AMETHIST

RESOURCE

ADAPTATIONS IN IMPLEMENTATION SCIENCE

Adaptations are the degree to which an effective practice or implementation strategy changes to suit the needs of a local setting or priority population (Geng et al., 2023)**. The process of making adaptations should be thoughtful and deliberate, with the goal of improving the fit or effectiveness in a given context** (Movsisyan et al., 2019; Wiltsey Stirman et al., 2019)**. Adaptations are necessary for the successful adoption and sustainment of evidence-based practices** (Kilbourne et al., 2024)**.**

AMETHIST@Penn:
Achieving Maternal Empowerment and Transforming Health through Implementation Science and Training

WHAT CAN BE ADAPTED?

Interventions

Changes to the innovation, evidence-based practice or clinical intervention itself

Example
Innovation: Pregnancy loss support group
Current implementation: 120-minute, in-person meeting
Adaptation: 90-minute, virtual meeting

Implementation strategies

Changes to how the intervention is supported, delivered, or integrated into practice

Example
Innovation: Screening program
Current implementation strategy: Paper forms administered by medical assistants
Adaptation: Embedding screener into HER and training providers on how to respond to positive scores

Interventions to Fit Context

Changes made to fit the setting, population, or system in which implementation occurs

Example
Innovation: Postpartum depression therapy program
Current implementation: Two sites (academic medical center and community hospital) with daytime hours of operation and English-speaking
Adaptation: Offering after-hours and/or Spanish-speaking options to align with patient needs

Running Example Used Throughout This Guide

To make these ideas concrete, imagine a health system implementing a **postpartum depression screening** using a validated questionnaire administered during prenatal visits.

As the program rolls out, teams may find they need to adjust:

- Who administers the screener
- When it occurs in the visit
- How results are documented
- How patients with positive scores are connected to care

Throughout this guide, we will return to this example to show how teams can decide on adaptations and document them.

Considerations For Making Adaptations

Adaptations are necessary to improve fit with local workflows, populations, or resource constraints. Adaptations should be made carefully to avoid weakening the core components of an innovation or implementation strategy that are responsible for producing outcomes.

A central principle across implementation science is the distinction between core components (the mechanisms that make the innovation work) and the forms those functions take (how they are delivered) (Perez et al., 2019). Whenever possible, teams should modify the form while preserving the function.

For example, changing who delivers an innovation, the format of materials, or the timing of sessions may be acceptable if the underlying therapeutic or implementation mechanism remains intact. In contrast, removing or altering core components (those that are essential to producing change) may reduce effectiveness.

Before finalizing an adaptation, teams should ask:

- Does this change preserve the innovation's core purpose and/or mechanism of action?
- Are we improving fit while maintaining what makes the practice effective?
- What unintended consequences might occur?

ADAPTION DECISION FRAMEWORK

These frameworks are used before or while a change is being made. Their purpose is to help teams decide whether, how, or under what conditions an adaptation should occur. They answer the question: **should we do this, and how should we design it?**

Iterative Decision Tree for Evaluation of Adaptations (IDEA)

Miller *et al.*, 2020

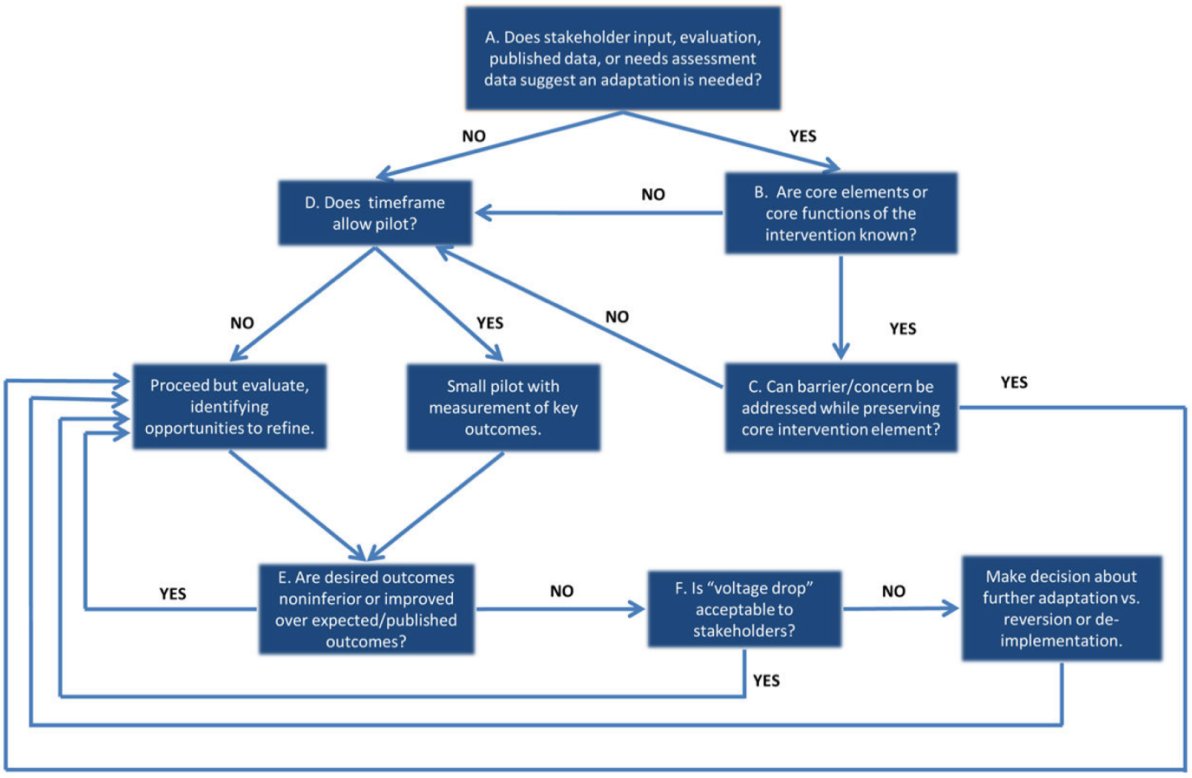
IDEA is a decision-tree framework that guides teams in deciding whether, how, and when to adapt an innovation while balancing fidelity to core components with real-world feasibility and outcomes. It is intentionally non-linear and iterative, and pairs well with structured documentation systems like FRAME so adaptations can be clearly described and evaluated.

- Assess whether adaptation is truly needed based on clinical, stakeholder, or empirical data.
- Clarify which innovation elements/functions are core and must be preserved.
- Adapt while preserving core functions whenever possible.
- Decide whether a pilot study is feasible, given timeline.
- Assess whether adapted EBP is "successful."
- If effectiveness declines, decide whether to refine, continue, or discontinue the adapted approach.

Post Partum Depression Screening example:

Clinic staff notice medical assistants do not have time to administer the screener.

Using IDEA, the team reviews whether **switching administration to nurses** would preserve the core function (identifying patients in need). They pilot the change while monitoring completion rates.



Iterative Decision-making for Evaluation of Adaptations (IDEA)

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Model for Adaptation Design and Impact (MADI)

Kirk *et al.*, 2020

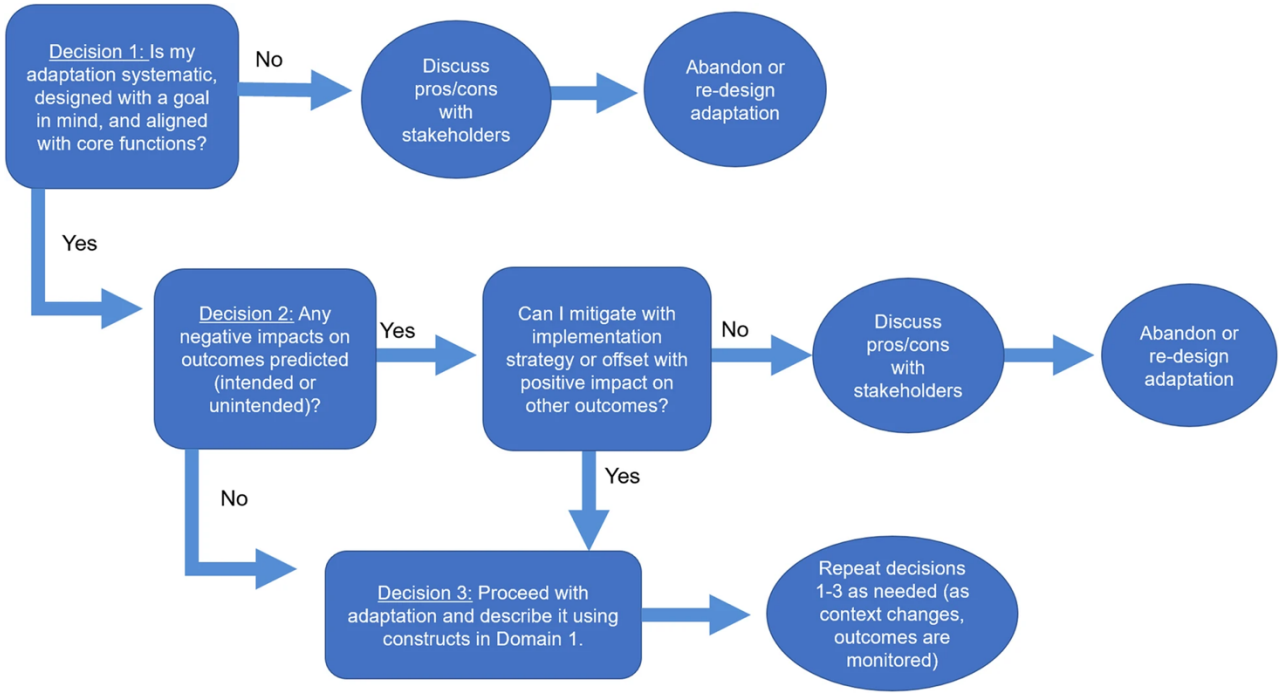
The MADI helps teams think beyond what was changed to consider how an adaptation is likely to influence outcomes. MADI links features of the adaptation process to both intended and unintended effects, supporting more informed, transparent decision-making. MADI is designed for real-world use: it helps teams anticipate tradeoffs, decide whether to proceed or redesign and identify what should be monitored during evaluation.

MADI is organized into three domains:

1. **Adaptation characteristics – what is changing?**
   Teams specify what was modified, the nature of the change, who was involved, for whom or at what level the change was made, and when it occurred. This creates consistency in how adaptations are described and compared across settings.
2. **Mediators and moderators – why might it succeed or fail?**
   MADI proposes that adaptations are more likely to produce positive outcomes when they are aligned with the intervention's core functions, developed systematically, proactive rather than reactive, and have a clear goal.
3. **Outcomes – what might be affected?**
   Adaptations can influence implementation outcomes (e.g., feasibility, fidelity, acceptability) and intervention outcomes (e.g., patient or service results). A change meant to help one area may inadvertently create problems in another.

Post Partum Depression Screening example:

The adaptation (nurse delivery) is **systematic, proactive, and maintains the mechanism of identifying depression risk**, suggesting positive implementation outcomes are likely.



Model for Adaptation Design and Impact (MADI)

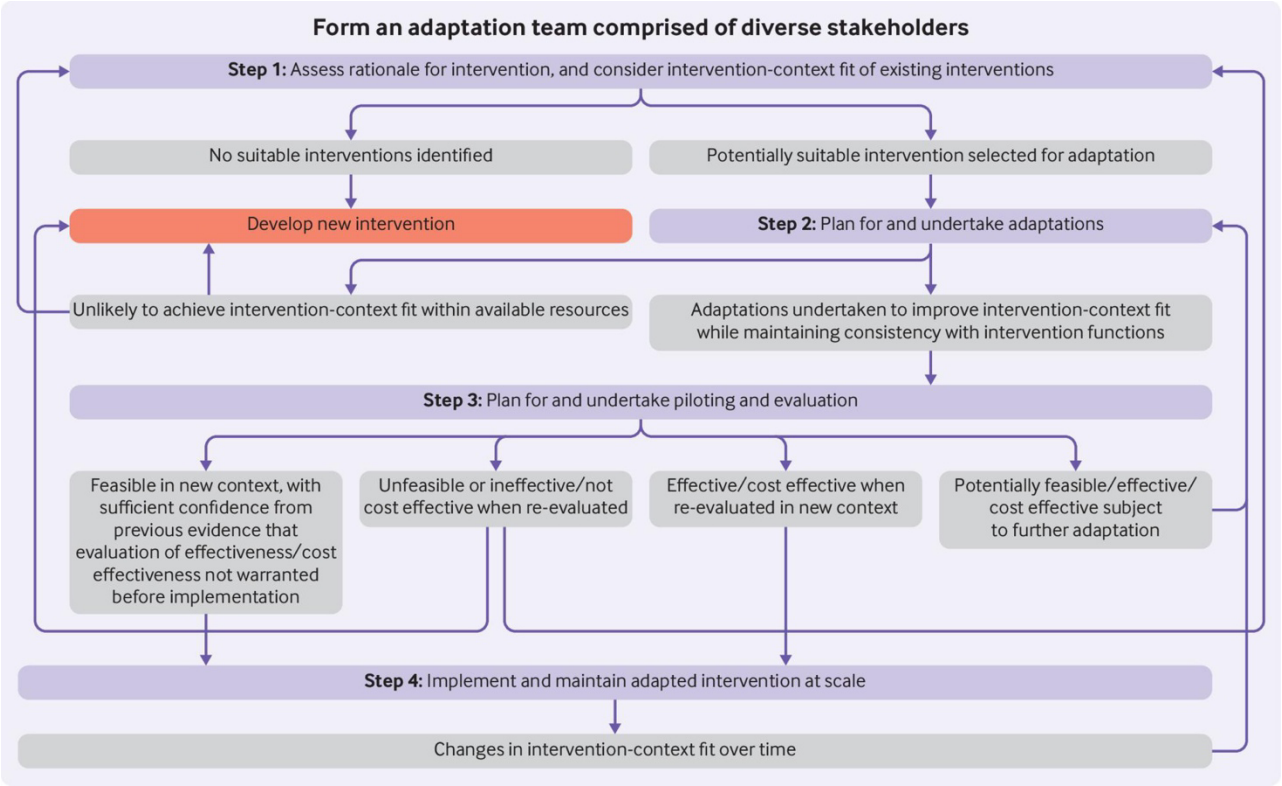
ADAPT: A Process Model for Adapting Interventions to New Contexts

Moore *et al.*, 2021

The ADAPT guidance provides a systematic approach for modifying evidence-informed interventions so they fit new populations, delivery settings, or systems while preserving the mechanisms responsible for effectiveness. ADAPT emphasizes deliberate assessment of intervention-context fit and structured decision-making about what changes are needed. A defining feature of ADAPT is that stakeholder involvement is central at every stage.

Core Stages of ADAPT Process:

1. **Assess rationale and fit of the intervention**
   Teams clarify the problem in the new context, what is known about the intervention's prior evidence, and how similar or different the new setting is from where it was originally tested.
2. **Plan and undertake adaptations**
   Teams modify the intervention to improve feasibility, acceptability, and reach while maintaining consistency with core functions and mechanisms.
3. **Pilot and evaluate**
   Teams determine the level of re-evaluation needed, dependent upon the level of uncertainty about effectiveness in the new context.
4. **Implement and sustain at scale**
   Focus shifts to long-term delivery, building partnerships, monitoring outcomes, and continuing to assess whether evolving context requires further modification.



ADAPT process model for adapting interventions to new contexts

Purple boxes=stages of ADAPT step-by-step; Grey boxes = potential outcomes from each stage.
Directional arrows=recommendations for moving, forward, or backwards through stages or exiting

TRACKING AND DOCUMENTING ADAPTATIONS

The current literature in implementation science is full of studies testing the same individual implementation strategies, and little is done to replicate what has worked in the past (Chinman *et al.*, 2022). Resource constraints, lack of practical tools, and the reality that most trials are not adaptation trials result in limited documentation of adaptations that are made. Tracking the adaptations that are made to interventions, strategies, and contexts can help future researchers replicate and encourage transparency (Summers Holstrop *et al.,* 2022).

What are the goals for documenting adaptations?

- Create an **organized list of adaptations** that future implementers can consider for success.
- Provide **contextual process data** to interpret outcomes (i.e., how adaptations contribute to outcomes).
- **Link** adaptations **to outcomes** (what kind of outcomes can be expected when certain adaptations are made?)
- Consider **refinements** to the **recommended intervention** and **implementation strategies** based on observed changes.

How can we track adaptations?

Self-report

Adaptations are documented by the individuals involved in delivery or oversight of the intervention.

Examples

- Provider checklists completed after sessions
- Brief adaptation logs
- Structured questionnaires
- Interviews with staff or stakeholders about changes they made

Limitations

- May be affected by recall bias.
- Incomplete documentation, or social desirability.
- Reporting can also increase burden on providers, especially in fast-paced clinical settings.

Observation

A trained observer documents deviations or modifications during live or recorded delivery of the intervention

Examples

- Fidelity monitoring visits
- Coding of audio/video recordings
- Shadowing staff during implementation

Limitations

- Resource-intensive and may not capture adaptations that occur outside the observed window (e.g., scheduling or workflow changes).
- Presence of an observer may also alter behavior (Hawthorne effect).

Records

Adaptations are identified through documentation generated as part of routine care or implementation activities.

Examples

- EHR templates
- Revised workflows
- Updated manuals
- Meeting minutes
- Changes in training materials

Limitations

- Not all adaptations are formally recorded.
- Documentation may not adequately explain why the change occurred or whether it was intentional.

Multi-method approaches

Combines two or more sources to create a more complete understanding of adaptations.

Examples

- Pairing provider logs with observational coding.
- Triangulating interviews with document review.

Limitations

- Requires coordination and analytic capacity.
- Discrepancies across sources may require reconciliation.

ADAPTATION TRACKING FRAMEWORKS

These frameworks are used during or after implementation to systematically document and describe what changed. They answer the question: what happened in practice?

FRAME: Framework for Reporting Adaptations and Modifications to Evidence-based Interventions

Wiltsey Stirman *et al.*, 2019

FRAME provides a structured way to document how interventions change in real-world implementation. The purpose is to ensure adaptations are described consistently so their relationship to outcomes can be understood. It can be useful for multi-site work, as it allows teams to compare patterns across hubs, understand tradeoffs between fit and fidelity, and link specific types of modifications to implementation and health outcomes.

Uses eight key elements:

1. When and how the modification occurred in the implementation process
2. Whether the change was planned/proactive or unplanned/reactive
3. Who decided the modification should be made
4. What was modified
5. The level of delivery affected
6. The type or nature of the change
7. Whether the modification was fidelity-consistent with core elements
8. The reasons for the change, including the goal and contextual pressures influencing the decision

Post Partum Depression Screening example:

What changed? Screener administered by nurse instead of MA

When? During early implementation

Planned or reactive? Planned

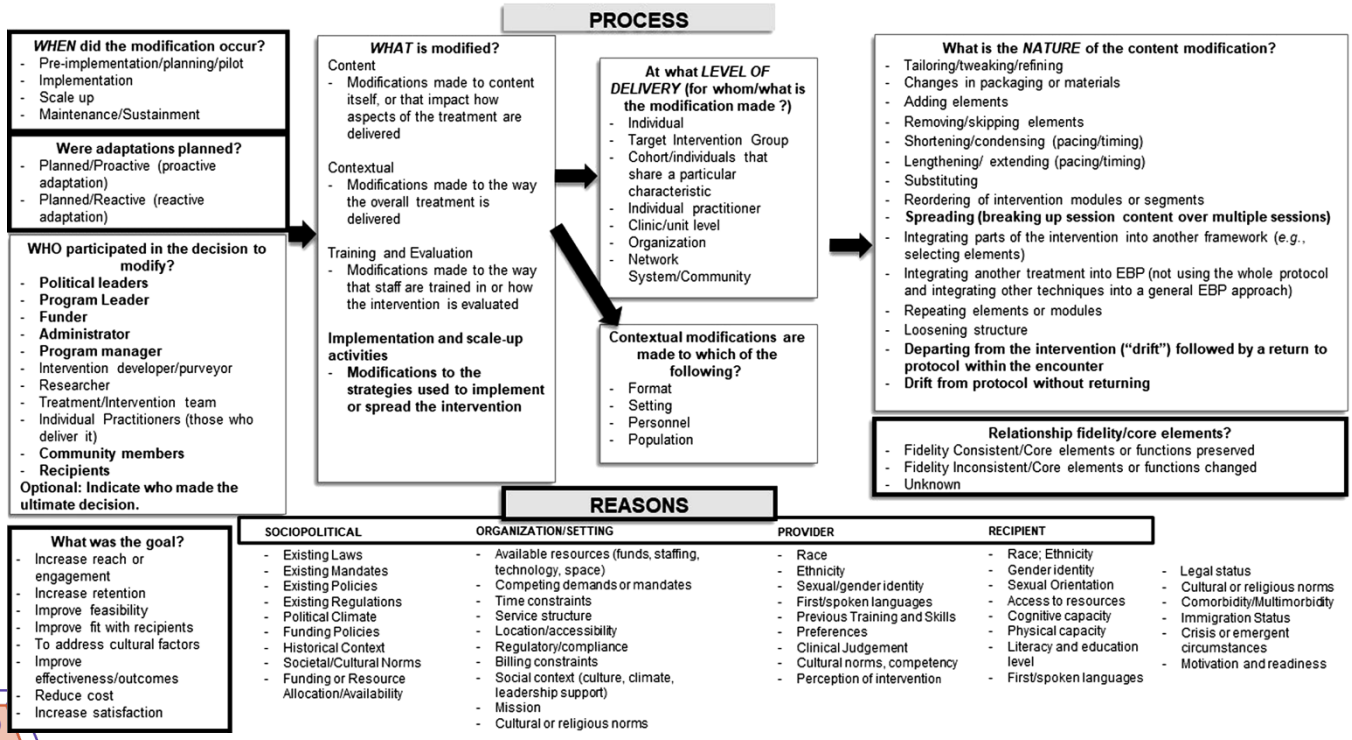
Who decided? Clinic leadership and frontline staff

Level? Clinic

Nature? Change in personnel

Fidelity-consistent? Yes

Reason? MA time constraints



Framework for Reporting Adaptations and Modifications Expanded (FRAME)

FRAME-IS: Framework for Reporting Adaptations and Modifications to Implementation Strategies

Miller *et al.*, 2021

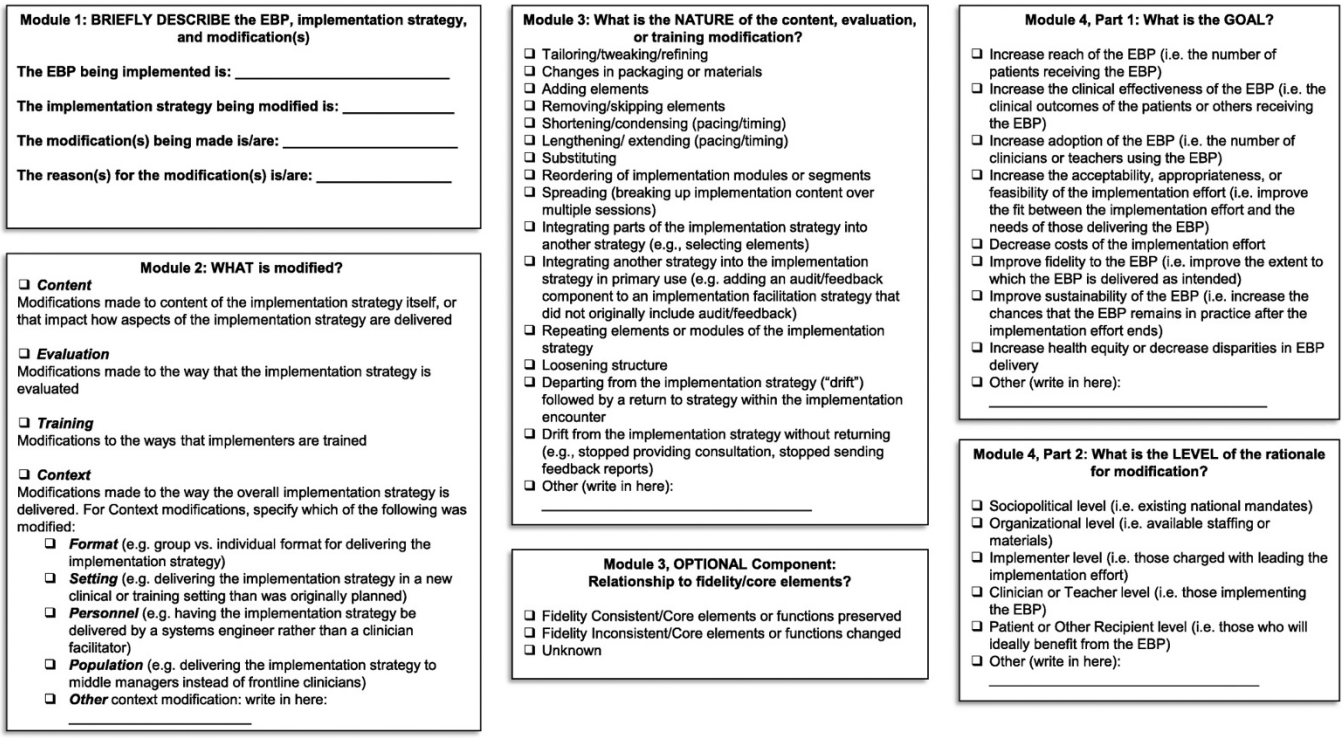
FRAME-IS extends FRAME to focus specifically on documenting modifications to implementation strategies—the methods used to promote adoption, delivery, and sustainment of evidence-based practices.

FRAME-IS is organized into a set of core and optional modules that capture key aspects of each modification:

1. Brief description of the implementation strategy and the modification being tracked
2. What component of the strategy changed
3. The type of change, including whether it affects core functions
4. The rationale for change
5. Timing and planning
6. Who decided on the change
7. The extent of the change, meaning how widespread or pervasive the modification was across settings or units

Post Partum Depression Screening example:

By documenting this modification, the team can interpret why completion rates improved while visit length remained stable. Future implementers can know that **nurse administration may be a feasible alternative in similar staffing environments**. Without structured tracking, this practical knowledge might have been lost.



Module 1: BRIEFLY DESCRIBE the EBP, implementation strategy, and modification(s)

The EBP being implemented is: _____

The implementation strategy being modified is: _____

The modification(s) being made is/are: _____

The reason(s) for the modification(s) is/are: _____

Module 2: WHAT is modified?

❑ ***Content***
Modifications made to content of the implementation strategy itself, or that impact how aspects of the implementation strategy are delivered

❑ ***Evaluation***
Modifications made to the way that the implementation strategy is evaluated

❑ ***Training***
Modifications to the ways that implementers are trained

❑ ***Context***
Modifications made to the way the overall implementation strategy is delivered. For Context modifications, specify which of the following was modified:

- ❑ ***Format*** (e.g. group vs. individual format for delivering the implementation strategy)
- ❑ ***Setting*** (e.g. delivering the implementation strategy in a new clinical or training setting than was originally planned)
- ❑ ***Personnel*** (e.g. having the implementation strategy be delivered by a systems engineer rather than a clinician facilitator)
- ❑ ***Population*** (e.g. delivering the implementation strategy to middle managers instead of frontline clinicians)
- ❑ ***Other*** context modification: write in here:
  _____

Module 3: What is the NATURE of the content, evaluation, or training modification?

- ❑ Tailoring/tweaking/refining
- ❑ Changes in packaging or materials
- ❑ Adding elements
- ❑ Removing/skipping elements
- ❑ Shortening/condensing (pacing/timing)
- ❑ Lengthening/ extending (pacing/timing)
- ❑ Substituting
- ❑ Reordering of implementation modules or segments
- ❑ Spreading (breaking up implementation content over multiple sessions)
- ❑ Integrating parts of the implementation strategy into another strategy (e.g., selecting elements)
- ❑ Integrating another strategy into the implementation strategy in primary use (e.g. adding an audit/feedback component to an implementation facilitation strategy that did not originally include audit/feedback)
- ❑ Repeating elements or modules of the implementation strategy
- ❑ Loosening structure
- ❑ Departing from the implementation strategy ("drift") followed by a return to strategy within the implementation encounter
- ❑ Drift from the implementation strategy without returning (e.g., stopped providing consultation, stopped sending feedback reports)
- ❑ Other (write in here):
  _____

Module 3, OPTIONAL Component: Relationship to fidelity/core elements?

- ❑ Fidelity Consistent/Core elements or functions preserved
- ❑ Fidelity Inconsistent/Core elements or functions changed
- ❑ Unknown

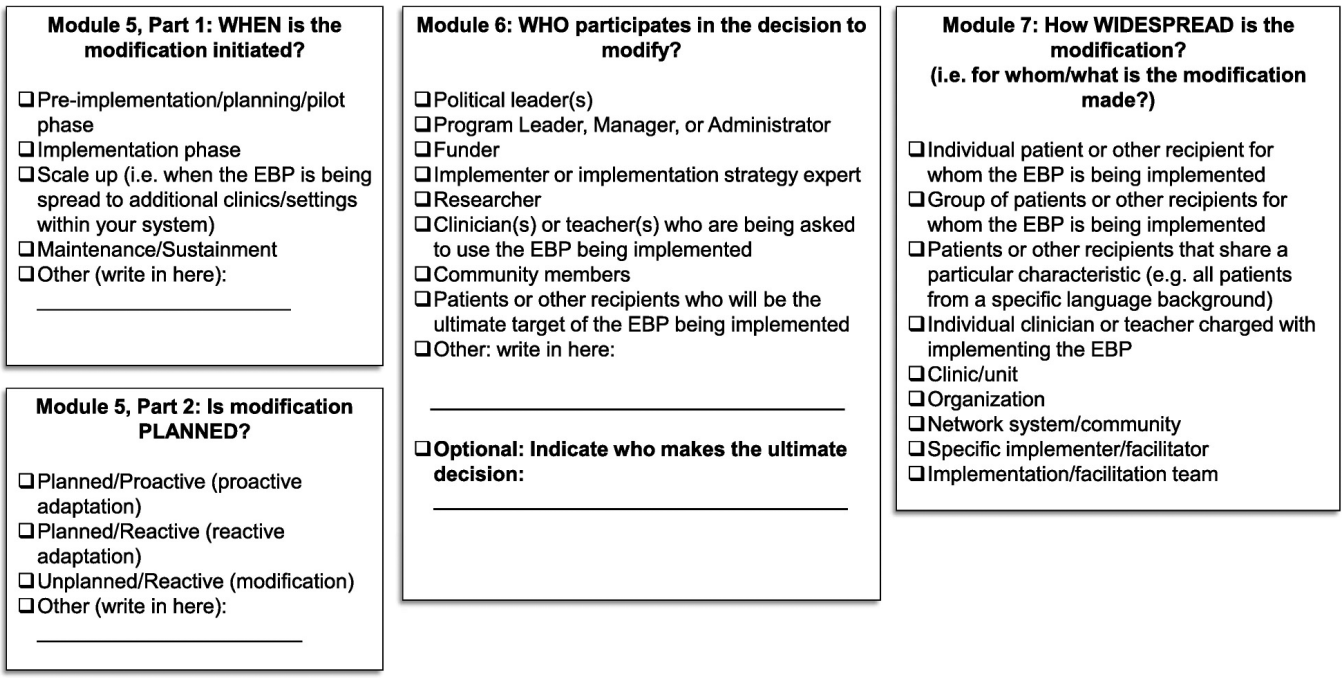
Module 4, Part 1: What is the GOAL?

- ❑ Increase reach of the EBP (i.e. the number of patients receiving the EBP)
- ❑ Increase the clinical effectiveness of the EBP (i.e. the clinical outcomes of the patients or others receiving the EBP)
- ❑ Increase adoption of the EBP (i.e. the number of clinicians or teachers using the EBP)
- ❑ Increase the acceptability, appropriateness, or feasibility of the implementation effort (i.e. improve the fit between the implementation effort and the needs of those delivering the EBP)
- ❑ Decrease costs of the implementation effort
- ❑ Improve fidelity to the EBP (i.e. improve the extent to which the EBP is delivered as intended)
- ❑ Improve sustainability of the EBP (i.e. increase the chances that the EBP remains in practice after the implementation effort ends)
- ❑ Increase health equity or decrease disparities in EBP delivery
- ❑ Other (write in here):
  _____

Module 4, Part 2: What is the LEVEL of the rationale for modification?

- ❑ Sociopolitical level (i.e. existing national mandates)
- ❑ Organizational level (i.e. available staffing or materials)
- ❑ Implementer level (i.e. those charged with leading the implementation effort)
- ❑ Clinician or Teacher level (i.e. those implementing the EBP)
- ❑ Patient or Other Recipient level (i.e. those who will ideally benefit from the EBP)
- ❑ Other (write in here):
  _____

Framework for Reporting Adaptions and Modifications to Implementation Strategies (FRAME-IS) (Modules 1–4)



Framework for Reporting Adaptions and Modifications to Implementation Strategies (FRAME-IS) (Modules 5–7)

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