

AEA/CDC Summer Evaluation Institute

Offering 8: Theory-Driven Evaluation for Assessing and Improving Program Planning, Implementation, and Effectiveness

Description: Learn the theory-driven approach for assessing and improving program planning, implementation and effectiveness. You will explore the conceptual framework of program theory and its structure, which facilitates precise communication between evaluators and stakeholders regarding evaluation needs and approaches to address those needs. Mini-lectures, group exercises and case studies will be used to illustrate the use of program theory and theory-driven evaluation for program planning, initial implementation, mature implementation and outcomes. In addition, the participants will learn principles and strategies for using the theory-driven approach to deal with the following cutting edge issues: how to go beyond traditional methodology for designing a real world evaluation, how to achieve both internal and external validity in an evaluation, and how to use program theory for guiding the application of mixed methods in an evaluation.

Audience: Attendees with a basic background in logic models and/or program theory.

Huey Chen, PhD, is a senior evaluation scientist at the CDC. He was a professor at the School of Public Health at the University of Alabama at Birmingham until January 2008. Dr. Chen has contributed to the development of evaluation theory and methodology, especially in the areas of program theory, theory-driven evaluations, and evaluation taxonomy. His book *Theory-Driven Evaluations* has been recognized as one of the landmarks in program evaluation and his newest text, *Practical Program Evaluation*, offers an accessible approach to evaluation for those working in any context. In 1993 he received the AEA Paul F. Lazarsfeld Award for contributions to Evaluation Theory and in 1998 he received the CDC Senior Biomedical Research Service Award.

Offered (Two Rotations of the Same Content - Do not register for both):

- Tuesday, June 24, 9:25 - 12:45 (20 minute break within)
- Wednesday, June 25, 9:25 - 12:45 (20 minute break within)

Theory-Driven Evaluation for Assessing and Improving Planning, Implementation, and Effectiveness

Huey T. Chen, Ph.D.
APRH/EHHE/NCEH
Centers for Disease Control and Prevention

E-mail: hbc2@cdc.gov

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Ground Rules of the Workshop

- Share your ideas, experience, and questions with others
- Respect different views and opinions
- Support a pleasantly learning environment

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Part I: Basic Concepts and Conceptual Framework

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Historical Background

An Alternative to method-driven and black-box evaluation :

- Method-Driven Evaluation
- Black-Box Evaluation
Intervention → Outcomes
- Theory-Driven Evaluation
How? Why?

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Literatures on Program Theory and Theory-Driven Evaluations

- New Directions of Evaluation
Bickman (Ed.), 1987, 1990
Roger, et al., (Eds.) 2000
- Books
Major evaluation text books (chapters on program theory)
Chen, 1990
Chen and Rossi, (eds.) 1992
Chen, 2005
Donaldson 2007
- Articles (e.g.,Chen, 2006: mixed methods)

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Program Theory (1)

- Bickman (1987): a model of how a program is supposed to work.
- Wholey (1987): identifies program resources, program activities, intended program outcomes, and specifies a chain of causal assumptions linking these components.
- Weiss (1995): a picture of how and why programs work.

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Definitions of program theory (2)

Chen (1990): What must be done to achieve the Desirable goals, what other important impacts may also be anticipated, and how these goals and impacts would be generated.

Chen (2005): A set of stakeholders' Implicit and explicit assumptions on what actions are required to solve a problem and why the problem will respond to the actions.

Descriptive assumptions (**Change Model**)
Prescriptive assumptions (**Action Model**)

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Do stakeholders have a program theory underlying their program?

Do they have a change model? (Why would the intervention affect the outcome?)

Scientific theory (explicit)
Stakeholder theory (implicit)

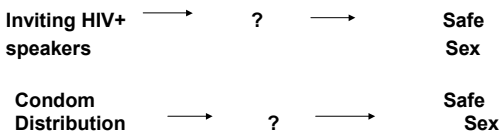
Do they have an action model (What actions are needed?)

Who should be the implementers?
How to recruit clients?
How to deliver the intervention?
etc.

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Example of Change Model

- Stakeholder theory of a HIV Prevention Program for youth



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Examples of Stakeholder Theory: Laub et al., 1999

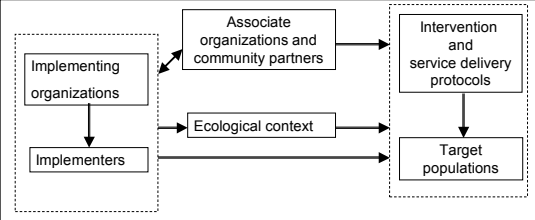
- **Stakeholder theory of a HIV Prevention Program for youth**

Inviting HIV+ speakers → Youth feel they are not invincible for HIV → Safe Sex

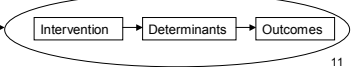
Condom Distribution → Condom Availability → Safe Sex

PROGRAM THEORY

Action Model



Change Model



Theory-Driven Evaluation

- Evaluators facilitate program stakeholders to clarify their program theory. (program theory: stakeholders' implicit and explicit assumptions on what actions are required to solve a social or health problem and how the problem will respond to the actions.)
- The program theory is then used as a framework to guide the design of evaluation design, the selection of research methods, and the collection of data.

Applications of Theory-Driven Evaluation

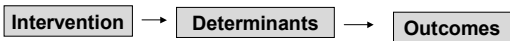
- Theory-driven outcome evaluation (change model)
- Theory-driven process evaluation (action model)
- Theory-driven approach for program planning (action model and change model)

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Part II: Theory-Driven Outcome Evaluation

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Change Model



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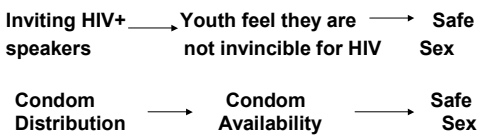
Components of a Change Model

- Intervention
- Determinants: Causes of a Problem
 - Leverages
 - Intervening variables
 - Mediators
- Outcomes

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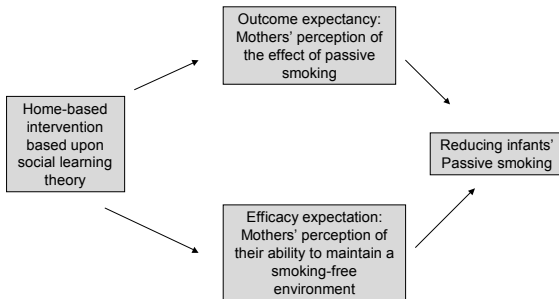
Examples of Stakeholder Theory: Laub et al., 1999

- Stakeholder theory of a HIV Prevention Program for youth

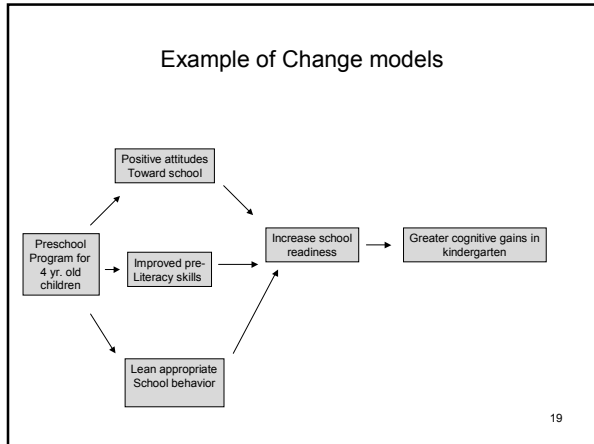


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Scientific theory based intervention: Stretcher, et al., 1989



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Exercise 1: Academic vs. Stakeholder Theory

- Program goal: Increase adoption of home smoking policy and reduce exposure to secondhand smoke among residents of low-income housing project
- Planning group: Stakeholders (NGOs) and professors
- Interventions:
Professors: Community health advisor (CHA) model
Stakeholders: Window decal: " This is a Smoke-Free Home."
- Implementers: 7 female residents receiving unemployment checks
- Budget: Small

Exercise questions:

1. Discuss and describe the changes model underlying these two interventions
2. Discuss the pros and cons of these two types of interventions

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Conceptual Facilitation

- Evaluators' role: facilitator
- Principles of facilitation:
 - Respect
 - Fairness
 - Parsimony
 - Stakeholders' ownership

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How to clarify stakeholders' change model or program theory (conceptualization facilitation)

- Facilitating stakeholders to clarify their program theory
- Formats
 - Intensive interview
 - Working group meeting
- Theorizing Methods
 - Forward reasoning
 - Backward reasoning
 - Both

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Clarifying Stakeholders' Change Model:

1. Clarifying Goals/Outcomes

- **Avoid a goal trap**
Official goals vs. operative goals
Ex. Official goals of a prison (rehabilitation?)
- **Stress the measurability**
Enhancing elderly people's social functioning
- **Stress the plausibility of goals**
Desirable goals vs. plausible goals
Ex. The goal of a media program is to eliminate racism
- **Issues on intended and unintended outcomes**

Unintended outcomes: negative
positive

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2. Clarifying Determinants

- Determinants: Causes of a problem, leverages, intervening variables, mediators
Scientific theory vs. stakeholder implicit theory
- Stakeholders usually make a set of implicit assumptions on determinants when they design an intervention program
Ex. Wife abuse program
Why do husbands abuse their wife?
stakeholder theory?
Scientific theory?

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3. Clarifying Intervention

- What is the intervention? What are the essential elements?
- Do stakeholder groups agree on the intervention?

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Conceptualization Facilitation

Theorizing Methods

- Backward reasoning

Why?

Intervention ↔ Determinants ← Outcomes

- Forward reasoning

Intervention → Why? → Outcomes
(Determinants)

- Both

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Use a change model to conduct outcome evaluation

- **Clarifying program theory**
Qualitative methods
- **Measures**
Find indicators or develop instruments for measuring intervention, determinants, and outcomes
- **Research design**
Using a rigorous design (i.e., experimental and quasi-experimental design) to provide credible evidence among these components
- **Data collection**
Quantitative methods
- **Statistical Analysis**
Path analysis, structural equations model

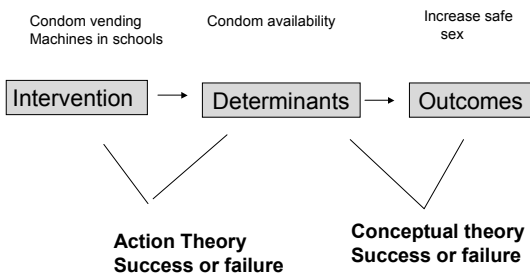
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Advantages to evaluate a change model

1. Understanding why a program was successful or not
 - Action theory: Success or fail
 - Conceptual theory: Success or fail

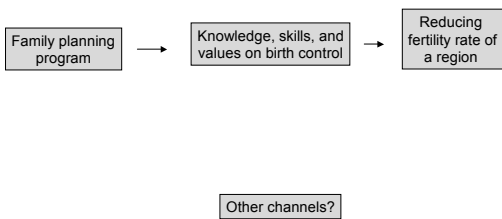
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Concepts of Program Success or Failure



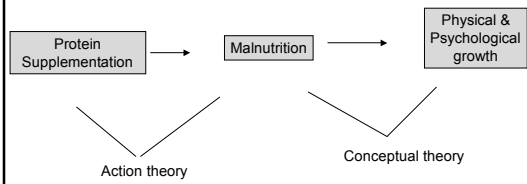
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2. Enhance construct validity of evaluation



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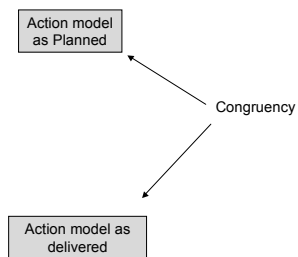
3. Formative feedback on the mediating process for early improvement



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Part II: Theory-Driven Process Evaluation

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Strategies for Conceptualization Facilitation

- Same as those in the change model

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Facilitating Stakeholders to Clarify their Action Model

- **Implementing organizations:** Assess, enhance, and ensure its capacities
- **Implementers:** recruit, train, and maintain both competency and commitment
- **Intervention protocol:** Make it available
- **Associate organizations:** Establish collaboration
- **Ecological context:** seek its support
- **Target population:** identify, recruit, screen, serve
- **Goals/Outcomes:** measurability, plausibility

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Theory-Driven Process Evaluation

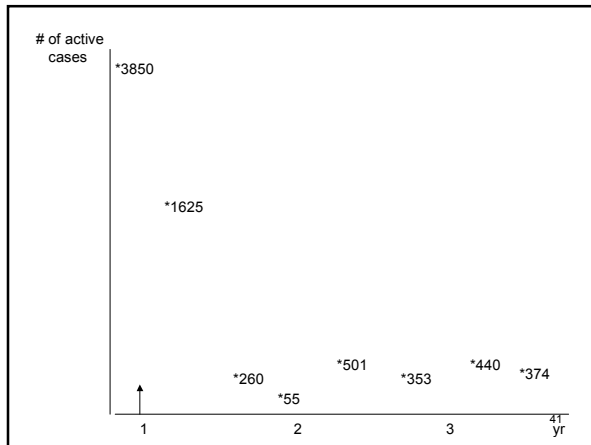
Program components in an action model	Program Plan	Actual implementation	Data (quat. Or qual.)
Target population			
Implementing org.			
Implementers			
Intervention and service delivery protocols			
Associated orgs./ partners			
Ecological support			

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**Theory-Driven Process Evaluation in Action:
Evaluating a School-Based Anti-Drug Abuse Program
in Taiwan**

- Drug abuse among middle school students had worsened
- The Ministry of Education launched a national anti-drug abuse program to deal with the problem
- Teachers were trained to identify drug abusing students and provide counseling
- Schools were required to file monthly reports on the numbers of active drug abusing students to the ministry

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**Theory-Driven Process Evaluation Application
Procedures**

- Working group meetings with key officials at the Ministry of Education to develop an action model
- Working group meetings with representatives of teachers to develop their version of the action model
- Synthesized two groups into a combined version for feedback
- Used mixed methods (site visits, survey, participant observation, focus group meetings, interviews, record checking) to collect implementation data

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Action Model as Planned vs. as Implemented

Component	Plan	Actual implementation
Target population	All drug abusing students Verified through urinalysis	Easy to reach students Urinalysis was not controlled
Implementers	Competent in delivering the intervention	Inadequately trained

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Action Model (cont)

Component	Plan	Actual implementation
Intervention protocol	High quality counseling	Admonishments, threats, encouragements
Service delivery protocol	Compulsory individual counseling	Lacked plan and objectives

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Action Model (cont)

Component	Plan	Actual implementation
Implementing Organizations	Every School	Smaller schools not involved
Linking with associate organizations	Effective centralized school system	Communication gap; mistrust between schools and ministry of education

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Action Model (cont)

Component	Plan	Actual implementation
Ecological Context		
Micro	Eliminating video game arcades	Video game arcades still exist
Macro	Strong public support	Strong public support

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Part III: Theory-Driven Approach for Program Planning

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Program Theory and Program Planning

- Facilitating stakeholders to clarify their program theory
- Stakeholders want evaluators to help in the planning stage
 - To enhance the soundness of program theory
 - To build a consensus on the program theory before implementation

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Applying the Program Theory Approach at the Planning Stage

1. Applying the Change Model to Facilitate Stakeholders in Formulating a Program Rationale

- Which problem to be alleviated or resolved?
- Which target populations to be focused?
- What program goals to be achieved?
- Which determinants or causes of the problems to be focused
- What intervention to be used to for affecting determinants

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Exercise 2: Do different stakeholder groups tend to agree on the program theory?

- In order to encourage police officers to patrol streets and fight crimes, the police chief of a big city announced a new policy for using mileages shown in odometers to measure performance. Discuss and diagram the police chief's change model
- Do you think police officers' change model would be the same as their chief? If not, discuss and diagram police officers' likely change model.
- Is it possible for evaluators to facilitate stakeholder groups to agree on program theory? How?

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Consensus issue and the implication of evaluation criteria

Ex. Head Start program for disadvantaged children

- Evaluators mainly assessed the program by using the following goals proposed by federal government: math and reading scores

The evaluation results: the program has little effects on math and reading score

- Managers and teachers of the local head start centers: The evaluators evaluate wrong goals.

Their goals: nutrition, physical and emotional development, dental hygiene, social skills, and parenthood.

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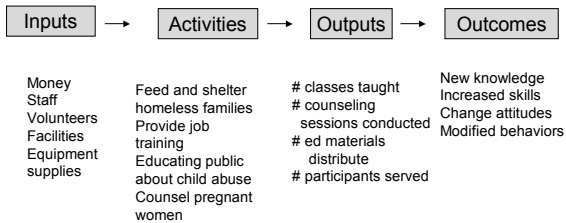
Logic Model and Program Theory

Logic model is a graphic presentation of the relationship among program components (United Way)

- Inputs: Resources
- Activities: What the program does with the inputs to fulfill its missions
- Outputs: The direct products of program activities
- Outcomes: Benefits from participants during and after program activities

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Logic Model



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The Theory-Driven Approach and Validity Issues

Traditional Paradigm:

- Prime priority of internal validity
- Top-down approach to achieve validity

Emerging Paradigm:

- Prime priority of external validity
- Bottom-up approach to achieve validity

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References

- Chen, H.T. 2005. Practical Program Evaluation: assessing and improving program planning, implementation, and effectiveness. Sage.
- Chen, H.T. 1990. Theory-Driven Evaluations. Sage.
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