Clinical Aphasiology Conference 2022 Proposal

Title: Leveraging Implementation Science to Advance the Reach of Aphasia Best Practices

Brief Abstract (100 words)

Implementation Science (IS) is the study of methods to promote research into clinical practice by narrowing the research to practice gap. Implementation initiatives are increasingly being incorporated in aphasiology; however, the majority of clinical research in the field continues to favor efficacy and effectiveness studies. Advancing researchers' knowledge of foundational IS principles, including the multiple frameworks, strategies, and outcomes that are available, has the potential to increase the uptake of evidence-based practices and meet real-world practice needs. This roundtable aims to advance dialogue surrounding research-practice gaps and support aphasia researchers in incorporating IS into their research programs.

Extended Abstract (750 words)

Introduction

The slow translation of research into routine clinical practice limits clinicians' ability to readily incorporate research findings into practice and optimize care for patients. Implementation Science (IS) is the study of methods to promote the systematic uptake of research into clinical practice and offers an avenue to more directly link research and real-world clinical practice in healthcare generally (Eccles & Mittman, 2006), and within aphasiology. Within the field of Communication Sciences and Disorders (CSD), there is a nascent body of literature incorporating implementation initiatives including utilizing implementation frameworks to measure implementation outcomes (Douglas et al., in press). Further, IS is increasingly receiving attention in aphasiology, including a new Collaboration of Aphasia Trialists (CATs) working group. However, the preponderance of clinical research in aphasia consists of intervention-based efficacy and/or effectiveness studies according to the traditional research pipeline; use of IS to promote the uptake of research findings in aphasiology has been limited. Accordingly, this roundtable will capitalize on recent momentum to advance current IS initiatives and support pathways to promote future IS work in aphasia and related disorders.

Aims

The overarching purpose of this roundtable is to promote the uptake of IS in aphasia and related disorders to improve research translation. Specifically, it aims to (1) provide background information and context regarding foundational implementation frameworks, strategies, and outcomes; (2) promote the exchange of views on research-practice gaps and priorities in service delivery for aphasia and related disorders (3) help researchers identify tools available for selecting IS frameworks and strategies to capture implementation outcomes; and, (4) identify the needs of aphasia researchers incorporating IS into their research programs.

As noted above, the CATs network has established an IS working group to promote and support implementation initiatives on an international level. The US-based members of this international group, authors on the current proposal, are in a unique position to facilitate the uptake of implementation methods, tools and resources within current aphasia research programs.

Content

The field of IS is broad and involves a number of theories, models, and frameworks that provide a structure for implementation initiatives. Additionally, there are over 70 implementation strategies that can be used to support implementation efforts (Powell et al., 2015) and various implementation outcomes that differ from typical treatment or service delivery outcomes (Proctor et al., 2011). Given the breadth of IS, many researchers may be wondering where to start.

Implementation initiatives can be conceptualized along an implementation "subway" schematic (Lane-Fall et al., 2019), which provides a useful frame for understanding various points in implementation research (Figure 1). The implementation "line" of the subway includes (a) hybrid effectiveness-implementation trials that examine both intervention effectiveness and implementation, (b) mixed methods studies to understand the context of a specific practice, (c) designing implementation strategies for a practice of interest, and (d) testing implementation strategies to deliver the practice. By identifying concrete starting points or opportunities to incorporate implementation into current research initiatives, discussion of the subway model will help participants link research and the needs of real-world practice settings.

Examples of implementation-focused studies in aphasia and neurogenic care have explored practice gaps in the following areas: treatment dosage (Cavanaugh et al., 2021), discourse tools (Stark et al., 2021), aphasia management and guideline recommendations (Shrubsole et al., 2019), standardized assessment (Schliep et al., 2020), holistic care (Tierney-Hendricks et al., 2021), skilled nursing care (Douglas et al., 2021), and communication-partner training (Wielaert et al., 2018). These studies provide a glimpse into existing research-practice gaps in aphasia rehabilitation and warrant collaborative exploration of IS priorities in the field.

Questions/Topics for Discussion

1) *Bridging the Gap:* What are priority areas where IS can support research translation and service delivery for aphasia/related disorders?
2) *Identifying Concrete Steps:* How do you imagine incorporating IS into your research agenda? (examples include readiness to incorporate IS, potential for relevant designs such as hybrid designs)
3) *Exploring Current Needs:* What do you need to successfully move forward with IS in your research agenda? (examples include background knowledge of frameworks, strategies, and/or outcomes, potential collaborations/resources, funding)

Participant Engagement Methods/Strategies

To facilitate discussion, we will provide handouts containing information on IS frameworks, strategies and outcomes. Additionally, we will provide dissemination and implementation logic models to structure discussion around implementation efforts in aphasia. To apply roundtable content and discussion, participants will be guided in completing a "specific aims exercise," where they will craft complementary aims in small groups related to their research programs. For instance, participants may consider a hybrid effectiveness-implementation design, where research aims investigate intervention and implementation outcomes simultaneously.

Figures & Tables

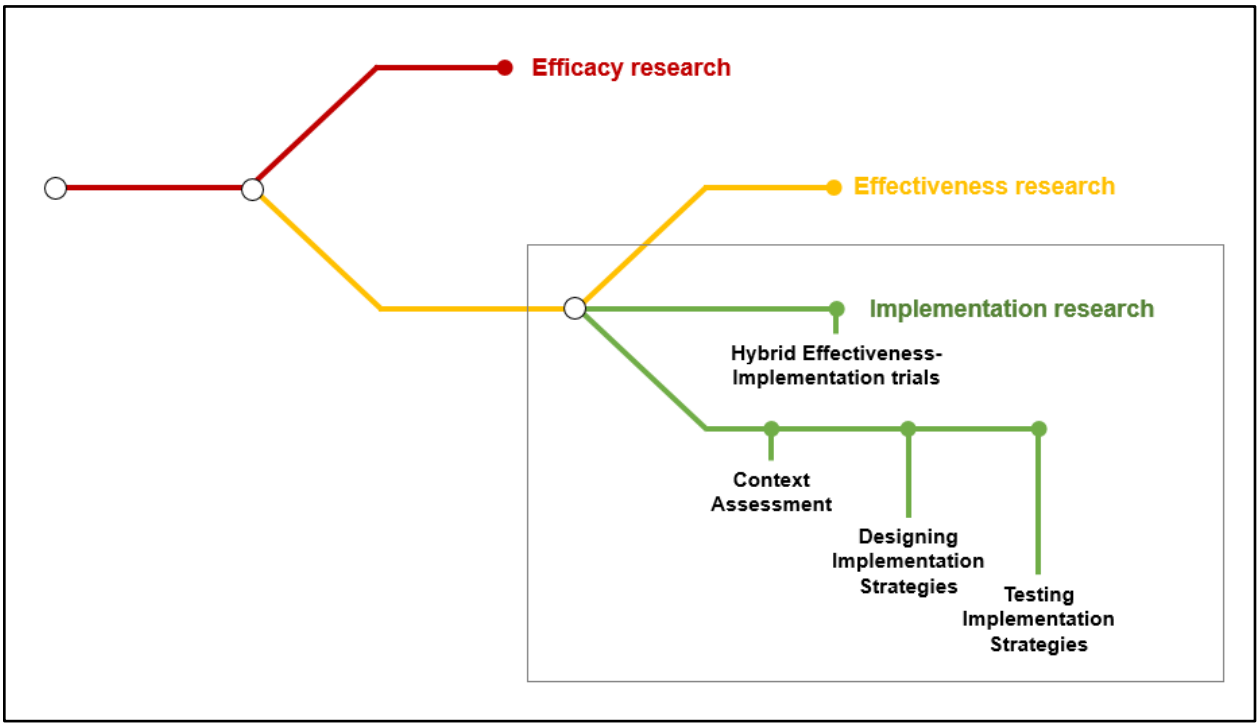

Figure 1: The Lane-Fall "Subway" Schematic to guide implementation initiatives. Implementation research is noted in green. Adapted from Lane-Fall et al., 2019.

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Leveraging Implementation Science to Advance the Reach of Aphasia Best Practices

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Goals for Roundtable:

- provide background information and context regarding foundational implementation frameworks, strategies, and outcomes;
- promote the exchange of views on research-practice gaps and priorities in service delivery for aphasia and related disorders;
- help researchers identify tools available for selecting implementation science (IS) frameworks and strategies to capture implementation outcomes; and,
- identify the needs of aphasia researchers incorporating IS into research programs.

What is implementation science?

Implementation science is the study of methods to promote the uptake of research into routine clinical practice (Eccles & Mittman, 2006)

Examples of implementation-focused studies in aphasia and neurogenic care:

- Treatment dosage (Cavanaugh et al., 2021)
- Discourse tools (Stark et al., 2021)
- Aphasia management and guideline recommendations (Shrubsole et al., 2019)
- Standardized assessment (Schliep et al., 2020)
- Holistic care (Tierney-Hendricks et al., 2021)
- Skilled nursing care (Douglas et al., 2021)
- Communication-partner training (Wielaert et al., 2018)

Implementation Science: Key Concepts

1) Implementation Frameworks (handout pages 2-3)
2) Implementation Strategies (handout page 4)
3) Implementation Outcomes (handout page 5)

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1) Implementation Frameworks:

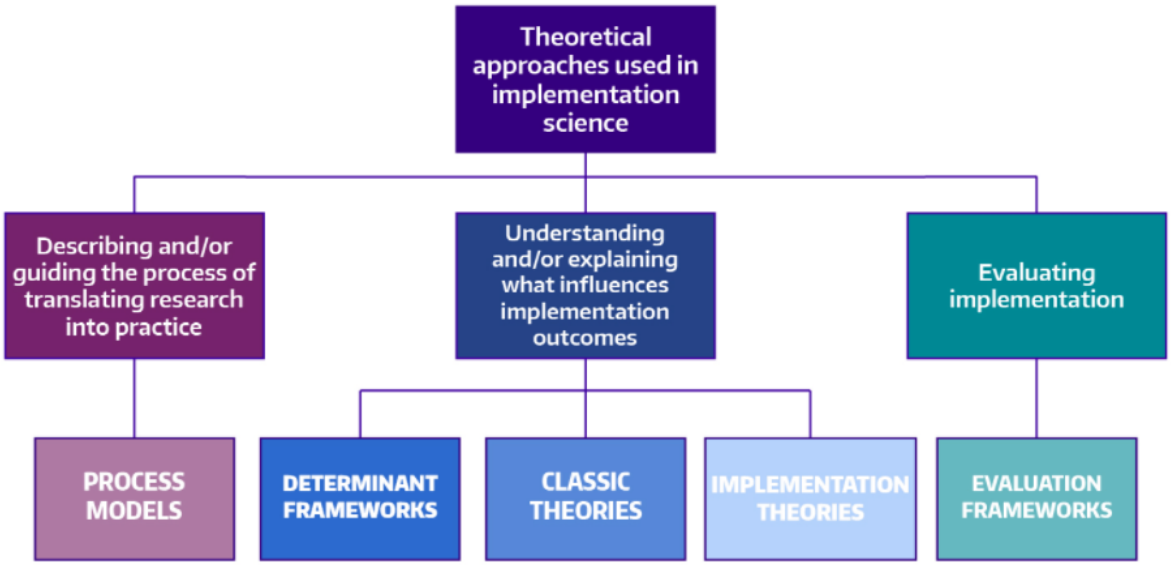
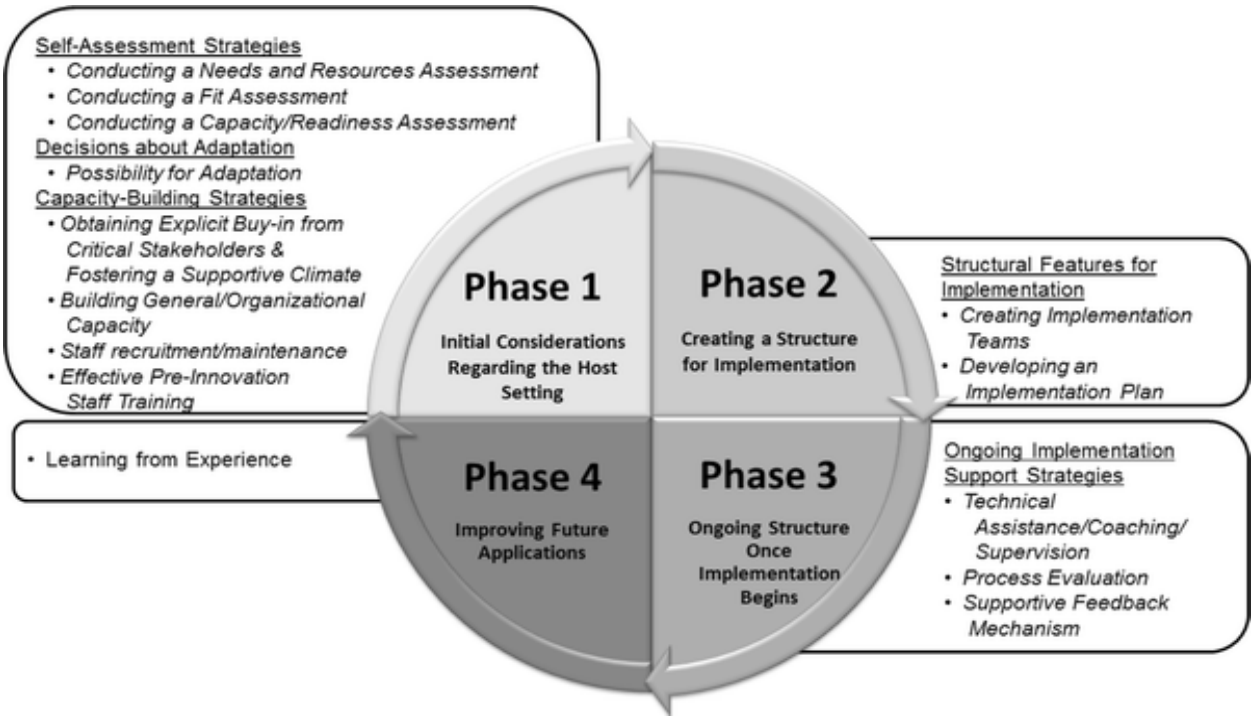
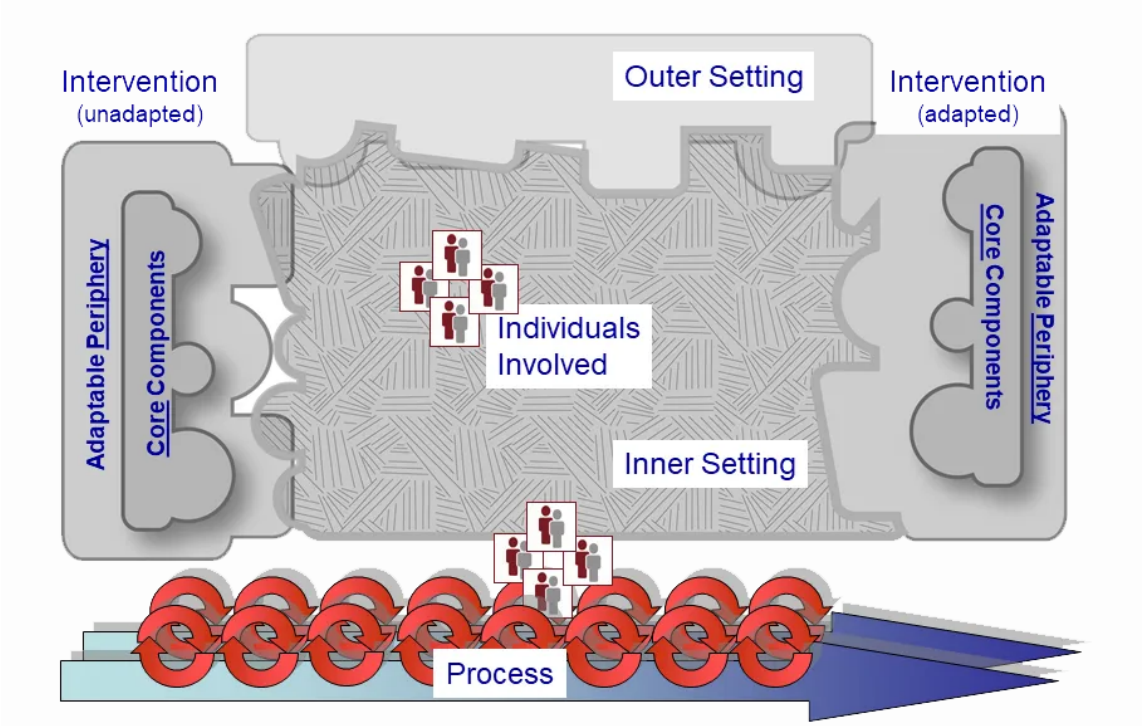


Figure 2: Figure from the University of Washington Implementation Science Research Hub (https://impsciuw.org/implementation-science/research/frameworks/); Adapted from Nilsen, 2013.

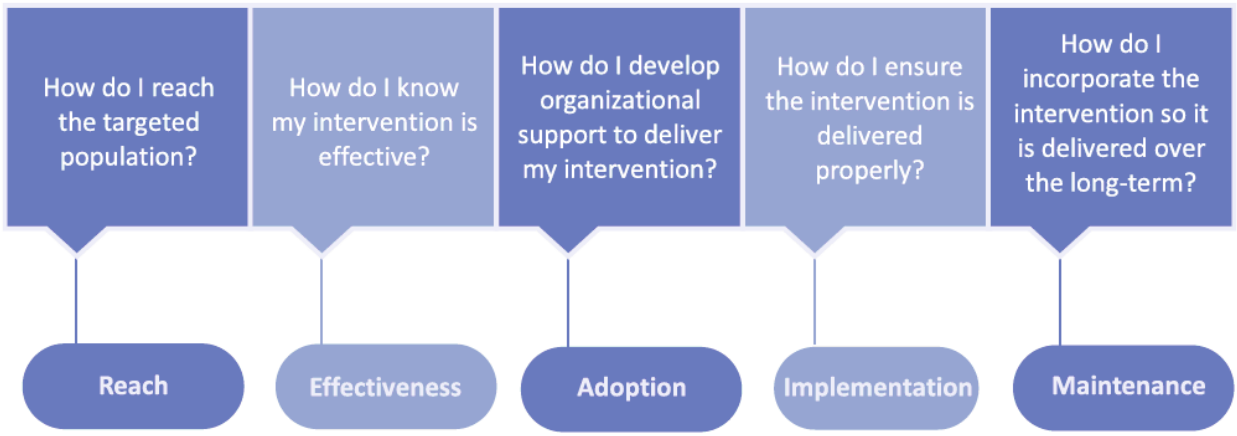
Process Model Example:
The Quality Implementation Framework (Meyers, Durlak & Wandersman, 2012)



Determinant Framework Example:
The Consolidated Framework for Implementation Research (CFIR; Damschroder, 2009)



Evaluation Framework Example:
RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance; Glasgow, Boles & Vogt, 1999)



2) Implementation Strategies

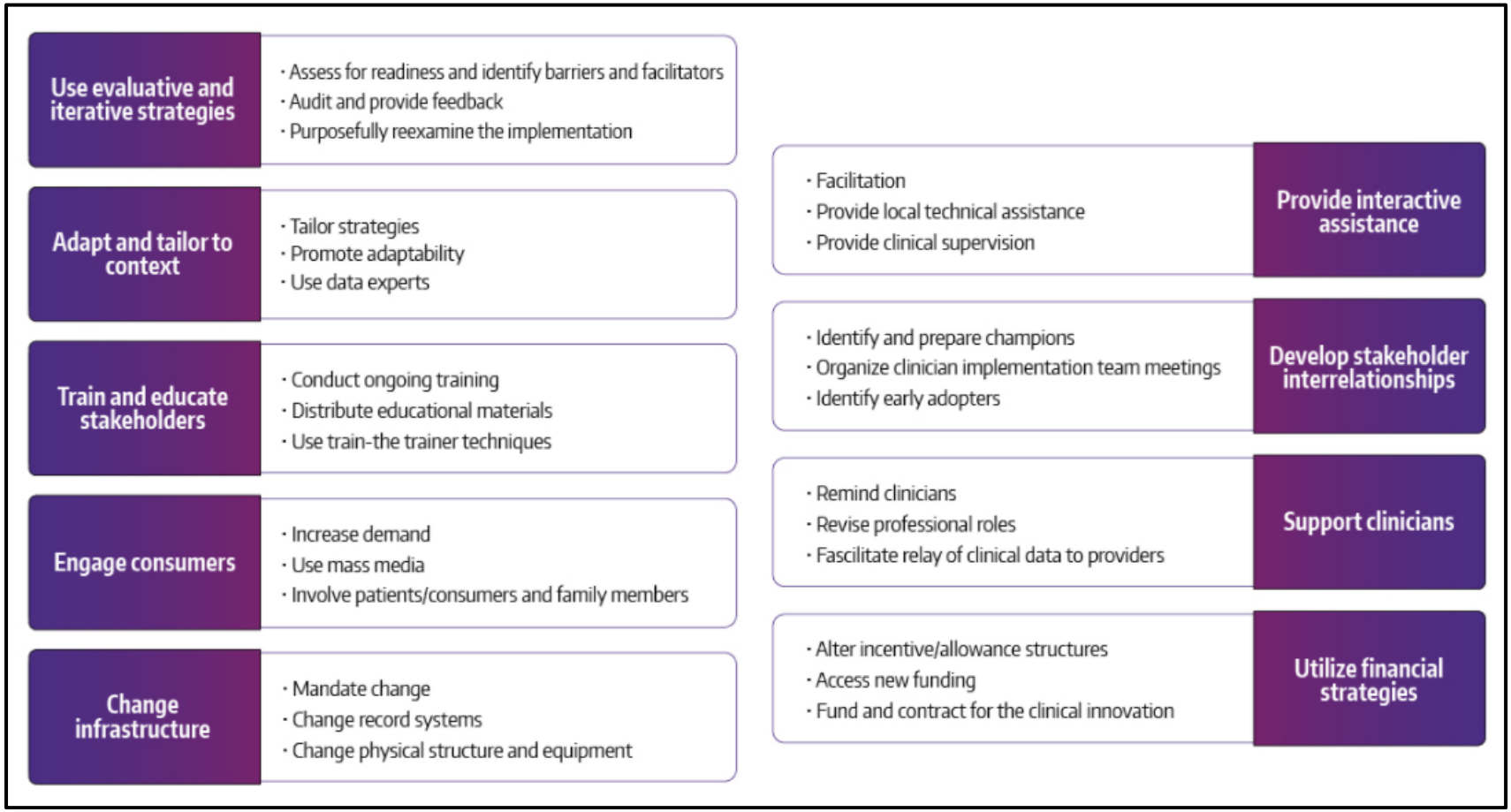


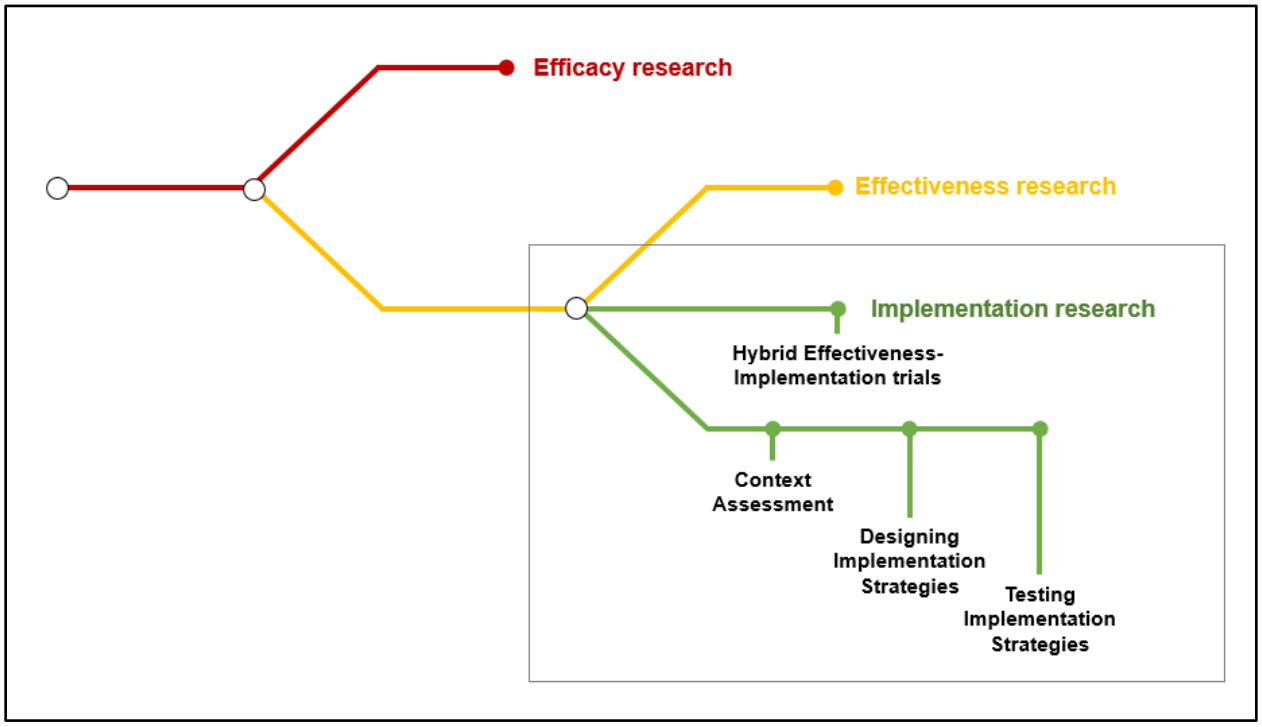
Figure from the University of Washington Implementation Science Research Hub. Adapted from Waltz, T.J., Powell, B.J., Matthieu, M.M. *et al.* Use of concept mapping to characterize relationships among implementation strategies and assess their feasibility and importance: results from the Expert Recommendations for Implementing Change (ERIC) study. *Implementation Sci* **10,** 109 (2015). https://doi.org/10.1186/s13012-015-0295-0.

3) Implementation Outcomes

IS Outcome	Definition	Possible Research Questions	Available Measurement
Acceptability	Satisfaction with the implementation initiative	Is the intervention acceptable to providers?	Surveys, interview, administrative data
Adoption	Uptake, utilization, or intention to try the implementation initiative	How often are providers delivering the intervention?	Administrative data, observation, interview, survey
Appropriateness	Perceived fit, relevance, or compatibility of the implementation initiative	Do providers feel the intervention is appropriate for their patients and/or setting?	Survey, interview, focus groups
Cost	Financial cost of implementation efforts	Are the benefits of the intervention more than the cost of the intervention?	Administrative data
Feasibility	Actual fit or suitability for everyday practice	Is the intervention feasible for providers to deliver?	Survey, administrative data
Fidelity	Accuracy or whether the implementation practice is delivered as intended	Are providers able to adhere to the intervention as studied?	Observation, checklist, self-report
Penetration	Degree of spread	Is the intervention spreading to other providers (either in the same setting or other settings)?	Case audit, interviews, questionnaires, checklists

The Lane-Fall "Subway" Schematic to guide implementation initiatives:

Implementation initiatives can be conceptualized along an implementation "subway" schematic (Lane-Fall et al., 2019), which provides a useful frame for understanding various points in implementation research (Figure 1). The implementation "line" of the subway includes (a) hybrid effectiveness-implementation trials that examine both intervention effectiveness and implementation, (b) mixed methods studies to understand the context of a specific practice, (c) designing implementation strategies for a practice of interest, and (d) testing implementation strategies to deliver the practice.



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Logic Model: Determining Implementation Needs				
What is the problem/need to be addressed?	Is there an existing EBP to address the problem/need? If yes, what is it? If no, what are steps to develop one?	What are relevant factors (i.e., determinants) that may influence implementation?	Which strategies would you use to support implementation?	What implementation and client outcomes do you aim to achieve?
SUSTAINABILITY & EQUITY				

Implementation Frameworks, Strategies & Outcomes Resource List

General resources for theories/models/frameworks in implementation science

- Dissemination and Implementation Models in Health Research and Practice
- The UW Implementation Science Resource Hub
- Making sense of implementation theories, models and frameworks (Nilsen, 2015)
- A systematic review of implementation frameworks of innovations in healthcare and resulting generic implementation framework (Moullin et al., 2015)
- Theories and Frameworks in Implementation Science (Webinar presented by Dr. Rachel C. Shelton)
- Theories, Models, and Frameworks (Webinar presented by Dr. Meghan Lane-Fall)
- Toolkit Part 1: Implementation Science Methodologies and Frameworks

Resources for determinants of practice (i.e., factors that influence implementation)

- Consolidated Framework for Implementation Research (CFIR)
- EPIS Framework
- A more practical guide to incorporating health equity domains in implementation determinant frameworks (Woodward et al., 2021)
- Theoretical Domains Framework
- A guide for applying a revised version of the PARIHS framework for implementation (Stetler et al., 2011)

Resources for implementation strategies

- A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project (Powell et al., 2015)
- Adapting a Compilation of Implementation Strategies to Advance School-Based Implementation Research and Practice (Cook et al., 2019)
- Implementation Strategies (Webinar presented by Dr. Rachel C. Shelton)

Resources for implementation, service, and client outcomes

- Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda (Proctor et al., 2011)
- Outcomes for implementation science: an enhanced systematic review of instruments using evidence-based rating criteria (Lewis et al., 2015)
- Brief: Implementation and Student Outcomes: What They are and Why They Matter