Logic Models

"Quite simply, I examined the problem from all angles, and it was plainly hopeless. Logic informed me that under the circumstances, the only logical action would have to be one of desperation. Logical decision, logically arrived at." Spock

That sentiment has been shared by those of us who have been confronted with a situation that at first seemed insurmountable. I too would often flail about looking for a way to solve the situation until a few years ago when I was introduced to the concept of ***logic models,*** a tool used in evaluation.

Today many physical therapists in leadership positions are asked to evaluate what they or their department or clinic is doing. It might be to evaluate whether it is better to run a group treatment program instead of treating individual patients one-on-one in a rural setting where distances to therapists is an issue. You might be asked to determine if your waiting list management strategy is efficacious. You are thinking of developing a formal continuing education program for staff or want to evaluate the efficacy of the falls risk management program your facility offers. Like it or not we live in an age where, health professionals can no longer question whether to evaluate their programs. (From this point on the word *program* will be used to represent any initiative, process or program). Instead the appropriate questions to ask are;

- What do we want from this program, process or initiative?
- What are the outcomes expected?
- What is the best way to evaluate?
- What are some tools I can use?
- What will we learn from the evaluation process?
- How will we use the learning to make our efforts more effective?

To help you, the discipline of ***program evaluation*** offers a variety of tools that leaders can choose to use. There are also resources available to help guide those who are interested in evaluation but have no formal training. You can also hire a professional evaluator who, can facilitate the evaluation and offer guidance to those who have yet to master the art and science of program evaluation.

Many resources can be sourced through organizations such as *The Canadian Evaluation Society* (CES) (http://www.evaluationcanada.ca), The Kellogg Foundation in the U.S.A. http://www.wkkf.org/knowledge-center/publications-and-resources.aspx) and the University of Wisconsin Program Evaluation and Development Unit. Here you will find all kinds of valuable information including examples of logic models and even download templates for creating your own (http://www.uwex.edu/ces/pdande/evaluation/evallogicmodelworksheets.html).

Through the CES (as a member) you can access reports such as, *Collaborative Inquiry: Integrating Evaluation into the Workplace* by Shirley Edey and Patricia Newton and, a guide with a title many of us can related to, *Program Evaluation with Limited Fiscal and Human Resources*, by Paul Favaro and Lorraine Harris. For a longer list of resources see the end of this article.

Anyone embarking on an evaluation needs some sort of framework that will offer guidance on how to proceed, shows where you have been and what you have done and where you have still to go to achieve the outcomes identified at the beginning of the evaluation.

A tool such as a ***logic model*** can do that for you. I have found them really useful in helping me focus on an issue or help develop an idea. A logic model can act as "an anchor" for you and other members of the evaluation group or team. You can use it as a means by which you can gather, reflect, deliberate, discuss and plan.

You can look at logic models as "road maps", helping you in both travelling along and getting to your destination. Like road maps they vary in their structure and appearance and usefulness. Regardless of their appearance they all have several things in common including, a situation, inputs, outputs (actions and processes) and outcomes (maybe short, medium or long).

The following has been condensed and summarized from the University of Wisconsin Program Development and Evaluation Unit's resources on logic models.

In its simplest form, a logic model looks like this:

We actually use the logic model every day. Think about being hungry. What does that feel like? What do you need? What do you want to do?

Probably what you want is some type of food. So, first you need to find that food. Then, you need to eat that food. Then, you will be satisfied and feel better. A logic model to represent that would look something like this.

Another example is, say you are suffering from a severe headache and your experience says that certain pills help. So, the logic model shows that first you need to get the pills. Then, you take the pills as prescribed. As a consequence, you feel better. The end result is that the headache is gone and you feel better as a result.

So, what is a logic model?

- It is a graphic description of a program (e.g., a process, event, community initiative);
- can show the relationship of program inputs and outputs to expected outcomes;
- is made up of six components: situation, inputs, outputs, outcomes, assumptions, external factors

- is useful for developing understanding, improving programming, clarifying outcomes, focusing evaluation, and communicating to stakeholders.

Why should you use the logic model? How will it help you?

- Brings detail to broad goals; helps in planning, evaluation, implementation, and communications;
- Helps to identify gaps in program logic and clarifies assumptions so success at achieving outcomes may be more likely;
- Builds understanding and promotes consensus about what the program is and how it will work--builds buy-in and teamwork;
- Makes underlying beliefs explicit;
- Helps to clarify what is appropriate to evaluate, and when, so that evaluation resources are used wisely;
- Summarizes complex programs to communicate with stakeholders, funders, audiences;
- Enables effective competition for resources

Logic models can be applied to:

- a small program;
- a process;
- an intervention;
- a large organisation;
- almost any task, question or situation.

Steps to Completing a Logic Model

A. Identify the Situation Take time to understand the situation and carefully define the problem. This may be the **most** important step. From the situation comes ***priority setting*****.** Priorities lead to the identification of desired outcomes. Consider the following questions:

1. What is the problem/issue?
2. Why is this a problem? (What causes the problem?)
3. For whom (individual, household, group, community, society in general) does this problem exist?
4. Who has a stake in the problem? (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?

B. **Identify** the desired **outcomes** for the situation. These may be short, medium or long term. Outcomes are central to logic models. There may be one or two long term outcomes with more than a few short and or medium outcomes.

C. Identify the **inputs** or resources that are available or required for the achievement of desired outcomes. These include time, people (staff, volunteers), money, materials, equipment, partnerships, research base, and technology among other things. These inputs allow the creation of outputs.

D. **Determine** and identify **outputs.** These are the major activities which have to be done to reach the desired outcomes. Outputs lead to outcomes.

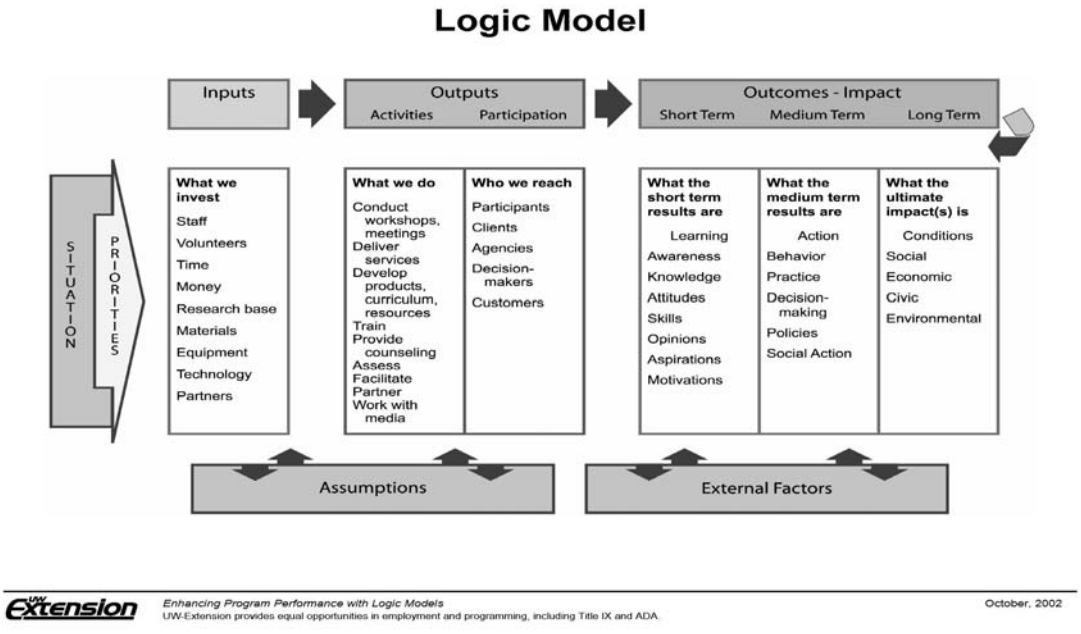
E. **Discuss** and **identify** the **assumptions** which may underlie and influence decisions to be made. These might include the beliefs, principles or ideas about a situation, task, issue or program and the people involved and the way we think the task, issue, initiative or program will work

F. **Discuss** and **identify** real or potential **external factors** which may have a major influence on the achievement of outcomes. External factors include the cultural milieu, the climate, economic structure, political environment, background and experiences of program participants, policies and priorities.

Remember the logic model is meant to be a dynamic tool. As the process evolves some original elements such as priorities and activities will change. Use the outcomes and situation to anchor the process. When beginning to use logic models keep things fairly simple. Once you get the hang of them you can move on to more complex issues.

Source: University of Wisconsin Program Development and Evaluation Unit

The following is an example of a the basic components of a logic model and is taken from the University of Wisconsin Program Development and Evaluation Unit's website listed in the references at the end of this article.



development of logic models you will find it worth the while. Logic models are really useful tools for helping individuals, small or large groups or organizations to plan and to monitor a variety of activities and processes. Aside from program evaluation they can also be applied to things such as planning conferences, developing online learning modules or creating newsletters!

As for Mr. Spock, he also once said, "Logic is the beginning of wisdom; not the end".

The following is a partial list of references offering examples and explanations on logic models and evaluation.

Bond, Boyd and Rapp, (1997). A Practical Guide to Evaluating Your Own Programs. http://www.horizon-research.com/reports/1997/stock.pdf

CDC Evaluation Working Group (1999), Logic Model Bibliography, http://www.cdc.gov/eval/logic%20model%20bibliography.PDF

Freddolino, P., et al. (1998). It's a great idea but…: Barriers to the use of program logic models in the real world of program activities. Okemos, MI: Michigan Public Health Institute.

Kellogg Foundation. (2001). Logic model development guide: Logic models to bring together planning, evaluation & action. Battle Creek, MI: W.K. Kellogg Foundation http://www.wkkf.org/knowledge-center/resources/2006/02/WK-Kellogg-Foundation-Logic-Model-Development-Guide.aspx

Kellogg Foundation. (2001). Program Evaluation Handbook http://www.wkkf.org/knowledge-center/resources/2010/W-K-Kellogg-Foundation-Evaluation-Handbook.aspx

Kirkpatrick, S. (2001). The program logic model: What, why and how? From: http://www.charityvillage.com/charityvillage/research/rstrat3.html

University of Wisconsin, Program Evaluation and Development Centre, http://www.uwex.edu/ces/pdande/evaluation/evallogicmodel.html

Savas, S., Flemming, W., & Bolig, E. (1998). Program specification: A precursor to program monitoring and quality improvement. The Journal of Behavioral Health Services & Research, 25 (2), 208-216.

Wandersman, A., Imm, P., Chinman, M., & Kaftarian, S. (2000). Getting to outcomes: A results-based approach to accountability. Evaluation and Program Planning, 23, 389-395. Manual available at : http://www.rand.org/publications/TR/TR101/