

# Using A Logic Model Framework For Program Planning And Evaluation

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Family Health Outcomes Project (FHOP)  
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## Objectives

To be able to:

- Prepare for logic model development
- Articulate the rationale and benefits of using a logic model framework
- Describe a logic model framework and its components
- Understand the utility of logic models in planning and evaluation
- Develop a logic model

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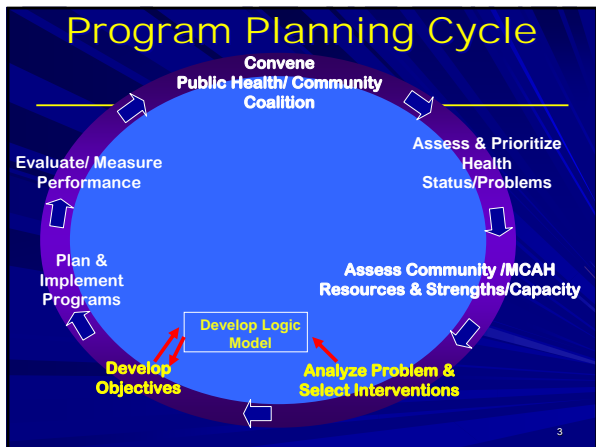
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## Before you begin a logic model

- Complete the problem analysis
  - ✓ Conduct literature review to identify risk and contributing factors to the problem
  - ✓ Map causal pathways
  - ✓ Identify potential evidence-based interventions or best practices
  - ✓ Develop a problem statement that identifies the long term outcome you want to target

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## Before you begin a logic model

- Assess environment
  - ✓ Policies or legislation
  - ✓ Community support
  - ✓ Other efforts to address identified issue
  - ✓ Barriers to addressing identified issue
- Assess available and potential resources
  - ✓ Identify partners and stakeholders
  - ✓ Determine which resources each agency will contribute
  - ✓ Identify other funding options

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## Example Issue: Deaths from injury among adolescents

Take a closer look- what is causing injury-related deaths in your community?

- Review additional data (causes of death, Switters, EPIC)
- Consult experts (police, hospitals/emergency medical services, schools) for insight into problem

Result of analysis: most injury related deaths are a result of motor vehicle crashes involving teen drivers

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## Motor vehicle crashes involving teen drivers

### Literature review

- Identify causal factors
- Identify factors in environment that prevent (protective factors) or contribute to incidence of problem (systems barriers)
- Identify and evaluate potential methods of intervention

### Problem analysis

- Describe relationships between causal factors, show linkages in chain of causation
- Determine possible points of intervention

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## Results: Risk Factor Analysis

- Time of day ↑ danger after dark
- High speed roads/highways
- Weather – rain, ice, wind
- Presence of peers in car
- Teen driver with little experience- Rate of collisions highest during 1<sup>st</sup> month
- Teen driver use of alcohol/recreational drugs
- Peer pressure to take risks - racing, speeding, wheelies and other antics
- Other risks – nonuse of seatbelts, use of cell phone/texting

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## Results: Evidence Based Interventions

### Protective factors that reduce incidence of crashes:

- Restrictions on driving privileges (imposed by parents and/or policy)
- More supervised driving practice
- Increased length of time until fully licensed

### Intervention that best addresses these factors

- Graduated Driver Licensing (GDL)

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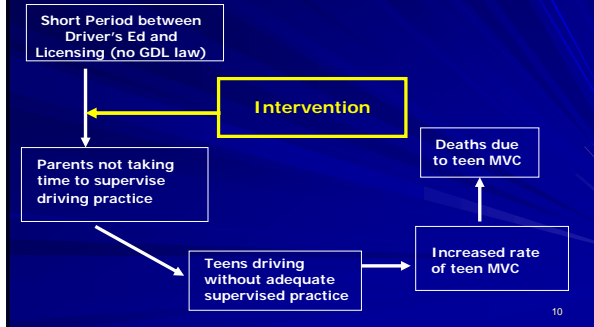
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## Sample Causal Map 1



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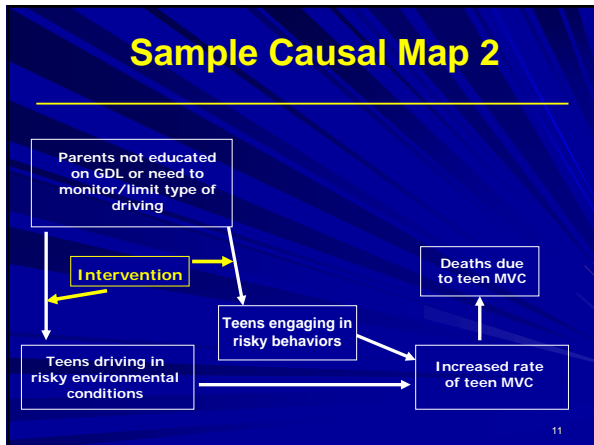
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## Sample Causal Map 2



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## Final Readiness Steps

- Define the problem
  - ✓ Increased teen MVC due to inadequate driver education and lack of GDL OR
  - ✓ Increase teen MVC due to lack of parental education on GDL and/or inadequate supervision
- Define the intervention
  - ✓ Advocate for Graduated license Law OR
  - ✓ Parental education/parental liability laws

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## Why Use a Logic Model?

- To **guide** program and evaluation development
- To **assess the potential** for demonstrating that the intervention will achieve outcomes
- To assist in **identifying problems in program design or implementation**, so that they may be addressed
- Often required by funding agency

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## When Is a Program Logic Model Useful?

Needs Assessment/Problem Identification



Problem Analysis



Program Development → Logic Model



Evaluation → Logic Model

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## Use in Planning and Implementation

- A *tool* for program development
- Develops a common understanding (among program funders, implementers, other stakeholders) of the program and its intended outcomes
- Promotes team building
- Assists focused program management and problem solving

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## When Used for Planning

- Requires that user be specific in implementing the desired intervention— exactly what activities or outputs are required to achieve the desired outcomes
- Focuses user on whether objectives are realistic given resources available
- Assists in refining objectives – i.e. given the resources what amount of change can be expected in a given timeframe

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## When Used For Evaluation

- Provides a logical structure for implementing a theory of change
- Useful to communicate how a program works
- Useful to assess whether the program is operating as designed
- Assists with identification of important evaluation questions

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## Tool Only As Useful As You Make It!

- A framework that relies on “critically” thinking through logic and relationships - the user’s knowledge is critical
- Provides a program blueprint - implementer’s job to assure it becomes reality
- Depicts your theory of change - it does not replace a detailed implementation plan

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## A Logic Model Framework

- Organizes information into a visual sequence
- Depicts how a program works to achieve its intended outcomes, shows relationships
- May be a flow chart, table, diagram, etc.
- Has common elements

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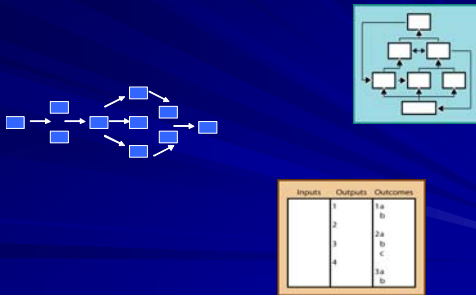
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## A Logic Model Can Look Like



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## Scope of a Logic Model

- Statewide
- Community (e.g., a coalition of agencies)
- Individual program
- Single intervention

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# The UWEX\* Logic Model Framework

A graphic representation that shows logical relationships between inputs, outputs and outcomes of a program

Elements of the Model:

- > Problem statement
- > Inputs
- > Outputs
- > Outcomes
- > Assumptions
- > Environment



\* Ellen Taylor-Powell, University of Wisconsin - Extension 22

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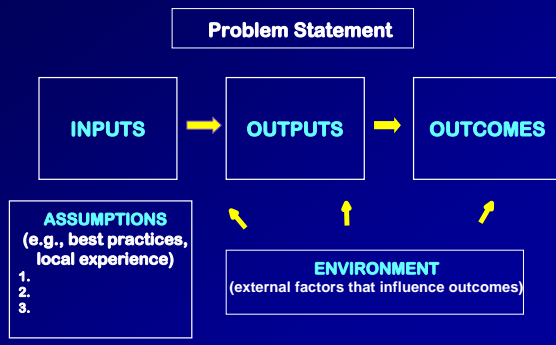
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# The Logic Model Framework



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# The Problem Statement



Crucial! Ask the following:

- > What does the program seeks to change?
  - Long Term?
  - Program Life?

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## Initial Problem Statement

OUR county has a much higher overall rates of teen injury-related mortality than the HP 2020 objective, the greatest % being the result of auto crashes in which teens are drivers

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## Focused Program Problem/Strategy Statement

(Based on research of causes/risks and promising interventions, input of experts and review of local program's – gaps and experience),

Teen drivers are driving in high risk situations before gaining the experience necessary to drive safely and parents are not sufficiently involved in monitoring their teen's driving in support of GDL

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## Example: Theory of Change for Teen MVCs

Increase parental awareness of GDL, and oversight of teen driving privileges



Increase teen experience before license, decreased risk-taking and driving in risky situations



Fewer crashes involving teen drivers



Lower rates of injury/death

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## Assumptions

- Proven theories (research literature/best practices)
- Promising program results
- Experience
- Expected conditions

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## Assumptions: Example for Teen MVCs

- Communities with GDL's have lower rates of MVCs
- Engaging parents improves implementation of GDLs
- Agencies/institutions with a track record in parent education should be involved
- We may experience resistance from some parents and teens
- We can expect support from local law enforcement and schools

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## Program Components

INPUTS	OUTPUTS		OUTCOMES		
Resources	Activities	Participation	Short term	Inter-mediate	Long term

What is invested / available

What is done

Who is reached

With what results

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**INPUTS**

STAFF (special requirements)  
MONEY  
LOCATION  
VOLUNTEERS  
PARTNERS  
EQUIPMENT  
TECHNOLOGY

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**OUTPUTS**

What program does	Who it affects
<p style="text-align: center;"><b>ACTIVITIES</b></p> <p>Treatment Classes Counseling Skill development Case management Curriculum design Trainings Conferences</p>	<p style="text-align: center;"><b>PARTICIPATION</b></p> <p>Participants Providers Policy makers</p> 

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**PROGRAM OUTCOMES**

What results for individuals, agencies, communities..

SHORT <i>Learning / Program process</i>	INTERMEDIATE <i>Action</i>	LONG-TERM <i>Conditions</i>
<p><b>Materials</b> <b>Services</b> Awareness Knowledge Attitudes Skills Opinions Aspirations Motivation</p>	<p>Behavior Practice Decisions Policies Systems change</p>	<p>Mortality Morbidity Quality of Life Environmental</p>

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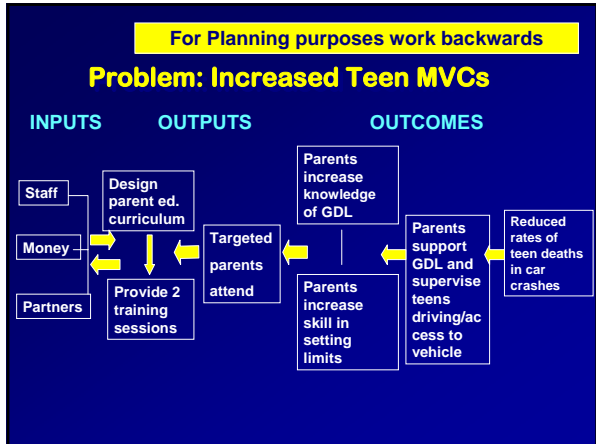
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## Environmental Factors

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What, besides program interventions, can account for program results?

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- ### Examples of Environmental Factors: High rate of teen MVCs
- Risky driving conditions like bad weather, poorly lit and banked roads
  - Cut in funds for driver ed through schools
  - Cut in funds for highway patrol
  - Bad economy means parents are working more part time jobs, further from home and have less time for supervision
  - Factors known to limit the effectiveness of the chosen intervention

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## Other Factors That Reduce Effect of a GDL intervention

Law not as effective as anticipated:

- Night restrictions start too late
- Limits on passengers still allow for one
- Exceptions made for work/activities
- Lack of DMV involvement
- Low compliance

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## Factors That Increase Effect Of GDL

- Conditional advancement
- Education about GDL and its rationale
- Parent involvement
- Type of restrictions: e.g., earlier restrictions on night driving

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## Using the Logic Model

- Develop the logic model
- **Assess the logic: Do the elements relate to each other and the whole?**
- If yes, determine what will be evaluated

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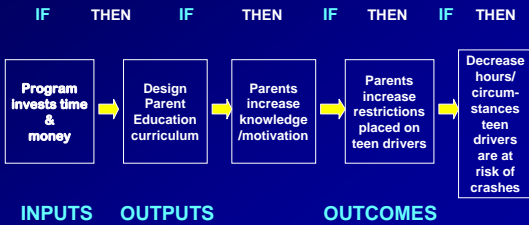
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## Construct Logical Sequence of If → Then Relationships

Problem: Inadequate parental restrictions on teen drivers




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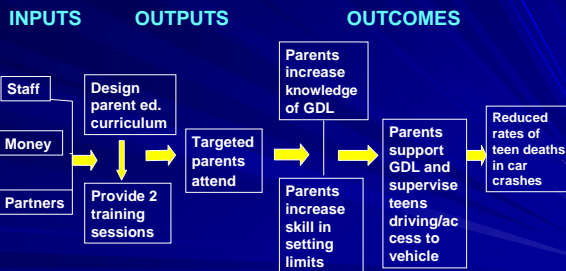
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### Example

Problem: Increased Teen MVCs



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## Reassess Program Logic: Basic Questions

- How well conceptualized is the program?
  - ✓ Is it grounded in research, best or promising practices?
  - ✓ Does it address specific causes/risks of the problem?
  - ✓ Are the interventions clearly related to the program's outcomes?
-  Is the program logic valid?
- Is the program reasonable, feasible to implement?

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## Evaluation

Problem: Inputs → Strategy → Results

Evidence

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## PLANNING

INPUTS	OUTPUTS		OUTCOMES		
Resources	Activities	Participation	Short	Inter-mediate	Long term

## EVALUATION

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## Evaluating A Program Using A Logic Model Framework

1. Start with inputs and work toward outcomes
  - Assess problem statement/program relationship
2. Review the program's theories of change / logic model
  - Is the theory valid? Supported by research / local experience?
  - Is the progression from inputs to outcomes logical?
3. If valid, develop objectives and measures and proceed with evaluation design

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## Evaluation Outcome Focus

Consider:

- What does the program seek to change?
- What is the time frame for change?
- How much can be assumed from research?

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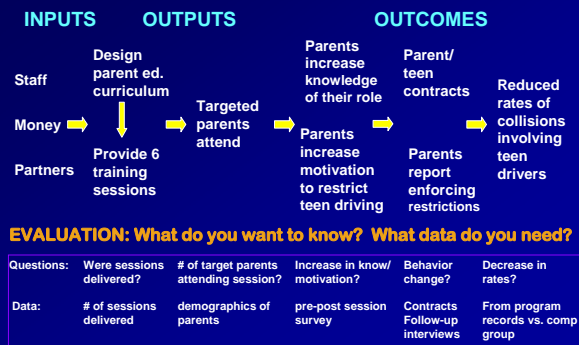
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## Using The Logic Model To Develop The Evaluation




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## Need Objectives / Data Collection Plan (examples)

Objective or Standard	Performance Measure	Data Source	Collection Schedule	Comment
1. By June 2006, increase to 90% the number of parents in the program who show increased knowledge of teen driver risks	% of parents who increase scores on pre - post test	Pre -post test scores	First and Last session of training	
2. ....70% of .... have submitted a parent/teen contract with restrictions on night driving and # of passengers	% of parents w/ contracts on file  % of parents reporting enforcing contract	Contracts on file	A month following classes  3 & 6 months post	

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## Review Of Benefits Of Using A Logic Model Framework

- Helps clarify program rationale and expectations
- Identifies gaps in logic and uncertain assumptions
- Summarizes complex program to communicate with stakeholders/others
- Helps identify appropriate evaluation questions
- Builds understanding and consensus (shared approach)
- Focus is on achieving and demonstrating outcomes

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## References

- Taylor-Powell, E., Jones, L., & Henert, E. (2002) *Enhancing Program Performance with Logic Models*. Retrieved September 1, 2005 from the University of Wisconsin-Extension website: <http://www.uwex.edu/ces/pdande/>
- Developing An Effective MCH Planning Process: A Guide for Local MCH Programs, 2<sup>nd</sup> edition, September 2003

FHOP Website and contact information

<http://familymedicine.medschool.ucsf.edu/fhop/index.htm>

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