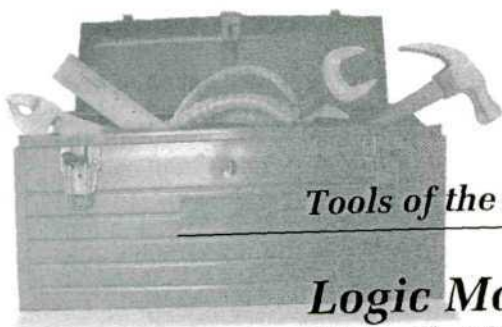




Tools of the Trade

Logic Models: The Picture Worth Ten Thousand Words

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It's what in the 1970s we used to call a "Kodak moment"—everything you wanted to communicate conveyed in a single, memorable picture. Back in the 1970s, logic models first began to attract attention . . . and they continue to hold our attention today, providing us with the framework to plan and fund (!) powerful programs that produce powerful results.

A logic model is like a carefully crafted curriculum. Everything connects. A thread runs through it that links everything, explaining what and why in no uncertain terms. Everything that comes makes sense based on what came before. In terms of program planning, you know exactly where you're going because you know precisely where you've been and what's coming up next on the horizon. It's the "yellow brick road" of quality program/intervention planning, except that it makes the road map from Kansas to Oz crystal clear to you and all whom you involve in its development and use. The "wizards" who helped us with this tool include the wonderful people at the University of Wisconsin Extension who designed and put online the self-study course "Enhancing Program Performance with Logic Models" (http://www.uwex.edu/ces/lmcourse/#stay_put); Bobby Milstein and Marshall Kreuter who quite some time ago shared with us a

summary outline adapted from the Centers for Disease Control and Prevention (1999) (<http://www.cdc.gov/eval>) and the W. K. Kellogg Foundation (2000). The road to hell, they say, is paved with good intentions. The road to quality program planning, implementation, and evaluation is a far more pleasant journey along a logic model.

► WHAT'S A LOGIC MODEL?

It is a picture that

- illustrates a logical sequence of events to occur through a program (initiative or intervention) or a system of related programs to bring about change in response to a specific situation;
- combines major program elements into a picture of how the program is supposed to work;

- portrays the underlying rationale of the program or initiative;
- is often displayed as a flow chart, map, web, network, or table to show the sequences of steps (not always linear) that connect activities or processes to program results;
- can exist as part of a "family" of logic models to display different levels of detail of a program, different perspectives of a program, or to highlight specific elements of a program for different audiences.

In short, it is a practical pictorial description of how a program ought to work.

► OTHER NAMES FOR A LOGIC MODEL

- Roadmap
- Conceptual map
- Blueprint

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- Rationale
- Program theory
- Program hypothesis
- Program framework
- Framework for action
- Theory of change
- Model of change
- Theoretical underpinning
- Causal chain
- Chain of causation
- Weight of evidence model

► WHY USE LOGIC MODELS

- Bring detail to broad goals; helps in planning, evaluation, implementation, and communications

► INTRODUCTION

One of the most important aspects of conducting a good evaluation is the development of a model or framework that communicates the essential elements of the program or initiative. Varied methodologies and much competition has been generated over the years for the approach that is the "right" one. Goldman and Schmalz (2005) argue that a lot of similar approaches exist, but a useful approach is one that contains the elements that allow for good communication and replication. The authors draw a line down the middle of previous approaches, and provide us with a very useful, attractive, and engaging synthesis. Readers should pay particular attention to this article as it will definitely help us all be better program designers and implementers.

Fran Butterfoss, PhD, Associate Editor, Evaluation & Practice

PROGRAM DEVELOPMENT

Planning – Implementation – Evaluation

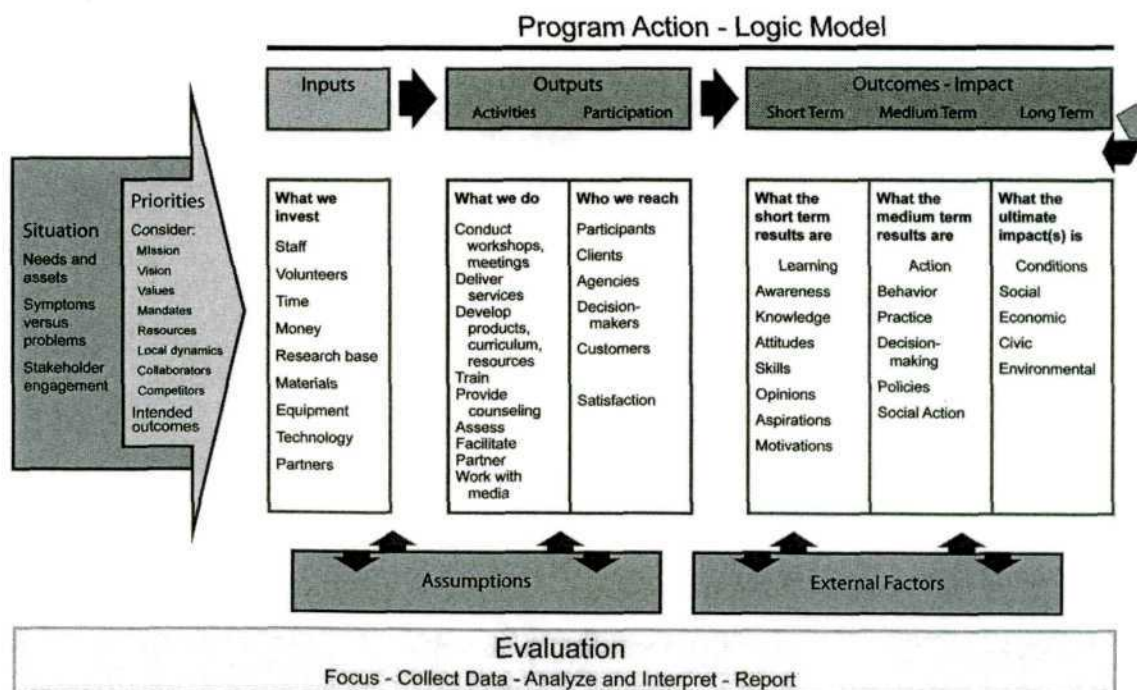


FIGURE 1 Framework for a Simple Logic Model

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- Provide a frame of reference for one or more evaluations of the program
- Help to identify gaps in program logic
- Make underlying beliefs explicit
- Reveal assumptions concerning conditions for program effectiveness
- Build understanding and promote consensus about what the program is and how it will work—build buy-in and teamwork
- Help clarify what is appropriate to evaluate, and when, so that evaluation resources are used wisely
- Summarize complex programs to communicate with stakeholders, funders, audiences
- Can strengthen claims of causality and be a basis for estimating the program's effect on endpoints that are not directly measured but are linked in a causal chain supported by earlier research
- Enable effective competition for resources
- Many funders request logic models in their grant requests
- By relating program activities to their effects, they keep stakeholders focused on achieving outcomes while remaining flexible and open to finding the best ways to do the work at hand
- Stakeholders experience rewards as a result of working together to create and refine the models
- Allow stakeholder to clarify the program's basic strategies, thus improving and focusing the direction of the program
- Lead to better programs

► MAJOR COMPONENTS AND ACTION STEPS

1. Situation/Priorities

- Assess the sociopolitical, environmental, and economic context in which the problem exists.
- Basis of all future action; must be correctly understood.

• Ask:

1. What is the problem/issue?
2. What causes this problem?
3. For whom (individual, household, group, community, society in general) does this problem exist?
4. Who cares whether it is resolved or not?
5. What do we know about the problem/issue/people that are involved? What research, experience do we have? What do existing research and experience say?

• Summarize in situation statement

• Determine priority based on

- Size of problem
- Seriousness of problem
- Changeability of problem/situation
- Potential of possible intervention to have an impact on health and/or
- PEARL (Vilnius & Dandoy, 1990)
- Propriety: Is an intervention suitable?
- Economics: Does it make economic sense to address this problem?
- Acceptability: Will the community accept an emphasis on this problem and will they accept the proposed intervention?
- Resources: Are funding and other resources available or potentially available?
- Legality: Do current laws allow the intervention to be implemented and if not, is it worth the time, energy, and resources to work for legislative change?

2. Inputs

- Identify resources and contributions needed
- Include time, staff, volunteers, money, materials, equipment, partners, research base, and technology

3. Outputs

- Define "what we do" or "what we offer"
- Create activities, services, events, and products for individuals, groups, agencies who participate or are the intended recipients
- Include workshops, meetings, direct services, curricula, resources, training, counseling, media campaign, advocacy campaign, etc.
- Decide whether to include what you plan to do or what got done (different people define this component differently)

4. Outcomes

- Determine direct results or benefits for individuals, families, groups, communities, organizations, or systems to be achieved; may be positive, negative, neutral, intended, or unintended
- Include immediate results (awareness, knowledge, attitudes, skills, opinions, aspirations, motivations); mid-term results (changes in behavior, practice, decision making, policies, social action); and long-term results (changes in social, economic, civic, environmental conditions)

5. Assumptions

- Identify beliefs about the program and the people involved and the way you think the program will work
 - The problem or situation
 - The resources and staff
 - The way the program will operate
 - What the program expects to achieve
 - The knowledge base
 - The external environment
 - The internal environment
 - The participants: How they learn, their behavior, motivations, etc.
- Remember: Assumptions underlie and influence program decisions

6. External Factors

- Identify factors in the environment that can influence program success and/or can be influenced by the program
- Include cultural milieu, climate, economic structure, housing patterns, demographic patterns, politics and politicians, background and experiences of program participants, media influence, changing policies and priorities.
- Remember: External factors can affect:
 - Program implementation
 - Participants and recipients
 - The speed and degree to which change occurs
 - Staffing patterns and resources available

► WHEN TO USE A LOGIC MODEL

During Planning to:

- Clarify the situation that drives the need for an initiative
- Demonstrate how investments are linked to activities
- Clarify program strategy
- Identify appropriate outcome targets and avoid over-promising
- Write a grant proposal or a request for proposals
- Assess the potential effectiveness of an approach
- Set priorities for allocating resources
- Estimate timelines
- Identify necessary partnerships
- Negotiate roles and responsibilities
- Focus discussions and making planning time more efficient

During Implementation to:

- Provide an inventory of what you have and what you need to operate the program

- Develop a program management plan
- Incorporate findings from research and demonstration projects
- Make mid-course adjustments

During Evaluation to:

- Identify differences between the ideal program and its real operation
- Frame questions about attribution and contribution (i.e., immediate links versus all prior links)
- Specify the nature of questions being asked (i.e., boxes versus arrows)
- Determine which indicators will (and will not) be measured
- Document accomplishments
- Organize evidence about the program
- Prepare reports and other media
- Tell the program's story

During Advocacy to:

- Justify why the program will work
- Explain how resource investments will be used

During Training to Show Staff and Stakeholders:

- How the program works
- Where they fit in
- What they are expected to do
- How they'll know if the program is working

► ADVANTAGES OF LOGIC MODELS

- Offers the power of visual communication
- Appeals to stakeholders with short attention spans
- Puts program elements in context
- Reveals assumptions by showing desired connections

- Ensures that critical processes and outcomes are not overlooked
- Makes stakeholders accountable for processes and outcomes
- Highlights types of data needed
- Provides a framework for interpreting information
- Prevents "program failures" because of inadequate organization/management
- Integrates research findings and practice wisdom
- Allows comparison of the "ideal" versus the "real" program
- Clarifies options for setting priorities and allocating resources
- Enhances learning and communication

► DISADVANTAGES OF LOGIC MODELS

- Doesn't adequately capture the program's context
- Demands a high degree of specificity
- Challenges assumptions, which can create discomfort
- Can be time consuming to create
- Risks oversimplifying complex relationships
- Relies on the skills of graphic artists

► CRITERIA FOR A GOOD LOGIC MODEL

- Includes logically linked activities and effects
- Includes forces known to influence the outcomes of interest
- Visually engaging (i.e., simple, parsimonious)
- Aimed at a specific audience
- Designed to communicate a specific set of main points
- Includes an appropriate degree of detail given the purpose (not too simple, not too confusing)
- Provokes thought; triggers questions
- Is useful to its intended users

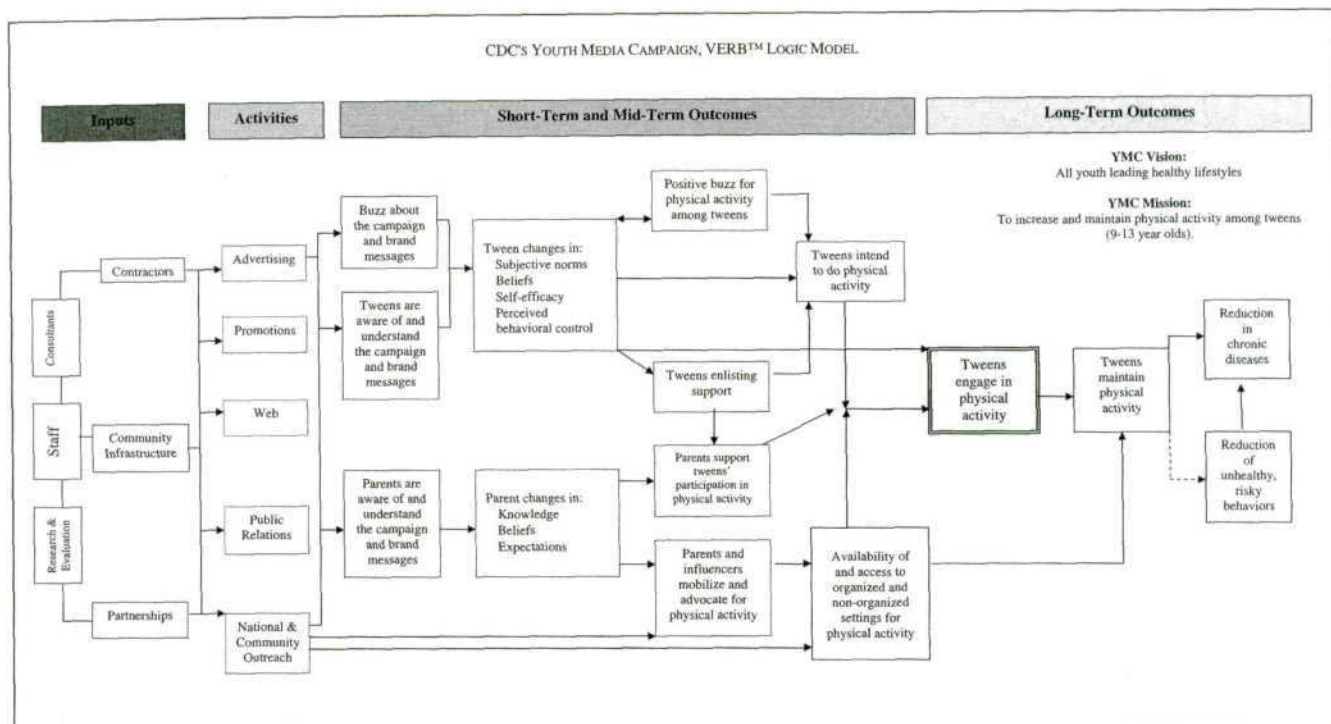


FIGURE 2 Sample Completed Logic Model From the CDC's Youth Media Campaign
 SOURCE: Huhman, Heitzler, and Wong. (2004). © Centers for Disease Control and Prevention.

► HOW TO CREATE A LOGIC MODEL

Two major approaches:

1. Reverse logic, which is driven by "But how?" questions
2. Forward logic driven by "But why?" questions of "If... then" thinking.

► SUMMARY

Think of the logic model as your "road map."

What would happen if you ventured off on a trip without a map? Would you ever get to your final destination? Even if you did, how much time would you have spent in trying

to find your way, when mapping your journey would have given you direction from the beginning?

Logic models

- provide a graphic description of a program (process, event, community initiative)
- show the relationship of program inputs and outputs to expected results
- make explicit the underlying theory of a program
- are made up of six components: situation, inputs, outputs, outcomes, assumptions, external factors
- are useful for developing understanding, improving program-

ming, clarifying outcomes, focusing evaluation, and communicating to stakeholders.

REFERENCES

- Centers for Disease Control and Prevention. (1999). Framework for program evaluation in public health. *Morbidity and Mortality Weekly Report*, 48(RR-11), 1-41.
- Huhman, M., Heitzler, C., & Wong, F. (2004). The VERB™ campaign logic model: a tool for planning and evaluation. Retrieved on July 2004 from http://www.cdc.gov/pcd/issues/2004/jul/04_0033.htm.
- Vilnius, D., & Dandoy, S. (1990). A priority rating system for public health programs. *Public Health Reports*, 105(5), 463-470.
- W. K. Kellogg Foundation. (2000, March). *Draft logic model development guide*. Battle Creek, MI: Author.