Overview of Evaluation and Evaluation Methods

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DFM Evaluation Hub and Mixed Methods Group Presentation

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Definition(s) of Evaluation

- The systematic and objective assessment of an on-going or completed project, program or policy, its design, implementation and results
- The process of determining the worth or significance of an activity, policy or program.
- Aims
  - Determine the relevance and fulfillment of objectives, development efficiency, effectiveness, impact and sustainability
  - Provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process of both recipients and donors.

(Development Assistance Committee [DAC] Working Party on Aid Evaluation 2002)

Distinguishing Research, Evaluation, and Quality Improvement (Lowe & Cook, 2012)

	Research	Evaluation	Quality Improvement
Generalizability	Designed or intended to create generalizable knowledge (usually)	Conclusions limited to specific program evaluated	Conclusions limited to specific context and program
Methodology	Randomized or non-randomized	Non-randomized, quasi-experimental	Pre-post design, often iterative
Assumed Benefit	No benefits assumed; experimental	Presumed beneficial, need not continue if no value	Presumed beneficial, will continue
Opt-In/Opt-Out	Requires consent (tx is optional)	Patients consent to tx sufficient	Changes apply to all, pt consent to tx
Investigator Intent	Serves investigator goals	Serves organizational goals	Rapid cycle protocol changes
Role of Theory	Test underlying theory	Est'd theory informs program	Est'd theory informs implementation

Evaluation Types

- Formative Evaluation
  - Inform the design and implementation of an intervention
- Summative Evaluation
  - Retrospectively assess the value of an intervention

Evaluation Approaches

- One or more approach may be used:
  - Goals based
  - Goal free
  - Theory based
  - http://idmbestpractices.ca/pdf/evaluation-frameworks-review.pdf
  - Utilization
  - Collaborative
  - Balanced scorecard
  - Appreciative Inquiry
  - External

Evaluation Frameworks

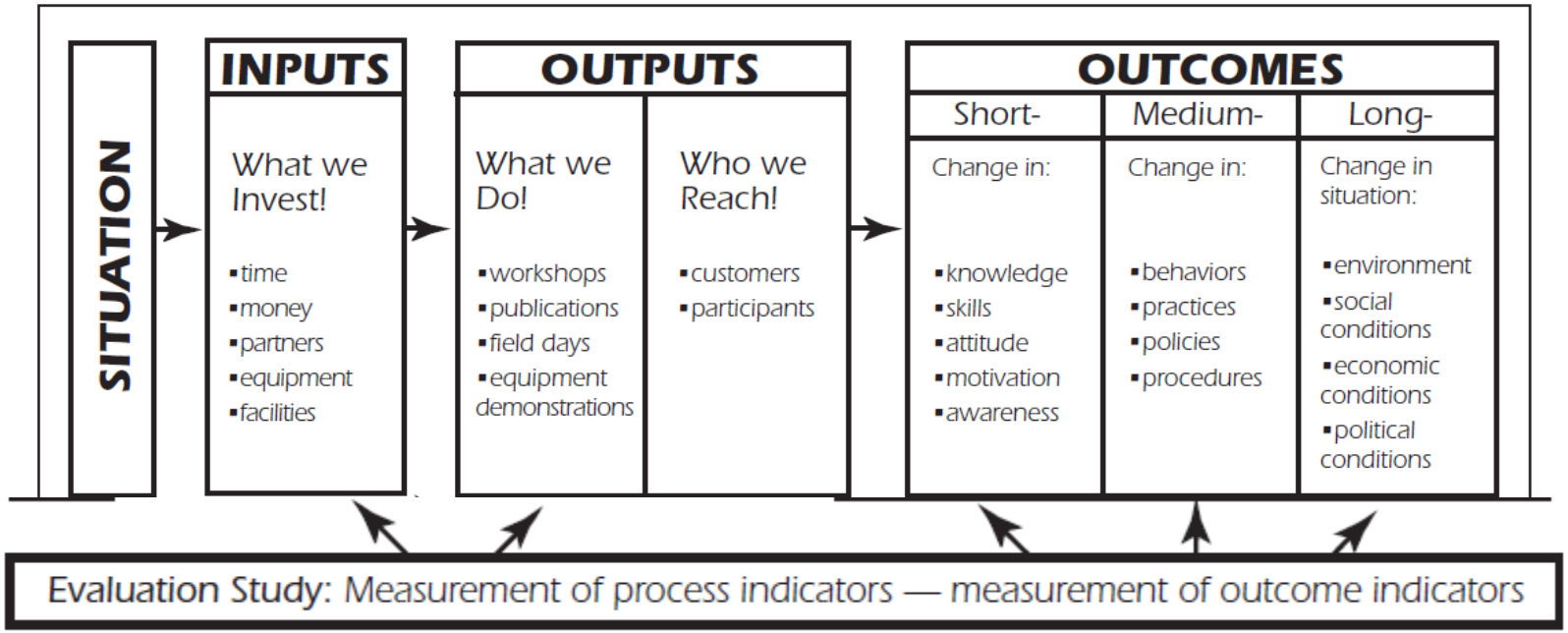
- RE-AIM (http://www.re-aim.hnfe.vt.edu/)
  - Reach, Effectiveness, Adoption, Implementation, Maintenance
- CIPP (Stufflebeam, 1983; 2004)
  - Context, Input, Process, and Product Evaluations
- CDC (http://www.cdc.gov/eval/framework/)
  - Steps (engage, describe, focus, gather, justify, share)
  - Standards (utility, feasibility, propriety, accuracy)
- And more!

Evaluation Components

- “Evaluability”
- Context/Environment
  - Stakeholders, settings, values, needs, goals, priorities, buy-in, vision, leadership
- Process/Implementation
  - Description, fidelity, adaptations, efficiencies, barriers, protocols, infrastructure, roles, feasibility
- Outcomes/Effectiveness
  - Value, impact
- Economic appraisal/Financial analysis
  - Business case, cost, resources, utility
- Maintenance/Sustainability
  - funding, spread, alternatives, plan, long-term impact

Logic Models

Figure 1. Elements of the Logic Model.[3]

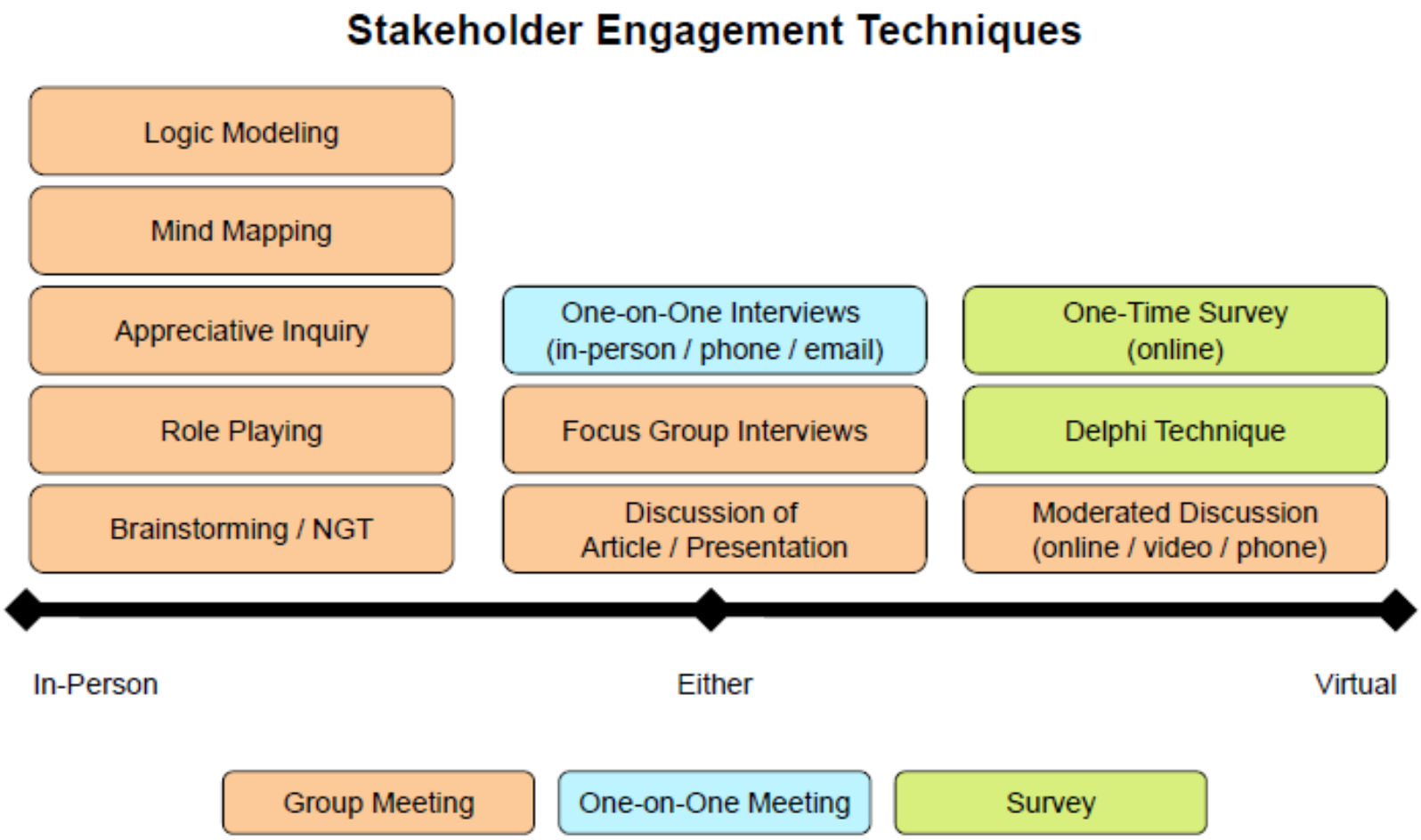


Logic models are narrative or graphical depictions of processes in real life that communicate the underlying assumptions upon which an activity is expected to lead to a specific result. Logic models illustrate a sequence of cause-and-effect relationships—a systems approach to communicate the path toward a desired result.[2]

Developing appropriate and measurable indicators during the planning phase is the key to a sound evaluation. Early identification of indicators allows the program manager/team to learn what baseline data already may be available to help evaluate the project, or to design a process to collect baseline data before the program is initiated. The logic model is useful for identifying elements of the program that are most likely to yield useful evaluation data, and to identify an appropriate sequence for collecting data and measuring progress. In most cases, however, more work on

Stakeholder Engagement in Evaluation

- Stakeholders drive:
  - Program priorities
  - Evaluation questions
  - Design
  - Performance metrics and outcome indicators
  - Data collection
- Stakeholder engagement needed to ensure:
  - Buy-in and support
  - Useful and relevant evaluation findings
  - Sustainability



Preskill et al, 2011; Focusing on what matters: Engaging stakeholders in developing evaluation questions

Process Evaluation Methods

- Questions about reach and implementation
  - Who delivers the program? How often? To what extent was the program implemented as planned? How is the program received by the target group and program staff? What are barriers to program delivery? Was the data used to make program improvements/refinements? If so, what changes were made?
- Data sources
  - Direct observation, photographic data
  - Qualitative data (e.g., group and individual interviews; identify barriers, bottlenecks)
  - Quantitative data (e.g., process metrics)
  - Program records (changes to protocol, significant events)
- Visualization tools
  - Flowcharts/Process maps (identify inefficiencies, inconsistencies, variations, activities conducive to meeting program objectives)
- Brainstorming
  - Revised processes agreed upon by stakeholders

TABLE 1.1 The Vocabulary of Experiments

Experiment: A study in which an intervention is deliberately introduced to observe its effects.
Randomized Experiment: An experiment in which units are assigned to receive the treatment or an alternative condition by a random process such as the toss of a coin or a table of random numbers.
Quasi-Experiment: An experiment in which units are not assigned to conditions randomly.
Natural Experiment: Not really an experiment because the cause usually cannot be manipulated; a study that contrasts a naturally occurring event such as an earthquake with a comparison condition.
Correlational Study: Usually synonymous with nonexperimental or observational study; a study that simply observes the size and direction of a relationship among variables.

Shadish, Cook, & Campbell, 2002; Experimental and quasi-experimental designs for generalized causal inference

Quantitative Methods

- Causal inference in the absence of randomization?
- Quasi-experimental designs
  - Pretest-posttest single group design
  - Non-equivalent comparison group design
    - Matched design (Propensity score matching)
  - Regression discontinuity
  - Interrupted time series
  - Regression point displacement
  - Switching replications

Quantitative Methods

- Sampling
  - External validity
  - Probability vs non-probability sampling
- Measurement and data sources
  - Construct validity
    - Objective data (e.g., direct measurement of height and weight)
    - Subjective data (e.g., perceptions and self-report survey)
  - Reliability
  - Scaling
  - Data quality
- Analysis
  - Inferential statistics
  - Statistical adjustment for group non-equivalence

Qualitative Methods for Evaluation

Data Sources

- Focus groups
- In-depth interviews
- Surveys (open-ended questions)
- Observational field notes
- Program documentation (meeting notes, tracking logs, journals, etc.)

Respondents

- Program participants
- Decision-makers
- Implementation staff
- Other stakeholders

Qualitative Methods for Evaluation

Thematic Analysis

- Numerous approaches
  - Immersion-crystallization
  - Editing
  - Template organizing
  - Qualitative Comparative Analysis (QCA)

Overview of Qualitative Methods – Monday, March 23, 2015 w/ Karen Albright

Examples

- **Policy evaluation:**

Jilcott, S, Ammerman, A, Sommers, J, Glasgow, R. (2007). Applying the RE-AIM framework to assess the public health impact of policy change. *Annals of Behavioral Medicine.* 34(2):105-114. http://link.springer.com/article/10.1007/BF02872666

- **Health services evaluation**

Conlon BA, Kahan M, Martinez M, Isaac K, Rossi A, Skyhart R, Wylie-Rosett J, Moadel-Robblee Development and Evaluation of the Curriculum for BOLD (Bronx Oncology Living Daily) Healthy Living: a Diabetes Prevention and Control Program for Underserved Cancer Survivors. J Cancer Educ. 2014 Nov 15. [Epub ahead of print]

Kirchner JE, Ritchie MJ, Pitcock JA, Parker LE, Curran GM, Fortney JC.Outcomes of a partnered facilitation strategy to implement primary care-mental health.J Gen Intern Med. 2014 Dec;29 Suppl 4:904-12. doi: 10.1007/s11606-014-3027-2.

Viester L, Verhagen EA, Bongers PM, van der Beek AJ. Process evaluation of a multifaceted health program aiming to improve physical activity levels and dietary patterns among construction workers.J Occup Environ Med. 2014 Nov;56(11):1210-7. doi: 10.1097/JOM.0000000000000250.

- **Education program evaluation:**

Gibson KA, Boyle P, Black D, Cunningham M, Grimm MC. Enhancing evaluation in an undergraduate medical education program. *Academic Medicine.* August 2008; 83(8): 787-793. http://journals.lww.com/academicmedicine/Fulltext/2008/08000/Enhancing_Evaluation_in_an_Undergraduate_Medical.22.aspx

Vassar M, Wheeler DL, Davison M, Franklin J. Program evaluation in medical education: An overview of the utilization-focused approach. *J Educ Eval Health Prof*. 2010; 7(1). http://jeehp.org/upload/jeehp-7-1.pdf

Reference Materials

- http://wmich.edu/evalctr/archive_checklists/cippchecklist_mar07.pdf
- http://www.re-aim.hnfe.vt.edu/sbmworkshop2014.pdf
- http://idmbestpractices.ca/pdf/evaluation-frameworks-review.pdf
- http://www.socialresearchmethods.net/kb/quasiexp.phpm
- http://www.cals.uidaho.edu/edcomm/pdf/CIS/CIS1097.pdf
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- Centers for Disease Control and Prevention. *A Framework for Program Evaluation.* http://www.cdc.gov/eval/framework/
- Center for Disease Control and Prevention. *Practical Use of Program Evaluation among STD Programs.* http://www.cdc.gov/std/program/pupestd.htm
- Crabtree, B. & Miller, W. (1999). *Doing qualitative research* (2nd ed.). Thousand Oaks, Calif.: Sage Publications.
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- Stufflebeam, Daniel L. "The 21st century CIPP model." *Evaluation roots* (2004): 245-266.