Logic Model Development

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Adapted from a presentation by
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What is a Logic Model?

Where are you going?
How will you get there?
What will tell you that you’ve arrived?

A logic model is your program ROAD MAP
• Logic model is a...
  • Picture of your program or intervention
  • Graphic representation of the “theory of action” – what is invested, what is done, and what results
  • Core of planning and evaluation

Provides a common framework for your work
LOGIC

- the principles of reasoning
- reasonable
- the relationship of elements to each other and a whole

MODEL

- small object, representing another, often larger object (represents reality, isn’t reality)
- preliminary pattern serving as a plan
- tentative description of a system or theory that accounts for all of its known properties

The American Heritage Dictionary, 2nd Ed
The Accountability Era

• What gets measured gets done
• If you don’t measure results, you can’t tell success from failure
• If you can’t see success, you can’t reward it
• If you can’t reward success, you’re probably rewarding failure
• If you can’t see success, you can’t learn from it
• If you can’t recognize failure, you can’t correct it.
• If you can demonstrate results, you can win public support.

(Osborne & Gaebler, 1992, Re-inventing government)
Simplest form

INPUTS → OUTPUTS → OUTCOMES
Everyday Example

Feel better

Get pills → Take pills → Feel better

H E A D A C H E

Situation

INPUTS

OUTPUTS

OUTCOMES
Every day logic model – Family Vacation

INPUTS: Family Members, Budget, Car, Camping Equipment

OUTPUTS: Drive to state park, Set up camp, Cook, play, talk, laugh, hike

OUTCOMES: Family members learn about each other; family bonds; family has a good time
Assumptions underlie much of what we do. It is often these underlying assumptions that hinder success or produce less-than-expected results. One benefit of logic modeling is that it helps us make our assumptions explicit.
Assumptions

The beliefs we have about the program, the participants, and how the program will work. Includes ideas about:

- the problem or existing situation
- program operations
- expected outcomes and benefits
- the participants and how they learn, behave, their motivations
- resources
- staff
- external environment: influences
- the knowledge base
- etc.
SITUATION: During a county needs assessment, majority of parents reported that they were having difficulty parenting and felt stressed as a result.

INPUTS

- Staff
- Money
- Partners
- Research

OUTPUTS

- Assess parent ed programs
- Design-deliver evidence-based program of 8 sessions
- Facilitate support groups
- Parents of 3-10 year olds attend

OUTCOMES

- Parents increase knowledge of child dev
- Parents better understanding their own parenting style
- Parents gain skills in new ways to parent
- Parents gain confidence in their abilities
- Parents use effective parenting practices
- Parents identify appropriate actions to take
- Reduced stress
- Improved child-parent relations

Assumptions:

External Factors:
Example: Water Quality

**Inputs**
- Activities
  - Educational Workshops
  - Set up record keeping systems to track phosphorus
  - On-farm visits

**Outputs**
- Participation
  - Farmers at risk of overfeeding phosphorus

**Outcomes - Impact**
- Short Term
  - Increased knowledge of link between cattle diet and water quality
  - Increased understanding of recommended phosphorus levels
  - Increased knowledge of tracking phosphorus levels
  - Monitor phosphorus levels in feed, manure, soil

- Medium Term
  - Make appropriate adjustments to cattle feed
  - Feed cost savings

- Long Term
  - Reduced phosphorus use
  - Improved water quality

**Assumptions**
1. Reducing phosphorus saves time and money
2. Low phosphorus feed is readily available

**External Factors**
- Government programs regulate and offer incentives; Other sources reinvoice use of high-phosphorus diets
If-then relationships

Underlying a logic model is a series of ‘if-then’ relationships that express the program’s **theory of change**
“A theory of change is a description of how and why a set of activities – be they part of a highly focused program or a comprehensive initiative – are expected to lead to early, intermediate, and long-term outcomes over a specified period.”

(Anderson, 2000)
Logical chain of connections showing what the program is to accomplish.
How will activities lead to desired outcomes?
A series of if-then relationships

Tutoring Program Example

IF then IF then IF then IF then IF then

We invest time and money → We can provide tutoring 3 hrs/week for 1 school year to 50 children → Students struggling academically can be tutored → They will learn and improve their skills → They will get better grades → They will move to next grade level on time
A common problem is that activities and strategies often do not lead to the desired outcomes. Check your ‘if-then’ statements and ensure that they make sense and lead to the outcomes you want to achieve. A logic model makes the connections EXPLICIT.

“I think you should be more explicit here in Step Two.”
A bit more detail

**INPUTS**
- Program investments

**OUTPUTS**
- Activities
- Participation

**OUTCOMES**
- Short
- Medium
- Long-term

What we invest → What we do → Who we reach

What results

SO WHAT??
What is the VALUE?
Fully detailed logic model

Program Action - Logic Model

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Outputs</th>
<th>Outcomes - Impact</th>
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<tr>
<td></td>
<td>Activities</td>
<td>Short Term</td>
</tr>
<tr>
<td></td>
<td>Participation</td>
<td></td>
</tr>
</tbody>
</table>

What we invest
- Staff
- Volunteers
- Time
- Money
- Research base
- Materials
- Equipment
- Technology
- Partners

What we do
- Conduct workshops, meetings
- Deliver services
- Develop products, curriculum, resources
- Train
- Provide counseling
- Assess
- Facilitate
- Partner
- Work with media

Who we reach
- Participants
- Clients
- Agencies
- Decision-makers
- Customers
- Satisfaction

What the short term results are
- Learning
- Awareness
- Knowledge
- Attitudes
- Skills
- Opinions
- Aspirations
- Motivations

What the medium term results are
- Action
- Behavior
- Practice
- Decision-making
- Policies
- Social Action

What the ultimate impact(s) is
- Conditions
- Social
- Economic
- Civic
- Environmental

Assumptions
External Factors

Evaluation
- Focus
- Collect Data
- Analyze and Interpret
- Report
Before the Logic Model, clarify the program’s rationale

- Continuation of existing program
- Expansion of existing program
- Existing program with modifications
- New program
Understanding of:

• the need or problem
• the nature and extent of the need or problem
• the causes of the problem and the social, economic, political and policy contexts
• the current and past efforts to address the need or problem and lessons learned from these efforts

(Adapted from: Hunter, D.E.K. *Program Life-Cycles at the Edna McConnell Clark Foundation*)
Program Goal: What is your overall aim or intended impact?

- To improve access to health care for people with limited English proficiency in the service area
- To reduce the incidence of repeat infections and further oral hygiene problems among clients of the community health center
Resources: What inputs are dedicated to or consumed by the program?

- Human resources
- Facilities
- Equipment/supplies
- Partners
- Technology
Activities: What is the program doing?

Think first about components:

- Outreach
- Training
- Consultation
- Staff Development
- Partnership Development
Think second about details:

Outreach
• Develop and distribute flyers
• Meet with community agencies
• Write articles for local newspapers
• Develop press packet
• Identify media contacts
• Send press packet out to media contacts

Training
• Hire curriculum development team
• Develop training curriculum
• Recruit training team
• Recruit participants
• Provide training sessions
**Program Goal:** To improve the oral health of low-income children who receive primary care in a community health center

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**Resources**
- Dental Clinic Coordinator
- Community Health Director
- Staff dentist
- Staff pediatrician
- Medical providers
- Money for supplies

**Activities**

**Training**
- Develop curriculum
- Two one-hour didactic trainings to medical providers in oral health assessment
- One-on-one training to medical providers on oral health

**Outreach**
- Order dental supplies for packets
- Make up packets
- Distribute to parents at end of each visit

**Outputs**

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**Outcomes**
Outputs: What is the program producing?

- # of training workshops held
- # of participants attending each workshop
- # of partnerships formed
- # of policy briefings conducted
- # of press packets disseminated
Project Goal: To improve the oral health of low-income children who receive primary care in a community health center

Resources
Dental Clinic Coordinator
Community Health Director
Staff dentist
Staff pediatrician
Medical providers
Money for supplies

Activities
Training
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Outreach
• Order dental supplies for packets
• Make up packets
• Distribute to parents at end of each visit

Outputs
Training
# of two-hour trainings held
# of one-on-one trainings held
# of medical providers trained

Outreach
# of parents/children receiving packets
Outcomes are about change:

- New knowledge
- Increased skills
- Changed attitudes or values
- Modified behavior/practice
- Changed conditions
Project Goal: To improve the oral health of low-income children who receive primary care in a community health center

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Outputs
Training
- # of two-hour trainings held
- # of one-on-one trainings held
- # of medical providers trained

Outreach
- # of parents/children receiving packets

Outcomes
- Medical providers demonstrate accurate oral health assessment, education and prevention activities
- More children receive high-quality oral health assessment, education and prevention activities during well-child visits
- Parents/children are more knowledgeable about oral health and caring for children's teeth
- Reduced incidence of caries in children at the community health center
Chain of Outcomes

• Short term: are the most direct results of activities and outputs, generally achievable in one year.
• Intermediate: link a program’s short-term outcomes to long-term outcomes.
• Long term: result from the achievement of short and intermediate term outcomes and often take a longer time to achieve.
**Project Goal:** To improve the oral health of low-income children who receive primary care in a community health center

### Activities

**Training**
- Develop curriculum
- Two one-hour didactic trainings to medical providers in oral health assessment
- One-on-one training to medical providers on oral health

**Outreach**
- Order dental supplies for packets
- Make up packets
- Distribute to parents at end of each visit

### Outputs

**Training**
- # of two-hour trainings held
- # of one-on-one trainings held
- # of medical providers trained

**Outreach**
- # of parents/children receiving packets

### Short-Term Outcomes

Medical providers demonstrate accurate oral health assessment, education and prevention activities

Parents/children are more knowledgeable about oral health and caring for children’s teeth

### Inter.-Term Outcomes

More children receive high-quality oral health assessment, education and prevention activities during well-child visits

### Long-Term Outcomes

Reduced incidence of caries in children receiving care from the community health center
**SMART objectives:** Specific, measurable, attainable, results-oriented, timed

<table>
<thead>
<tr>
<th>Who/what</th>
<th>Change/desired effect</th>
<th>In what</th>
<th>By when</th>
</tr>
</thead>
<tbody>
<tr>
<td>Families participating in the Family Resource Center</td>
<td>increase</td>
<td>their use of community resources and services</td>
<td>within one year of joining</td>
</tr>
<tr>
<td>4 school boards</td>
<td>adopt</td>
<td>policies to improve student nutrition and physical activity</td>
<td>by Dec 2005</td>
</tr>
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</table>
• Engages stakeholders.

• Clarifies program theory and fills in the gaps.

• Builds ownership of the program.

• Builds common understanding about the program, especially about the relationship between actions and results.
Check your logic model

1. Is it meaningful?

2. Does it make sense?

3. Is it doable?

4. Can it be verified?
Limitations

Logic Model...

- Represents reality, is not reality
- Focuses on expected outcomes
- Challenge of causal attribution
  - Many factors influence process and outcomes
- Doesn’t address: Are we doing the right thing?
Where does evaluation fit? From beginning to end
PLANNING: start with the end in mind

Program Action

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<td>Short Term Medium Term Long Term</td>
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- **Inputs**
  - What we invest
    - Consider: Mission, Vision, Values, Mandates, Resources, Local dynamics, Collaborations, Competitors, Intended outcomes
  - What we do
    - Conduct workshops, meetings, deliver services, develop products, curriculum, resources
  - Who we reach
    - Participants, Clients, Agencies, Decision-makers, Customers
  - What the short term results are
    - Learning, Awareness, Knowledge, Attitudes, Skills, Opinions, Aspirations, Motivations
  - What the medium term results are
    - Action, Behavior, Practice, Decision-making, Policies, Social Action
  - What the ultimate impact(s) is
    - Conditions, Social, Economic, Civic, Environmental

- **Outputs**
  - Activities Participation

- **Assumptions**

- **External Factors**

**Evaluation**

*What do you want to know? How will you know it?*

**EVALUATION: check and verify**
What does evaluation mean to you?

- Evaluation means asking **good, critical** questions about programs to improve programs and help them be accountable for the wise use of resources.
EVALUATION: What do you (and others) want to know about this program?

- What amount of $ and time were invested?
- Were all sessions delivered? How effectively?
- Did all parents attend that we intended? Who did/not not? Did they attend all sessions?
- To what extent did knowledge and skills increase? For whom? Why? What else happened?
- To what extent did behaviors change? For whom? Why? What else happened?
- To what extent are relations improved? Does this result in stronger families?
Logic Model Resources

- **Online course on developing logic models and evaluation plans.** Offered by University of Wisconsin, Extension and designed for the beginner. (www1.uwex.edu/ces/lmcourse/)

- **Logic Model Overview.** Also from University of Wisconsin, includes links to workbooks, PowerPoint presentations, etc. (www.uwex.edu/ces/pdande/evaluation/evallogicmodel.html)


- **Logic Model Tools.** A comprehensive list provided by the CDC. (www.cdc.gov/eval/resources.htm#logic%20model)

- **Innovation Network’s Workstation:** an online workstation with evaluation and planning tools designed specifically for nonprofit organizations. (www.innonet.org)

- **Community Tool Box.** ctb.ku.edu/tools/en/sub_section_examples_1877.htm
THANK YOU!