

Problem Definition Activity

This worksheet will guide you, step by step, through the problem definition process. You will need about one hour for the whole activity. **Complete at least steps 1 -3 (pg. 5-6) before moving to the next course video** but you can complete Steps 4 & 5 as you have time. Ready to go? Let's get started!

What is Problem Definition and why do I need it?

Problem Definition is the first step in the behavioral design process. We begin by **defining** the problem we're trying to solve, then **identify** behavioral bottlenecks that are contributing to the problem. From there, we **design** interventions to address the bottlenecks, **test** them rigorously, and **scale** successful interventions. We recommend using this process when tackling any behavioral problem, to ensure you approach the problem methodically and comprehensively, however we will not cover this whole process in detail in this workshop.

The objective of problem definition is to accurately define the problem we are trying to solve. In this stage, we explore the nature and scope of the problem, identify available data sources to quantify the problem, and eliminate assumptions about what may be contributing to the problem or possible solutions. From these activities we generate a "problem statement" that clearly articulates the issue we seek to address. The problem definition process and a solid problem statement are the foundation for further work in diagnosing, designing, testing, and scaling. Though this initial step may seem obvious, it is often overlooked and an improperly defined problem can lead to misdirected resources or ineffective designs.

What does a good problem statement look like?

For our purposes, a good problem statement meets three basic criteria:

1. **Focuses on a specific behavior** rather than a general issue
2. States the problem **without embedded assumptions**
3. **Defines at the right level** – not too broadly or narrowly

To help us meet those criteria, we typically use the following format for problem statements:

"People are doing X; the desired behavior is Y."

Some examples of well-defined problem statements:

Students in California intend to apply to community college, but don't end up matriculating. The desired behavior is for students to successfully apply and matriculate.

Mothers with an early intention to breastfeed do not follow through on this intention during their babies' first year. The desired behavior is for them to successfully follow through on their intention and timeline to breastfeed.


Flu vaccine uptake among New York City employees and their dependents was only 18.5% last year and only 7,879 employees got on-site vaccines. The desired behavior is for more New York City employees to get flu vaccines.

Let's look at each criterion in more detail:


1) **Focus on a specific behavior** rather than a general issue

As much as we love behavioral science, it can't solve everything. Behavioral solutions won't be useful in solving a structural problem, so it's important to work on problems that actually involve a behavior – individuals making decisions and taking action. It can be a desirable behavior that we want to encourage or an undesirable behavior that we want to minimize. Particularly good candidates for behavioral interventions are instances where someone appears to act in a manner counter to their best interests for no obvious reason.

EXAMPLE

 *Unmarried couples in Senegal experience high incidence of sexually transmitted infections (STIs). The desired behavior is to avoid STIs.*


→ This is too general because there are numerous decision and actions an individual could take in order to avoid STIs. Should they remain celibate? Get tested? Use condoms? Limit their partners? Understanding and designing an intervention to address all of these issues would be difficult.

 *Unmarried couples in Senegal do not use condoms regularly. The desired behavior is for them to use condoms every time they have sex.*


2) State the problem **without embedded assumptions**

You may be certain that you know the cause of a problem, but during problem definition we do not want to include our assumptions or hypotheses as to why the problem is happening or what the solution should be. For example, it is common to assume that people make a sub-optimal decision because they don't know better or don't care. While sometimes these reasons are true, including them in the problem statement could inadvertently bias our exploration of the drivers of the problem (diagnosis) or limit the potential solutions we explore (design).

EXAMPLE

 *Sexually active adolescents in Uganda don't know where to go to take up modern contraceptives. The desired behavior is for sexually active adolescents to go to the nearest family planning clinic.*


→ This assumes that the driver of the problem is a lack of information. But there might be other reasons that adolescents don't utilize modern contraceptives – perhaps judgment from friends and family, perception that pregnancy is a path to marriage, or fear of side effects.

 *Sexually active adolescents in Uganda don't take up modern contraceptives to prevent pregnancy. The desired behavior is for sexually active adolescents to take up modern contraceptives to prevent pregnancy.*


3) **Define at the right level** – not too broadly or narrowly

In any given problem, there can be multiple behaviors that contribute to the overall issue, with smaller behaviors contributing to larger behaviors. Additionally, the population that the problem statement addresses can be very general or very narrow. It is important to pick a behavior and target population that is broad enough to have an impact on the overall issue, but specific enough that it can be influenced by a behavioral intervention.


EXAMPLE

 *Women don't use contraceptives.*

→ This is too broad: Which women? Where? To what end? What are we trying to influence – initial take-up? Contraceptive use by post-partum women? Use of LARCs versus short-term methods?

 *Women in the Berehet woreda, North Shewa Zone, Amhara region of Ethiopia do not meet with health workers for post-natal consultations within 6 weeks of delivery.*

→ This is too narrow: This targets a small population and identifies a very specific behavior, with no reference to the ultimate behaviors of interest (contraceptive use and birth spacing).

 *Adult women in rural Ethiopia do not use modern method contraceptives to space pregnancies. The desired behavior is for adult women in rural Ethiopia to use contraceptives to space pregnancies at least 2 years apart.*

Operationalizing a problem statement

Just having a problem statement is not enough. It needs to reflect an actual problem and be measurable, so that we can figure out later if our interventions are successful. Operationalizing a problem statement consists of four steps:

1. Define terms
2. Identify sources of data
3. Quantify magnitude of the problem
4. Determine envisioned future states

- 1) Select key terms in the problem statement and define them clearly – based on existing well-established definitions in the field or make the case for a new definition.

EXAMPLE

Women of reproductive age who are using injectable contraceptives discontinue use despite not wanting to get pregnant. The desired behavior is for these women to continue use of a family planning method.

Women of reproductive age = women age 15-49

Discontinue use = stop using the method within 12 months of uptake

Family planning method = modern contraceptive method

- 2) Identify the indicators you would use to assess the magnitude of your problem and evaluate outcomes. Check which sources of data are available (or identify data to collect) and determine the time period over which outcomes will be measured.

EXAMPLE

Data Needed:

- Individual-level contraceptive use data for women of reproductive age, captured in facility-level service statistics: **NOT AVAILABLE**
- Calendar-based contraceptive use history, from a representative sample: **AVAILABLE from DHS (Demographic and Health Surveys)**

Data to Collect:

- Individual-level contraceptive use in the 12 months following uptake

- 3) Use data to quantify the magnitude of the problem. Does the problem actually exist or is it based on anecdotes? If it exists, how big of a problem is it?

EXAMPLE

Data: According to the 2016 DHS data, 34% of injectable contraceptive users discontinued use within 12 months of uptake.

Conclusion: This problem can be described quantitatively and is of significant magnitude. It is a meaningful problem to address. We would likely need to implement additional data collection

- 4) After verifying that the problem truly exists, the same measures can be used to envision future states – what results would constitute success, or at least minimally meaningful change.

EXAMPLE

Where are we now?

34% of injectable contraceptive users discontinue use within 12 months of uptake.

Where do we want to be?

We want all women with unmet need to have access to their contraceptive method of choice.

What would still be a minimally meaningful change?

In one year, 30% of injectable contraceptive users discontinue use despite a desire to avoid pregnancy.

Problem Definition Worksheet

Now it's your turn. The following pages walk you through the problem definition process step-by-step. This activity will help you explore a behavioral problem, prepare a well-defined problem statement, and operationalize your problem.

Step 1 - What's your issue?

Spend 5 minutes brainstorming the answer to this question and write your responses below. Start by thinking about an issue in your work that might be behavioral in nature, possibly with clients, providers, or colleagues. Don't worry about identifying an exact behavior yet, just think about some issues that likely do not stem from structural, economic, or other factors. **Reminder:** think about instances where people seem to act counter to their best interests, for no obvious reason.

Step 2 – Make it a Behavior

Now think about specific behaviors by individuals that contribute to the issue. What is the specific behavior that you would like to focus on? If you're feeling a little stuck, think about the following:

- 1) Is there an action you want people to do more?
- 2) Is there an action you want people to stop doing?
- 3) Is there an action people are doing that you want to replace with a different action, such as do something in a different way or at a different time?

Write your behavior in the format of “people are doing X, the desired behavior is Y”.

People are doing X...

...the desired behavior is Y.

Step 3 – Check for Assumptions

Is your problem stated in an unbiased way, free of assumptions about causes or solutions? If necessary, strip out your assumptions and rewrite your problem below. **Reminder:** assumptions commonly included in problem statements include “people don’t know about...” or “people don’t want to...”.

Step 4 – Define at the Right Level

If you’ve followed the previous steps of making your problem about a behavior and removing your assumptions, your problem statement is likely already close to the right level. This step is just to double check that. Take your current problem statement and try to make it more narrow, then more broad. Compare the three levels and pick the one that makes the most sense for your final problem statement.

Reminder: Consider the sub-behaviors that might feed into the desired behavior. Does your problem definition leave room for most of them to happen? Your problem statement is too narrow if it excludes many sub-behaviors. On the other hand, your problem statement is too broad if it spans several different behaviors and cannot be shifted by a single intervention.

Also consider your target population. Can the target population be more clearly defined? Are there broader or narrower categories that are more appropriate? Your problem statement is too narrow if it gives no clue to the ultimate behavior of interest.

Current problem statement:

Make it narrower (Is there a more specific behavior? Does it apply to a narrower population?):

Make it broader (Is there a more general behavior? Can it apply to a wider population?):

Final problem statement:

Step 5 – Operationalize Your Problem Statement

Now that you have a clear problem statement involving a behavior that's not too narrow or too broad and without embedded assumptions, it's time to make sure your problem is real, current, important, and measurable! Write your problem statement below, underline the key terms, and write down definitions and how they can be measured. **You will complete the measurements after the workshop if your team is interested in doing so.**

Final problem statement:

1) Define Terms – Which key **terms** or variables in your problem statement need to be concretely defined? What is the best way to **define** these terms?

TERM

DEFINITION

2) Identify sources of data – What **data** is available? What data do you need to collect?

AVAILABLE DATA

DATA TO COLLECT

3) Quantify magnitude of the problem – What is the current state of your problem? ***How do you know*** your current state? If your knowledge comes from anecdotes or assumptions, check your available data to confirm the problem really exists before you continue.

CURRENT STATE

4) Determine envisioned future states – What results would constitute success? What would be a minimum meaningful change?

ENVISIONED FUTURE:

MINIMUM MEANINGFUL CHANGE: