

CHOOSING A STANDARD FOR EVALUATING PUBLIC INTERVENTIONS

Robert Haveman
Department of Economics
La Follette School of Public Affairs
University of Wisconsin-Madison

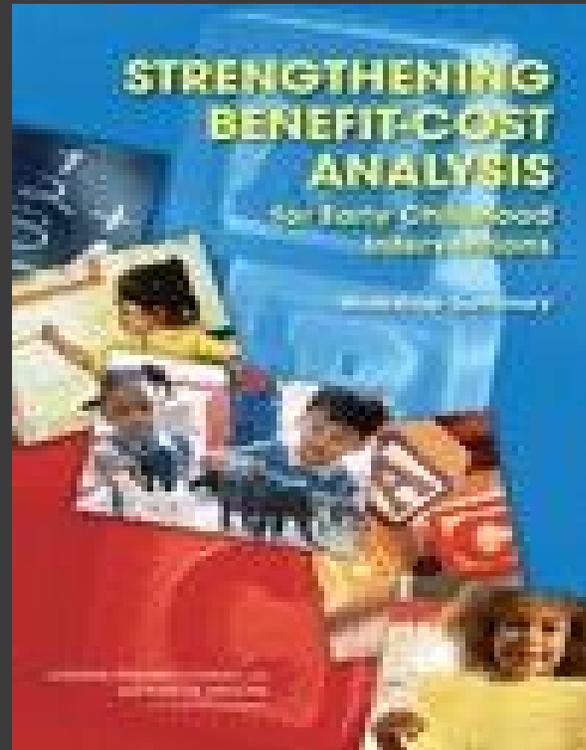
Evaluating Public Interventions

- ž Evidence on the impact of policies or other interventions is essential to inform efficient and equitable choices.
- ž No sector should be exempt from the need to fully assess the costs and gains—the efficiency and equity effects—of proposed or actual programs.
 - This includes prevention programs designed to reduce the prevalence of adverse impacts.
- ž IOM, in prior efforts, has emphasized this need for a comprehensive evaluation approach; See:

Strengthening Benefit-Cost Analysis for Early Childhood Interventions

December, 2009

Board on Children, Youth, and Families



Methods of Evaluation

- **Cost-effectiveness analysis (CEA)** : A program is assessed in terms of the full economic cost of producing a defined outcome, without placing a dollar value on the outcome.

By comparing the cost of producing a defined output via programs A and B, the relative costs of these two strategies for producing the same output can be assessed.

- **Benefit-cost analysis (BCA)**: Uses dollars as the common currency to value the gains and the costs of a program to program participants, to others, and to society.

By comparing the net social benefits—or rate of social return—of proposed interventions, those that have best performance can be identified.

While benefit-cost analysis offers the potential for the most complete policy information, it is also the most demanding.

Note: The information provided by these two approaches is quite different.

- CEA provides information on the cost associated with providing one more unit of some output (e.g., a quality adjusted life year).
- CBA provides an overall assessment of the net benefit (or loss) to society of an intervention.

But, how about Comparative Effectiveness Research?

– **Comparative Effectiveness Research (CER)**

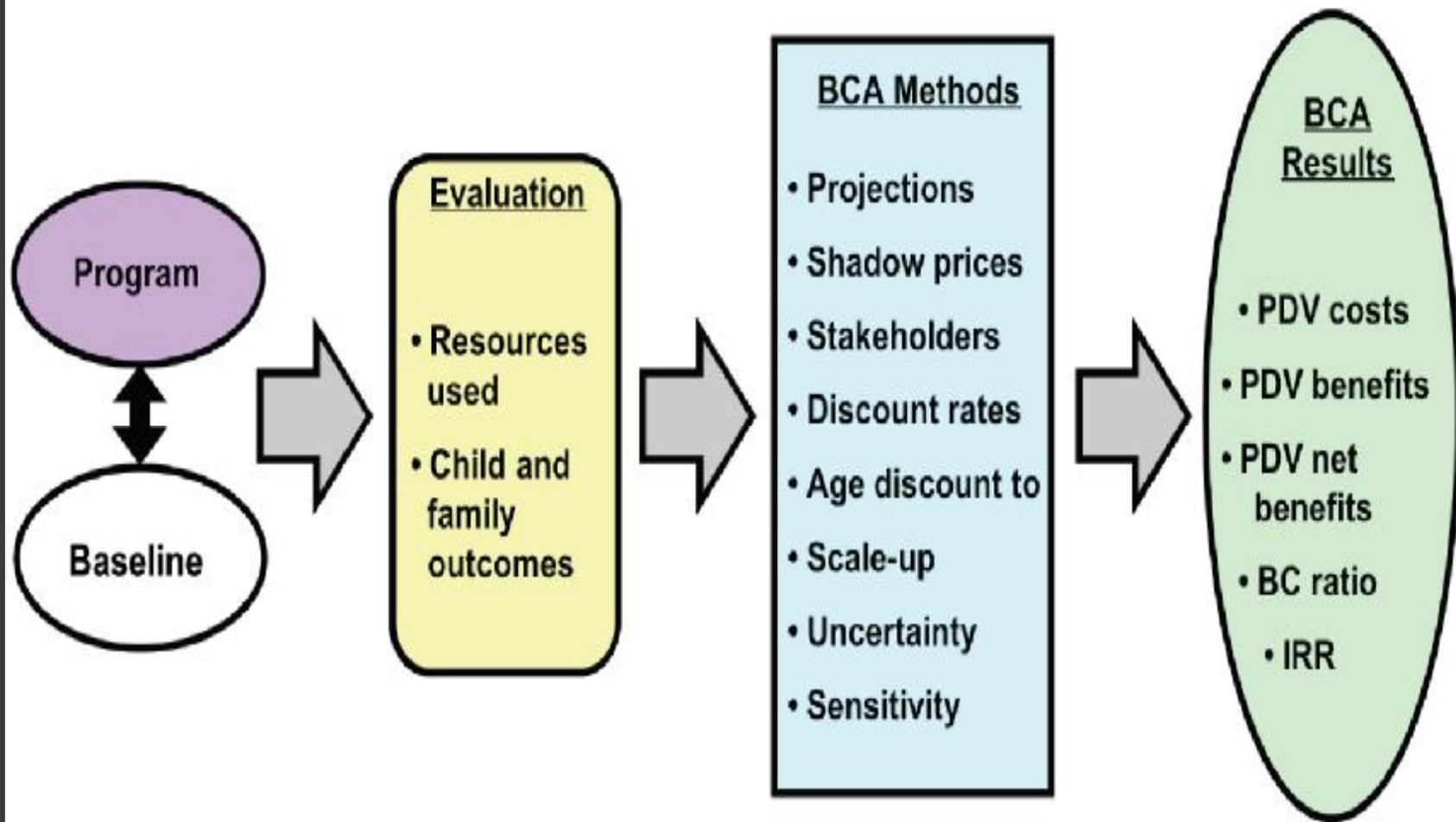
- “Research that compares two or more drugs, treatments or medical interventions to see which is most effective for which type of patient. In theory, ... [government or private] insurance providers ... would use this research to guide decisions on which medical treatments to cover.” <http://prescriptions.blogs.nytimes.com/health-care-debate-a-brief-glossary/>
- “It is the generation and synthesis of evidence ... [on the] benefits and harms of alternative ... [interventions] designed to prevent, diagnose, treat or monitor a clinical condition...”
http://crz.charite.de/common/2010-03/3_2009_Sox_and_Greenfield.pdf

A method of analysis that emphasizes the technical linkage between an intervention (and the inputs associated with it) and some defined outcome. CEA and BCA also require that this technical linkage be specified, but place a dollar denominated value on either the inputs (CEA) or on both inputs and outputs (BCA).

Relative to CEA and BCA, this approach is a more restrictive form of evaluation research.

It focuses only on the output of specific, well-defined interventions, with no attention given to the cost of the interventions.

Figure 1—Elements of Benefit-Cost Analysis



SOURCE: Karoly (2009) and NRC and IOM (2009), Figure 1.1.

The Demands of Benefit-Cost Analysis

- ◎ **The Accounting Stance:**

A comprehensive identification of components of cost and gain. Distinguish social benefits and costs accruing to program participants, other citizens, and society.

- ◎ **Assessing Impacts:**

Quantitative measurement of the impact of the program on each of the beneficial and costly components—the with-without framework.

- ◎ **Valuing Impacts:**

Where possible, estimation of the value of each beneficial and costly impact—the willingness to pay concept.

- ◎ **Comparing Social Benefits and Costs:**

If $B > C$, the program is efficient; if $B < C$, program wastes resources.

Meeting These Demands: A Case Study

- ž In the following slides, I will illustrate these requirements, drawing on a comprehensive benefit-cost analysis of the Section 8 housing voucher program.

“The benefits and costs of the Section 8 housing subsidy program: A framework and estimates of first-year effects” Carlson, Haveman, Kaplan, Wolfe.
Journal of Policy Analysis and Management,
Volume 30, Issue 2, 233–255, 2011

<http://onlinelibrary.wiley.com/doi/10.1002/pam.20561/full>

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Benefits of Section 8 Program- Conceptual Overview

(Distinguishes social benefits accruing to program participants, other citizens, and society.)

Program Benefit	Participants	Non-participants	Society
Value of Section 8 voucher to Recipients	ü	0	ü
Security Value of voucher	ü	0	ü
Increased public program benefits	ü	ü	ü
Increased child education and health status; reduced crime related behavior	ü	ü	ü

Note: ü indicate the presence of effects (not necessarily positive values); 0 indicates no effect.

Costs of Section 8 Program- Conceptual Overview

(Distinguishes social costs accruing to program participants, other citizens, and society.)

Program Cost	Participants	Non-participants	Society
Tax-related costs of voucher provision	0	ü	ü
Tax-related costs of increased public program usage	0	ü	ü
Welfare effects from labor market responses of recipients	ü	0	ü
Neighborhood Effects	0	ü	ü

Note:ü

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Estimates of Section 8 Program Benefits

(per participant, first year effects)

Program Benefit	Participants	Non-participants	Society
Value of Section 8 voucher	\$4,264	0	\$4,264
Security value of voucher	\$110	0	\$110
Increased public program benefits	\$817	\$400	\$1217
Increased child education	\$3,073	\$1,536	\$4,609
Improved child health	\$383	0	\$383
Reduced crime-related behavior	\$37	\$37	\$73
Total Benefits	\$8,683	\$1,973	\$10,657

*Standard Deviations not shown

Estimates of Section 8 Program Costs

(per participant, first year effects)

Program Cost	Participants	Non-participants	Society
Tax-related costs of voucher provision	\$0	\$6,618	\$6,618
Tax-related costs of increased public program usage	\$0	\$1,055	\$1,055
Welfare effects of recipient labor market responses	\$170	0	\$170
Origin/destination neighborhood effects	0	\$1,162	\$1,162
Total Costs	\$170	\$8,836	\$9,006

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Full Benefit and Cost Estimates for Section 8 Program

(per participant, first year)

Program Cost	Participants	Non-participants	Society
Total Benefits	\$8,683	\$1,973	\$10,657
Total Costs	\$170	\$8,836	\$9,006
Total Net Value	\$8,513	\$6,682	\$1,651

Benefit-Cost Ratio = 10,657/9006 = 1.18

Difficulties in Benefit-Cost Analysis

- ž How to measure impact (relative to counterfactual)—the potential of “controlled experimentation”?
- ž How to measure willingness to pay values when they are not easily observed—the “shadow prices” issue?

“Shadow prices” are required to convert projected program impacts into social benefits (willingness to pay) and program resource use into social costs (opportunity costs) when prices are not easily observed.

- ž How to account for timing of impacts—the need for discounting?

Clear principles for choice of a discount rate to make impacts experienced at different times comparable.

- ž How to account for uncertainty?

The role of Monte Carlo analysis.

Advantages of Benefit-Cost Analysis

- ž The only evaluation method that enables the efficiency of programs/projects with different outputs to be compared.
 - o Due to expression of output and input values in dollar terms.
- ž Based on accepted welfare economics concepts.
- ž Uses accepted evaluation methods and standards.
- ž Rests on long history of such studies in many program areas—job training, child development, education, natural resources.
- ž Draws on the expertise of a large cadre of trained benefit and cost analysts.
- ž Even without firm quantitative estimates of some benefit and cost components, explicitly identifying such potential social impacts makes it less likely that decision-makers will overlook them.
- ž Identifying groups of beneficiaries and cost bearers is a start at estimating equity effects.

In short, the benefit-cost framework is comprehensive, based on accepted principles and methods, and the only framework able to guide policymakers in assessing the full efficiency and equity effects of an intervention.

It seems to me that if the Committee on Valuing Community-Based, Non-Clinical Prevention Policies and Wellness Strategies is interested in a full social evaluation of an intervention, this benefit-cost framework needs to be emphasized.