Implementation Tracking: A Case Study from the Field of Antibiotic Stewardship

EMIC Methods Seminar
March 25, 2021
Acknowledgements

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Overview

☐ Literature

☐ Case Study

☐ Questions/Discussion
Implementation Strategies
Implementation Strategies

A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project

Byron J Powell, Thomas J Waltz, Matthew J Chinman, Laura J Damschroder, Jeffrey L Smith, Monica M Mathieu, Erola K Proctor, and JoAnn E Kirshner

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 to Improve the Selection and Tailoring of Implementation Strategies

Byron J. Powell, PhD
Rinad S. Beidas, PhD
Cara C. Lewis, PhD
Gregory A. Aarons, PhD
J. Curtis McMillen, PhD
Enola K. Proctor, PhD
David S. Mandell, ScD

Abstract

Implementing behavioral health interventions is a complex process. It has been suggested that implementation strategies should be selected and tailored to address the contextual needs of a given change effort; however, there is limited guidance as to how to do this. This article proposes four methods (concept mapping, group model building, context analysis, and intervention mapping) that could be used to match implementation strategies to identified barriers and facilitators for a particular evidence-based practice or process change being implemented in a given setting. Each method is reviewed, examples of their use are provided, and their strengths and weaknesses are discussed. The discussion includes suggestions for future research pertaining to implementation strategies and highlights these methods’ relevance to behavioral health services and research.

Enhancing the Impact of Implementation Strategies in Healthcare: A Research Agenda

Byron J. Powell1,2,*, Maria E. Fernandez4, Nathaniel J. Williams3, Gregory A. Aarons4, Rinad S. Beidas5,6,*, Cara C. Lewis7,*, Sheena M. McHugh12 and Bryan J. Weiner12

Enhancing the Impact of Implementation Strategies in Healthcare: A Research Agenda

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DEBATE

Implementation strategies: recommendations for specifying and reporting

Enola K Proctor1*, Byron J Powell1 and J Curtis McMillen7

Implementation strategies have unparalleled importance in implementation science, as they constitute the ‘how to’ component of changing healthcare practice. Yet, implementation researchers and other stakeholders are not able to fully utilize the findings of studies focusing on implementation strategies because they are often inconsistently labelled and poorly described, are rarely justified theoretically, lack operational definitions or manuals to guide their use, and are part of ‘packaged’ approaches whose specific elements are poorly understood. We address the challenges of specifying and reporting implementation strategies encountered by researchers who design, conduct, and report research on implementation strategies. Specifically, we propose guidelines for naming, defining, and operationalizing implementation strategies in terms of seven dimensions: actor, the action, action targets, temporality, dose, implementation outcomes addressed, and theoretical justification. Ultimately, implementation strategies cannot be used in practice or tested in research without a full description of their components and how they should be used. As with all intervention research, their descriptions must be precise enough to enable measurement and ‘reproducibility.”
Implementation Mapping

Maria Fernandez & Anne Sales provided a comprehensive approach that describes the process of using theory and evidence to develop or select and tailor implementation strategies and highlight an Implementation Mapping approach that can help inform important aspects of implementation strategy development and evaluation.

QUERI Implementation Research Group
Developing and Tailoring Implementation Strategies: An Implementation Mapping Approach
March 04, 2021 | 12:00pm-1:00pm ET

February’s Implementation seminar shared another approach to integrating implementation strategies into the improvement process.
Tracking

There is a trend in tracking implementation strategies—tracking not only implementation strategies, but how strategies are bundled.

There also a trend in tracking adaptations and tailoring—tracking both adaptations to context and adaptations to the intervention.
Why track implementation strategies?

Most published implementation research lack **descriptions** of specific implementation strategies.

Thus, it is difficult to understand **mechanisms** or **active ingredients** of successful implementation and facilitate replication.

(Powell, et al., 2014; Michie, et al., 2009)
Implementation tracking

HHS Public Access

Published in final edited form as:


A method for tracking implementation strategies: an exemplar implementing measurement-based care in community behavioral health clinics

Tracking implementation strategies: a description of a practical approach and early findings

Alicia C. Binger, Byron J. Powell, Hillary A. Robertson, Hannah MacDowell, Sarah A. Birken and Christopher Shea

Abstract

Background: Published descriptions of implementation strategies often lack precision and consistency, limiting replicability and slowing accumulation of knowledge. Recent publication guidelines for implementation strategies call for improved description of the activities, dosing rationale and expected outcomes of strategies. However, capturing implementation strategies with this level of detail can be challenging, as responsibility for implementation is often diffuse and strategies may be flexibly applied as barriers and challenges emerge. We describe and demonstrate the development and application of a practical approach to identifying implementation strategies used in research and practice that could be used to guide their description and specification.

Methods: An approach to tracking implementation strategies using activity logs completed by project personnel was developed to facilitate identification of discrete strategies. This approach was aligned in the context of a...
A Pilot Study Comparing Tools for Tracking Implementation Strategies and Treatment Adaptations


DOI: 10.21203/rs.2.22628/v1  Download PDF
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Abstract

Background Tailoring implementation strategies and adapting treatments to better fit the local context may improve their effectiveness. However, there is a dearth of valid, reliable, pragmatic measures that allow for the prospective tracking of strategies and adaptations according to reporting recommendations. This study...
CARRIAGE Hand Hygiene QI Project

Two implementation tracking tools were used to document various interactions, implementation strategies, and site contextual factors in our Hand Hygiene QI project that focused on monitoring hand hygiene compliance.

*Interaction Tracking Tool* identified site specific exchanges throughout the project.

*CFIR Tracking Tool* was utilized only during qualitative site visits to rapidly assess contextual factors.

(Midboe, et al., 2017; Ritchie, et al., 2020).
# CARRIAGE QUERI Program

## CFIR Tracking Tool—Site C Site Visit

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<td>Rating:</td>
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<tr>
<td>1 = Regression</td>
<td>Underlying knowledge</td>
<td>Motivation</td>
<td>Leadership support</td>
<td>Project management</td>
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<tr>
<td>0 = Status quo</td>
<td>sources</td>
<td></td>
<td>Culture</td>
<td>Improvement skills</td>
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<td>+1 = On track</td>
<td>Clarity</td>
<td></td>
<td>Past change experience</td>
<td>Team skills</td>
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<td>+2 = Exceeds</td>
<td>Degree of fit</td>
<td></td>
<td>Mechanisms for embedding change</td>
<td>Process skills</td>
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<td>expectations</td>
<td>Degree of novelty</td>
<td></td>
<td>Etc.</td>
<td>Influencing &amp; negotiating</td>
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<td>Accomplished =</td>
<td>Usability</td>
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<td>skills</td>
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<td>Done</td>
<td>Etc.</td>
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<td>Review Date:</td>
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<tr>
<td>7/12/2017 Site Visit</td>
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**Utilize HH Rates poster provided by project.**

- Rating: 0
  - + Liked observation sheet
  - - Strongly disliked HH Rates poster, due to lack of numerical HH rates, and therefore was not posted
  - + Staff motivated to improve HH
  - - Did not comprehend overall project goals
  - + Leadership engaged in HH
  - - Leadership does not like HH Rates poster
  - + VISN wide Hospital Epidemiologist, Dr. Michi Goto, who is the Director of Infection Control for VISN 23
  - - No emphasis on HH, no current VA Directive
  - + Strong internal facilitator, with a high level of influence over staff and leadership
  - - Internal facilitator did not support the project
  - + Dr. Goto's established relationship
  - - Wanted more external facilitation

*(Midboe, et al., 2017)*
**Interaction Tracking Tool**

<table>
<thead>
<tr>
<th>Interaction Tracking Sheet</th>
<th>Site: Iowa City</th>
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<tbody>
<tr>
<td>Role person completing: QI Team (CCG/EEC)</td>
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<tr>
<th>Date</th>
<th>Event Type</th>
<th>Mode of Communication</th>
<th>Personnel</th>
<th>Time (minutes)</th>
<th>Interaction Activity</th>
<th>Implementation Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/15/2017</td>
<td>Group</td>
<td>In person</td>
<td>MDRO Coordinator, Infection Preventionist, 2 Members of the QI Team</td>
<td>60</td>
<td>Explaining HH Rates poster</td>
<td>Conduct Educational Meetings</td>
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<tr>
<td>3/1/2017</td>
<td>Group</td>
<td>Email</td>
<td>Site D</td>
<td>30</td>
<td>Initial HH Feedback-HH Rates poster previous 3 months HH data</td>
<td>Audit and provide feedback</td>
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<tr>
<td>3/7/2017</td>
<td>Group</td>
<td>Email</td>
<td>Site D</td>
<td>15</td>
<td>Follow-up HH Rates Poster</td>
<td>Conduct cyclical small tests of change</td>
</tr>
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</table>

*(Midboe, et al., 2017; Ritchie, et al., 2020)*
Tracking Adaptations

Promote adaptability and tailoring strategies are two implementation strategies.

Evidence-based practices (EBPs) are frequently adapted to maximize outcomes while maintaining fidelity to core EBP elements.

It’s important to document intervention adaptations to determine which elements of the intervention can be tailored to meet the local contextual needs and ensure fidelity, or to which an intervention is delivered as intended is critical to successful translation of interventions into clinical practice.
Development of a framework and coding system for modifications and adaptations of evidence-based interventions

Shannon Witseu Stirman1,2,3, Christopher J Miller2,3, Katherine Toder4 and Amber Calloway4

Abstract
Background: Evidence-based interventions are frequently modified or adapted during the implementation process. Changes may be made to protocols to meet the needs of the target population or address differences in the context in which the intervention was originally designed and the one into which it is implemented. Without a systematic method for describing these modifications, the literature on evidence-based practice is challenging to interpret.

Objectives: The aim of this study was to develop a framework and coding system that can systematically capture and describe the nature and level of modifications to evidence-based interventions. The framework should be useful for documenting modifications to interventions that are evidence-based, whether at the content, context, or delivery level.

Methods: The researchers conducted a literature review to identify existing frameworks for describing modifications to interventions. This was followed by the development of a preliminary framework, which was then tested in a case study. The framework was revised based on feedback from stakeholders.

Results: The final framework consists of three levels: content, context, and delivery. The content level modifies the intervention itself, the context level modifies how the intervention is delivered, and the delivery level modifies the way the intervention is delivered. Each level has specific categories for different types of modifications.

Conclusion: The framework and coding system developed in this study can be used to systematically describe modifications to evidence-based interventions. This will facilitate the interpretation of the literature on evidence-based practice and enable stakeholders to make informed decisions about implementation.

System of classifying modifications to evidence-based programs or interventions.
A scoping study of frameworks for adapting public health evidence-based interventions

Cam Escolley1, Erin Lebov-Skegley2, Halie Udelson1, Elaine A. Bixler3, Richard Wood2, Maria E. Fernandez2, Patricia D. Muller2

Abstract

Evidence-based public health translation of research to practice is essential to improve the public’s health. Dissemination and implementation researchers have explored what happens when practitioners adapt evidence-based interventions (EBIs) and have developed models and frameworks to describe the adaptation process. This scoping study identified and summarized adaptation frameworks in published reports and grey literature. We followed the recommended steps of a scoping study: (a) identifying the research question; (b) identifying relevant studies; (c) selecting studies; (d) charting the data; (e) collating, summarizing, and reporting the results; and (f) consulting with experts. The need for further research to inform a final definition of adaptation is evident.

Implications

Practices: These frameworks can offer guidance for steps in the adaptation process for evidence-based interventions (EBIs). Policies: Funders or agencies that recommend the use of EBIs should encourage organisations implementing them to report on any adaptation and the steps taken for the modifications.

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<td>Intervention Mapping Framework (Bartholomew et al.)</td>
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<td>RTIPs Guidelines</td>
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<td>Research-based Program Adaptation (Solomon et al.)</td>
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<td>ADAPT-ITT (Wingood and DiClemente)</td>
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<td>MAP (McKleroy et al.)</td>
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<td>Planned Adaptation (Lee et al.)</td>
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<td>Cultural Adaptation Process (Kumpfer et al.)</td>
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<td>CSAP’s Guidelines for Balancing Program Fidelity/Adaptation</td>
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<td>Tortodero et al. apply Intervention Mapping Framework to adaptation</td>
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<td>Adapting Evidence-Based Programs to New Contexts (Smith and Caldwell)</td>
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<td>Step Framework (Card et al.)</td>
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Colors indicate topic of influence:

- Red: HIV
- Yellow: Substance Abuse
- Blue: Intervention Mapping
- Light blue: Cancer
- Green: Reproductive Health
- Orange: Draws from HIV and substance abuse
- Grey: Unaffiliated

Adaptation Frameworks History: Sentinel Events and Publications

- NIH Workshop: “The Science of Replication”
- CSAP Conference
- CDC’s Division of Reproductive Health Adaptation Guidance Project
- ADAPT-ITT (Wingood and DiClemente)
- MAP (McKleroy et al.)
- M-PACE (Chen et al.)
- Cultural Adaptation (Williams et al.)
- Interventions for Reducing HIV Incidence and Substance Abuse (Card et al.)

General Adaptation Guidance: A Guide to Adapting Evidence-Based Sexual Health Curricula (Roth et al.)
Iterative Decision-making for Evaluation of Adaptations (IDEA): A decision tree for balancing adaptation, fidelity, and intervention impact

Christopher J. Miller PhD | Shannon Wiltse-Sirman PhD | Ana A. Baumann PhD

Department of Psychiatry, VA Boston Healthcare System, Center for Healthcare Organization and Implementation Research (CHOIR), Harvard Medical School, Boston, Massachusetts

Abstract

Background: Evidence-based practices (EBPs) are frequently adapted to maximize outcomes while maintaining.

FIGURE 1 The Iterative Decision-making for Evaluation of Adaptations (IDEA)
SSTOP: Background

Combating Antimicrobial Resistance through Rapid Implementation of Available Guidelines and Evidence (CARRIAGE) QUERI.

Antibiotic misuse is a major contributor to antibiotic resistance.

Evidence is lacking on how to implement an effective and sustainable stewardship strategy.

https://www.queri.research.va.gov/programs/carriage.cfm
Antibiotic Time Out

The overall goal of this study is to implement and evaluate the "Antibiotic Time Out" system that will leverage the VA Electronic Health Record (EHR) and provide a scalable, efficient model for managing antimicrobial therapy that can be readily exported to other facilities with EHR capabilities.

SSTOP will specifically the use of antibiotics used in the treatment of methicillin-resistant *Staphylococcus aureus* (MRSA, i.e., vancomycin) and Multi-Drug Resistant Organisms (MDRO, i.e., anti-pseudomonal ß-lactam antibiotics including piperacillin/tazobactam, ceftazidime, cefepime, imipenem ad meropenem).
Specific Aims

1. **Veterans Health Outcomes**: Determine impact of SSTOP on: a) Rates of de-escalation of antimicrobial therapy and use of targeted antibiotics; b) *Clostridium difficile* infection (CDI) Rates; and c) Patient safety (length of stay, 30-day readmission, mortality). *[Administrative Data Analysis]*

2. **Implementation Science Outcomes**: Assess the impact of feedback intensity on awareness, attitudes and behavior, testing for the interaction effects of: a) inner setting/context (e.g., facility complexity (structural characteristics); b) pre-existing antimicrobial stewardship infrastructure (e.g., compatibility, existing resources, culture); c) individual characteristics (knowledge, beliefs about the value of the outcomes, perceived autonomy, and perceived self-efficacy). We will also assess multiple dimensions of satisfaction, specifically system quality, information quality, service quality, and use. *[Learning Collaborative/Qualitative Interviews]*
SSTOP Learning Collaborative
SSTOP Learning Collaborative

Comprised of blended facilitation via external facilitators (SSTOP team) and internal facilitators (physician/pharmacy Antibiotic Stewardship Program (ASP) champions) across each intervention site.

Monthly virtually meetings (via Microsoft Teams) for bidirectional information exchange of implementation progress, barriers, facilitators, and best practices.

An implementation tracking tool was utilized to record intervention implementation and contextual factors to improve intervention uptake and promote sustainment.
Implementation tracking key elements

- Site
- Date
- Participant Name/Role
- SSTOP Status Update (e.g., not implemented, partially, fully)
- Local Site Activities
- How Intervention is being used (e.g., units, presentations for buy-ins)
- Changes to Intervention (e.g., note template)
- Changes to Implementation (e.g., only implemented on specific units)
- Feedback/Recommendations
- Barriers
- Facilitators
- Reactions to Feedback Reports (data believable/data assumptions)
<table>
<thead>
<tr>
<th>Date</th>
<th>Planning call</th>
<th>Site visit</th>
<th>Follow up 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant Names/Roles/Site</td>
<td>PharmD Champion</td>
<td>Physician champion</td>
<td>Pharm D Champion</td>
</tr>
<tr>
<td>SSTOP Status Update (e.g., not using, partially, fully)</td>
<td>vanco template not yet installed</td>
<td>vanco template not yet installed; plan for launch by September</td>
<td>Substantial progress will be delayed as physician champion is on leave until first wk of September; vanco template not yet installed; ongoing progress by CAC [name]</td>
</tr>
<tr>
<td>Local site activities</td>
<td>Need to get [Site] P&amp;T approval</td>
<td>To-do items: R&amp;D follow up, P&amp;T notification, review and adaptation of sample abx protocols for use at [Site]</td>
<td>To-do items for [Physician Champion]: R&amp;D coordination and planning with P&amp;T; identify workflow issues</td>
</tr>
<tr>
<td>How intervention is being used (e.g., units, presentations for buy-in, etc.)</td>
<td>Alert to the responsible provider to do the vancomycin timeout template will be linked to an order for vancomycin; [Pharm D Champion] will remind teams to complete the vancomycin timeout template during 10:30 AM handshake rounds; alerts will be sent to ID whenever vancomycin is initiated or discontinued (via the template)</td>
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<tr>
<td>Changes to Intervention (e.g., note template)</td>
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<tr>
<td>Changes to Implementation (e.g., only using on X unit)</td>
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<tr>
<td>Feedback/Recommendations/Suggestions</td>
<td>Main concern: How will providers be notified that vancomycin would expire and that the timeout template would need to be completed?</td>
<td></td>
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<tr>
<td>Barriers</td>
<td>Some lapse of communication between PharmD and MD champions; [Pharm D Champion] had not been involved preliminarily. [Pharm D Champion] does not have power to approve the continuation (but would be open to this). PharmD management team is concerned about time commitment and possible interference with [Pharm D Champion] work.</td>
<td>Setting up alerts through quick orders would require that vancomycin be orderable ONLY through a quick order menu</td>
<td>[Physician Champion] is on leave until September 9th and other ID physician is swamped with clinical care responsibilities.</td>
</tr>
<tr>
<td>Facilitators</td>
<td>Structural advantage- site has a soft restriction for vancomycin; after 72 hours, medical team is required to put in a stewardship consult for a continuance.</td>
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<tr>
<td>Reactions to Feedback Reports (data believable/data assumptions)</td>
<td></td>
<td>[PI] reviewed operations of the Dashboard, which could be helpful in absence of TheraDoc. [PI] also showed CREATE tools of abx use</td>
<td></td>
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</table>
To date, there are approximately 23 participants.

6 sites having implemented the vancomycin SSTOP template.

4 sites have implemented the antipseudomonal SSTOP template.

All calls are audio-recorded by the SSTOP team and detailed notes comprised. The implementation specialist reviews notes and populates the implementation tracking tool.
Pre-Intervention Qualitative Interviews [Jan ‘19- March ‘20]

July 2019 Learning Collaborative Calls Start

Vancomycin Template [June ’19- March ‘20]

Early Post-Intervention Qualitative Interviews [Sept’19-]

N=8 total sites

N= 16 completed calls

May 18, 2020 Utilize notes [barriers/facilitators] from learning collaborative to inform qualitative interviews

Antipseudomonal Template [June’20-]

Post-Intervention Qualitative Interviews [June ‘20-]
Implementation Strategies Utilized
Strategies were clustered together by physical proximity into categories. Each cluster will be discussed in subsequent pages.
Train and Educate Stakeholders

- 15 Conduct educational meetings
- 16 Conduct educational outreach visits
- 29 Develop educational materials
- 60 Shadow other experts
- 19 Conduct ongoing training
- 20 Create a learning collaborative

- 31 Distribute educational materials
- 43 Make training dynamic
- 55 Provide ongoing consultation
- 71 Use train-the-trainer strategies
- 73 Work with educational institutions

(Waltz et al., 2015)
Provide Interactive Assistance

- 8 Centralize technical assistance
- 33 Facilitation
- 53 Provide clinical supervision
- 54 Provide local technical assistance

(Waltz et al., 2015)
Use Evaluative and Iterative Strategies

(Waltz et al., 2015)

- Assess for readiness and identify barriers and facilitators
- Audit and provide feedback
- Conduct cyclical small tests of change
- Conduct local needs assessment
- Develop a formal implementation blueprint
- State implementation scale up

- Develop and implement tools for quality monitoring
- Develop and organize quality monitoring systems
- Obtain and use patients/consumers and family feedback
- Purposefully reexamine the implementation
Support Clinicians

- Create new clinical teams
- Develop resource sharing agreements
- Facilitate relay of clinical data to providers
- Remind clinicians
- Revise professional roles

(Waltz et al., 2015)
Adapt and Tailor to the Context

- Promote adaptability
- Tailor strategies
- Use data experts
- Use data warehousing techniques

(Waltz et al., 2015)
Develop Stakeholder Interrelationships

- 6 Build a coalition
- 7 Capture and share local knowledge
- 17 Conduct local consensus discussions
- 40 Involve executive boards
- 47 Obtain formal commitments
- 52 Promote network weaving
- 64 Use advisory boards and workgroups

- 24 Develop academic partnerships
- 25 Develop an implementation glossary
- 36 Identify early adopters
- 38 Inform local opinion leaders

- 35 Identify and prepare champions
- 45 Model and simulate change
- 48 Organize clinician implementation team meetings
- 57 Recruit, designate, and train for leadership
- 65 Use an implementation advisor
- 72 Visit other sites

(Waltz et al., 2015)
Engage Consumers

- Increase demand
  - Intervene with patients/consumers to enhance uptake and adherence
- Involve patients/consumers and family members
- Prepare patients/consumers to be active participants
- Use mass media
Results
What did we find?

**Barriers:** rotating personnel (University affiliate), stewardship turnover, lack of a local champion to remind/assist providers on template utilization, COVID-19, and shortages of Clinical Applications Coordinators (CAC) causing delays in template installation.

**Facilitators:** existing strong stewardship resources (e.g., staffing) and local champions (e.g., Infectious Diseases fellow) to encourage and ensure SSTOP template completion.

**Recommendations:** largely centered on ways to improve note template usability.
Benefits of SSTOP Learning Collaborative

Discussions of local tailoring of note template logic was useful to learn what worked well for one site and how it could be used for others.

Collectively, the information shared, and knowledge gained during these calls appear to have strengthened group commitment to the project and aided in successful SSTOP implementation.

Sharing local site activities (e.g., site specific developed tools & educational materials) enhanced group collaboration and deemed helpful for SSTOP implementation.

Discussions of barriers often led to group problem solving, fostering teamwork, and allowing for sites to assist each other to overcome barriers.
Value of Learning Collaborative: Participants’ Perspective

I do really appreciate the [Learning Collaborative] calls. I appreciate getting feedback from these other facilities. It’s definitely interesting for us to see how other facilities practice ID [Infectious Disease] and practice stewardship. (...) I think we definitely have room to grow as a stewardship program, and so it’s always nice to see what else is out there and what has worked for other facilities as well.

-ASP Champion [Qual interview]

I really enjoy them [the studies], it’s a good group of people, it’s collegial, it’s sort of fun.

-ASP Champion [Qual interview]
Unique Insights

All sites are very engaged in the learning collaborative.

Although some sites haven’t been able to implement the SSTOP templates, the template serves as a prompt—the guidance documents, de-escalation and educational tools (provided by the SSTOP team or developed locally) can be implemented otherwise as sites have been working with providers and pharmacists.

(...) we were finding that we were having so many barriers that we decided not to go to the template pathway, but it does not mean we are not following the same approach trying to reach everybody at 48 hours, and now we have pharmacies for every single team where before we only had one pharmacist for every other team. (...) and we have dedicated people for inpatient antimicrobial stewardship as well as outpatient antimicrobial stewardship. I do not know if you have an in between group for we are doing what SSTOP wants us to do but not necessarily the template.

-ASP Champion [Learning Collaborative]
Some of the sites that have implemented the templates are taking a more holistic approach to antibiotic stewardship—engagement in deescalating activities and antibiotic use—to the point that they did not utilize the template simply because they’ve changed their stewardship activities. If you don’t start an antibiotic, you wouldn’t need to fill out the SSTOP template.

*I do not think that we have been placing the template into use as much as living by its values.* We continue to be aggressive in stewardship and to use the structure of the template as an aggressive teaching tool from a stewardship standpoint. *We may not be generating as much data for you, we are still trying to stay ahead of the pack.*

-ASP Champion [Learning Collaborative]

Insights gained during these learning collaborative calls allowed us to follow-up and gather more detailed information on some of these findings during our qualitative post-intervention interviews.

The question will be posed how successful was SSTOP based on activation and energy vs. the use of the template itself?
### Tracking Tools

**SITE**

<table>
<thead>
<tr>
<th>Planning Call</th>
<th>Intervet</th>
<th>Follow up</th>
</tr>
</thead>
</table>

**Participant/Names/roles/site**

- Pharmacologist
- Physician
- Pharm D Champion

**SSTOP Status Update (e.g., not using, partially, fully)**

- Vaso template not yet installed
- Vaso template not yet installed, plan for launch by September
- Substantial progress will be delayed as physician champion is on leave until 3/20. Template is not yet installed, ongoing progress by 04/01 (site)

**Local site activities**

- Need to get [site] 1st approval
- To-do items: R&D follow-up, R&D notification, review and adoption of template-specific protocol for use at [site]
- To-do items: [Pharmacists’ Champions] R&D notification and planning with [site], identify workflow issues

**Changes to Intervention (e.g., note indicator template)**

Alert to the responsible provider to use the communication tool template and to use an order for the pharmacists (Pharm D champion) will require implementation. The template will be reviewed and finalized in an upcoming meeting. A workflow checklist will be used to assess when the template is initiated or discontinued (with the template)

**Changes to Implementation (e.g., only using on X unit)**

- [Site] has a protocol for communication between pharmacists and EOC. [Physician advocate] has not been involved.

**Feedback/Recommendations/suggestions**

- Patient concern: [Provider] will provide a notification that the patient is alert and that the intervention template needs to be completed.

**Barriers**

- [Site] has 24-hour availability and must be reached through a cardiologist.
- [Physician advocate] is on leave until 3/20, and other [Physician advocate] is consulted with [site] care responsibilities.

**Facilitators**

- [Site] has a method for tracking, and a 24-hour, medical team is required to put a leadership and clinical consult for a continua.

**Reactions to Feedback Reports (data believable/data assumptions)**

[3] released operators of the leadership, which must be helpful in advance of the feedback. [4] also allowed contact tools of all sites to use

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**Interaction Tracking Sheet**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Type</th>
<th>Personnel</th>
<th>Time (minutes)</th>
<th>Interaction Activity</th>
<th>Implementation Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/22/2017</td>
<td>Group</td>
<td>In person</td>
<td>60</td>
<td>Explaining HH rates poster</td>
<td>Conduct Educational Meetings</td>
</tr>
<tr>
<td>3/31/2017</td>
<td>Group</td>
<td>Email</td>
<td>50</td>
<td>Initial HH feedback HH rates poster</td>
<td>Audit and provide feedback</td>
</tr>
<tr>
<td>7/1/2017</td>
<td>Site D</td>
<td>Site D</td>
<td>15</td>
<td>Follow-up HH rates poster</td>
<td>Conduct educational small team of change</td>
</tr>
</tbody>
</table>

**Status/Innovation Characteristics**

- Underlying knowledge sources
- Values & beliefs
- Goals
- Skills & knowledge
- Time, resources, support
- Degree of novelty
- Usability
- Degree of difficulty

**Recipient Characteristics**

- Motivation
- Leadership
- Support
- Culture
- Facilitation experience

**Inner Context Characteristics**

- Mechanisms for embedding change
- Etc.

**Outer Context Characteristics**

- Policy drivers & priorities
- Team skills
- Process skills
- Influencing & negotiating skills

**Facilitation: Internal**

- Project management
- Improvement skills
- Team skills
- Process skills
- Influencing & negotiating skills

**Facilitation: External**

- Project management
- Improvement skills
- Team skills
- Process skills
- Influencing & negotiating skills

**Utilized HH rates poster provided by project**

- [Site] has a protocol for tracking, and a 24-hour, medical team is required to put a leadership and clinical consult for a continua.

**Rating:**

- [Site] has a protocol for tracking, and a 24-hour, medical team is required to put a leadership and clinical consult for a continua.
QUERI Implementation Resources
QUERI – Quality Enhancement Research Initiative

QUERI Learning Collaboratives

Sharing best practices in implementation science

QUERI’s Implementation Research Group (IRG) is a national learning collaborative that showcases state-of-the-art implementation science topics. Housed in QUERI’s Center for Evaluation and Implementation Resources (CEIR), the IRG provides a forum for sharing best practices and lessons learned in the field of implementation science.

Join the IRG

Features of the IRG:

- 500+ members from across the U.S. and around the world
- Cyberseminars covering the latest implementation science methods and application of theory
- Monthly participatory group calls discussing a range of topics in implementation science

https://www.queri.research.va.gov/ceir/irg.cfm
Six Specialized Working Groups

- Adaptation, Fidelity, and Tailoring
- Applying Implementation Science (theories and frameworks)
- Implementation Facilitation
- Qualitative Comparative Analysis
- Audit with Feedback
- Qualitative Methods and Analysis Group
Thank you for listening!

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Questions/Discussion
References


