Factors that might prevent or enable improvements (barriers & facilitators). May act as moderators, effect modifiers, or mediators, indicating that they are links in a chain of causal mechanisms.

Intervention source; Evidence strength and quality; Relative advantage; Adaptability; Trialability; Complexity; Design quality and packaging; Cost

Interventions on the system to increase adoption of evidence-based innovations into usual care. A theory- or logic-driven connection should link an implementation strategy to (a) the barriers it will attempt to overcome and/or (b) the facilitators it will attempt to leverage.

**Types**
1. Plan; Educate; Finance; Restructure; Quality management; Policy context (Bunger et al., 2017)
2. Engage consumers; Evaluate; Change infrastructure; Stakeholder interrelationships; Financial strategies; Clinician support; Interactive assistance; Train and educate; Adapt (ERIC, Powell et al., 2015)

Strategies should be specified by the following characteristics: Actor; Action; Action target; Temporality; Dose; Outcome affected; Justification for use (Proctor et al., 2013)

Processes or events through which an implementation strategy operates to affect desired implementation outcomes (Lewis et al. 2018)

Mechanisms explain how an implementation strategy has an effect by describing the actions that lead from the administration of the strategy to the most proximal behavioral (individual, system) and/or implementation outcomes (i.e., mechanisms are the exact series of steps through which the change came about).

Some potential mechanisms:
1. Altering the status of a determinant.
2. Changing the behavior of implementer (could be a proximal outcome preceding an implementation outcome or the implementation outcome itself).

**Note.** Although mediation analysis can be informative, mediators are not necessarily mechanistic.

The effects of deliberate actions to implement an EBI.

**Types**
1. Reach; Adoption; Implementation; Maintenance (RE-AIM; Glasgow et al., 1999)
2. Acceptability; Adoption; Appropriateness; Cost; Feasibility, Penetration; Fidelity; Sustainability (Proctor et al., 2011)

Efficiency; Safety; Equity; Effectiveness; Patient-centeredness; Timeliness (IOM Standards of Care)

Satisfaction Function Symptomatology
Logic Model for Implementation Research: Example for PrEP delivery to YMSM in clinics

Determinants

- Highly effective +
  - Insurance coverage +/-
  - Relative advantage +/-
  - HIV/STI testing/refills – Adherence –

- Implementation climate +
  - Available workforce +
  - Leadership support +/-
  - Workflow disruption –

- CDC Guidelines +
  - PrEP 4 Love Campaign +
  - Ending the HIV Epidemic +
  - Patient need/demand +
  - LHD STI Clinics +/-

- Commitment +
  - Provider self-efficacy +/-
  - Stigma –
  - Knowledge/beliefs/attitudes about PrEP –

- Planning for PrEP +
  - Opinion leaders +
  - Champions +
  - Evaluation +
  - External impl. Support –

Implementation Strategies

- Training Providers/Staff
  - PrEP efficacy
  - Identify eligible patients
  - Discuss sexual behaviors with patients
  - Stigma surrounding PrEP
  - Addressing patient barriers to adherence

- Integration into Routine Care
  - Workflow evaluation
  - PDSA cycles/CQI

- Peer support (champions)
  - Leader engagement

Mechanisms

- Providers/Staff
  - Knowledgeable about PrEP guidelines
  - Destigmatized
  - Comfort inquiring about and discussing sexual behaviors
  - Self-efficacy to prescribe PrEP and follow guidelines

- Value of providing PrEP

- Accountability
  - Peer and Leadership recognition of providers

Outcomes

- Provider Adoption
  - Prescribe PrEP
  - Repeat HIV test

- Reach
  - % of eligible patients receive PrEP Rx
  - % of patients on PrEP with 90-day RX refill
  - % of patients on PrEP with 6 month STI test

- Appropriateness
- Acceptability
- Fidelity (PrEP Guidelines)

- Safe
- Patient-centered
- Equitable
- Timely

- % Filling first Rx
- % Adherent to PrEP
- % Refilling PrEP Rx
- # new HIV infections
- # positive STI tests

Advanced note: Same colors indicate a hypothesized causal pathway.