The Implementation and Sustainment Facilitation (ISF) Strategy: A promising strategy for improving implementation climate, implementation effectiveness, and intervention effectiveness

Presented by:
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www.ISFstrategy.org
An enduring problem:
The research-to-practice gap
An enduring question: Which strategies can help bridge the research-to-practice gap, effectively and cost-effectively?
A compilation of strategies

The resulting compilation includes 68 implementation strategies and definitions, which are grouped according to six key implementation processes: planning, educating, financing, restructuring, managing quality, and attending to the policy context.

“We differentiate discrete, multifaceted, and blended implementation strategies.”
Discrete strategies are the most recognizable and commonly cited implementation actions (e.g., reminders, educational meetings) and involve one process or action.

A multifaceted implementation strategy uses two or more discrete strategies (e.g., training plus technical assistance).

We reserve the term blended strategy for instances in which a number of discrete strategies, addressing multiple levels and barriers to change, are interwoven and packaged as a protocolized or branded implementation intervention. Blended strategies are inherently multifaceted; however, all multifaceted strategies are not blended.
A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project

Byron J. Powell1,II, Thomas J. Holsen, Matthew J. Chissum1,II, Laura J. Danshocke1,II, Jeffery L. Smith1,II, Monica M. Matthews1,II, Enola K. Poole5,II and John E. Kitchner1,II

Abstract
Background: Identifying, developing, and testing implementation strategies are important goals of implementation science. However, these efforts have been complicated by the use of inconsistent language and inadequate descriptions of implementation strategies in the literature. The Expert Recommendations for Implementing Change (ERIC) study aimed to refine a published compilation of implementation strategy terms and definitions by systematically gathering input from a wide range of stakeholders with expertise in implementation science and clinical practice.

Methods: Purposive sampling was used to recruit a panel of experts in implementation and clinical practice who engaged in three rounds of a modified Delphi process to generate consensus on implementation strategy terms and definitions. The first and second rounds involved web-based surveys soliciting comments on implementation strategy terms and definitions. After each round, iterative refinements were made based upon participant feedback. The third round involved a face-to-face meeting of the panel of experts for final refinement and consensus. The Consolidated Framework for Implementation Research (CFIR) was used to guide the development of the consensus statement.

Results: Participants identified substantial concerns with 31% of the terms and/or definitions and suggested five additional terms. Seventy-five percent of definitions from the originally published compilation of strategies were retained after voting. Ultimately, the expert panel reached consensus on a final compilation of 73 implementation strategies.

Conclusions: The final compilation is intended to be a foundational resource for future rigor and relevance. The comprehensive consensus of implementation strategies that are far more in line with current implementation research and practice. Future phases of ERIC will focus on developing conceptually distinct categories of strategies as well as rating their importance and feasibility. The expert panel will recommend multivariable strategies for hypothetical yet real-world scenarios that vary by site endorsement of evidence-based programs and practices and the extent of commercial support that surrounds the effort.

Keywords: Implementation research, implementation strategies, knowledge translation strategies, mental health, US Department of Veterans Affairs

WHAT DO I CHOOSE?

TOO MANY OPTIONS!
A refined compilation of strategies: results from the Expert Recommendations for Implementing Change (ERIC) project

Byron J. Powell1, Thomas J. Holz2, Matthew J. Chirmack3, Laura J. Damschroder4, Jeffrey L. Smith5, Monica M. Mathieu4, Edna K. Ploch5 and John E. Kitchner5

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Results: Participants identified substantial concerns with 31% of the terms and definitions and suggested five additional strategies. Seventy-five percent of definitions from the originally published compilation of strategies were retained after voting. Ultimately, the expert panel reached consensus on a final compilation of 73 implementation strategies.

Conclusions: The refined compilation of terms and definitions for implementing change can be used to improve the design of implementation research and practice. Future phases of ERIC will focus on developing conceptually distinct categories of strategies as well as metrics for assessing effectiveness. In addition, the expert panel will recommend multivariate strategies for hypothetical yet real-world scenarios that vary by stakeholder endorsement, evidence-based programs and practices, and the strength of commercial support that surrounds the effort.

Keywords: Implementation research, implementation strategies, knowledge translation strategies, mental health, US Department of Veterans Affairs.

Ultimately, the expert panel reached consensus on a final compilation of 73 implementation strategies.
An enduring question:
Which strategies can help bridge the research-to-practice gap, effectively and cost-effectively?
The focus of this presentation is on the ISF Strategy’s:

- Guiding theory, framework, and principles
- Standardized tools/exercises
- Empirical evidence supporting its effectiveness and cost-effectiveness
- Ongoing tests of its effectiveness and cost-effectiveness
The ISF Strategy’s Guiding Theory: The Theory of Implementation Effectiveness

The CHALLENGE OF INNOVATION IMPLEMENTATION

KATHARINE I. KLEIN
JOANNE SPIER SORRA

University of Maryland and College Park

Implementation is the process of gaining targeted organizational members’ appropriate and committed use of an innovation. Our model suggests that implementation effectiveness—the consistency and quality of targeted organizational members’ use of an innovation—hinges on the strength of an organization’s climate for the implementation of that innovation and the fit of that innovation to targeted users’ values. The model specifies several important variables (including motivation, avoidance, commitment, and contingency) high in the susceptibility of an organization’s climate for implementation effectiveness, and interrelationships between these variables and the two outcome variables of innovation implementation and adoption.

Innovation implementation within an organization is the process of gaining targeted employees’ appropriate and committed use of an innovation. Innovation implementation presumes innovation adoption, that is, a decision, typically made by senior (executive) managerial personnel, that employees within the organization will use the innovation in their work. Implementation failure occurs when, despite this decision, employees use the innovation less frequently, less consistently, or less successfully than required for the potential benefits of the innovation to be realized.

An organization’s failure to achieve the intended benefits of an innovation has adopted may reflect either a failure of implementation or a failure of the innovation itself. In order to enhance organizational effectiveness, researchers and practitioners have studied the latter. However, few researchers have examined factors that contribute to or detract from the implementation of innovations. This article identifies variables that may help predict implementation effectiveness and describes how these variables influence one another. We also present a new conceptual model for predicting innovation implementation.

We are very grateful to Lisa Berenson, Amy Bove, Dan Edwards, Markilene Fehr, John Grace, Simon Johnson, Bonnie Koons, John Colby, Michelle Paul, Bill Schneider, and the anonymous reviewers for their extremely helpful comments on earlier versions of this article. We also thank Beth Bizzarro, Patricia Compass, Elizabeth Courcoul, and Scott Hall for their help in collecting and summarizing the research data for the Frank and Wexner case studies.


Implementing Computerized Technology: An Organizational Analysis

Katherine J. Klein, Amy Hall Cox, and Joan Sorra Sorra (University of Maryland)

Why do some organizations succeed and others fail in implementing information technology? To answer this question, we apply a model of implementation processes that identifies factors that influence successful implementation. Our framework of implementation processes is based on the work of Klein and Sorra (1996) and their colleagues, who have developed a theory of implementation effectiveness. Our model identifies several factors that influence the success of implementing computerized technology. We use this model to guide research and policy development, focusing on the role of implementation processes in the success of computerized technology.

Innovative Sages, Implementative Effectiveness, and Community Innovativeness

Innovative Sages: Implementative Effectiveness, and Community Innovativeness

We define innovative sages as individuals who are knowledgeable about innovation implementation processes. These individuals are able to help organizations implement new technologies successfully. Innovative sages are able to help organizations adopt new technologies successfully. They are able to identify the factors that contribute to successful implementation and to use this knowledge to guide the implementation process. Innovative sages are able to help organizations adopt new technologies successfully. They are able to identify the factors that contribute to successful implementation and to use this knowledge to guide the implementation process.

The ISF Strategy’s Guiding Theory: The Theory of Implementation Effectiveness


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"Implementation effectiveness refers to the consistency and quality of targeted organizational members’ use of a specific innovation."

Klein & Sorra, 1996
The ISF Strategy’s Guiding Framework: The Exploration, Preparation, Implementation, Sustainment (EPIS) Framework


Guided by the principles of motivational interviewing, the ISF Strategy seeks to optimize implementation climate by:

1) **Engaging** the staff working on the project
2) **Focusing** the staff on the two key aspects of implementation effectiveness
3) **Evoking** from the staff thoughts about their current implementation effectiveness
4) **Planning** how to sustain or even improve the level of implementation effectiveness

The focus of this presentation is on the ISF Strategy’s ...

- Guiding theory, framework, and principles
- Tools/exercises
- Empirical evidence supporting its effectiveness and cost-effectiveness
- Ongoing tests of its effectiveness and cost-effectiveness
The ISF Strategy’s Tools/Exercises: Balancing standardization and flexibility

The ISF Strategy balances standardization and flexibility by providing standardized tools/exercises for the ISF Strategy Facilitator to select from and use as part of each ISF Strategy meeting.
The ISF Strategy’s Tools/Exercises: The ISF Workbook

An Excel Workbook that
1. Standardizes the ISF Strategy implementation
2. Provides a method for both visualizing and documenting what takes place during ISF meetings

Let’s take a look at the ISF Workbook
The focus of this presentation is on the ISF Strategy’s ...

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The ISF Strategy’s Empirical Support from the SAT2HIV Project: A Brief Overview of the SAT2HIV Project

**Intervention Strategies**

**Motivational Interviewing**

**Implementation Strategies**

**Control Condition**
- Training,
- Feedback, and
- Consultation

**Experimental Condition**
- Training,
- Feedback, and
- Consultation
- + ISF Strategy

**Outcomes**

**Implementation Outcomes**
- Penetration
- Fidelity
- Sustainment

**Client Outcomes**
- Substance Use
- Problem Recognition

**Implementation Research Methods**

Dual-randomized type 2 hybrid trial
39 HIV Service Organizations, 78 Staff, 824 Clients at baseline, and 698 at follow-up (85% follow-up rate)
The ISF Strategy’s Empirical Support from the SAT2HIV Project: Effectiveness results

Organizational-level assignment to condition with ISF Strategy

$\beta = -0.02$

Exploration Phase

Preparation Phase

Implementation Phase

Sustainment Phase

Time-to-Proficiency

ATTC Strategy
Average of 12.35 days

ATTC+ISF Strategy
Average of 11.44 days (7% decrease)

78 of 78 Staff (100%) trained to proficiency

* $p < .05$; ** $p < .01$
The ISF Strategy’s Empirical Support from the SAT2HIV Project: Effectiveness results

ATTC Strategy
Consistency Sum (i.e., penetration) = Average of 3.3 brief interventions
Quality Sum (i.e., fidelity) = Average of 560 quality score

ATTC+ISF Strategy
Consistency Sum (i.e., penetration) = Average of 6.9 brief interventions (109% increase)
Quality Sum (i.e., fidelity) = Average of 1,324 quality score (136% increase)

$\beta = 0.65^{**}$

* $p < .05$; ** $p < .01$
The ISF Strategy’s Empirical Support from the SAT2HIV Project: Effectiveness results

The impact of facilitation on level of sustainment (the sustainment outcome)

ATTC Strategy
Average of 3.2 brief interventions

ATTC+ISF Strategy
Average of 3.4 brief interventions (6% increase)

* p < .05; ** p < .01
The ISF Strategy’s Empirical Support from the SAT2HIV Project: Effectiveness results

Odd ratio = 0.11*
1 / 0.11 = 9.09 (i.e., large effect)

* p < .05; ** p < .01
The ISF Strategy’s Empirical Support from the SAT2HIV Project: Effectiveness results
The ISF Strategy’s Empirical Support from the SAT2HIV Project: Effectiveness results

Figure 3. Baseline distribution for client’s days of primary substance use.
Cross-level interaction

The ISF Strategy’s Empirical Support from the SAT2HIV Project: Effectiveness results

Figure 4. Follow-up distribution for client’s days of primary substance use.
The ISF Strategy’s Empirical Support from the SAT2HIV Project: Effectiveness results

Exploration Phase
- Organizational-level assignment to condition with ISF Strategy

Preparation Phase

Implementation Phase
- ISF had a significant impact on an implementation outcome
  - $\beta = 0.65^{**}$

Sustainment Phase
- ISF had a significant impact on a client outcome
  - Odd ratio = 0.11*

Client-level assignment to UC+MIBI condition

Staff-level results:
- Sustainment Phase

Effectiveness results
- ISF had a significant impact on a client outcome

$* p < .05; ** p < .01$
The ISF Strategy’s Empirical Support from the SAT2HIV Project: Costs

Table 2

<table>
<thead>
<tr>
<th></th>
<th>ATTC-only</th>
<th>ATTC+ISF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total ATTC Costs</strong></td>
<td>$3,214</td>
<td>$3,414</td>
</tr>
<tr>
<td>Online Training</td>
<td>$184</td>
<td>$178</td>
</tr>
<tr>
<td>In-Person Training</td>
<td>$2,445</td>
<td>$2,452</td>
</tr>
<tr>
<td>Rated Practice</td>
<td>$430</td>
<td>$499</td>
</tr>
<tr>
<td>BI Feedback Reports</td>
<td>$81</td>
<td>$185</td>
</tr>
<tr>
<td>Group Consultation Calls</td>
<td>$75</td>
<td>$100</td>
</tr>
<tr>
<td><strong>Total ISF Costs</strong></td>
<td>—</td>
<td>$2,437</td>
</tr>
<tr>
<td>Staff ISF Calls</td>
<td>—</td>
<td>$290</td>
</tr>
<tr>
<td>Support Staff ISF Calls</td>
<td>—</td>
<td>$627</td>
</tr>
<tr>
<td>Facilitator ISF Calls</td>
<td>—</td>
<td>$389</td>
</tr>
<tr>
<td>Facilitator Travel</td>
<td>—</td>
<td>$1,126</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>—</td>
<td>$6</td>
</tr>
<tr>
<td><strong>Total ATTC + ISF Costs</strong></td>
<td>$3,214</td>
<td>$5,852</td>
</tr>
<tr>
<td>BI Costs</td>
<td>$42</td>
<td>$88</td>
</tr>
<tr>
<td><strong>TOTAL COSTS</strong></td>
<td>$3,256</td>
<td>$5,940</td>
</tr>
</tbody>
</table>

*Note. ATTC, Addiction Technology Transfer Center; BI, brief intervention; ISF, Implementation & Sustainment Facilitation.*
### Table 3

*Adjusted Means and ICERs*

<table>
<thead>
<tr>
<th></th>
<th>ATTC-only</th>
<th>ATTC+ISF</th>
<th>Incremental Difference</th>
<th>ICER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost</strong></td>
<td>$3,258.94</td>
<td>$5,937.52</td>
<td>$2,679</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(99.49)</td>
<td>(144.89)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Implementation Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Consistency</td>
<td>3.27</td>
<td>7.00</td>
<td>3.73</td>
<td>$719</td>
</tr>
<tr>
<td></td>
<td>(0.90)</td>
<td>(0.96)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality</td>
<td>99.88</td>
<td>161.33</td>
<td>61.45</td>
<td>$44</td>
</tr>
<tr>
<td></td>
<td>(18.74)</td>
<td>(14.85)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Client Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum of days abstinent at follow-up, controlling for average baseline days</td>
<td>51.45</td>
<td>96.84</td>
<td>45.40</td>
<td>$59</td>
</tr>
<tr>
<td></td>
<td>(11.55)</td>
<td>(15.66)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* ATTC, Addiction Technology Transfer Center; ICER, incremental cost-effectiveness ratio; ISF, Implementation & Sustainment Facilitation.
The focus of this presentation is on the ISF Strategy’s ...

- Guiding theory, framework, and principles
- Tools/exercises
- Empirical evidence supporting its effectiveness and cost-effectiveness
- Ongoing tests of its effectiveness and cost-effectiveness
The ISF Strategy’s on-going tests of its effectiveness and cost-effectiveness

**Type 3 hybrid trial that is focused on testing the ISF Strategy as a strategy to help improve implementation of contingency management (CM) within Opioid Treatment Programs**

**Implementation trial focused on testing the ISF Strategy as a strategy to help improve the integration of any evidence-based substance use services within HIV service organizations**

**Type 3 hybrid trial focused on testing the extent to which the ATTC+ISF Strategy can be improved upon via the addition of a pay-for-performance (P4P) Strategy (ATTC+ISF vs ATTC+ISF+P4P)**
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Comments and/or Questions?
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