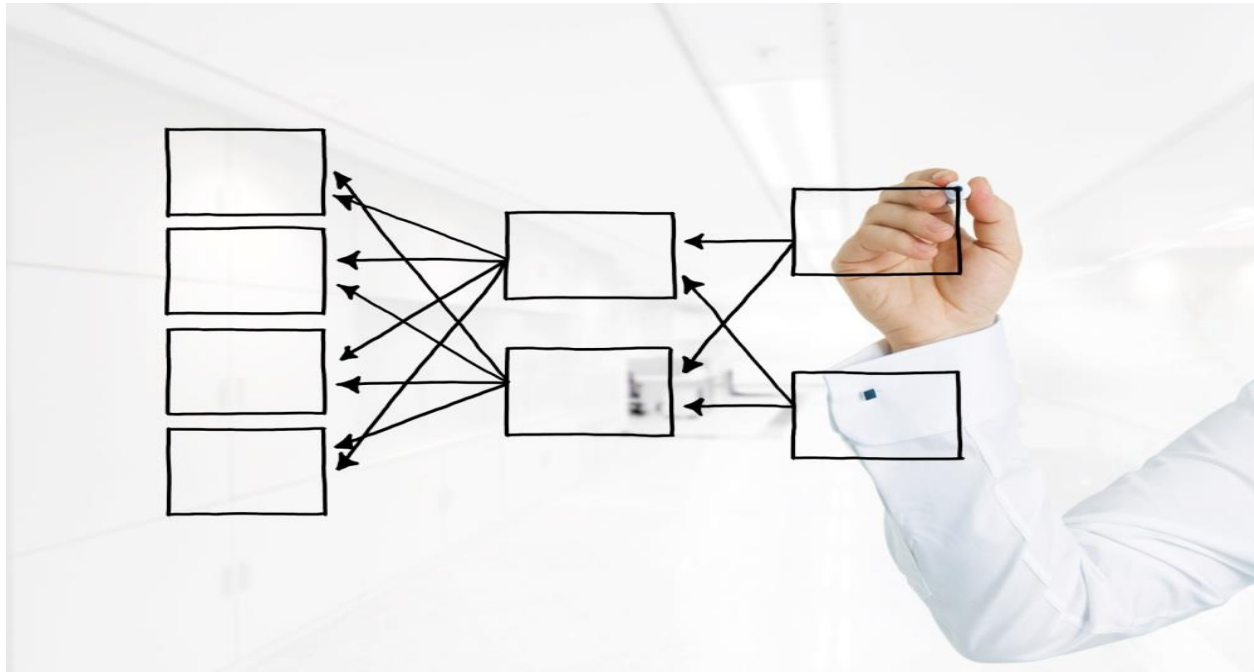


Focus On:

Logic model–A planning and evaluation tool



December 2016

Introduction

A logic model is a visual illustration of a program's resources, activities and expected outcomes.^{1,2} It is a tool used to simplify complex relationships between various components and can be used during program planning, implementation and evaluation.^{3,4} A term that is sometimes used concurrently with logic models is theory of change. Theory of change is a foundational concept that provides an understanding of the pathway to bring about change.⁵⁻⁷ It clarifies expectations amongst diverse stakeholders and highlights common understanding regarding intended outcomes of the proposed change.⁸ Logic models can be viewed as a representation of the program's underlying theory of change.

This document provides an overview of the components of a logic model, examples of logic model designs, and describes the use of logic models in program planning and evaluation.

Methods

The content of this Focus On was developed based on the logic models webinar presented by Public Health Ontario (PHO). A general search of available resources was conducted through the Google search engine, reviewing existing PHO knowledge products, and input from health promotion consultants within the Health Promotion Capacity Building unit at PHO.

Components of a logic model

A logic model can be as broad or specific as needed, depending on whether it is describing an activity, program, initiative, policy or organization.^{1,9} The design and purpose of one logic model may differ from another, however there are common components that all logic models share including a goal, inputs, activities, audience, outputs, and outcomes.^{1-3,5,6,8,9} Table 1 outlines the most commonly used logic model components and provides examples for each one. Possible additional components are situation, assumptions, external factors, and strategies;^{9,10} which are described in Table 2.

Table 1. Common components of logic models

Component	Description	Example
Goal	The overall long-term health outcomes the program hopes to achieve.	To prevent diet-related health problems in adulthood.
Inputs	The resources invested into a program or initiative.	<ul style="list-style-type: none"> • Staff • Funding • Time • Materials • Supplies
Activities	Activities or interventions that will be carried out as part of the program.	<ul style="list-style-type: none"> • Public service announcements (PSAs) on health risks of sexually transmitted infections (STIs) • Workshops on healthy eating for children and their parents • Bi-weekly community sports activities for neighbourhood adolescents
Audience	<p>Whom the program is targeting. Programs may target specific groups such as young children or older adults but may also be broad in nature.</p> <p>Primary audience: the main population that is being targeted.</p> <p>Secondary audience: groups who are impacted or influenced by a program, but are not the direct recipients of the program.</p>	<p>A program designed to train teachers on how to provide physical activity to students.</p> <ul style="list-style-type: none"> • Primary audience: teachers • Secondary audience: students

Component	Description	Example
Outputs	Products that are produced from program activities or interventions. Outputs can be viewed as quantifying activities and providing numeric values or attributing percentages.	<ul style="list-style-type: none"> • Number of PSAs run during a health promotion campaign • Number of workshops provided on healthy eating • Percentage of organized community sports activities held
Outcomes	The changes expected to result from the program. Outcomes range from short-term to long-term, and are associated with changes in knowledge, awareness, behaviour and skills.	<ul style="list-style-type: none"> • Increased awareness of the health risks of STIs • Increased knowledge on healthy foods and proper food handling skills • Reduction in the number of secondary students reporting physical inactivity on school surveys

Table 2. Additional possible components of logic models

Component	Description	Example
Situation	The situational context that lead to the creation of the program.	<ul style="list-style-type: none"> • Increased rates of obesity lead to the creation of a physical activity program for adolescents aged 12 to 18 years old • Increased incidence of gonorrhea and low perceived susceptibility to sexually transmitted infections (STIs) amongst 14 to 24 year olds
Assumptions	Underlying theories and beliefs about the program and its context which can influence the development of a program and which activities are implemented. Transparency around assumptions makes explicit the beliefs that underlie chosen actions.	<ul style="list-style-type: none"> • Adolescents are interested in physical activity programs • The public has access to a radio and will hear the PSAs
External factors	Factors that impact the program but are beyond the control of program planners and overseers. Factors may be positive or negative and are likely to influence program success.	<ul style="list-style-type: none"> • Cultural norms • Political climate • Social policies • Environmental factors

Component	Description	Example
Strategies	A broad approach or plan to facilitate change.	<p>The Ottawa Charter for Health Promotion identifies five strategies to consider when developing health promotion programs:</p> <ul style="list-style-type: none"> • Build healthy public policy • Create supportive environments • Strengthen community action • Develop personal skills • Re-orient health services

Examples of logic models

Logic models can be simple or complex, and allow for great flexibility in design. They are often shown in a linear fashion for simplicity, logical flow, and ease of understanding;^{3,8} however, they can be presented in a cyclical model and be as visually engaging as needed. The design of a logic model is dependent on the type of information that is being presented and the needs of stakeholders (program staff, funders, and community members). Different types of logic models will be appropriate for different programs—what works in one program area may not work in another. Although there are common components, the aim is not a one-size-fits-all approach, rather these components help to streamline and guide the development of the model and help to operationalize program interventions. Figure 1 below outlines a simple logic model template that can be used as a starting point.

Inputs	Activities	Audience	Outputs	Short-term outcomes	Long-term outcomes

Figure 1. Example of a logic model template

The additional components listed in Table 2 are often described in a programs theory of change, however, these components can be directly included in the logic model as well. Figure 2 shows an example of a logic model which includes the situation, assumptions, and external factors in addition to the common components.

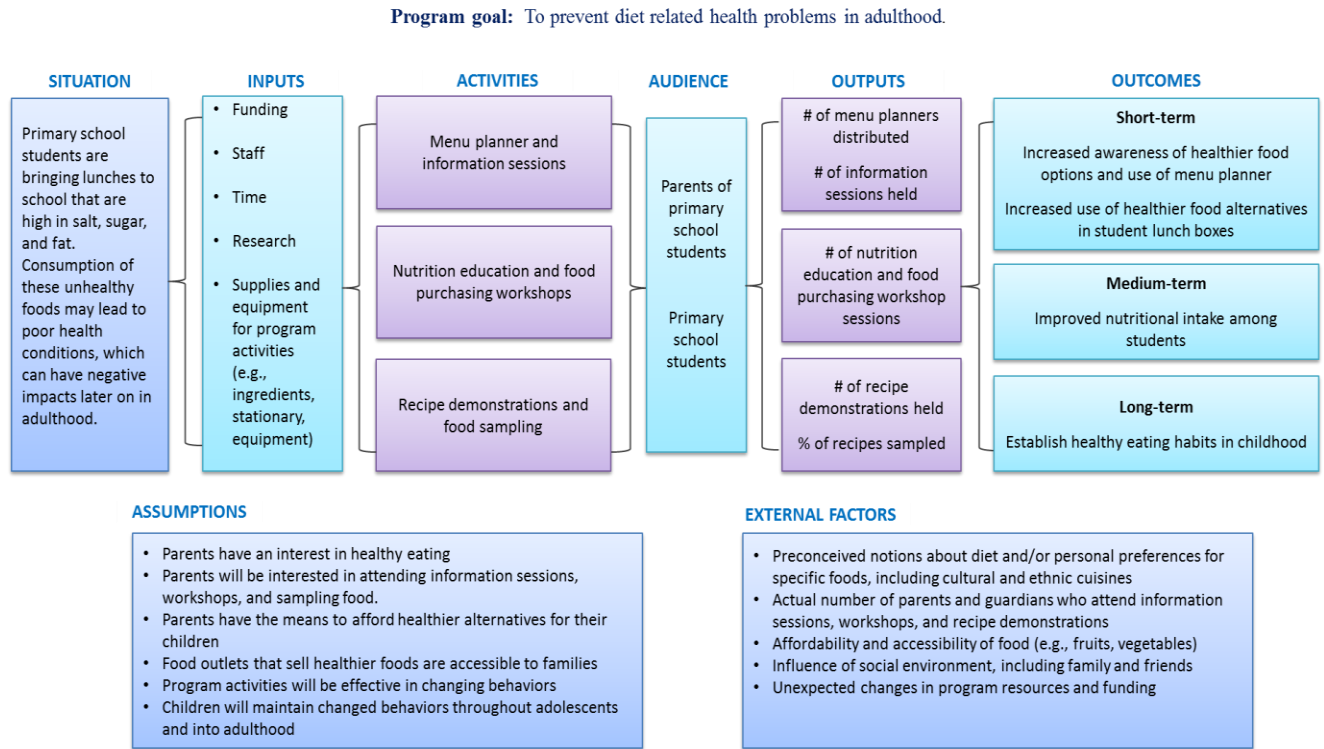


Figure 2. Example of a logic model including situation, assumptions, and external factors

Larger, more complex programs can utilize a nested model to better manage program details.³ Nested models refer to a group of logic models that are related, but offer varying levels of detail about the program often ranging from high level general overview to specific information.³ For example, a logic model for a physical activity program targeting children and adolescents may provide a high level overview of the programs underlying theory, which may be of interest to program funders and community partners. To offer program staff and volunteers detailed information, subsequent logic models would be created; these models may provide additional information on the specifics of the program, with one focusing on interventions for younger children, and another for adolescents. In total, the program would have three logic models, all providing related but different information. Figure 3 shows an example of an adapted nested logic model.

Goal: To reduce the prevalence of overweight and obesity among adolescents aged 12 to 17 years old by 2020

Organization Level					
Inputs	Activities	Audience	Outputs	Short-term outcomes	Long-term outcomes
<ul style="list-style-type: none"> Funding Partnerships with other organizations Coordination and oversight 	<ul style="list-style-type: none"> Policies/procedures and standards Identification of physical activity best practices Evidence-informed framework and evidence generation 	<ul style="list-style-type: none"> Departments and units of the organization 	<ul style="list-style-type: none"> Number of policies/procedures and guidelines developed and implemented A physical activity best practices guideline A framework on evidence generation and use 	<ul style="list-style-type: none"> Increased awareness of available resources to support capacity building in program areas 	<ul style="list-style-type: none"> Improved skill set among program staff A coordinated capacity building approach at the organization level
Program Level					
Inputs	Activities	Audience	Outputs	Short-term outcomes	Long-term outcomes
<ul style="list-style-type: none"> Capacity building services and resources for staff Scientific and technical experts 	<ul style="list-style-type: none"> Training workshops Consultations Webinars 	<ul style="list-style-type: none"> Internal staff working on physical activity related projects 	<ul style="list-style-type: none"> Number of workshops Number of consultations Number of webinars 	<ul style="list-style-type: none"> Increased staff knowledge on planning and evaluation 	<ul style="list-style-type: none"> Increased capacity among staff to deliver evidence-informed physical activity programs
Project Level					
Inputs	Activities	Audience	Outputs	Short-term outcomes	Long-term outcomes
<ul style="list-style-type: none"> Staff Time Supplies for program materials Equipment for activities Volunteers Community centre facilities 	<ul style="list-style-type: none"> Bi-monthly community sports activity event at local community centre 	<ul style="list-style-type: none"> Adolescents aged 12 to 17 years old 	<ul style="list-style-type: none"> Number of bi-monthly community sports activities 	<ul style="list-style-type: none"> Increased awareness of the importance of physical activity Increased awareness of physical activity community programming Increased participant attendance of community programs 	<ul style="list-style-type: none"> Reduction in the prevalence of overweight and obesity

Figure 3. Example of an adapted nested logic model

Adapted from: University of Wisconsin Extension. Enhancing program performance with logic models. Multiple logic models: multi-level management system [Internet]. Madison, WI: University of Wisconsin Extension; 2010 [cited 2016 Jul 14]. Available from: http://www.uwex.edu/ces/lmcourse/Module_1_pages/M1_Section4/HTML/m1s4p04.htm

Logic model as a tool

As a tool, a logic model serves multiple purposes and can be utilized throughout the lifecycle of a program, from the planning stage to evaluation, and all steps in-between. It is never too late to introduce a logic model into a program or initiative.

In the planning phase of a program, a logic model can serve as a planning tool by shaping program strategies, clarifying and setting priorities, and illustrating program approaches to stakeholders. It can

help to identify gaps in program logic while also being used to negotiate roles and responsibilities of partners and staff. In addition, logic models can be used as a communication tool to gather support or funding for an initiative.^{1,3,9} During implementation of an initiative, a logic model can help with program management by maintaining accountability to the activities or areas identified in the logic model.¹ It can also support program monitoring ensuring the program stays on track or identify areas in need of adjustment.¹ The logic model provides guidance on possible evaluation questions and what measures or indicators to use to identify program success. It also aids in identifying how program components should affect each other and facilitates measuring the degree to which an intervention is delivered as intended.¹⁻³

Logic models should be responsive to program changes. Significant changes that are made to a program which influence model components, such as changes in strategy, should be reflected in an updated logic model.³ Periodic updates and revisions not only keep logic models current, but also helps staff and stakeholders stay focused on program outcomes.³

Conclusion

In the field of public health and health promotion, logic models continue to be viewed as a valuable tool. Logic models illustrate the relationship between program input and activities and desired outcomes. Logic models are dynamic and responsive to the particular needs of programs and initiatives. As a planning and evaluation tool, logic models offer a clear and continuous method for establishing logical flow of a program and serve as a tool for identifying progression towards program goals.

Resources

Health Promotion Capacity Building Resources

- At a Glance: The six steps to planning a health promotion program
http://www.publichealthontario.ca/en/eRepository/Six_steps_planning_health_promotion_programs_2015.pdf
- At a Glance: The ten steps for conducting an evaluation
http://www.publichealthontario.ca/en/eRepository/At_A_Glance_Evaluation_2015.pdf
- Evaluating Health Promotion Programs: Introductory Workbook
http://www.publichealthontario.ca/en/erepository/Evaluating_health_promotion_programs_workbook_2016.pdf
- Planning and Evaluating Health Promotion Programs: Audio Presentation Series
<http://www.publichealthontario.ca/en/LearningAndDevelopment/OnlineLearning/HealthPromotion/Pages/HP-Essential-Skills.aspx>
- Planning Health Promotion Programs: Introductory Workbook
http://www.publichealthontario.ca/en/eRepository/Planning_health_promotion_programs_workbook_En_2015.pdf
- Webinar: Logic models–theory to practice
http://www.publichealthontario.ca/en/LearningAndDevelopment/EventPresentations/Logic_Models_Theory_to_Practice.pdf
- Webinar Q and A: Logic models–theory to practice
http://www.publichealthontario.ca/en/eRepository/Logic_model_Theory_to_practice_QA_2016.pdf

Additional Resources

- WK Kellogg Foundation: Logic model development guide
<http://www.wkkf.org/resource-directory/resource/2006/02/wk-kellogg-foundation-logic-model-development-guide>
- Taylor-Powell E, Jones L, Henert E. Enhancing program performance with logic models.
<http://www.uwex.edu/ces/pdande/evaluation/pdf/lmcourseall.pdf>
- Community Tool Box: Chapter 2 Other models for promoting community health and development. <http://ctb.ku.edu/en/table-of-contents/overview/models-for-community-health-and-development>
- Center for Theory of Change
<http://www.theoryofchange.org/library/publications/>

References

1. WK Kellogg Foundation. Logic model development guide [Internet]. Detroit, MI: W.K. Kellogg Foundation; 2006 [cited 2016 Jan 11]. Available from: <http://www.wkkf.org/resource-directory/resource/2006/02/wk-kellogg-foundation-logic-model-development-guide>

2. Centers for Disease Control and Prevention. Developing an effective evaluation plan: setting the course for effective program evaluation [Internet]. Atlanta, GA: Centers for Disease Control and Prevention; 2011 [cited 2016 Oct 17]. Available from <http://www.cdc.gov/obesity/downloads/cdc-evaluation-workbook-508.pdf>
3. Work Group for Community Health and Development. Community tool box. Chapter 2. Other models for promoting community health and development [Internet]. Lawrence, KS: University of Kansas; c2015 [cited 2016 Jan 11] . Available from: <http://ctb.ku.edu/en/table-of-contents/overview/models-for-community-health-and-development>
4. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Planning health promotion programs: introductory workbook. 4th ed. Toronto, ON: Queen's Printer for Ontario; 2015. Available from: http://www.publichealthontario.ca/en/eRepository/Planning_health_promotion_programs_workbook_En_2015.pdf
5. Harris MJ. Evaluating public and community health programs. San Francisco, CA: Jossey-Bass; 2010.
6. Vogel I. Review of the use of 'Theory of Change' in international development [Internet]. London, UK: UK Department for International Development (DFID); 2012 [cited 2016 Jan 11]. Available from: http://r4d.dfid.gov.uk/pdf/outputs/mis_spc/DFID_ToC_Review_VogelV7.pdf
7. Anderson AA. The community builder's approach to theory of change: a practical guide to theory and development [Internet]. New York, NY: The Aspen Institute Roundtable on Community Change; 2005 [cited 2016 Oct 17]. Available from http://www.dochas.ie/Shared/Files/4/TOC_fac_guide.pdf
8. Knowlton WL, Philips CC. The logic model guidebook: better strategies for great results. 2nd ed. Thousand Oaks, CA: Sage Publications; 2013.
9. Taylor-Powell E, Jones L, Henert E. Enhancing program performance with logic models [Internet]. Madison, WI: University of Wisconsin-Extension; 2003 [cited 2016 Jan 11]. Available from <http://www.uwex.edu/ces/pdande/evaluation/pdf/lmcourseall.pdf>
10. World Health Organization. Ottawa charter for health promotion: an international conference on health promotion, the move towards a new public health [Internet]. Geneva: World Health Organization; 1986 [cited 2016 Jan 11]. Available from: <http://www.who.int/healthpromotion/conferences/previous/ottawa/en/>

Authors

Samiya Abdi, Health Promotion Consultant, Health Promotion Capacity Building, HPCDIP

Gloria Mensah, Product Development Advisor, Health Promotion Capacity Building, HPCDIP

Reviewers

Sandy Dupuis, Epidemiologist, Niagara Region Public Health Department

Jane Hoffmeyer, Health Promoter, Planning and Evaluation, Peterborough Public Health

Monique Beneteau, Health Promoter, Peterborough Public Health

Shawn Hakimi, Product Development Advisor, Health Promotion Capacity Building, HPCDIP, Public Health Ontario

Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario), Abdi S, Mensah G. Focus On: Logic models-a planning and evaluation tool. Toronto, ON: Queen's Printer for Ontario; 2016.

ISBN 978-1-4606-8822-9

©Queen's Printer for Ontario, 2016

Disclaimer

This document was developed by Public Health Ontario (PHO). PHO provides scientific and technical advice to Ontario's government, public health organizations and health care providers. PHO's work is guided by the current best available evidence.

PHO assumes no responsibility for the results of the use of this document by anyone.

This document may be reproduced without permission for non-commercial purposes only and provided that appropriate credit is given to Public Health Ontario. No changes and/or modifications may be made to this document without explicit written permission from Public Health Ontario.

Health Promotion Capacity Building at Public Health Ontario

Health Promotion Capacity Building works with Ontario's public health system, community health care intermediaries and partner ministries. Available in both official languages, our services and resources support the development of public health core competencies. Visit us at:

www.publichealthontario.ca/hpcb

Public Health Ontario

Public Health Ontario is a Crown corporation dedicated to protecting and promoting the health of all Ontarians and reducing inequities in health. Public Health Ontario links public health practitioners, front-line health workers and researchers to the best scientific intelligence and knowledge from around the world.

Public Health Ontario provides expert scientific and technical support to government, local public health units and health care providers relating to the following:

- communicable and infectious diseases
- infection prevention and control
- environmental and occupational health
- emergency preparedness
- health promotion, chronic disease and injury prevention
- public health laboratory services

Public Health Ontario's work also includes surveillance, epidemiology, research, professional development and knowledge services. For more information about PHO, visit

www.publichealthontario.ca.

Public Health Ontario acknowledges the financial support of the Ontario Government.