/quasiexperimentaldesign.html>

Quasi-experimental designs. In Statnotes: Topics in Multivariate Analysis, by G. David Garson  
<http://www2.chass.ncsu.edu/garson/pa765/design.htm#quasi>

Design diagrams on previous page from:  
Measuring the Difference: Guide to Planning and Evaluating Health Information Outreach. Stage 4, Planning Evaluation. National Network of Libraries of Medicine  
<http://nnlm.gov/evaluation/guide/>

## What is evaluation

*Multiple evaluation methods* could support the idea that the program causes the outcome if different sources agree.

For example, collect information from:

- Program participants
- Program staff
- Community members
- Subject experts
- Published research and reports

Collect data through many methods, for example:

- Surveys
- Interviews
- Observations
- Program administrative data

If data from different sources don't agree, it doesn't necessarily mean the results from any of the sources are not valid. However, the more agreement there is from different sources, the more confident you can be about your conclusions.

### Additional Resources:

An Introduction to Mixed Method Research. By Jennifer Byrne and Áine Humble. Atlantic Research Centre for Family-Work Issues. Mount Saint Vincent University.  
<http://www.msvu.ca/site/media/msvu/MixedMethodologyHandout.pdf>

## What is evaluation

*An in depth case study* can be used to demonstrate the connection between the intervention and the outcome.

An in-depth case study documents in detail what a group of participants experienced in a program and any ways in which they have changed so that the evaluator and users of the evaluation can make a judgment about the likelihood that the program led to the observed changes. For example, a group of chronic alcoholics go through a residential chemical dependency program. Their participation is fully documented. They return home maintaining their sobriety. They attribute their sobriety to the program as do their families, friends, and program staff. These multiple sources agree on the documented causal chain. The links between what they experienced and the outcomes attained are reasonable, empirically validated, and based on multiple sources and data. The linkages between program and outcomes are direct and observable. No alternative possible causes offer a better explanation. The preponderance of evidence points to a conclusion about causality. Establishing causality involves both data and reasoning about the findings. (This paragraph contributed by Michael Quinn Patton.)

## What is evaluation

### *Conclusion:*

Random assignment is often seen as a very clear way to show whether a program causes an outcome. However, random assignment is often not practical or reasonable.

Other methods such as non random assignment, multiple evaluation methods, or in depth case studies are more practical and can be used to give reasonable arguments about whether a program caused an outcome.

However, these methods are less certain in establishing that the program is the cause of the outcome. There may be other things going on that are unknown and these other things might really be the cause of the outcome. It is more difficult for these other methods to rule out other possible causes, although the other methods can, again, establish reasonable likelihood.

If a cause cannot be established, the evaluation can be used to describe what happened.

For example, the evaluation could say, “After the program, people were better off.” This doesn't necessarily mean it was the program that made the people better off, but the program may be one reasonable cause. Gathering more evidence, from multiple methods, driven by a very clear understanding of the program, can help determine the most reasonable explanation of causes of the outcomes.

## What is evaluation

### Additional Resources:

Steps in Program Evaluation  
Gather Credible Evidence  
<http://www.cdc.gov/eval/steps.htm#evidence>

Program Evaluation: A Variety of Rigorous Methods Can Help  
Identify Effective Interventions  
GAO-10-30 November 23, 2009  
<http://www.gao.gov/products/GAO-10-30>

What Counts as Credible Evidence in Applied Research and  
Evaluation Practice? Stewart I. Donaldson, Christina A. Christie and  
Melvin M. Mark. <http://sites.google.com/site/credibleevidence/>  
Especially see the free resources, Donaldson, S.I. (2008). A  
practitioner's guide for gathering credible evidence.

What Constitutes Credible Evidence in Evaluation and Applied  
Research? Claremont Graduate University Stauffer Symposium  
<http://www.cgu.edu/pages/4085.asp>

A Summative Evaluation of RCT Methodology: & An Alternative  
Approach to Causal Research. Michael Scriven. Journal of  
MultiDisciplinary Evaluation, Volume 5, Number 9.  
<http://jmde.com/>

## What is evaluation

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