Understanding School-Level Factors that Facilitate or Impede the Uptake and Use of Evidence-Based Practices

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OVERVIEW

1. Key Constructs and Findings from Implementation Science
   - Importance of a Multilevel Approach
2. Key Components of the Organizational Implementation Context (OIC)
3. Applications to School Mental/ Behavioral Health

IMPLEMENTATION SCIENCE – WHY WE NEED IT!

- It takes 17 years for just 14% of original research to benefit actual practice (Balas & Boren, 2000)
- Studies of typical services reveal that many evidence-based practices (EBP) are used infrequently or not at all (e.g., Garland et al., 2010)
- When adopted, only 25–50% of programs are implemented with fidelity
  - limits effects on classroom functioning and student outcomes (Gottfredson & Gottfredson, 2002)

IMPLEMENTATION SCIENCE – WHY WE NEED IT!

- Multiple factors affect the application of research evidence in practice, including…
  - Contextual fit of practices in new contexts (e.g., cultural appropriateness, fit with practitioner workflows)
  - Local practitioner attitudes/concerns about structured protocols or new practices
  - Quality of implementation processes (e.g., training, consultation)
  - Etc.
- ***Implementation science is predicated on the notion that the use of research in practice will improve service outcomes***

DISSEMINATION & IMPLEMENTATION: DISAMBIGUATION

- **Dissemination:** "targeted distribution of information and intervention materials to a specific public health or clinical practice audience."
- **Implementation:** "use of strategies to adopt and integrate EB health interventions and change practice patterns within specific settings."

IMPLEMENTATION SCIENCE

"**Implementation research** is the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services. It includes the study of influences on healthcare professional and organisational behaviour."

Eccles & Mittman (2006)

IMPLEMENTATION SCIENCE

"The science and practice of using science in practice."

Fixsen et al. (2011)

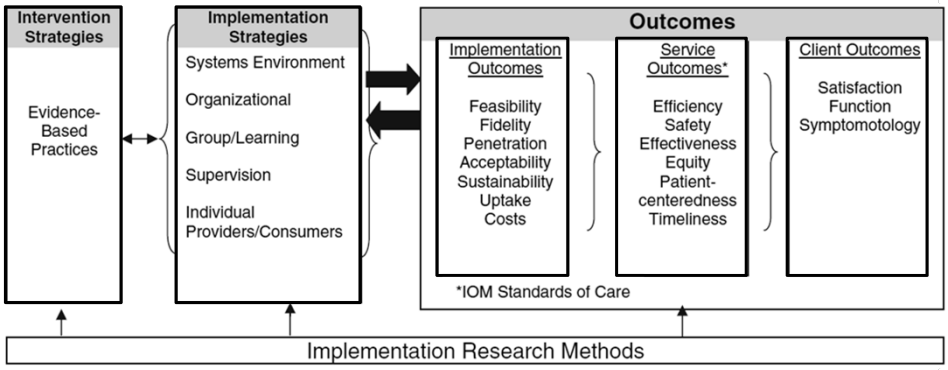
IMPLEMENTATION SCIENCE: FRAMEWORKS & STRATEGIES

- Implementation ***Framework***:
  - A proposed model of factors likely to impact implementation and sustainment of EBP (Aarons et al., 2011; Damschroder et al., 2009; Tabak et al., 2012)
- Implementation ***Strategy***:
  - Systematic ***processes*** to adopt and integrate evidence-based innovations into usual care (Powell et al., 2011)

IMPLEMENTATION SCIENCE FRAMEWORKS

- D&I Science just beginning to develop, but we already have 61 models/frameworks! (Tabak et al., 2013)
  - There is no "winning framework" or strong evidence to suggest that one framework is superior to others

EXAMPLE: IMPLEMENTATION RESEARCH CONCEPTUAL MODEL (Proctor et al., 2009)



Proctor et al. (2009)

COMMON ELEMENTS OF FRAMEWORKS

- Multiple Levels
  - Implementation occurs in complex systems
  - Need to identify concerns at different levels
- Multiple phases
  - Implementation occurs over time
  - There may be relatively discrete phases or stages

Slide credit to G. Aarons

COMMON ELEMENTS OF FRAMEWORKS

- Relevant variables are not necessarily those that have been emphasized in efficacy (or even effectiveness) research
- Good at *describing* important variables, not as good at predicting *relationships* among variables
- Bidirectional relationship between innovations and the context in which they are being implemented
  - Usually necessitates some degree of adaptation (of the *program* or the *context*… or BOTH)

IMPLEMENTATION SCIENCE STRATEGIES

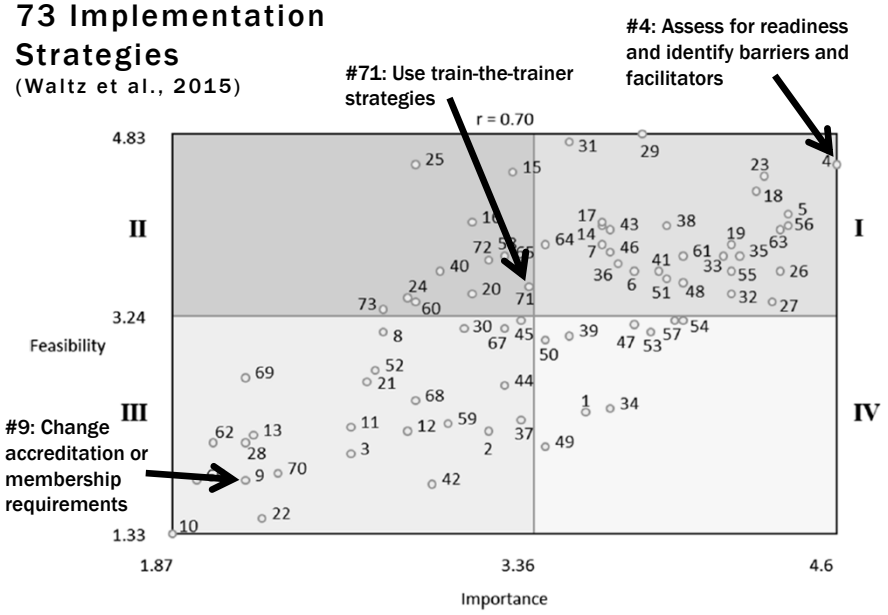
- **68** distinct implementation strategies (Powell et al., 2012)

…and growing (now **73**)

(Powell et al., 2015; Waltz et al., 2014; 2015)

Concept Mapping of 73 Implementation Strategies

(Waltz et al., 2015)



Concept Mapping of 73 Implementation Strategies

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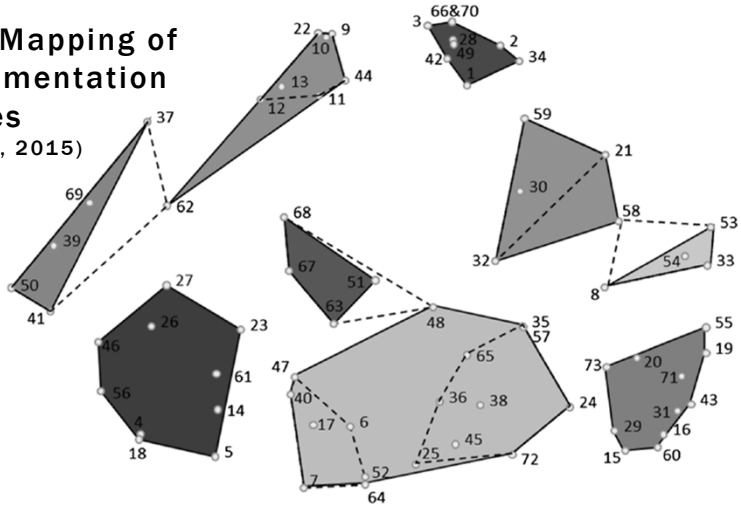


IMPLEMENTATION OUTCOMES
(Proctor et al., 2011)

Implementation outcome	Level of analysis	Theoretical basis
Acceptability	Individual provider Individual consumer	Rogers: "complexity" and to a certain extent "relative advantage"
Adoption	Individual provider Organization or setting	RE-AIM: "adoption" Rogers: "trialability" (particularly for early adopters)
Appropriateness	Individual provider Individual consumer Organization or setting	Rogers: "compatibility"

IMPLEMENTATION OUTCOMES
(Proctor et al., 2011)

Feasibility	Individual providers Organization or setting	Rogers: "compatibility" and "trialability"
Fidelity	Individual provider	RE-AIM: part of "implementation"
Implementation Cost	Provider or providing institution	TCU Program Change Model: *"costs" and "resources"*
Penetration	Organization or setting	RE-AIM: necessary for "reach"
Sustainability	Administrators Organization or setting	RE-AIM: "maintenance" *Rogers: "confirmation"*

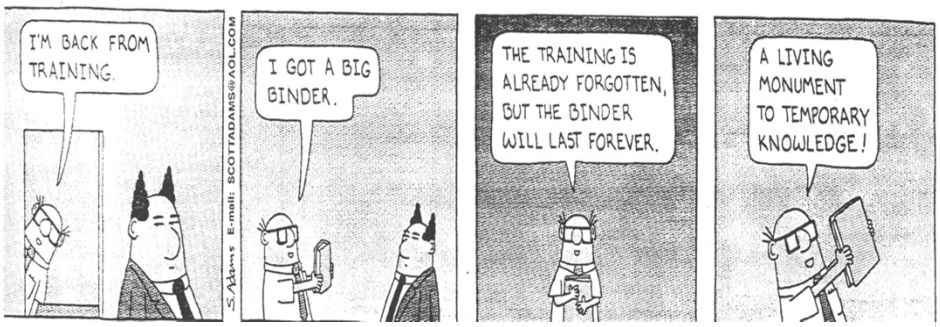
KEY IMPLEMENTATION FINDINGS

1. Implementation is a long, difficult process
   - Full implementation can take 2-5 years or more (Fixsen et al., 2005)
   - Attempts to evaluate program effectiveness prior to full implementation is problematic

KEY IMPLEMENTATION FINDINGS

2. Multi-component training and implementation programs may be more effective than single strategies (Oxman et al. 1995)
   …or not (Lau et al., 2015)

KEY IMPLEMENTATION FINDINGS



KEY IMPLEMENTATION FINDINGS

3. Ongoing contact is essential in order to produce practice change following training (vs. "train and hope")…

A Summary of a Meta-analysis of the Effects of Training and Coaching on Teachers' Implementation in the Classroom (Joyce & Showers, 2002)

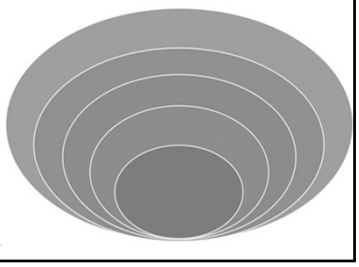
	OUTCOMES (% of participants who demonstrate knowledge, demonstrate new skills in a training setting, and use new skills in the classroom)		
TRAINING COMPONENTS	Knowledge	Skill Demonstration	Use in the Classroom
Theory and Discussion	10%	5%	0%
+ Demonstration in Training	30%	20%	0%
+ Practice & Feedback in Training	60%	60%	5%
+ Coaching in Classroom	95%	95%	95%

KEY IMPLEMENTATION FINDINGS

4. Even with successful initial implementation, high levels of *program sustainment* are notoriously difficult to achieve (Stirman et al., 2012)
   - Research on sustainment is often retrospective and lacks methodological rigor
   - "Partial" sustainment is common
   - Time frames for sustainment are often arbitrary (Scheirer, 2005)

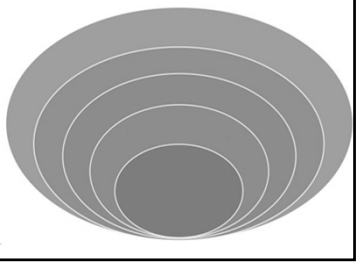
KEY IMPLEMENTATION FINDINGS

5. Implementation efforts need to attend to the larger context/system in which implementation is occurring (Beidas & Kendall, 2010).
   - Inner Context
   - Outer Context



CONTEXTUAL APPROPRIATENESS IN SCHOOL MENTAL HEALTH (SMH)

- In SMH, intervention-setting "fit" includes both *practical-* and *values-based* elements at a variety of levels (Lyon et al., 2014)
  - Characteristics of the service recipients
  - Characteristics of the clinicians / Clinician practices
  - The school organizational context
  - Larger system/outer context



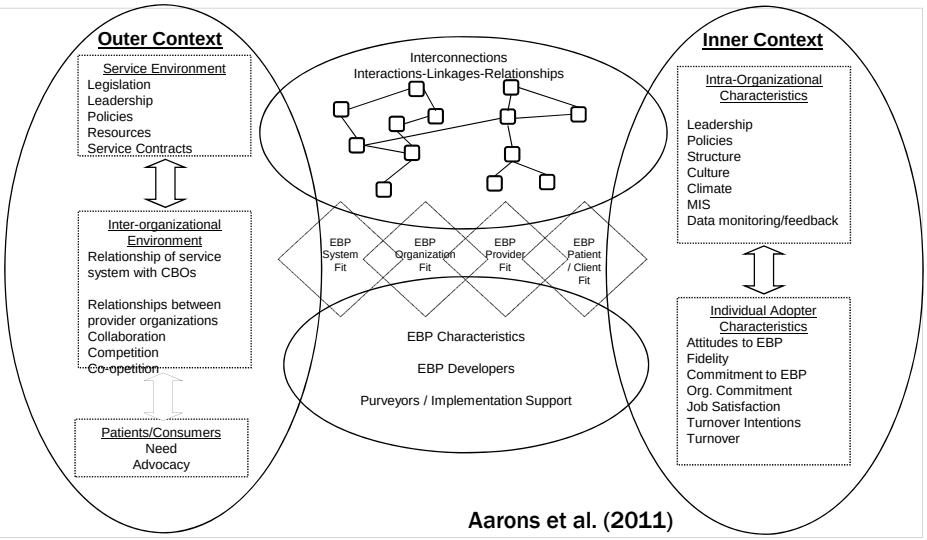
ORGANIZATIONAL CONSTRUCTS IN IMPLEMENTATION SCIENCE

"A bad system will trump a good program every time."

Patrick McCarthy, CEO
Annie E. Casey Foundation

- Inadequate attention to school and district-level influences is likely to cripple even the most well-resourced and thoughtful implementation efforts.

ORGANIZATIONAL CONSTRUCTS IN IMPLEMENTATION SCIENCE



Aarons et al. (2011)

Exploration, Preparation, Implementation, Sustainment (EPIS) Organizational Constructs

Aarons et al. (2011)

EXPLORATION

OUTER CONTEXT
- Sociopolitical Context
  - Legislation
  - Policies
  - Monitoring and review
- Funding
  - Service grants
  - Research grants
  - Foundation grants
  - Continuity of funding
- Client Advocacy
  - Consumer organizations
- Interorganizational networks
  - Direct networking
  - Indirect networking
  - Professional organizations
  - Clearinghouses
  - Technical assistance centers

INNER CONTEXT
- Organizational characteristics
  - Absorptive capacity
    - Knowledge/skills
    - Readiness for change
    - Receptive context
  - Culture
  - Climate
  - Leadership
- Individual adopter characteristics
  - Values
  - Goals
  - Social Networks
  - Perceived need for change

PREPARATION

OUTER CONTEXT
- Sociopolitical
  - Federal legislation
  - Local enactment
  - Definitions of "evidence"
- Funding
  - Support tied to federal and state policies
- Client advocacy
  - National advocacy
  - Class action lawsuits
- Interorganizational networks
  - Organizational linkages
  - Leadership ties
  - Information transmission
    - Formal
    - Informal

INNER CONTEXT
- Organizational characteristics
  - Size
  - Role specialization
  - Knowledge/skills/expertise
  - Values
- Leadership
  - Culture embedding
  - Championing adoption

IMPLEMENTATION

OUTER CONTEXT
- Sociopolitical
  - Legislative priorities
  - Administrative costs
- Funding
  - Training
  - Sustained fiscal support
  - Contracting arrangements
  - Community based organizations.
- Interorganizational networks
  - Professional associations
  - Cross-sector
  - Contractor associations
  - Information sharing
  - Cross discipline translation
- Intervention developers
  - Engagement in implementation
- Leadership
  - Cross level congruence
  - Effective leadership practices

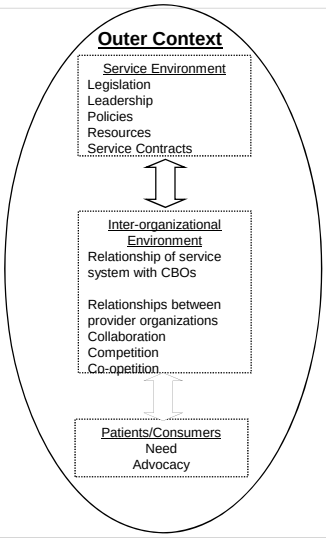
INNER CONTEXT
- Organizational Characteristics
  - Leadership
  - Structure
  - Priorities/goals
  - Readiness for change
  - Receptive context
  - Culture/climate
- Innovation-values fit
  - EBP structural fit
  - EBP ideological fit
- Individual adopter characteristics
  - Demographics
  - Adaptability
  - Attitudes toward EBP

SUSTAINMENT

OUTER CONTEXT
- Sociopolitical
  - Leadership
  - Policies
    - Federal initiatives
    - State initiatives
    - Local service system
    - Consent decrees
- Funding
  - Fit with existing service funds
  - Cost absorptive capacity
  - Workforce stability impacts
- Public-academic collaboration
  - Ongoing positive relationships
  - Valuing multiple perspectives

INNER CONTEXT
- Organizational characteristics
  - Leadership
  - Embedded EBP culture
  - Critical mass of EBP provision
  - Social network support
- Fidelity monitoring/support
  - EBP Role clarity
  - Fidelity support system
  - Supportive coaching
- Staffing
  - Staff selection criteria
  - Validated selection procedures

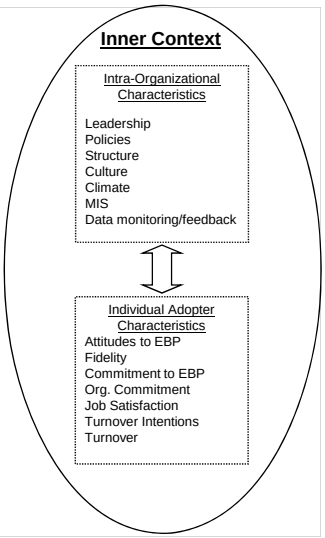
OUTER Context



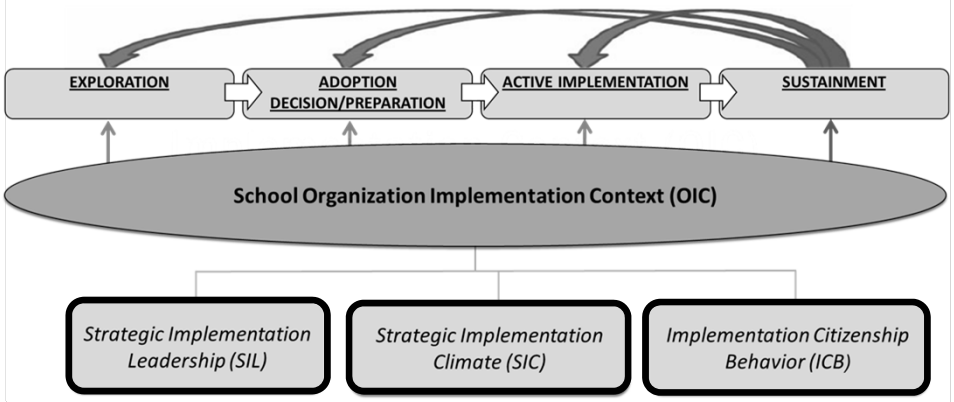
- Socio-political/funding
  - Legislation, policy
- Inter-organizational networks
- Advocacy groups
- Consumer needs

INNER Context

- **Organizational Implementation Context** (OIC) (i.e., the *Inner Context*): The context includes *school and district climate*, *principal leadership*, and *school personnel characteristics* (e.g., attitudes), as they relate to implementation success



SCHOOL ORGANIZATIONAL IMPLEMENTATION CONTEXT (INNER CONTEXT)



Lyon, Cook et al. (in prep)

STRATEGIC IMPLEMENTATION LEADERSHIP (SIL)

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- Strategic leadership exerts its influence at an interactional level. Strategic leaders (Blase & Blase, 2000; Goldring et al., 2008)...
  - communicate regularly with staff
  - protect time during meetings to discuss strategic content, hold staff accountable
  - provide ongoing feedback based on performance

STRATEGIC IMPLEMENTATION LEADERSHIP (SIL)

- SIL in schools
  - Strong principal leadership identified as a requirement for adoption and use of SEL (Elias et al., 2006)
  - Support from administrators is linked to EBP implementation by...
    - school-based mental health providers (Langley et al., 2010)
    - teachers (Rohrbach et al., 1993)
  - Support from administrators found to impact the outcomes of students participating in interventions (Kam et al., 2003)
- Elements of strategic school leadership have been shown to increase staff productivity and promote extra effort (i.e., *citizenship behaviors*) (Griffith, 2004)

STRATEGIC IMPLEMENTATION CLIMATE (SIC)

ORGANIZATIONAL CLIMATE VS. CULTURE

- Organizational culture: Implicit norms and assumptions of a work unit that guide behaviors (Glisson et al., 2006)
- Organizational climate: Employee's perceptions and affective responses to their work environment (Srivastava & Bathla 1996)

STRATEGIC IMPLEMENTATION CLIMATE (SIC)

- SIC is staff's shared perception of the importance of EBP implementation (Ehrhart et al., in press)
- SIC encompasses…
  - Staff perceptions of norms and expectations with regard to implementation
- In schools, a high level of order, safety, and clear norms is associated with greater success in reform efforts (Bryk et al., 2010; Forman et al., 2009)

STRATEGIC IMPLEMENTATION CLIMATE (SIC)

- SIC vs. GLOBAL school climate
  - Global school climate includes *"patterns of people's experiences of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures"* (National School Climate Council, 2007).
  - SIC is a *specific component* of global school climate

IMPLEMENTATION CITIZENSHIP BEHAVIOR (ICB)

IMPLEMENTATION CITIZENSHIP BEHAVIOR (ICB)

- ICBs are those that <u>demonstrate a commitment to EBP by keeping informed about the EBP being implemented and supporting colleagues to meet EBP standards</u> (Aarons et al., in press)
  - A subset of global organizational citizenship behaviors, which are defined as those behaviors that go beyond the standard "call of duty" or core job aspects (Organ et al., 2006)

IMPLEMENTATION CITIZENSHIP BEHAVIOR (ICB)

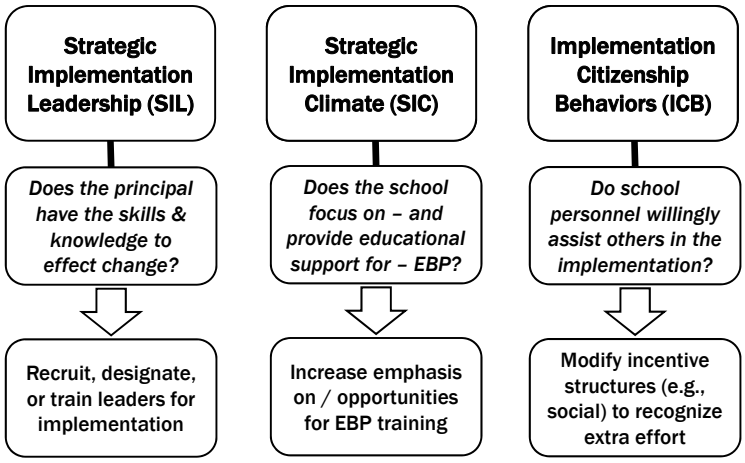
- The importance of ICB is supported by research on…
  - customer service
  - organizational safety
  - general organizational functioning
- No research has evaluated ICB in schools
  - growing consensus is that implementation of universal EBP is a "team effort" that requires educators to go above and beyond (Forman et al., 2009)

IMPLICATIONS OF OIC KNOWLEDGE IN SCHOOLS

- Determination of school/district implementation <u>readiness</u>
  - Low readiness accounts for half of all unsuccessful organizational change efforts (Kotter, 1996)
  - Failed implementation is associated with substantial time and resource losses (Spence & Shortt, 2007)

IMPLICATIONS OF OIC KNOWLEDGE IN SCHOOLS

- Example applications of implementation strategies:



SUMMARY

1. Implementation science is rapidly expanding
2. Organizational influences are critical to successful implementation in schools (and all other settings)
3. SIL, SIC, and ICB represent important organizational constructs to consider when implementing behavioral health programming in schools
   - Can inform the selection of implementation strategies

RESOURCES

Implementation Strategies

- http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4527340/

SMART

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