

Theories of Change and Evidence-Based Interventions



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Session Overview

- ▶ Introduction
- ▶ Theories of Change
- ▶ Evidence-Based Interventions
- ▶ Discuss Practice Exercises and Webinar 2

Introductions

- ▶ Why are we doing this?
- ▶ Who's on the call?
 - Name
 - Program
 - Focus Area

Part 1: Theories of Change

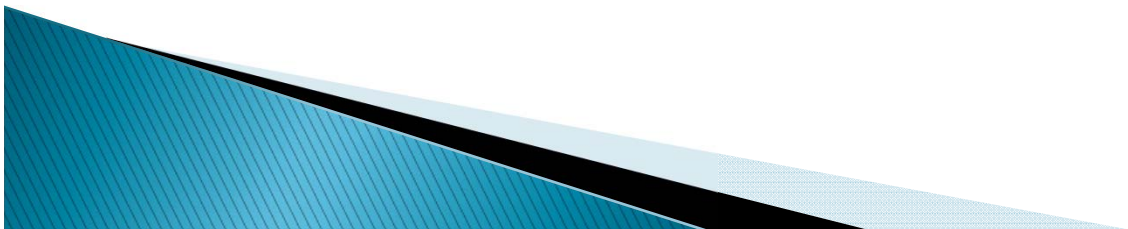
Learning Objectives:

- ▶ Know the definition of “theory of change”
- ▶ Understand relationship between theory of change and program design
- ▶ Understand how logic models articulate a theory of change

What is a Theory of Change?

A theory of change:

- ▶ Looks at cause and effect relationships
- ▶ Identifies specific interventions to achieve the desired result
- ▶ Uses evidence to articulate assumptions



Theory of Change

PROBLEM: The identified community need

INTERVENTION: The activities of members and community volunteers supported by AmeriCorps members

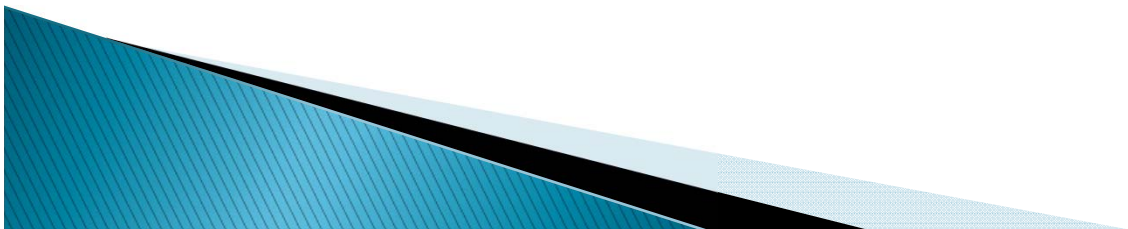
OUTCOME: The change that occurs because of the intervention

EVIDENCE: Data that supports the claim that a certain set of actions (the intervention) will lead to the intended outcome

In Other Words

If the intervention (X) is delivered, at a certain dosage, then the expected outcome (Y) will happen.

$$X \rightarrow Y$$



An example from science

I have strep throat (PROBLEM).

If I take antibiotics (INTERVENTION),
then I will get better (OUTCOME).

Antibiotics \rightarrow I get better.

$X \rightarrow Y$

Is this always true?

- ▶ If I take penicillin, I will get better.
- ▶ If I take a different antibiotic, will I get better?
- ▶ Some interventions (antibiotics) work better than others. Some don't work at all.

How Do I Know?

- ▶ How do I know which antibiotic is best?
- ▶ I look at the evidence. There is research that shows which antibiotic is likely to get the best result.
- ▶ I consider constraints that may preclude the ideal intervention. (Penicillin may be too expensive.)
- ▶ If I can't have the most promising intervention, I need to understand the tradeoffs.

Example: Riverton Reading Program

PROBLEM: Children at risk of failing third grade reading exam and not eligible for Title 1 or Special Education services.

INTERVENTION: Individualized tutoring on five “building block” literacy skills. 30 minutes, 3xweek.

OUTCOMES: Students master skills, pass state reading exam

Question: What evidence could this program provide to show that their intervention will be effective? What constraints might exist?

Cause and Effect?

- ▶ If AmeriCorps members distribute informational materials at county fairs and other events, **then** members of the public will increase their awareness of environmental issues.
- ▶ If AmeriCorps members provide health education and employment training to individuals with disabilities, **then** these beneficiaries will secure employment.

Logic Models

Logic models are a visual way of expressing the cause and effect reasoning behind a theory of change. They move from left to right in a linear fashion.

$$X \rightarrow Y$$



Logic Model Basics

Problem	Intervention	Outcomes
I have strep throat.	I take penicillin.	I get better.

Logic Model Example

PROBLEM	INTERVENTION	OUTCOME
Children at risk of failing third grade reading exam .	Individualized tutoring on five “building block” literacy skills	Students master five building block skills. Students pass state reading exam.

Part 2: Evidence-Based Interventions

Learning Objectives

- ▶ Understand the difference between data that documents the problem/need and evidence that supports the intervention
- ▶ Practice evaluating these two types of information

Data – Two Purposes

AmeriCorps applicants use data in two ways:

- ▶ To document the community problem/need
- ▶ To document why you think your intervention (using AmeriCorps members and community volunteers) will achieve the intended outcome



Problem/Need

Problem

What is the negative condition that exists?

Documentation of Need

Data that tells us:

- ▶ What is the extent/severity of this condition in the community?
- ▶ Why does this condition exist?



Data Documenting Community Need

- ▶ Sixty percent of parents whose children attend Pleasant Valley Head Start have fewer than three years of formal education.
- ▶ 12,250 low-income individuals applied for energy assistance in Happy Hollow in 2010 and lived in homes that had never been weatherized. In 2011, that number grew to 14,385.

Data Documenting Community Need

- ▶ Data should answer these questions:
 - Scope of problem: Who and how many are directly affected? How severe is the problem?
 - Relevance of problem: What makes this a compelling problem? Is it likely to become worse? What will happen if we don't do something?
 - Causes of problem: Why does the problem exist? How is it perpetuated?

Data Documenting Community Need?

- ▶ Persuasive data is:
 - Reputable: Rely on government agencies and other reputable sources that conduct their own research; rely on multiple sources whenever possible.
 - Current: Rely on the most recent data available
 - Local: Describe the problem as it affects the community where you will implement the intervention.

Intervention

Intervention

What is the best way to fix the negative condition that exists?

Evidence for Intervention

Data that demonstrates that the proposed intervention (design, dosage) is likely to lead to the outcome. $(X \rightarrow Y)$

Evidence-Based Interventions

- ▶ Member and volunteer activities that are supported by data that demonstrate a likelihood that these activities will solve the problem (and result in changes in the lives of beneficiaries.)

Data that Documents Why

The evidence basis for an intervention may include:

- ▶ Past performance measurement data
- ▶ Results from a program evaluation
- ▶ Research studies that document the outcomes of similar programs
- ▶ Evaluations that document outcomes of similar programs

Evidence Basis for an Intervention

Past performance measurement data

- ▶ What does your past PM data tell you?
- ▶ Do you have multiple years of data you can aggregate?
- ▶ Are you getting the most mileage from how you present your past PM data?

Example

- ▶ Performance measurement data from the Moving On Up Financial Literacy Program shows that 768 of 1200 participants completed the 15-week class, and their income increased an average of 28 percent during that time.

Evidence Basis for an Intervention

Results from a program evaluation

- ▶ Have you done an impact evaluation (as opposed to a process evaluation?)
- ▶ Were the results positive? Does it clearly show that your intervention is what caused the change?

Question: What can evaluation data show that performance measurement data can't?

Example

- ▶ Reaching New Heights is a program that helps children transition to middle school. Three randomized control trials found that the program had positive effects on behavior of children classified with an emotional disturbance.



Evidence Basis for an Intervention

- ▶ Research studies that document the outcomes of similar programs
- ▶ Evaluations that document outcomes of similar programs

Question: Why is “similar” important?



Challenges Linking Evidence to the Intervention

- ▶ Variance in executing the ideal program intervention
- ▶ Little evidence to support your intervention



Evidence Continuum

Preliminary → Moderate → Strong



What is “Good Evidence?”

- ▶ Relevant
- ▶ Compelling
- ▶ Up-to-Date
- ▶ Reliable Source
- ▶ Evidence Continuum (Preliminary, Moderate, Strong)

What to Look For?

- ▶ University or research organizations
- ▶ Names of known professionals/thought leaders
- ▶ Similar sounding programs/descriptions
- ▶ Meta-articles that review multiple studies

What Evidence Can Tell Us

- ▶ Recommended design and dosage (frequency, intensity, duration)
- ▶ Do we need to alter the design of our intervention?
- ▶ Do we need to choose a new intervention?



Real World Example

How FIRST Refined Its Theory of Change to Improve Measurement

“I did a thorough literature review...[and]...learned that youth are unlikely to choose STEM as a major if they aren’t interested in it by 8th grade; and that certain interventions — hands-on activities, mentorship, group learning, and so on – increased the odds of this happening. All of this influenced our final [theory of change.]”

Source: <http://www.bridgespan.org/how-first-refined-its-theory-of-change.aspx>

Next Steps

- ▶ Practice Exercises
- ▶ Webinar 2