GOLDILOCKS TOOLKIT

Theory of Change: Laying the Foundation for Right-Fit Data Collection

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Theory of Change: Laying the Foundation for Right-Fit Data Collection

The first step in designing a right-fit data collection strategy is to create a solid theory of change. A theory of change is a clear visual map that represents how a program will make an impact on the world. It illustrates what goes into a program, what gets done, and how the world is expected to change as a result.

A theory of change supports right-fit data collection in several ways: by pointing organizations to the elements of the program they need to track to ensure it is operating as planned; by providing a foundation for impact measurement by differentiating the outputs *to be tracked* from the outcomes *to be measured using a credible counterfactual*; and by generating credible research questions.

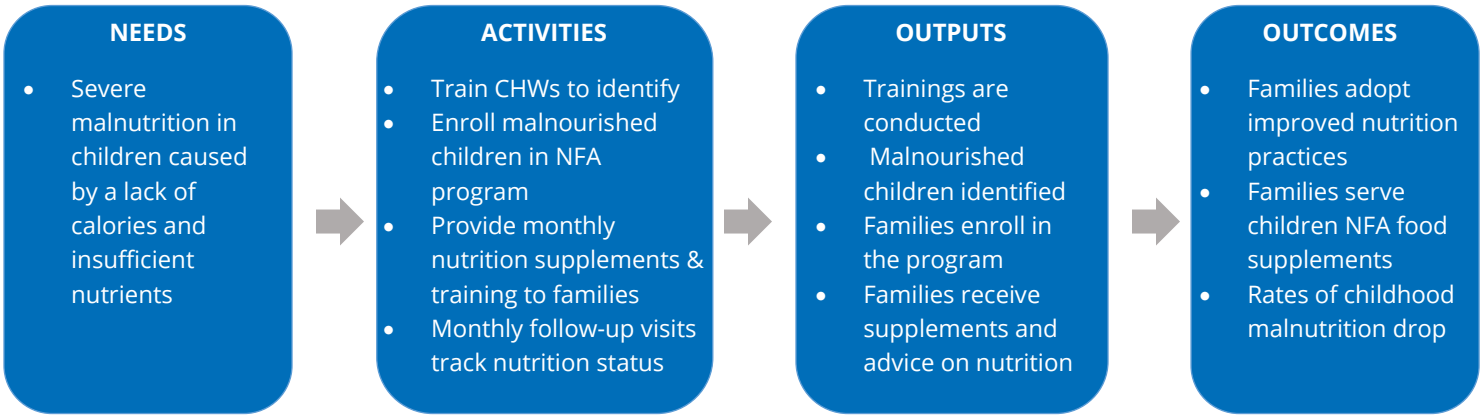
The Goldilocks Initiative does not offer a complete manual on building a theory of change—many resources exist for that—but here we break down the basics of creating a theory of change and explain how a clear theory, together with the CART principles, can provide the foundation for a strong, right-fit system of data collection.

Creating a Theory of Change: The Basics

There are no strict rules on how to make a theory of change, but it typically includes identifying the needs (or problem) the program addresses, the activities that address that problem, the outputs of those activities, how those outputs will lead to the outcomes of the program, and the assumptions underlying the program.

Example of a Theory of Change:

Figure 1: Nutrition for All's Theory of Change



*The organization and its theory of change are fictional.

Define the Problem

The first step in developing a theory of change is clearly defining the problem you aim to address. This may sound obvious, but often organizations move directly to the actions they want to take without full consideration of the underlying problem. By specifically articulating what challenge you intend to address and the results you hope to achieve, you can build on available evidence to create a program that is more likely to achieve its intended results.

Organizations often conduct on-the-ground research in order to define the problem and identify a solution. They may also examine the work other organizations have done in the same field and location. This often involves asking questions like: what elements of program design are more promising? What high quality evidence exists on the issue? What role does context play in program effectiveness? For some program areas, research may exist on the most effective approach to a particular problem, and organizations should build on these existing evidence bases where possible.

Define the Program Activities

The program activities are the day-to-day tasks an organization must undertake in order to provide a product or service. These activities are how the program intends to create change.[1]

When program activities are sequenced, it can be helpful to organize these activities chronologically. For example, in the fictional nutritional program described in the figure above, key day-to-day activities include training government community health workers (CHWs) to identify malnourished children and deploying CHWs to conduct regular household visits, identify children in need of supplements, provide supplements and training to identified families, and conduct follow-up visits to track the nutritional status of beneficiaries.

Identify the Program Outputs

Each program activity will have at least one output associated with it. Outputs are the products or services produced by program activities. Outputs are the direct deliverables of a program, and identifying and measuring those outputs is a key component of an organization's data system. Typically, activities undertaken and outputs produced are under the immediate control of the organization and reflect the amount and quality of program implementation.

Outputs: the products or services produced by program activities; deliverables.

Clearly defining activities and outputs is an essential element of actionable data collection, as it gives managers clear guidance on which program components are working well and which could be improved.[2] Collecting data about these elements of the theory of change can

[1] You'll notice that many logical frameworks start with inputs, the raw materials that are needed to run the program as planned, as first or along with activities. These are undoubtedly important, but implicitly part of what we mean by "activities."

[2] Carol Weiss, the renowned expert on evaluation, organizational decision-making, and research methods, called this the difference between implementation failure and idea failure. In monitoring, organizations are testing for implementation failure, while an impact evaluation tests an idea (so a failure to see results indicates an idea failure). See Weiss' book cited at the end of the chapter for more on this distinction.

highlight inconsistencies in implementation and offer suggestions on how to improve a program.

Define the Program Outcomes and Impact

While outputs are the deliverables of the program, the outcomes are the intended results or impact of providing those outputs. Outcomes are more complicated to identify and measure than outputs, in part because they bring us firmly to the 'theory' part of the theory of change.

The provision of outputs is under the control of an organization to some degree – they are certainly related to the effort and effectiveness of the activities implemented. But outputs set in motion a hypothesized series of changes that rely partly on the quality of program implementation and partly on whether the assumptions and theories underlying the program hold, as well as whether there are unanticipated changes in the program environment. An important part of the theory of change is to map out the expected series of outcomes – this process is sometimes referred to as 'outcome mapping' or 'pathway mapping.'

Outcomes: the intended results of a program

The organization has control over its outputs, but ultimately, the outcomes are at least partly out of its control. Most outcomes can only be credibly measured with a counterfactual analysis because many factors in addition to program implementation affect these results.

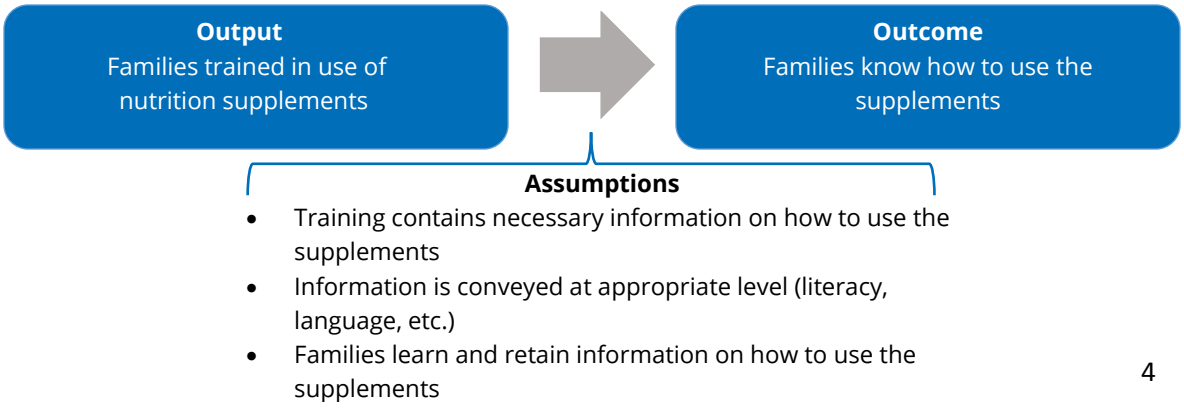
Identifying Assumptions and Risks

Any good theory rests on assumptions, both implicit and explicit, that embody our ideas about how the world works. A theory of change is no different. In every link between activity, output, and impact there are many different assumptions that need to be in place for the program to work as expected. An important part of developing a theory of change is to identify these implicit and explicit assumptions and include them in the theory of change so that data can be collected to verify that key assumptions of the program hold.

Assumptions: the conditions that have to hold for a certain part of a program to work as expected

Assumptions are the links between the elements in your program theory – they can most easily be seen as the arrows connecting the elements. See Figure 2 for an example from Nutrition For All.

Figure 2: Assumptions



Assumptions fall into two categories: assumptions about the connections between activities and outputs in program implementation, and assumptions about the connections between outputs and intended impact. Once we move beyond the realm of outputs to outcomes, we are making an even larger number of assumptions about how people will respond to the program.

Risks

If assumptions are the conditions that have to hold for the program to work, risks are the factors outside of the organization's control that can significantly affect program outputs and the likelihood that the desired impact can be achieved. The world outside the program is unlikely to stay constant, and changes in these external conditions pose risks to the program's ability to achieve its goals.

Some risks are more likely to occur than others, and some would have devastating effects if they took place. It is often worthwhile to identify—ahead of time—the most likely and potentially most damaging risks and develop a risk reduction or mitigation plan.

Putting it All Together: Mapping the Pathways

Once all the elements are in place, it is time to map how the activities, outputs, and impact connect to each other. Many activities will map to multiple outputs and these outputs will in turn map to multiple impacts. When multiple arrows connect, this indicates an important component of the theory that must hold for the rest of the program to work. Detailing them all helps identify points that will become focus areas for data collection. Areas where large numbers of assumptions are made are also candidates for focused data collection.

Although mapping every possible connection between activities, outputs, and outcomes is important for internal data collection, the complexity of some programs creates an extremely complicated visual design. When this is the case, many organizations find it helpful to develop a simplified theory of change that clearly represents the most important elements of the program to stakeholders and to reserve more complicated diagrams for internal use.

How Theory of Change Drives the CART

Theory of change works hand-in-hand with the CART principles to guide right-fit data collection and analysis.

A theory of change helps ensure **credibility** of both the measurement and the analysis of data. The theory of change improves measurement by forcing us to be clear on what our programs are trying to achieve and how we will achieve it. The result should be higher quality data. Second, a theory of change supports credible data collection by helping differentiate deliverables (outputs) from impacts (or outcomes). The former requires activity monitoring, while the latter requires impact evaluation with a counterfactual. A theory of change makes it easier to differentiate the two.

A theory of change also helps make data **actionable** by guiding organizations on what data to collect and what *not* to collect (hint: only collect data that directly relates to your theory of change). Without a system for identifying these critical pieces of information, organizations often end up collecting data "just in case" or because it would be "nice to know." Organizations rarely put that information to use.

The theory of change is essential to the **responsible** principle as well. First, if your program does not make logical sense or is not grounded in solid evidence, implementing it will not be a responsible use of resources; it will likely waste money and people's time. If your program *is* sitting on solid ground, you still have to make the decision about whether the benefits of data collection outweigh the costs. To do so, you need to understand which elements of your program model are most critical and to collect high quality information on those particular elements.

Finally, a theory of change helps ensure **transportability**. With a clear theory of change an organization can make decisions about whether a particular program will work in other settings, or how it might need to be adjusted. For these reasons, developing a theory of change includes investigating, understanding, and clearly specifying critical elements of the context in which it takes place.

Throughout the Goldilocks Toolkit, we use the theory of change as our backbone for building a data collection strategy. In the next section, Monitoring with the CART, we explore how these theory of change and the CART Principles translate into a right-fit monitoring framework.

Sources

Weiss, Carol H. (1972). Methods for assessing program effectiveness. Englewood Cliffs.