Using Logic Models as a Platform for Program Evaluation

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Objectives: Be able to…

- Describe the purposes and uses of program evaluation
- Identify and describe the steps in the CDC program evaluation framework
- Develop a logic model
- Recognize how a logic model can be used for program planning and evaluation purposes.

Why We Evaluate…

"... The gods condemned Sisyphus to endlessly roll a rock up a hill, whence it would return each time to its starting place. They thought, with some reason…

…there was no punishment more severe than eternally futile labor….”

The Myth of Sisyphus

What is Evaluation?

- Evaluation is...
  - the systematic investigation of the merit, worth, or significance of an “object”
- Program is...
  - any organized public health action/activity

Hence, *Program Evaluation* is…

- The ***systematic*** collection of information about the activities, characteristics, and outcomes of programs to make judgments about the **program,** improve ***program*** effectiveness, and/or inform decisions about future **program** development *(Michael Quinn Patton)*

While *Research* is...

- ***Systematic*** investigation, including research development, testing and evaluation, designed to develop or contribute to ***generalizable*** knowledge.

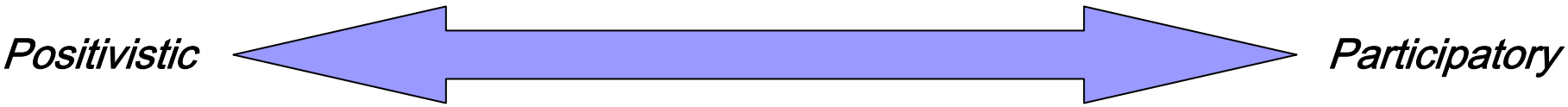
How Program Evaluation fits in with…

- ***Planning*** asks what actions will best reach our goals and objectives. *Evaluation* results are raw material for this discussion.

- ***Performance Measurement*** sets milestones/markers to monitor "how are we doing"? *Evaluation* complements by looking behind the markers to find out "why are we doing well or poorly"?

- ***Surveillance*** is continuous/routine data collection on various factors over regular intervals of time. Surveillance systems are *data source for evaluation--* especially of long-term and pop-based outcomes. Also, main resource for *formative (pre-implementation) evaluation.*

Evaluation Approaches



Criterion referenced

Accountability

Goal-directed

Effectiveness/Efficiency

Cost-effectiveness

Theory-driven

Reciprocal learning

CDC Framework

Utility-focused

Empowerment

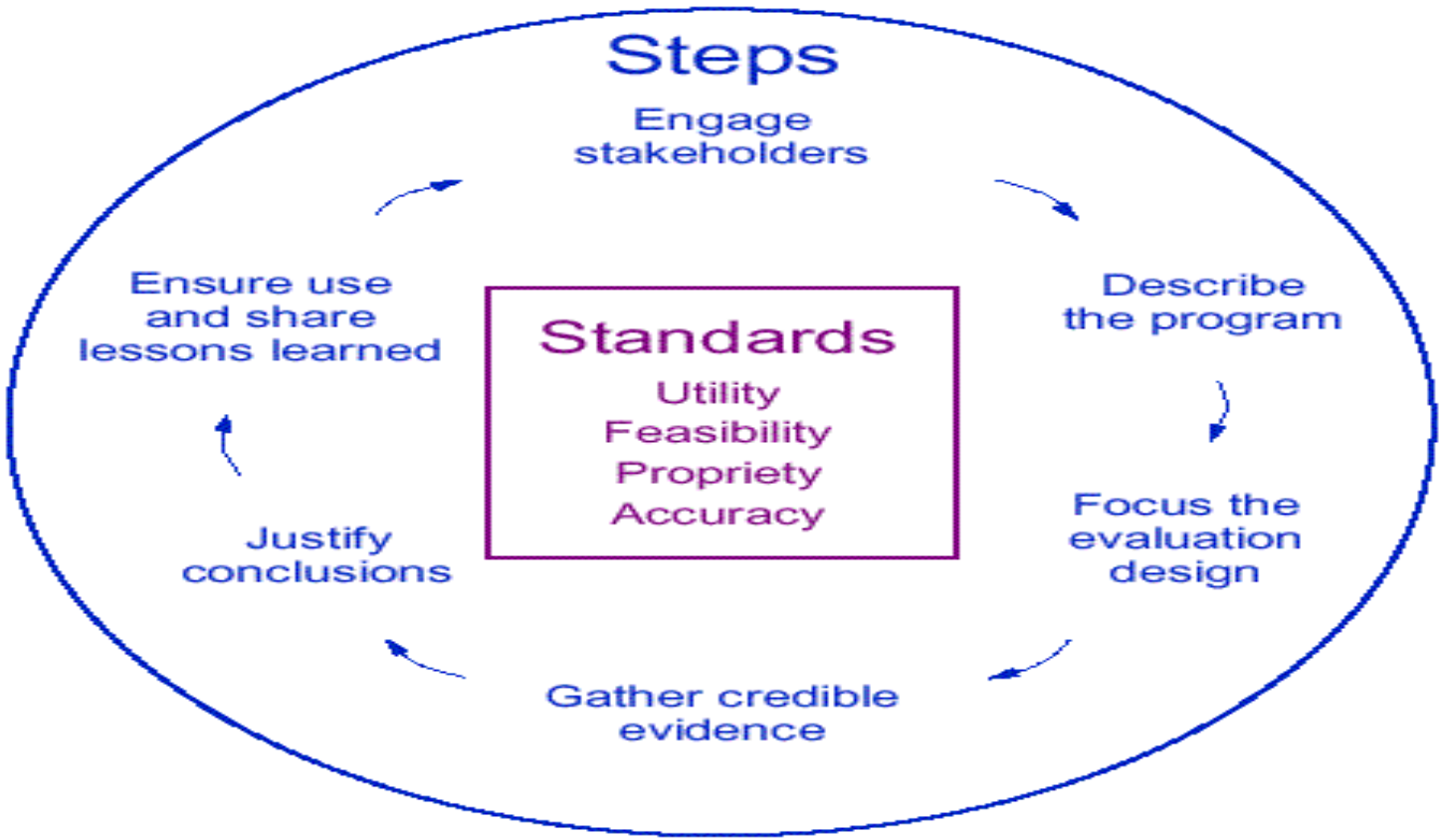
Social betterment

Origins of the CDC Framework

- Grew from two observations
  - Not much evaluation was being done
  - The evaluation that was done was not making a difference
- Multi-stage and inclusive process to help devise and approach to good evaluation
- Result was a 6-step framework the was informed by 4 sets of standards

Framework for Program Evaluation

FIGURE 1. Recommended framework for program evaluation



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Underlying Logic of Steps

- ***No eval is good unless***… results are ***used*** to make a difference

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Underlying Logic of Steps

- ***No eval is good unless***… results are ***used*** to make a difference
- ***No results are used unless***… a ***market*** has been created prior to creating the product
- ***No market is created unless***…. the eval is ***well-focused***, including most relevant and useful questions
- ***No eval focus is the right one unless*****…it reflects what the program is really about and checks assumptions with stakeholders**

Key Role of Evaluation Standards

- Little evaluation done because “overkill” on models and rigor; An over-identification with “summative” evaluation
- Need to shift eval from “Did program work?” to “Is program working?”
- Hence.. Always ***some*** evaluation question, but varies over time.

The Four Standards

At each step, want option that maximizes:

- ***Utility***: Who needs the info from this evaluation and what info do they need?
- ***Feasibility***: How much money, time, and effort can we put into this?
- ***Propriety:*** Who needs to be involved in the evaluation to be ethical?
- ***Accuracy:*** What design will lead to level of quality of info needed ***for this eval***?

Key Role of Early Steps

- ALL current evaluation framework emphasize stakeholders and roadmapping/logic modeling
- For CDC and public health, especially important:
  - We are removed from frontline efforts. Need others to take action.
  - Programs are complex and long-term. Change happens in sequence over time

Step-by-Step

1. ***Engage stakeholders***: Decide who needs to be part of the design and implementation of the evaluation for it to make a difference.
2. ***Describe the program***: Draw a "soup to nuts" picture of the program—activities and all intended outcomes.
3. ***Focus the evaluation***: Decide which evaluation questions are the key ones

Step-by-Step

Seeds of Steps 1-3 harvested later:

4. ***Gather credible evidence***: Write indicators and choose and implement data collection sources and methods
5. ***Justify conclusions***: Review and interpret data/evidence to determine success of failure
6. ***Use lessons learned***: Use evaluation results in a meaningful way.

Constructing Simple Logic Models

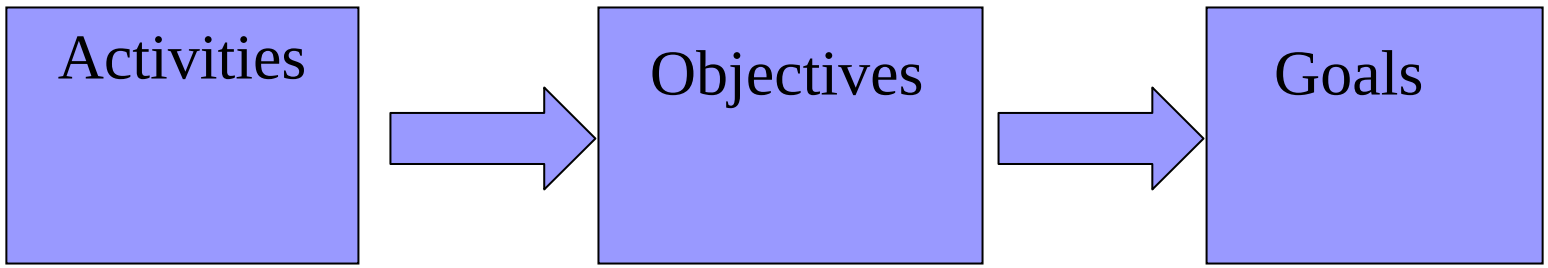
A Fully Described Program or Intervention…

- Addresses an identified need
- Has an identified target group(s)
- Has specific intended outcomes/objectives in mind for those groups
- Includes activities relevant to those outcomes/objectives
- Specifies the relationship between ***specific*** activities and outcomes/objectives

Linking Planning and Evaluation Terms

- Long-Term Outcome (Goal)
  - Describes overall mission/purpose of program
- Short-Term, Mid-Term or Intermediate Outcome (Objectives)
  - Describes results to be achieved
  - Specific and measurable
- Activities
  - Specific activities, procedures expected to occur
  - Must occur before outcome can be achieved

Linking Planning and Evaluation



Activities	Objectives	Goals
Implementation Fidelity/Process Evaluation	Short/Mid-Term Outcome Evaluation	Long-Term Outcome Evaluation

Logic Models and Program Description

- ***Logic Models :***
  - *Graphic depictions of **relationship** between a program's activities and its **intended** effects*

What is Distinctive…

- ***“Relationship.”*** Depicts the relationship/pathway from activities to effects
- ***“Intended”***. Depicts the intention and not the reality. Is first, not last step in planning and evaluation.
- Logic model is always evolving, as *evaluation and reflection provide insights on what works and doesn’t work*

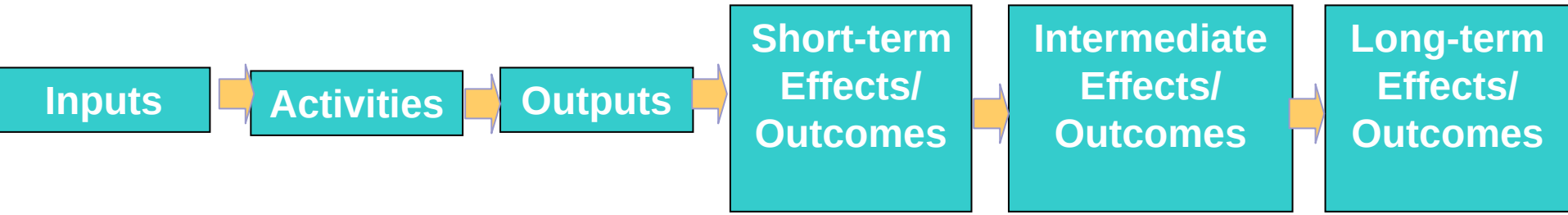
Logic Model Terminology

- ***Activities:*** *What the program and its staff actually do*
- ***Effects/Outcomes:*** *The changes that result in someone or* ***something other than the program and its staff.***

But, also…

- ***Inputs:*** *The "platform" of resources that are needed to mount the program's activities.*
- ***Outputs:*** *The tangible "products" that are produced by the activities.*

Step 2: Describing the Program: Complete Logic Model



Why Bother With Logic Models?

- Clarity for ***you***
- Clarity ***between you and stakeholders*** on:
  - What are activities
  - What are intended effects
  - What is the sequence/order of intended effects
  - Which activities are to produce which effects
- And, once clarity and consensus happen, to ***set up discussions*** about key planning and evaluation choices related to the program

Constructing Logic Models: Three Ways to Find Activities/Outcomes

1. Examining program descriptions, MISSIONS, VISIONS, PLANS, ETC and extracting these from the narrative, ***OR***
2. Starting with outcomes, ask “how to” in order to generate the activities which produce them, ***OR***
3. Starting with activities, ask “so what” in order to generate the outcomes that are expected to result

Next: Do Some Sequencing…

- Sequence activities into 2+ columns-- *Which activities have to logically occur before other activities can occur?*

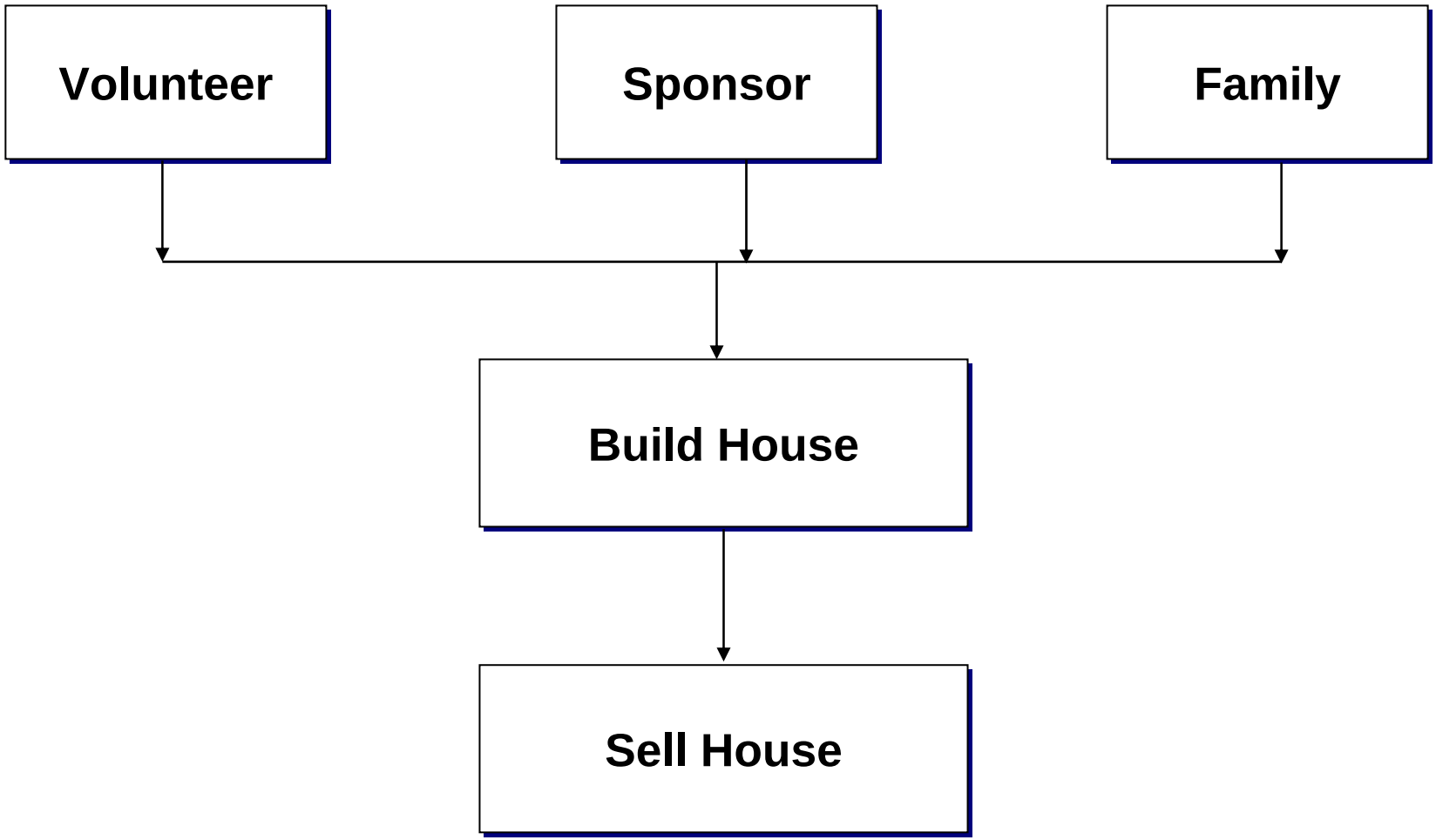
- Sequence outcomes into 2+ columns-- *Which outcomes have to logically occur before other outcomes can occur?*

Some Case Illustrations of Logic Models

Listing Activities and Outcomes: Habitat for Humanity

- Activities
  - Identify and engage sponsors
  - Organize volunteers
  - Select families
- Effects/Outcomes
  - Build house
  - Sell house to family

Habitat for Humanity



Listing Activities and Effects: Lead Poisoning

- Activities
  - Outreach
  - Screening
  - Case management
  - ***Referral*** for medical tx
  - Identification of kids with elevated lead (EBLL)
  - Environmental assessment
  - ***Referral*** for env clean-up
  - Family training
- Effects/Outcomes
  - Lead source identified
  - Families adopt in-home techniques
  - EBLL kids get medical treatment
  - Lead source gets eliminated
  - EBLL reduced
  - Developmental “slide” stopped
  - Q of L improved

Sequencing Activities

- Early Activities
  - Outreach
  - Screening
  - Identification of elevated kids
- Later Activities
  - Case management
  - Child referred to medical treatment
  - Environmental assessment
  - Environment referred for clean-up
  - Training of families in in-home techniques

Sequencing of Outcomes/Effects

- Early Outcomes
  - Lead source identified in environment
  - EBLL kids get medical treatment
  - Families do in-home reduction techniques
  - Environment cleaned-up
  - Lead source gets eliminated
- Later Outcomes
  - EBLL reduced
  - Developmental "slide" stopped
  - Quality of life improves

Global Logic Model: Childhood Lead Poisoning Program

Early Activities	Later Activities	Early Outcomes	Later Outcomes
If we do…	***And we do…***	***Then….***	***And then…***
Outreach	Case mgmt of EBLL kids	EBLL kids get medical treatment	EBLL reduced
Screening	Refer EBLL kids for medical treatment	Family performs in-home techniques	Develop'l slide stopped
ID of elevated kids	Train family in in-home techniques	Lead source identified	Quality of life improves
	Assess environment of EBLL child	Environment gets cleaned up	
	Refer environment for clean-up	Lead source removed	

Now What?

Now have 4-column logic model table.

- MAY be all you need, ***OR…***
  - For ***comprehensive description***, may need to add inputs and outputs, ***OR…***
  - For ***planning and evaluation***, may take next step and draw arrows to depict implied "causal" relationships

Lead Poisoning: Sample Inputs and Outputs

- Inputs Needed for Activities
  - Funds
  - Trained staff
  - Relationships with orgs for med tx and env clean-up
  - Legal authority to screen
- Outputs of Activities
  - Pool (#) of eligible kids
  - Pool (#) of screened kids
  - Referrals (#) to medical treatment
  - Pool (#) of “leaded” homes
  - Referrals (#) for clean-up

Global Logic Model: Childhood Lead Poisoning Program

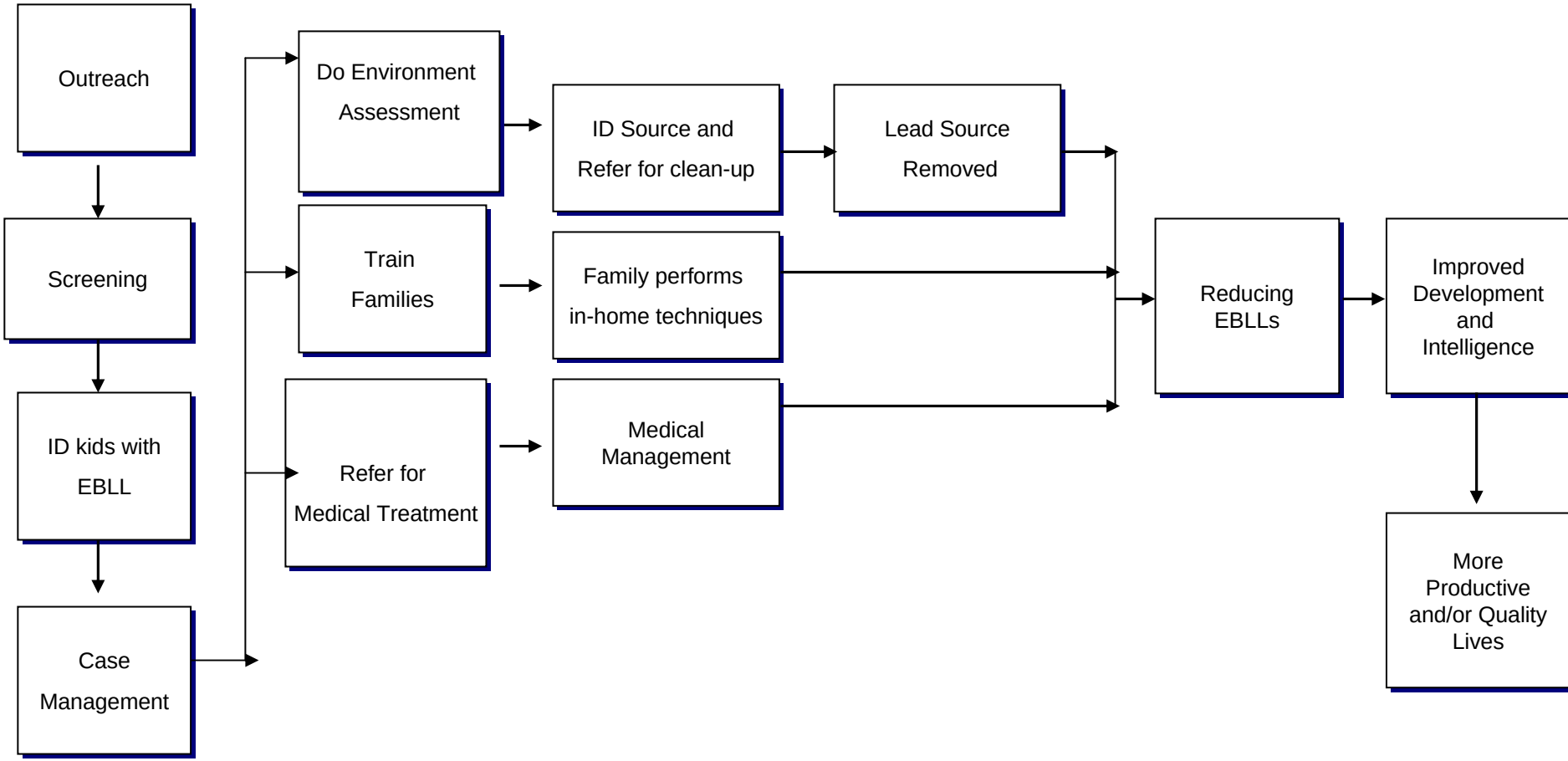
Inputs	Early Activities	Later Activities	Outputs	Early Outcomes—	Later Outcomes
Funds	Outreach	Do case mgmt	***Pool (#) of eligible kids***	EBLL kids get medical treatment	EBLL reduced
Trained staff	Screening	Refer for medical treatment	***Pool (#) of screened kids***	Family performs in-home techniques	Develop'l slide stopped
R'ships with orgs for med tx and clean up	ID of elevated kids	Train family in in-home techniques	***Referrals (#) to medical treatment***	Lead source identified	Quality of life improves
Legal authority		Assess environ't	***Pool (#) of "leaded" homes***	Environ cleaned up	
		Refer house for clean-up	***Referrals (#) for clean-up***	Lead source removed	

Showing “Cause” in the Model

Arrows can go from:

- ***Activities to other activities: Which*** activities feed ***which*** other activities?
- ***Activities to outcomes***: ***Which*** activities produce ***which*** intended effects/outcomes?
- ***Early effects/outcomes to later ones***: ***Which*** early effects/outcomes produce ***which*** later effects/outcomes

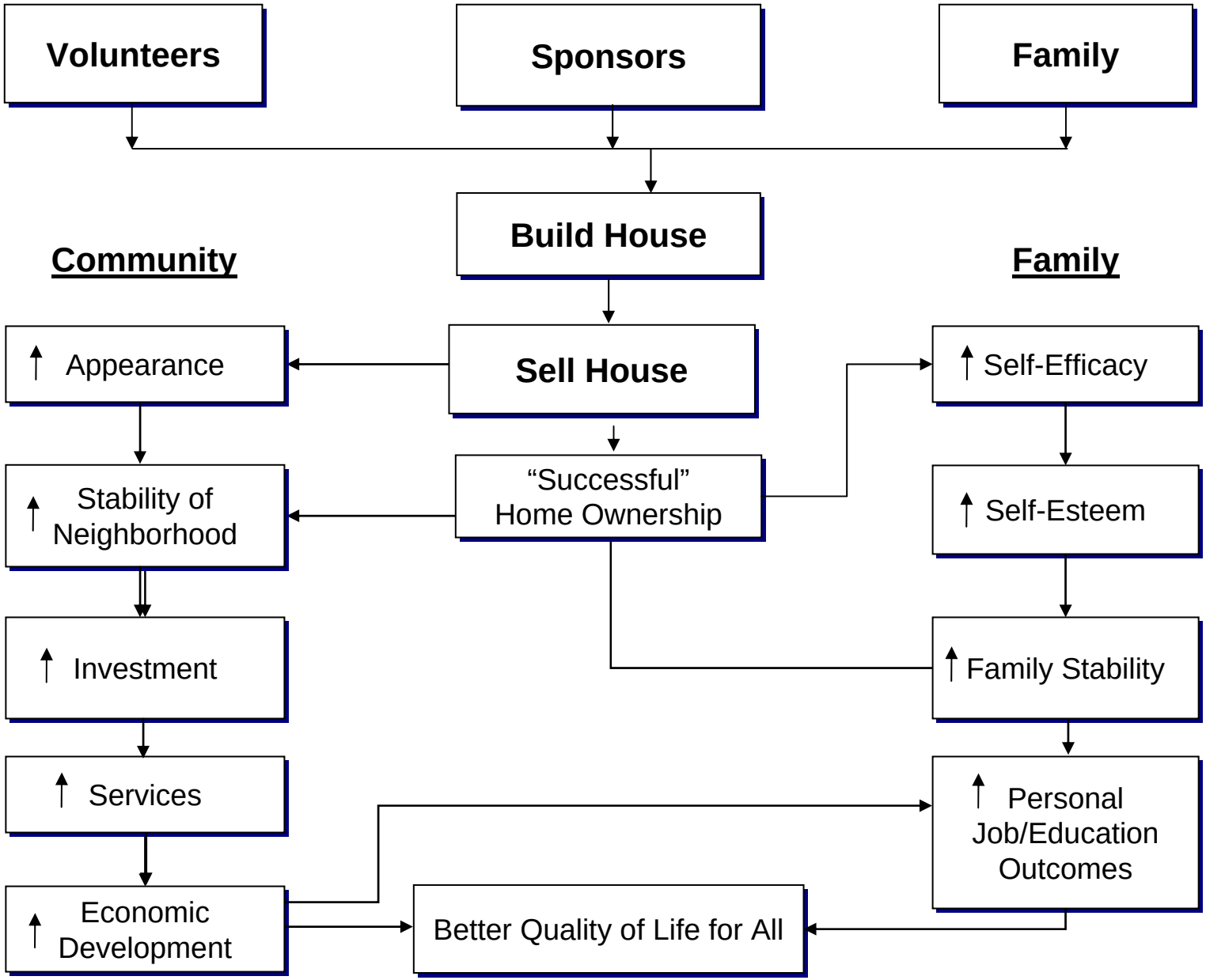
Lead Poisoning: “Causal” Roadmap



Elaborating the Logic Model

- Elaborate the chain of effects
  - “Go long!” Extrapolate the chain until distal outcomes are expressed.

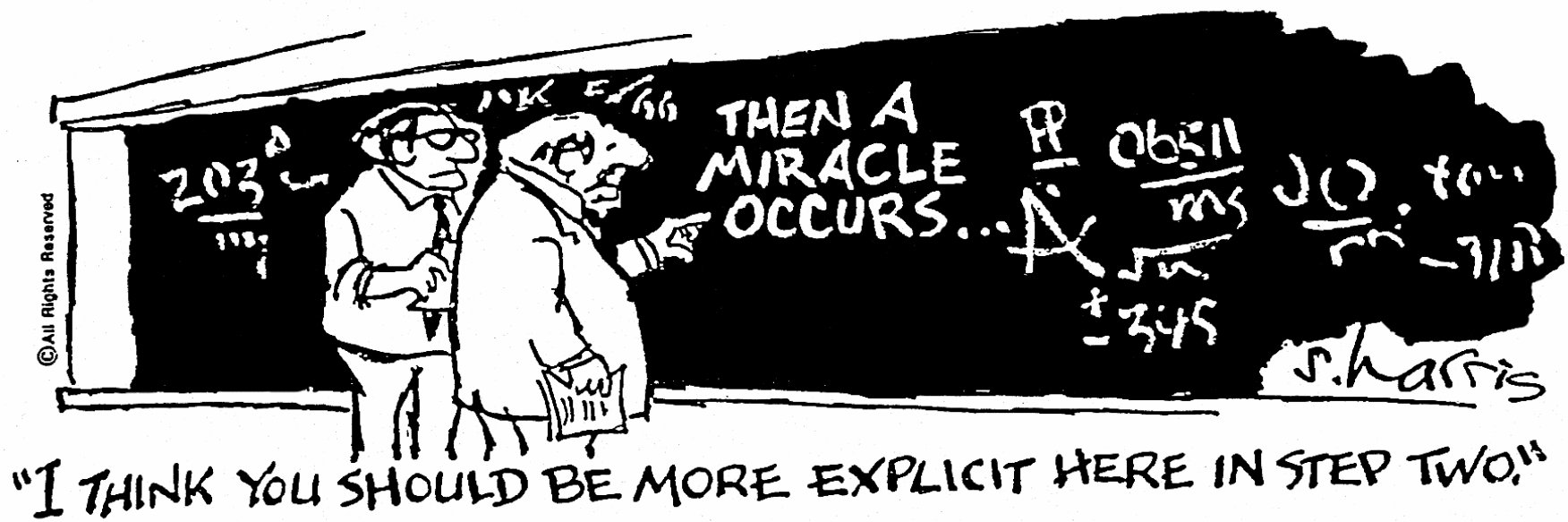
Habitat for Humanity



Elaborating the Logic Model

- Elaborate the chain of effects:
  - (Back)fill in the blanks. Elaborate any intermediate links between the activities and the distal effects/outcomes.

Filling in the Blanks….



"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

Group Exercise: *Case Study*

Read the KidsWalk case study, then work in your group to:

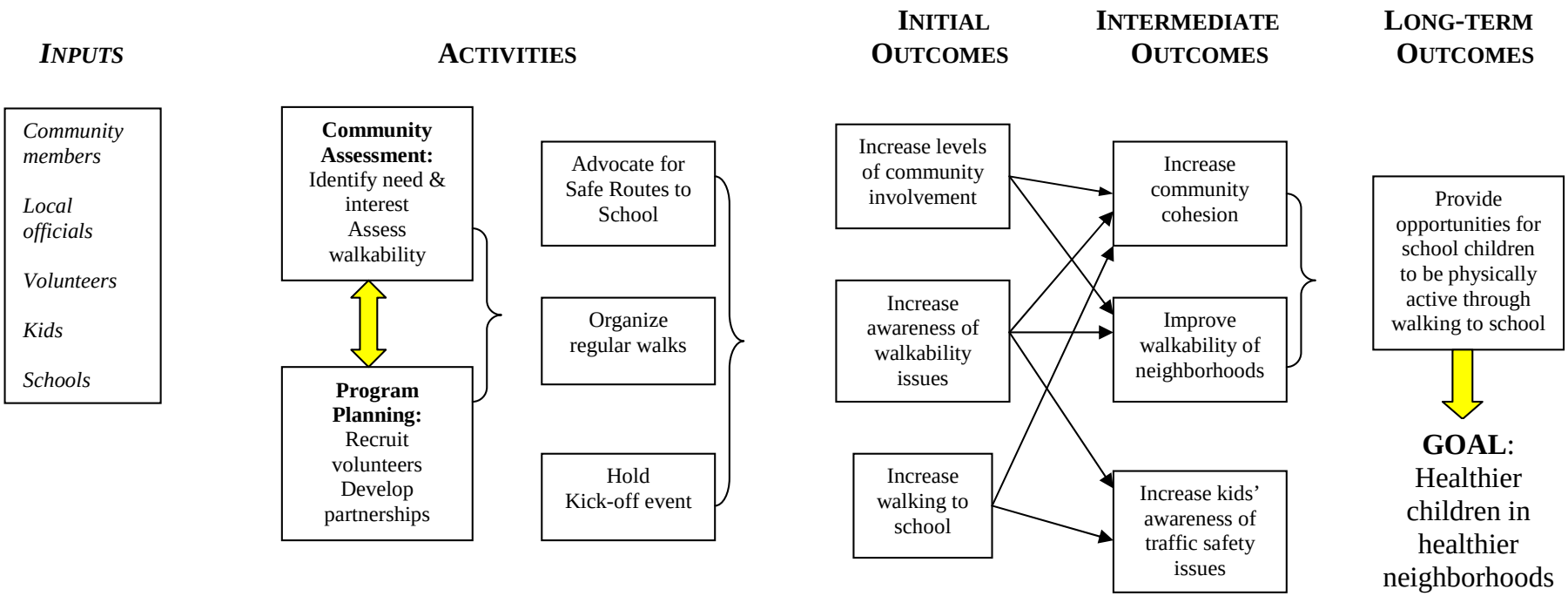
- Develop a list of activities and outcomes/effects
- Put each activity and outcome on a Post-It note. ONE PER POST-IT NOTE. Use marker and write big so others can see.
- Place the Post-it notes on flip chart paper
- Move the around to depict the logical sequencing, i.e. 2+ columns to depict early and late activities and early and late effects
- Draw lines to show causal connections

Global Logic Model Table: KidsWalk-to-School

Early Activities	Later Activities	Early Outcomes	Later Outcomes
If we …	***And we…***	***Then….***	***And then…***
Recruit volunteers	Hold kick-off and promo events	Increase in kids walking to school	More community cohesion and action
Form partnerships	Conduct organized regular walks	Increase in awareness of walkability issues	More walkable neighborhoods
Assess community need and interest	Educate/advocate on walkability issues	More community involvement	Continually active kids
Assess “walkability” of the community			Healthier kids and neighborhoods

KidsWalk Logic Model

Problem: Few opportunities for school children to be physically active throughout the day



Terminology

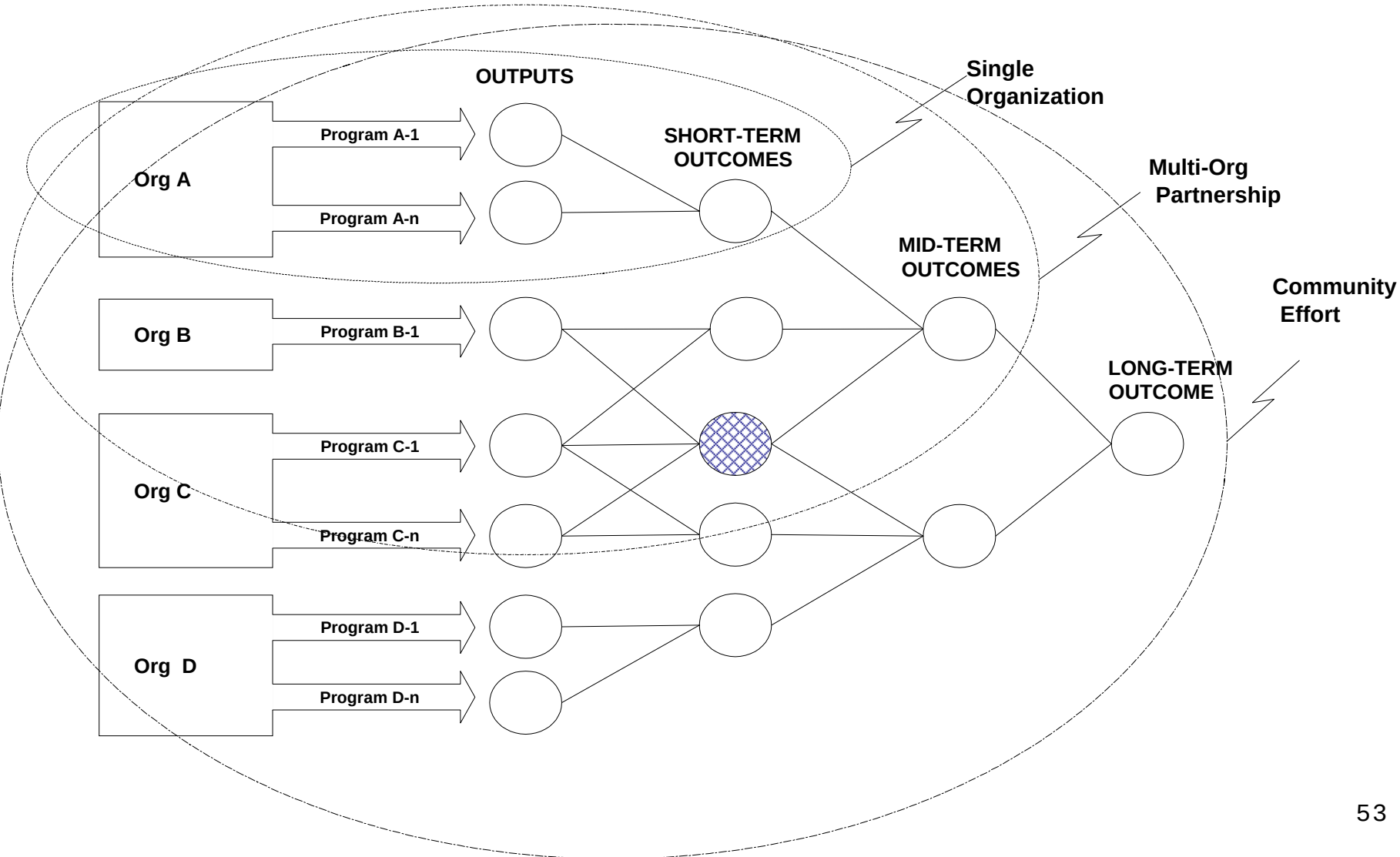
Many terms to convey same thing:

- To convey sequence of outcomes
  - Impacts and outcomes
  - Outcomes and impacts
  - Short-, mid-, and long-term
  - Proximal, intermediate, and distal effects
- “Objectives”
  - Another name for short and mid-term outcomes
  - A measurable statement about any part of the program

How Detailed?

- Function of purpose of the logic model
  - Stakeholders—global view alone
  - Managers—detailed action plans
- BUT, view collection of models as a related family--“nested” models
- Not different models, but each an elaboration of level above

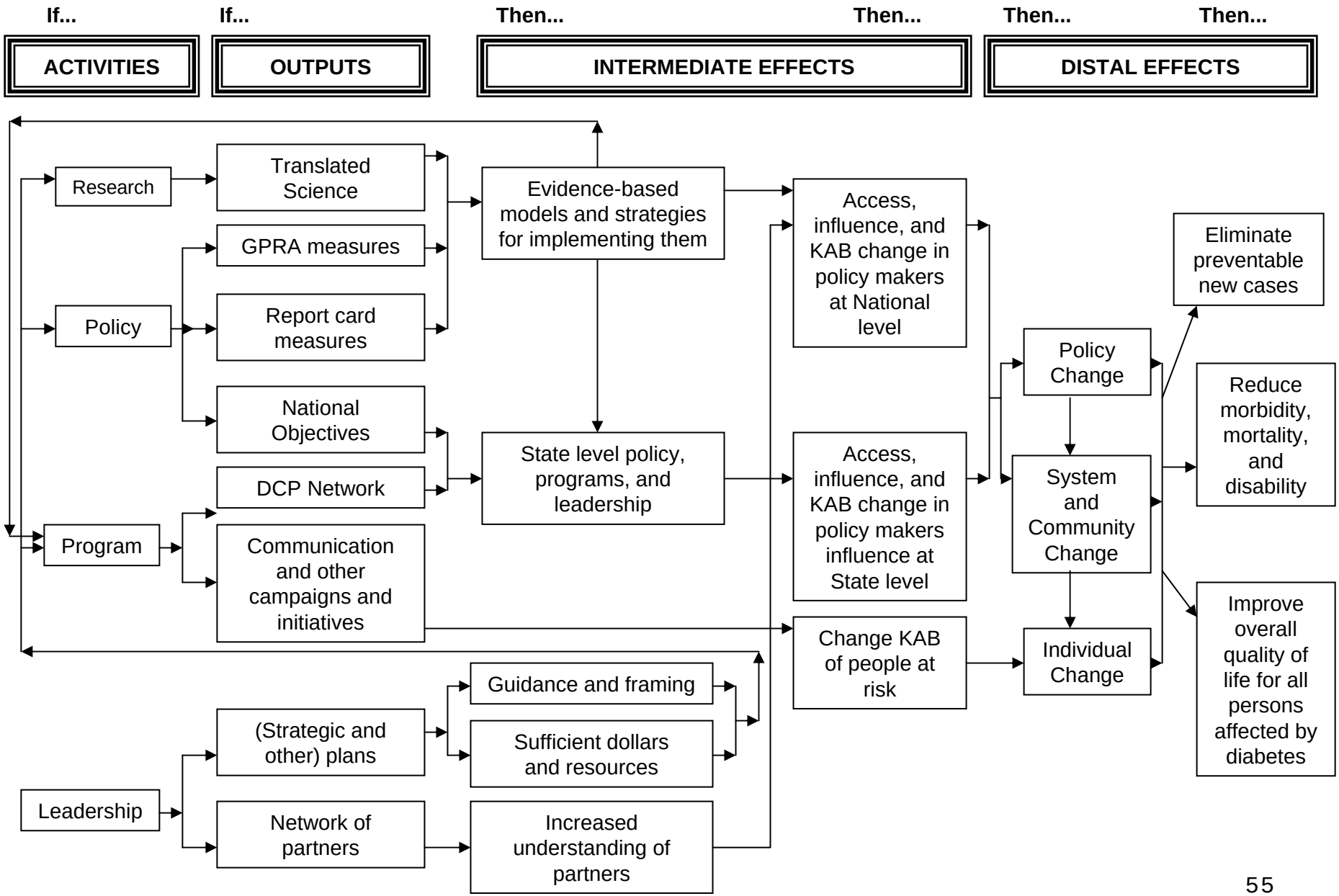
Programs as “Networks”



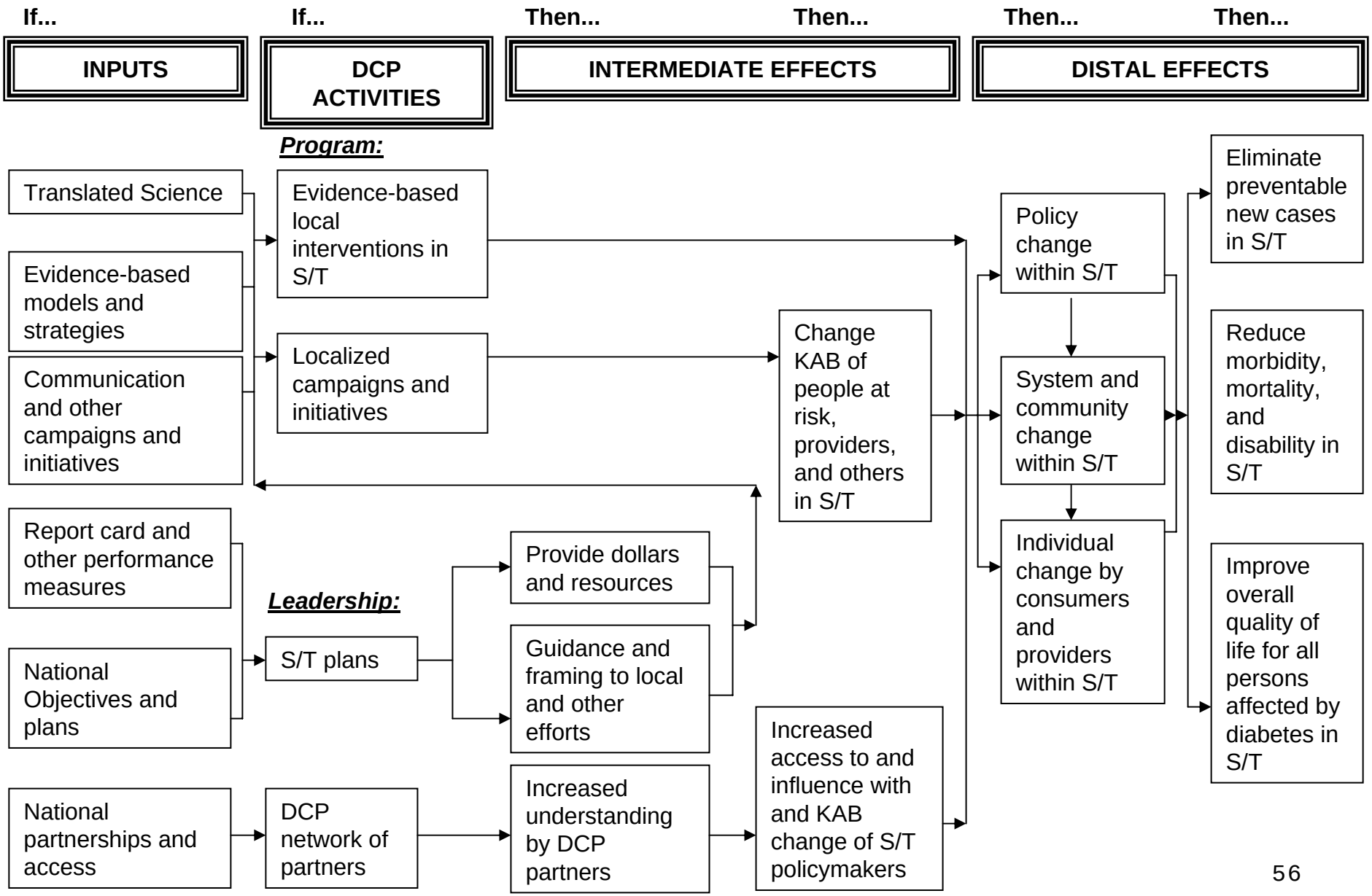
Nested Logic Models

- “View from space.” Overall road map that shows all players and roles
- “10,000 foot view.” Basic models depicting activities
  and effects for specific efforts
- “Ground level” logic models. Specific models for activities and effects of each actor (I.e. , “You are here”)

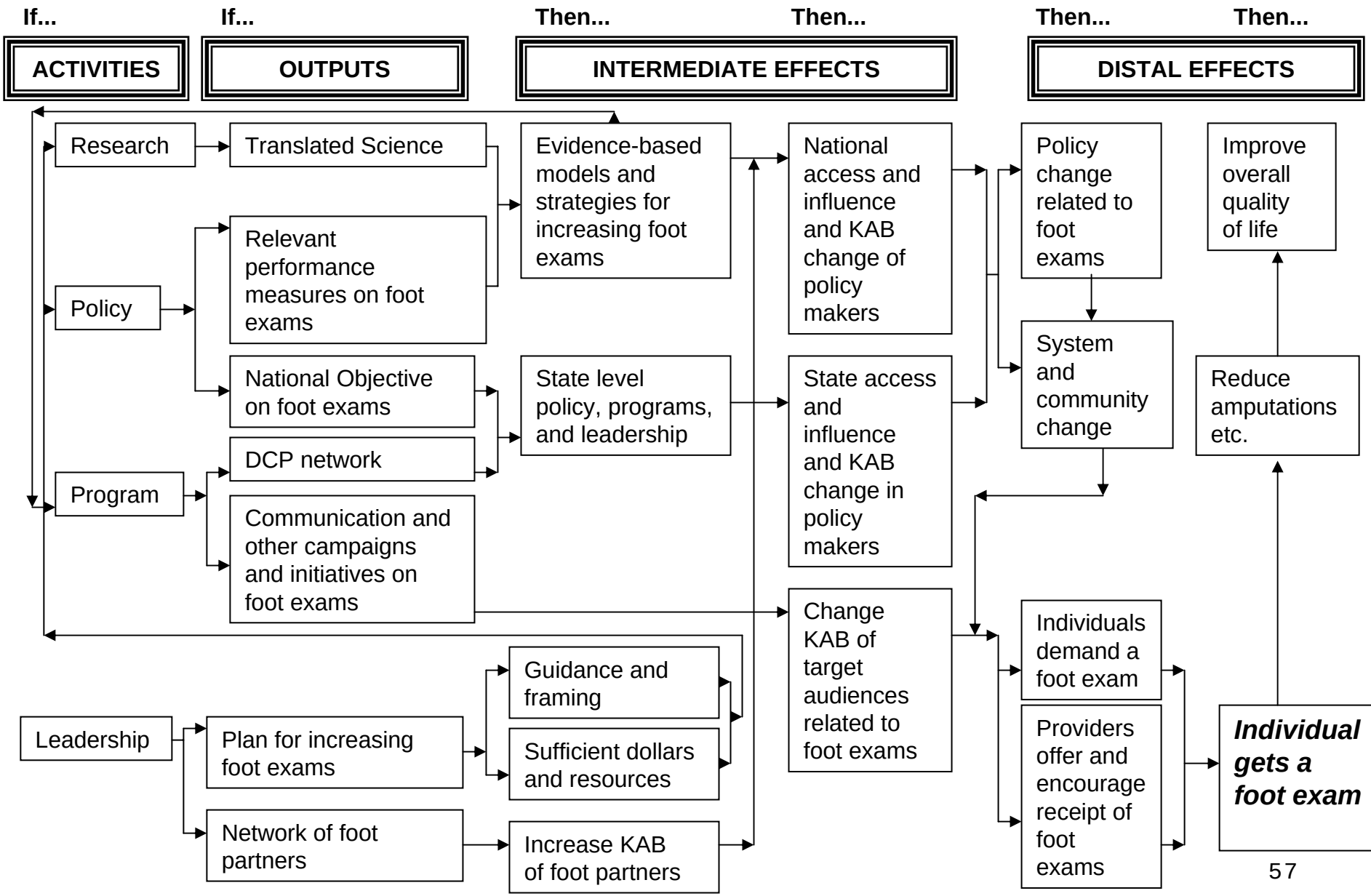
Global Model: Diabetes Control Program



Zoom-In Model: Diabetes Control Program: State DCPs



Zoom-In Model: Diabetes Control Program: Foot Exam Goal



Group Exercise: *Tweaking The Logic Model*

- Examine your group's simple logic model
- Elaborate as necessary, thinking about the following:
  - Do I need to elaborate further "downstream"?
  - Do I have some embedded "miracles" that need more detail?
- Think about "zoom-in" models that might be beneficial for your particular program

Using Your Logic Model

An array of uses of the logic model:

- To gain clarity and consensus with stakeholders

- To help organize your thinking about program performance:
  - To improve or enhance a program—***planning use***
  - To identify key effects and processes to be measured—***evaluation use***

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Putting Your Logic Model to Use in Program Evaluation

Logic Model Informs Two Steps in F'work

- ***In F'work Step 1. Engage Stakeholders:***
  - Who are major stakeholders for our efforts?
  - Where in this model do they want to see success?
  - Who needs to be engaged upfront to ensure use of results?

- ***In F'work Step 3. Setting Eval Focus:***
  - Today, 1 year, 5 years, 10 years, where in the model should I be measuring changes?
  - If no change, where should I look for problems?

Who are Stakeholders?

- Three major groups:
  - Those served or affected by the program
  - Those involved in program operation
  - Primary intended users of the evaluation findings

Step 1: Agony/Ecstasy of S'holders

- **Can disagree with us/each other on…**
  - Definition of the problem
  - Priority activities and outcomes
  - What outcomes mean "success"
- **BUT, can help ensure…**
  - Credibility of evaluation->access respondents
  - Credibility of results
  - Dissemination of results->advocate change
  - Implementation of results

Which S'holders Matter Most?

Those who…

- Enhance credibility of the intervention
- Enhance credibility of the evaluation
- Implement the programs being evaluated
- Can advocate for/make recommended changes
- Can fund, authorize, expand the program

Some Stakeholder Preferences:

- Cost and cost-benefit
- Efficiency of delivery of services
- Health disparities reduction
- Population-based impact, not just impact on those participating in the intervention
- Causal attribution

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Group Exercise: Engaging Stakeholders

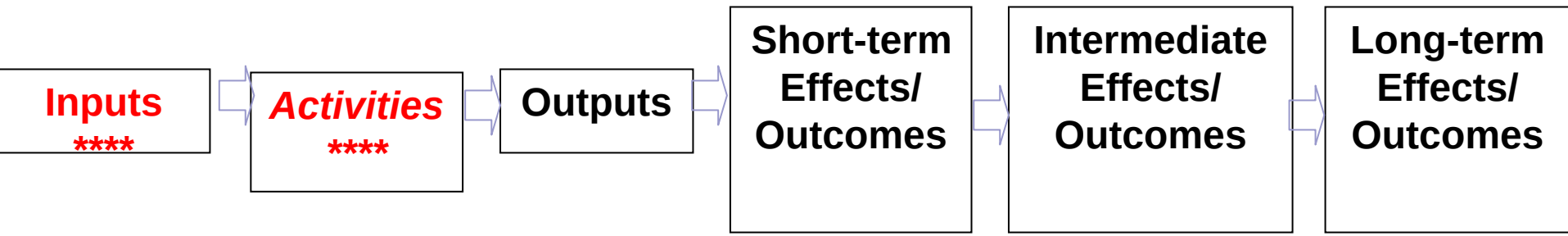
Read the KidsWalk case study, then work in your group to:

- List potential stakeholders

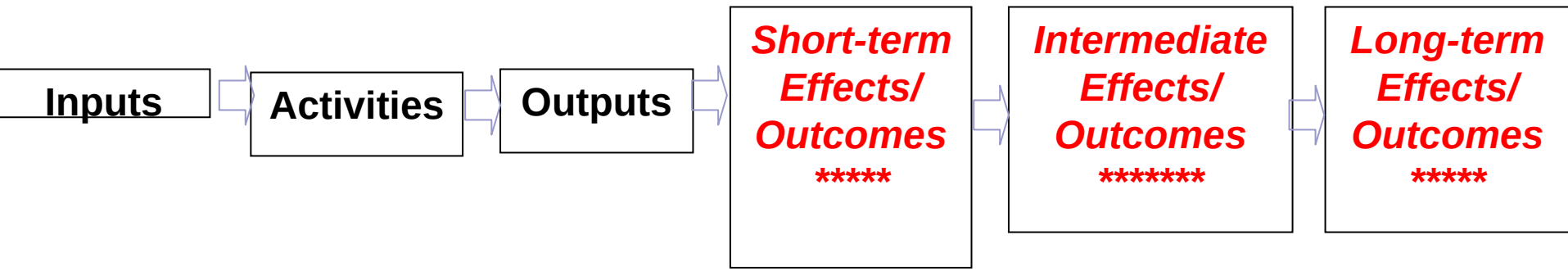
Step 3. Key Domains in Eval Focus

- Implementation (Process)
  - Is program in place as intended?
- Effectiveness (Outcome)
  - Is program achieving its intended short-, mid, and/or long-term effects/outcomes?
- Efficiency
  - How much “product” is produced for given level of inputs/resources?
- Causal Attribution
  - Is progress on outcomes due to your program?

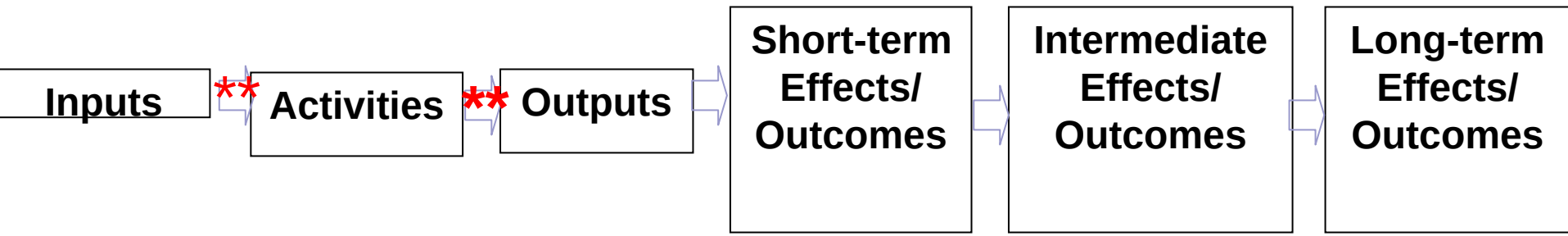
Evaluation Domains: Implementation



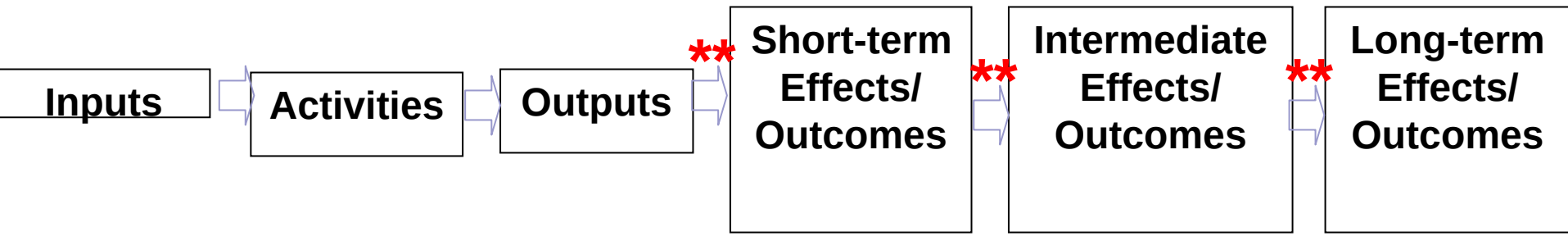
Evaluation Domains: Effectiveness



Evaluation Domains: Efficiency



Evaluation Domains: Causal Attribution



Setting Focus: Some Rules

Based on “utility” standard:

- ***Purpose/User:*** Who wants the info and what are they interested in?
- ***Use:*** How will they use the info?
- ***Needs of Key S’holders:*** *From Step 1*: What (else) did we conclude key s’holders are most interested in?

Setting Focus: “Reality Checking” the Focus

Based on “feasibility” standard:

- ***Stage of Development:*** How long has the program been in existence?
- ***Program Intensity:*** How intense is the program? How much impact is reasonable to expect?
- ***Resources:*** How much time, money, expertise are available?

Some Potential Scenarios for Setting Focus

- I: At Year 1, other communities want to adopt your model but want to know “what are they in for”
- II: At Year 3, you are seeking funding from a large foundation with a community improvement focus so that you can extend the program to a second community.
- III: At Year 5, the auditing branch of your major government funder wants to know if you have “spent our money well”

Reality Check...

- Are elements of focus reasonable given:
  - How long program has been in place?
  - How intense effort is?
  - “Middling” funds for evaluation?

Factors Re: Choice of Evaluation "Process" Focus

- What are the likely key challenges to "implementation fidelity?
- "Dropped baton" issues are key
  - Partner failed to do their part
  - Client/family/patient failed to fulfill their referral
- Other common challenges
  - Inadequate dosage
  - Bad access
  - Failure to retain participants
  - Wrong match of staff and participant

Group Exercise:
Evaluation Focus: Scenario 1

- YOU are the community next door that has heard about the program and its progress *in its first year.* YOU want to try it but wonder what you're in for. What kind of things in particular are you looking for data on?

Group Exercise:
Evaluation Focus: Scenario 2

- YOU are a community foundation who is going to be asked by this organization to give them funding to expand to a second community with this intervention. The org wants to know "what kind of stuff do we have to show you" *based on our first three years* to persuade you to fund them. What elements of the logic model would you tell them to focus on?

Group Exercise:
Evaluation Focus: Scenario 3

- YOU are a local community organization with a focus on “neighborhood improvement” and are being asked to join as a supporter of this program effort as it moves *into its third year*. What parts of the logic model do you want to see data on to make your decision?

Putting Your Logic Model to Use in Program Planning

Using Logic Models in Program Planning

- Clarifying the sequence of outcomes and the relationship between activities and specific outcomes helps you:
  - Examine/refine the mission and vision, goals and objectives
  - Identify the most important outcomes desired—the “staked claim”
  - Identify the “critical path”
  - Identify weak and strong components of the program and ways to enhance performance

Defining Your "Vision" and "Mission"

Logic Models and Program Mission and Vision

- Vision—How the world will be different because of our program. i.e. “A world without…”

  [Look in the distal side of the model]

- Mission—What major levers we will employ to change the world.

  [Look at the intermediate outcomes and major activities to achieve them]

Group Exercise: V*ision and Mission*

Use your logic model to:

- Write a simple vision statement
- Write a simple mission statement

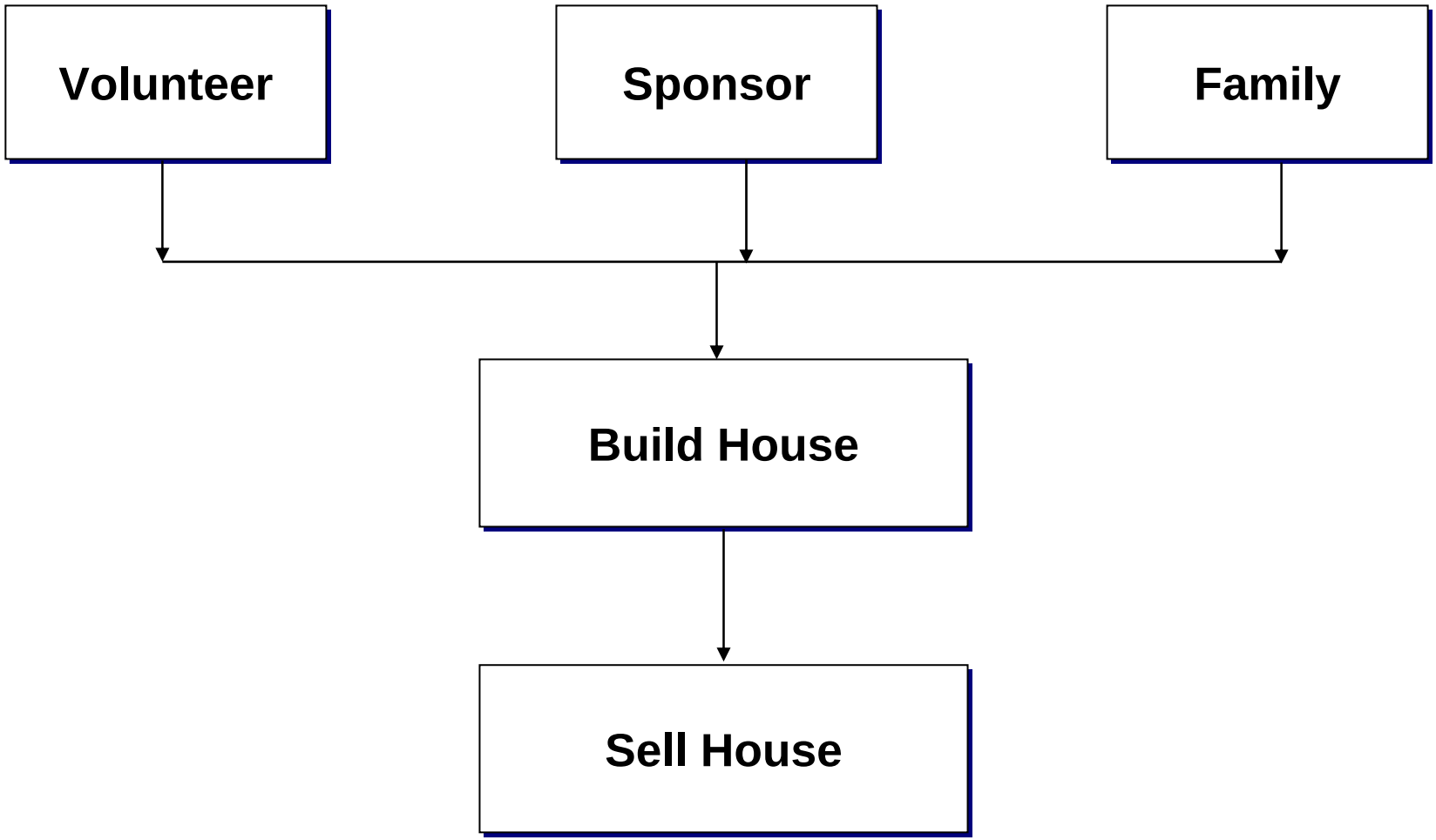
Getting to the "Heart" of your Program

The Program's "Staked Claim"

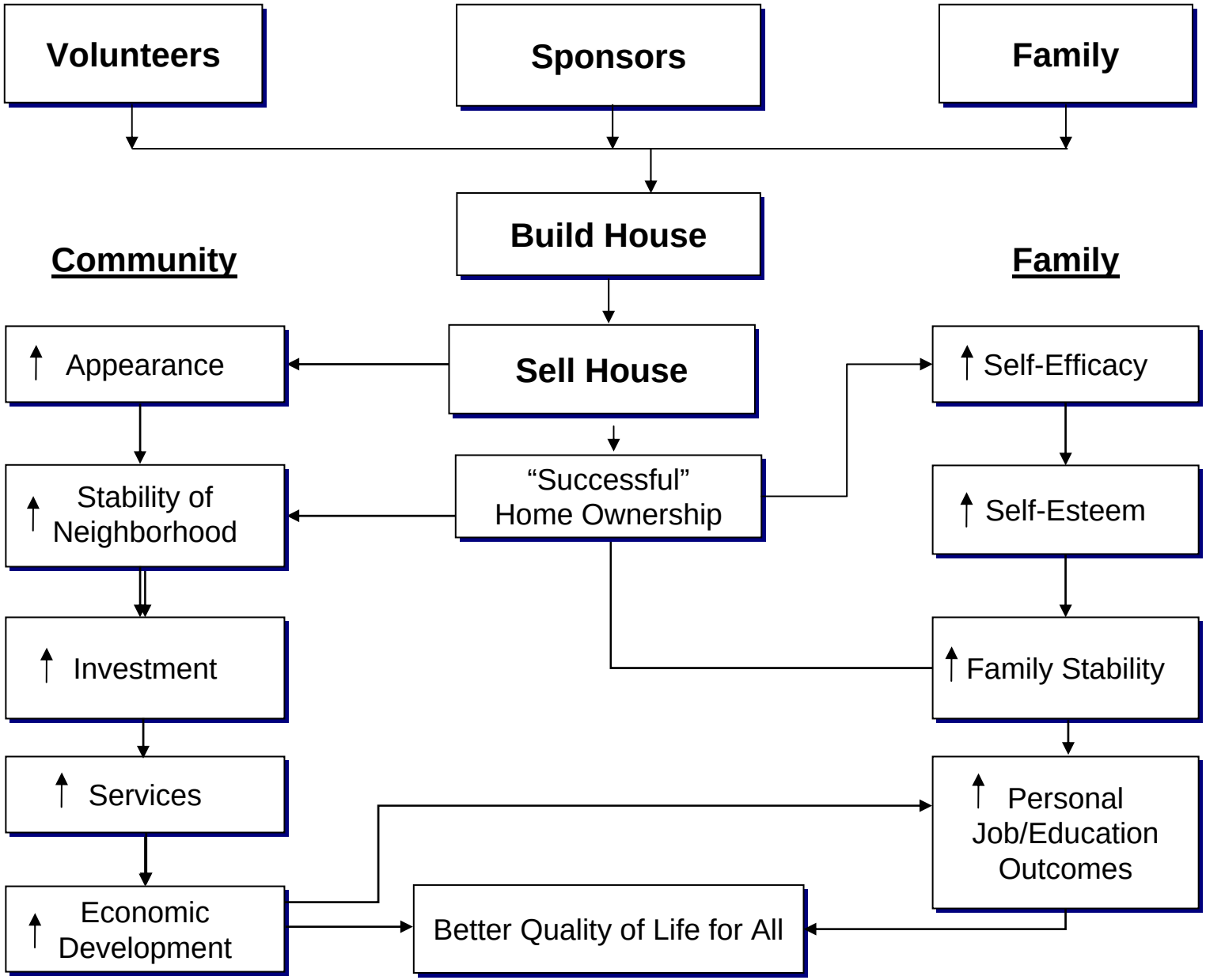
- "Staked claim" is the outcome for which the program was created or which must occur for the program to be worth the effort. ***May or may not be the same as the program's defined mission.***

Habitat for Humanity

A picture of the mission statement…



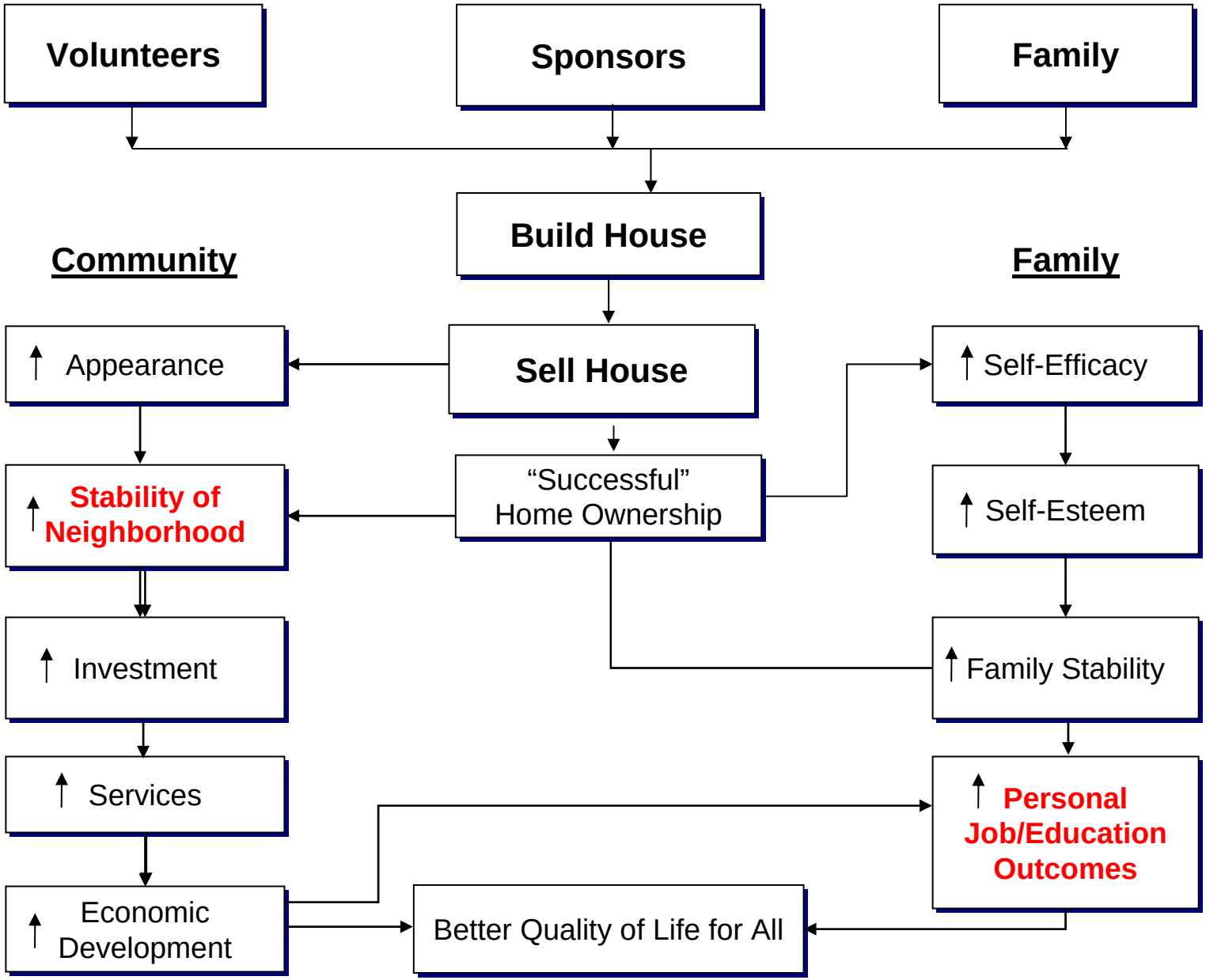
Habitat for Humanity: *The full story: The plot thickens…*



Is It Your “Staked Claim”?

- To determine if a given outcome is the program’s “staked claim”, ask:
  - Would program “feel bad” if outcome did not happen, AND
  - Can program DO anything/alter its own activities to improve chances the outcome will occur?

Habitat for Humanity: *The "staked claim"…*



Group Exercise: *Staked Claim*

- Define the staked claim for your program

Identifying Your Critical Path

What Are My “Vital Organs?”

- “Staked claim” gives clarity on where you need to get to be “successful”
- But roadmap is a large landscape
- If efforts have to be reduced, which path(s):
  - Are most effective?
  - Are likely to get you there quickest?
  - Are most cost-effective?

Group Exercise: *Critical Path*

- Define the critical path for your program if resources were to be reduced significantly

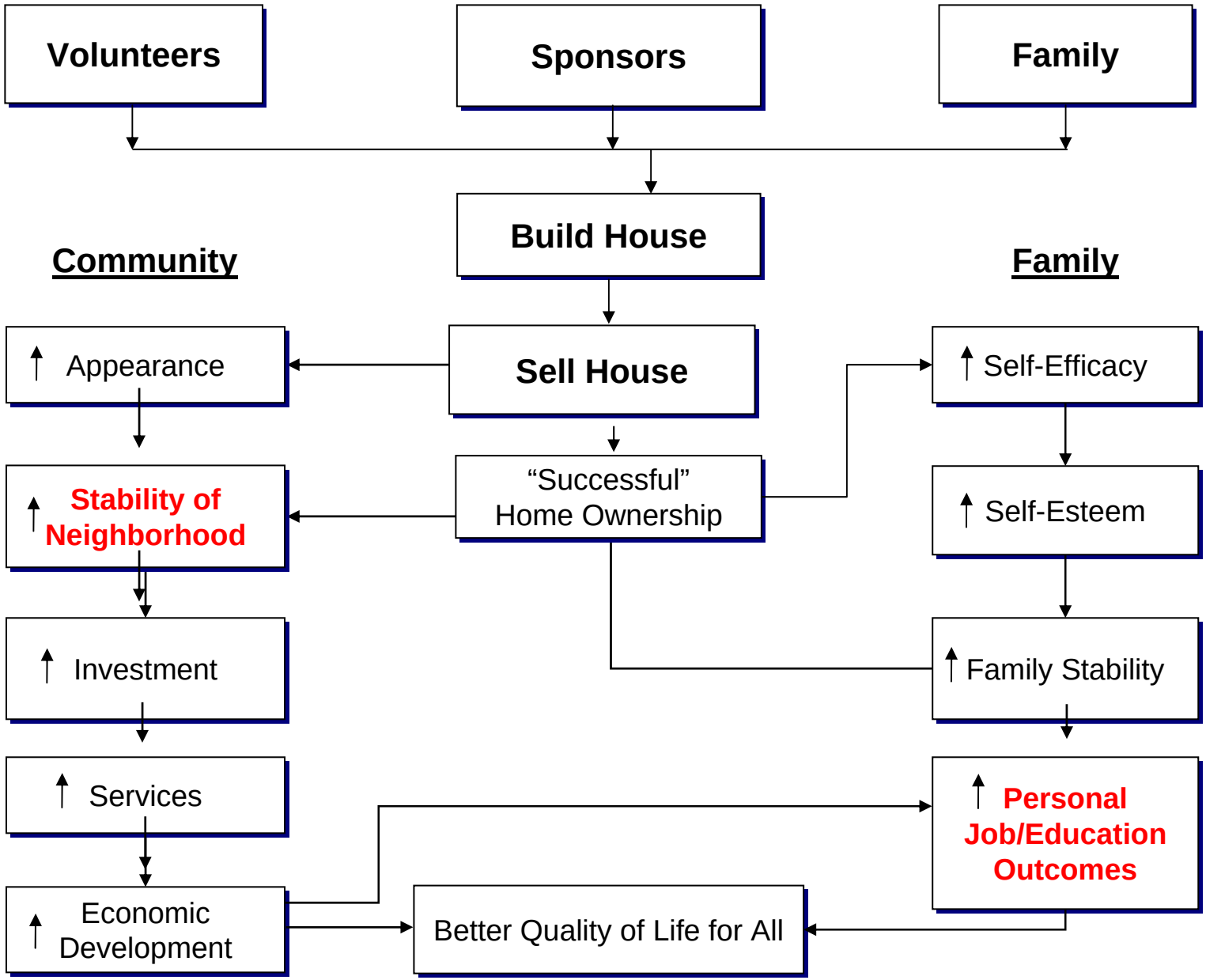
Identifying Your Key Strategic Issues

What If You're Falling Short of Your "Staked Claim"?

Logic model helps you visualize:

- What activities are not happening?
- What "arrows" need strengthening?
- What activities might I need to add to increase "oomph"!

Habitat for Humanity: *How can I add "oomph"*



In Short…

Upfront Small Investment…

- Clarified relationship of activities and outcomes
- Ensured clarity and consensus with stakeholders
- Helped define the right focus for my evaluation
- Clarified vision, mission, goals, objectives, and their interconnection
- Helped me clarify my “critical path”
- Help me cut to the “heart” of my program and…
- How best to get there

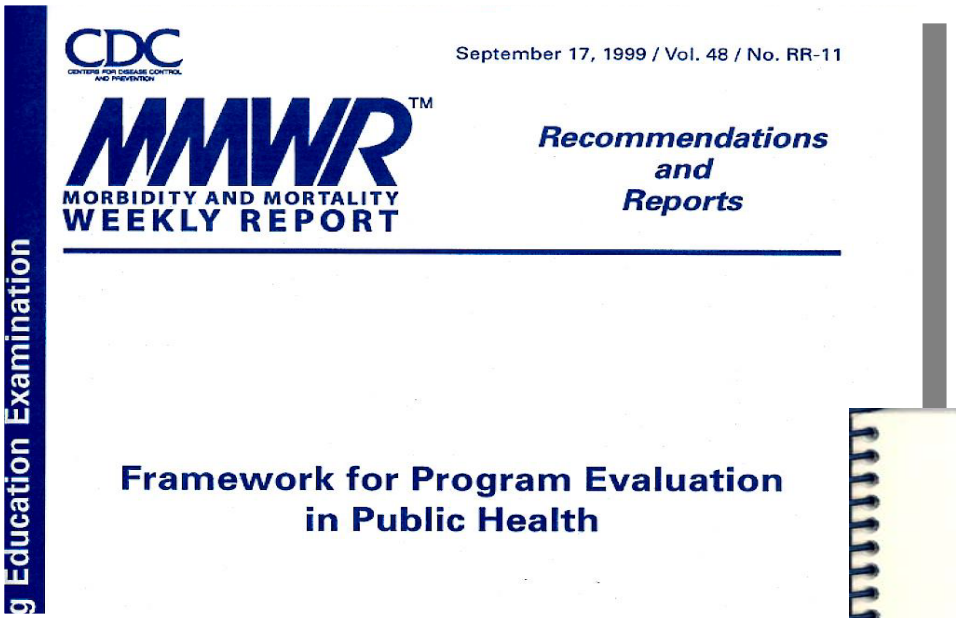
…Everything I needed to know about life (or at least my program)…I learned from my logic model!!!

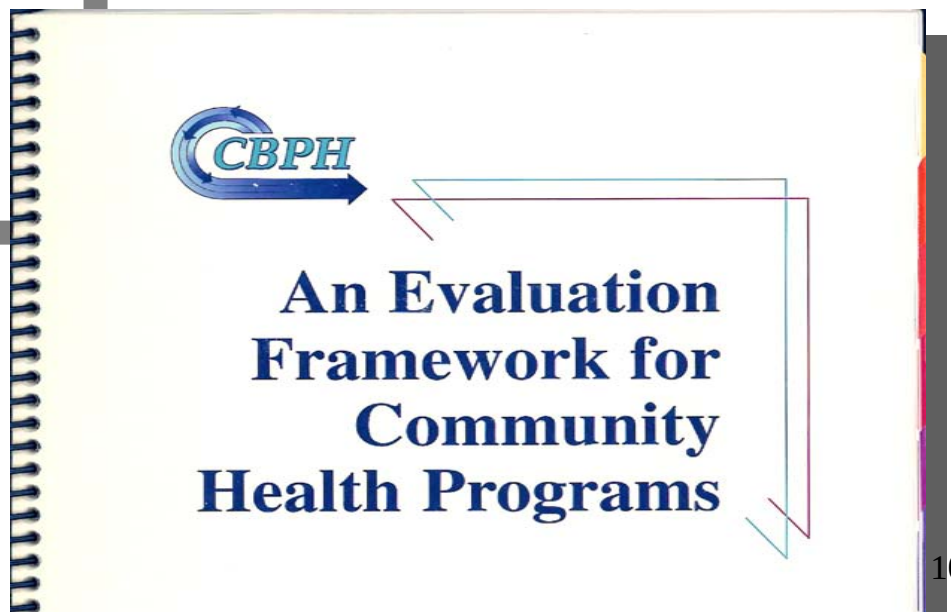
Life Post-Training

Helpful Human Resources

- Eval Team: Office of Strategy and Innovation (OSI)
  - Facilitation
  - Custom Training
  - Vendor contracts and contacts
  - Tom Chapel, 404-639-5284, TChapel@cdc.gov
- CDC Evaluation Forum Series
- Corporate University
  - Intro to Eval
  - Logic Modeling Practicum
  - Evaluation Practicums
  - Designing Program Strategy
  - Advanced courses in evaluation
- Summer Eval Institute at CDC

Helpful Publications @ www.cdc.gov/eval



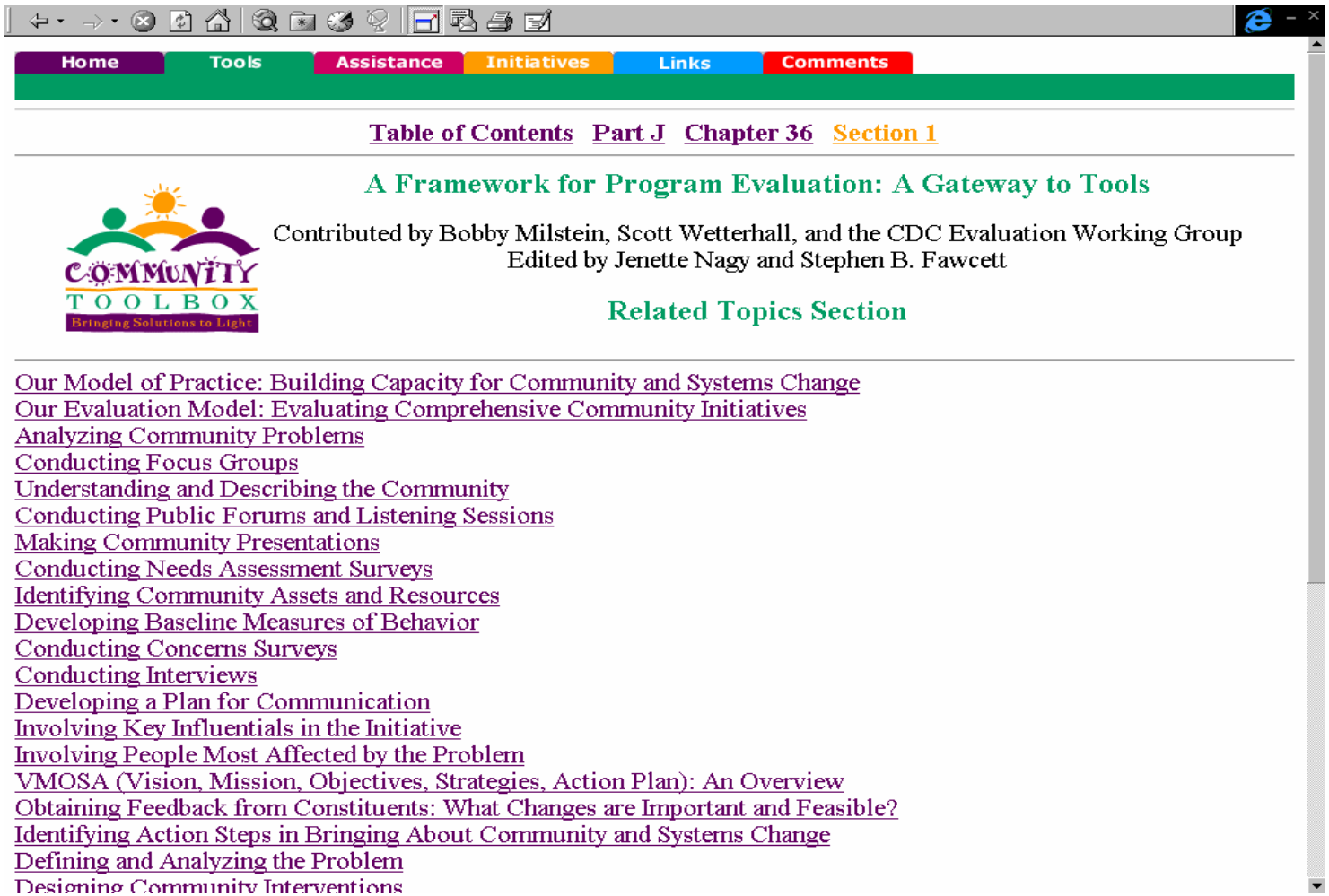


Helpful Resources: Logic Modeling

- Harvard Family Research Project: http://www.gse.harvard.edu/hfrp/
- Kellogg Foundation Logic Model Development Guide: www.wkkf.org
- University of Wisconsin-Extension: http://www1.uwex.edu/ces/lmcourse

Community Tool Box

http://ctb.ku.edu



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A Framework for Program Evaluation: A Gateway to Tools

Contributed by Bobby Milstein, Scott Wetterhall, and the CDC Evaluation Working Group
Edited by Jenette Nagy and Stephen B. Fawcett

Related Topics Section

Our Model of Practice: Building Capacity for Community and Systems Change
Our Evaluation Model: Evaluating Comprehensive Community Initiatives
Analyzing Community Problems
Conducting Focus Groups
Understanding and Describing the Community
Conducting Public Forums and Listening Sessions
Making Community Presentations
Conducting Needs Assessment Surveys
Identifying Community Assets and Resources
Developing Baseline Measures of Behavior
Conducting Concerns Surveys
Conducting Interviews
Developing a Plan for Communication
Involving Key Influentials in the Initiative
Involving People Most Affected by the Problem
VMOSA (Vision, Mission, Objectives, Strategies, Action Plan): An Overview
Obtaining Feedback from Constituents: What Changes are Important and Feasible?
Identifying Action Steps in Bringing About Community and Systems Change
Defining and Analyzing the Problem
Designing Community Interventions