

EIS- Intro Program Session 5: Evaluation Overview and Designs (Evaluation Components)

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Objectives

- Describe goals of evaluation in implementation science
- Offer perspectives on what constitutes 'successful implementation'
- Describe 4 stages of formative evaluation
- Provide overview of summative (or 'impact') evaluation
- Introduce RE-AIM framework to guide selection of evaluation measures

Goals of Evaluation in Implementation Science

- Conduct formative (or process) evaluation
 - *Rigorous assessment process designed to identify potential and actual influences on the progress and effectiveness of implementation efforts (Stetler et al, JGIM 2006; 21(Suppl 2):S1-8.)*

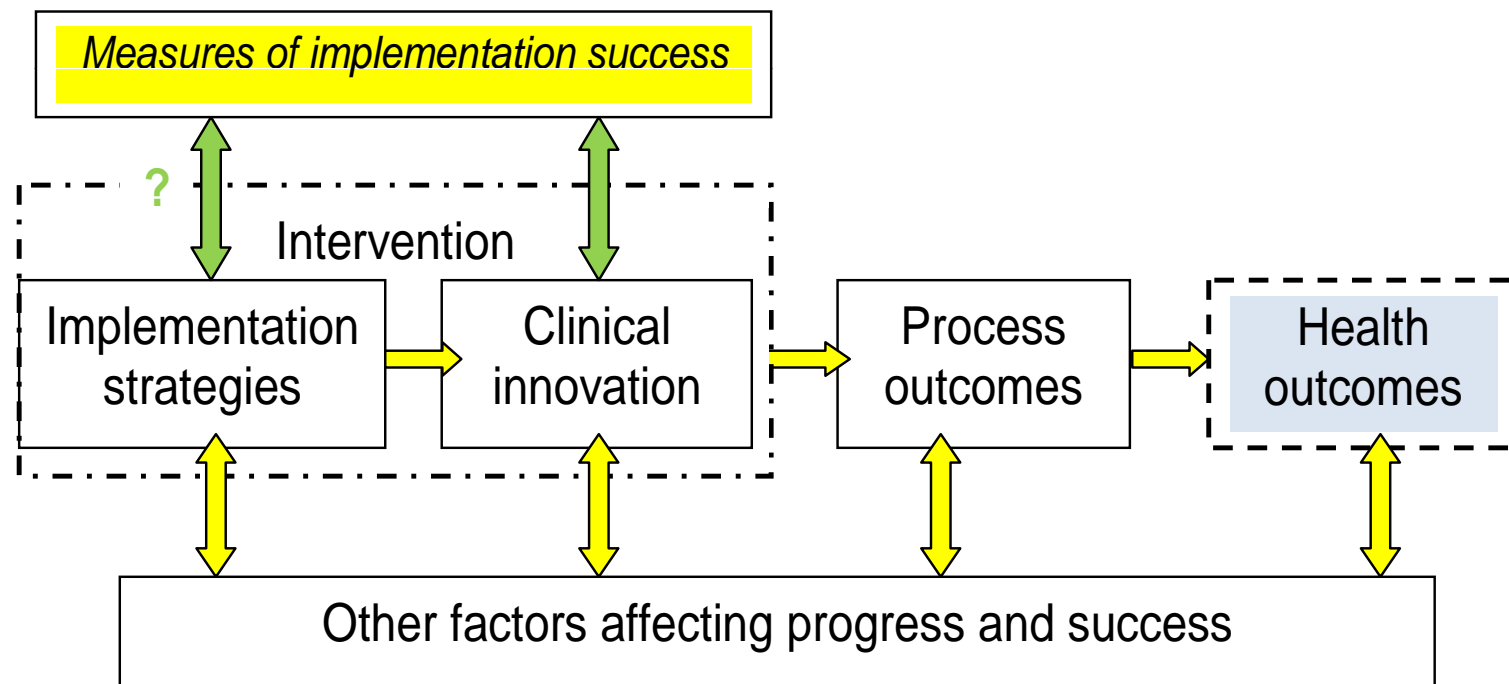
- Conduct summative evaluation
 - *Systematic process of collecting and analyzing data on impacts, outputs, products, outcomes and costs in an implementation study*

- Evaluate usefulness of selected theory, in terms of...
 - *Planning implementation strategy*
 - *Unanticipated elements critical to SI, but unexplained by selected theory*
 - *Helping to understand findings and relationships between domains or constructs*

What is Successful Implementation?

- Implementation plan and its realization
- EBP innovation uptake
 - i.e., clinical interventions and/or delivery system interventions
- Patient and organizational outcomes achievement

Does the concept of implementation success apply to implementation strategy as well as to the innovation?



Adapted from: Lukas CV, Hall C. Challenges in Measuring Implementation Success. 3rd Annual NIH Conference on the Science of Implementation and Dissemination: Methods and Measurement. March 15-16, 2010. Bethesda, MD.

Four Stages of Formative Evaluation (FE)

- Developmental
- Implementation-Focused
- Progress-Focused
- Interpretive

Developmental FE

- aka “local needs assessment”, “organizational diagnosis”
- Involves data collection on...
 - Actual degree of less-than-best practice (need for improvement)
 - Determinants of current practice (including context)
 - Potential barriers / facilitators to practice change
 - Feasibility of (initial) implementation strategy
- Goals
 - Identify determinants and potential problems and try to address in implementation strategy; refine strategy as needed
 - Avoid negative unintended consequences
 - Engage stakeholders in defining problem and potential solutions

Implementation-Focused FE

- Occurs during implementation of project plan
- Focuses on assessing discrepancies between implementation plan and execution
- Enables researchers to...
 - Ensure fidelity (both to implementation strategy and clinical intervention)
 - Understand nature and implications of local adaptation
 - Identify barriers
 - Identify new intervention components or refine original strategy to optimize potential for success
 - Identify critical details necessary to replicate implementation strategy in other settings

Progress-Focused FE

- Occurs during implementation of project plan
- Focuses on monitoring indicators of progress toward implementation or clinical QI goals
 - audit/feedback of clinical performance data
 - progress in relation to pre-determined timelines for implementing intervention components
- Used to inform need to modify or refine original strategy
- May also be used as positive reinforcement for high performing sites; negative reinforcement for low performers

Interpretive Evaluation

- Uses data from other FE stages and data collected from stakeholders at end of project

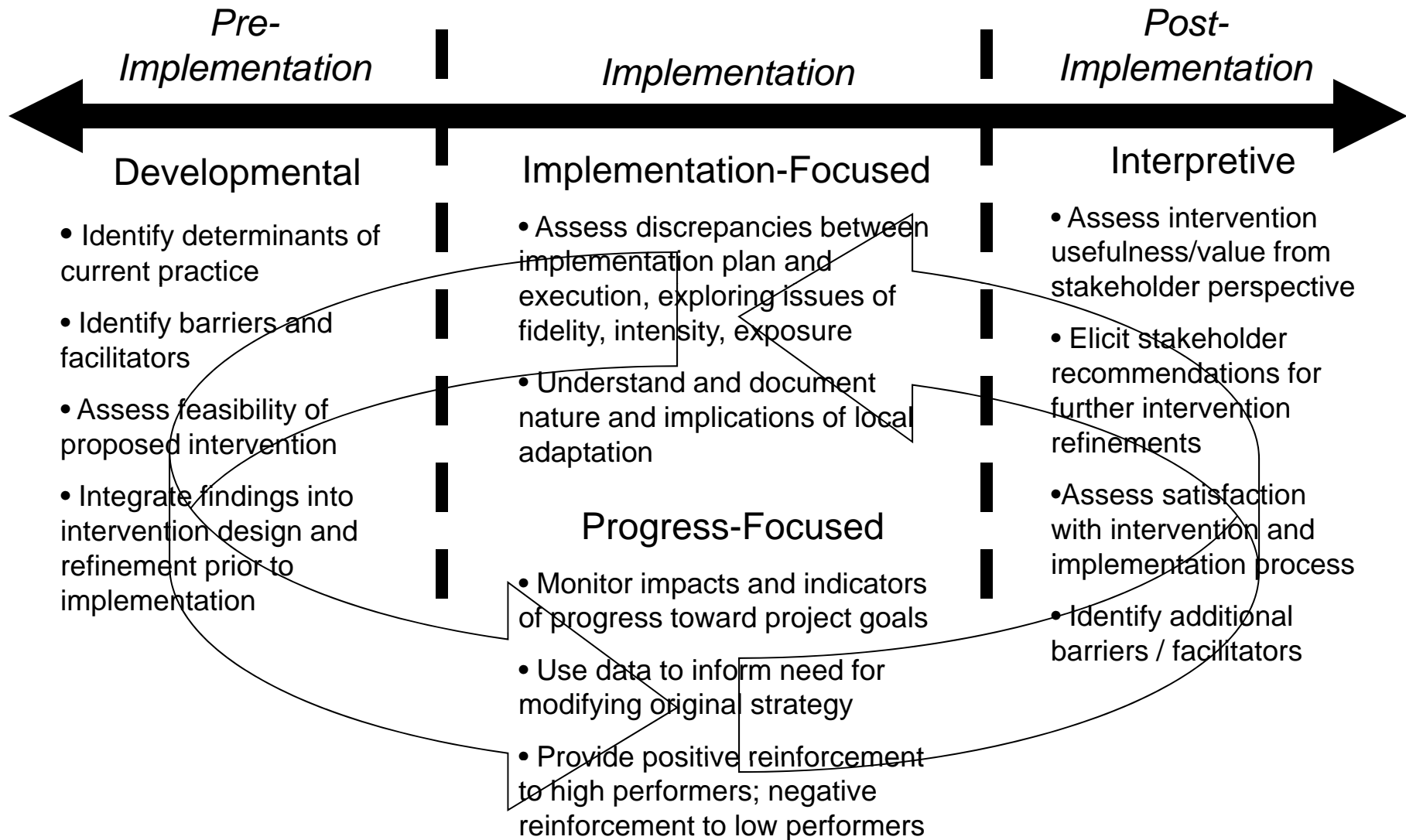
- Obtain stakeholder views on:
 - Usefulness or value of intervention
 - Barriers and facilitators to implementation success or failure
 - Satisfaction with implementation strategy
 - Recommendations for refinements to implementation strategy

- Can provide working hypotheses on implementation success / failure

FE Assessment Methods / Tools

- Quantitative
 - Structured surveys / tools
 - Instruments assessing context (eg, organizational culture, readiness to change), provider receptivity to EBPs
 - Intervention fidelity measures
 - Audit / feedback of clinical performance data
- Qualitative
 - Semi-structured interviews w/ clinical stakeholders (pre-/post-)
 - Focus groups
 - Direct (non-participant) observation of clinical structure and processes in site visits
 - Document review
- Mixed Methods (ie, Quantitative + Qualitative)

Stages of FE



Summative Evaluation in Implementation Research

■ Outcomes Assessment

- A priori measures defined at outset of project to assess intervention impact or effectiveness
- Defined at patient-, provider-, clinic-, facility-, and/or system-level... depending on intervention target
- Involves use of administrative data, chart review, and/or primary data collection

■ Cost Assessment

- Assess costs associated with implementation strategy to inform decision makers on value and feasibility of implementing the intervention

Summative Evaluation – Outcomes Assessment

- Process of care measures
 - Assess intervention effect on targeted clinical practice / utilization measures
 - Increase use of targeted EBP?
 - Decrease use of ineffective, inefficient practices?

- Clinical outcome measures
 - Assess intervention effect on patient outcomes
 - Symptom reduction/remission, functioning, health-related quality of life

- Are outcomes observed similar to intervention effects in earlier efficacy / effectiveness trials?

Summative Evaluation – Cost Assessment

- Budget Impact Analysis (BIA)
 - Purpose: Estimate financial consequences of adoption and diffusion of an intervention within a specific health care setting or system
 - Document and assess costs to system associated with intervention design and implementation
 - Include provider time and utilization measures (eg, clinic visits, pharmacy costs)
 - Utilize administrative data, chart review

RE-AIM Evaluation Framework

PURPOSES

- Broaden and standardize criteria used to evaluate clinical QI programs
- Guide consideration and selection of evaluation measures
- Evaluate issues relevant to program adoption, implementation, and sustainability

RE-AIM DIMENSIONS

DIMENSION	DEFINITION
REACH	<ol style="list-style-type: none"><li data-bbox="995 662 1787 760">1. Participation rate among eligible individuals<li data-bbox="995 792 1787 889">2. Representativeness of participants
EFFICACY / EFFECTIVENESS	<ol style="list-style-type: none"><li data-bbox="995 1149 1814 1247">1. Effects on primary outcome(s) of interest<li data-bbox="995 1279 1814 1377">2. Impact on quality of life and negative outcomes

<http://cancercontrol.cancer.gov/is/reaim/>

RE AIM DIMENSIONS (cont.)

DIMENSION	DEFINITION
ADOPTION	<ol style="list-style-type: none">1. Participation rate among possible settings2. Representativeness of settings participating
IMPLEMENTATION	<ol style="list-style-type: none">1. Extent to which intervention delivered as intended2. Time and costs of intervention
MAINTENANCE (sustainability)	<ol style="list-style-type: none">1. Long-term effects of intervention2. Impact of attrition on outcomes3. Extent of continuation or modification of treatment

Summary

- Formative and summative evaluation are complementary in developing, implementing, evaluating and refining strategies to increase use of EBPs
- Formative evaluation can be key to effective design and success of implementation strategies
- Summative evaluation used to assess relevant clinical outcomes and costs
- RE-AIM framework can be helpful in selecting evaluation measures