

# How to Build and Employ an Implementation Blueprint

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# Agenda

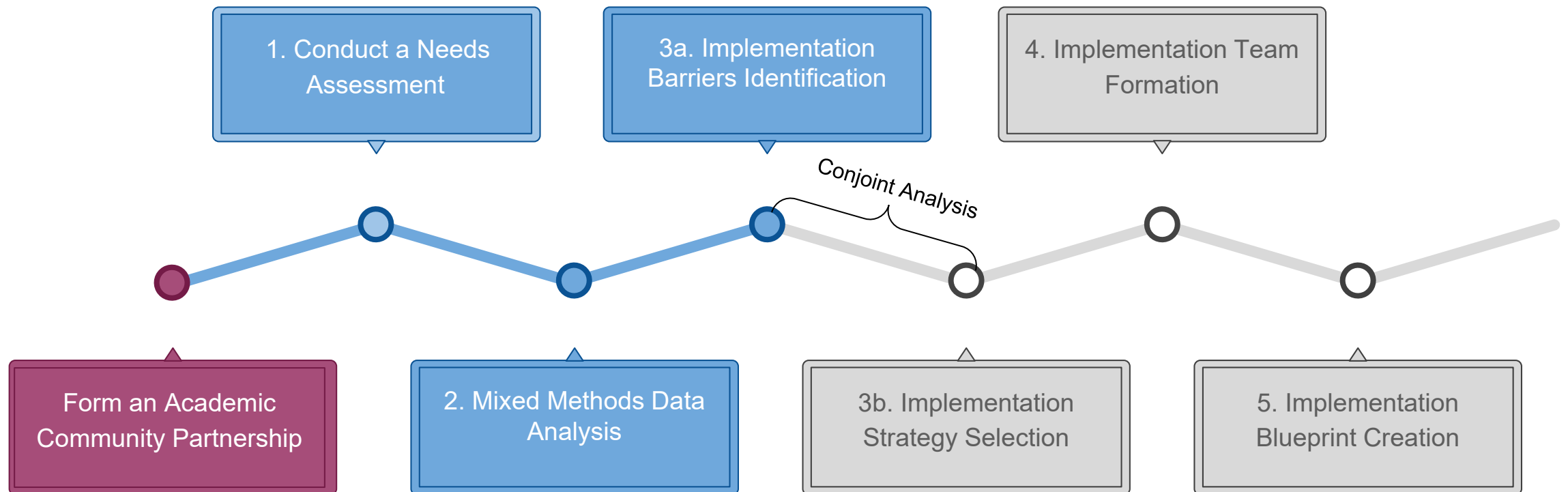
- What is an implementation blueprint?
- Steps to build an implementation blueprint - *and some practice!*
- Exemplar studies employing blueprints

# What is an implementation blueprint?

1	Implementation Goals	<ul style="list-style-type: none"><li>Establish goals for each phase of your implementation effort</li></ul>
2	Implementation Strategies	<ul style="list-style-type: none"><li>Identified list of strategies matched to determinants of practice</li></ul>
3	Scope of Planned Change	<ul style="list-style-type: none"><li>Who, what, when, where, why, and how will change occur</li></ul>
4	Timeline for Implementation	<ul style="list-style-type: none"><li>Exploration/Preparation, Implementation, and Sustainment Phases (EPIS)</li></ul>
5	Milestones for Implementation	<ul style="list-style-type: none"><li>Implementation timeline and planned milestones</li></ul>
6	Progress and Performance Measures	<ul style="list-style-type: none"><li>Process and outcome measurement to evaluate impact of implementation efforts</li></ul>

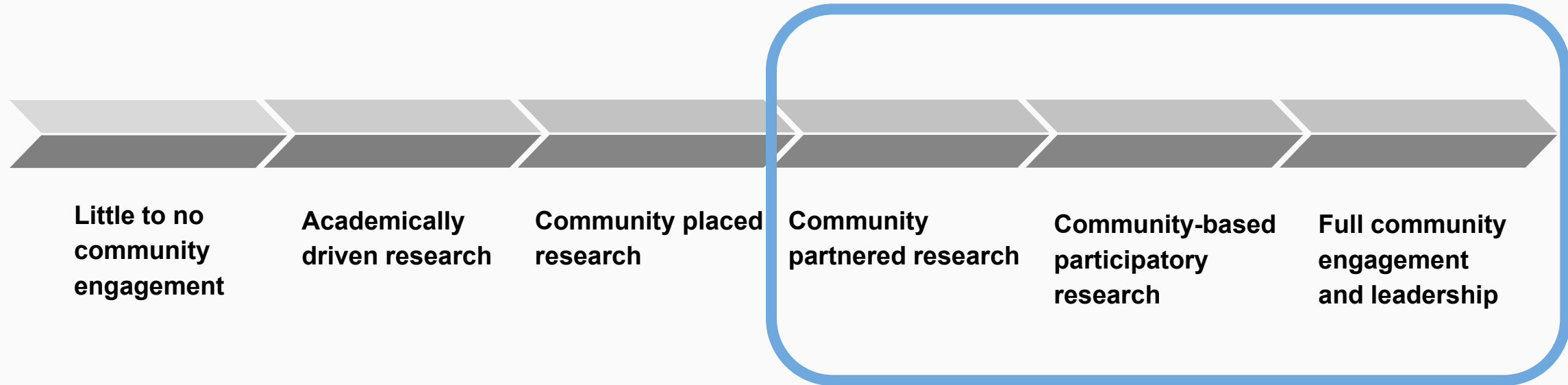
(Lewis, Scott, & Marriott, 2018)

# Steps to Build an Implementation Blueprint



(Lewis, Scott, & Marriott, 2018)

# Form an Academic-Community Partnership



(Adapted from Key & Lewis, 2018)

## Step 1: Conduct a Needs Assessment

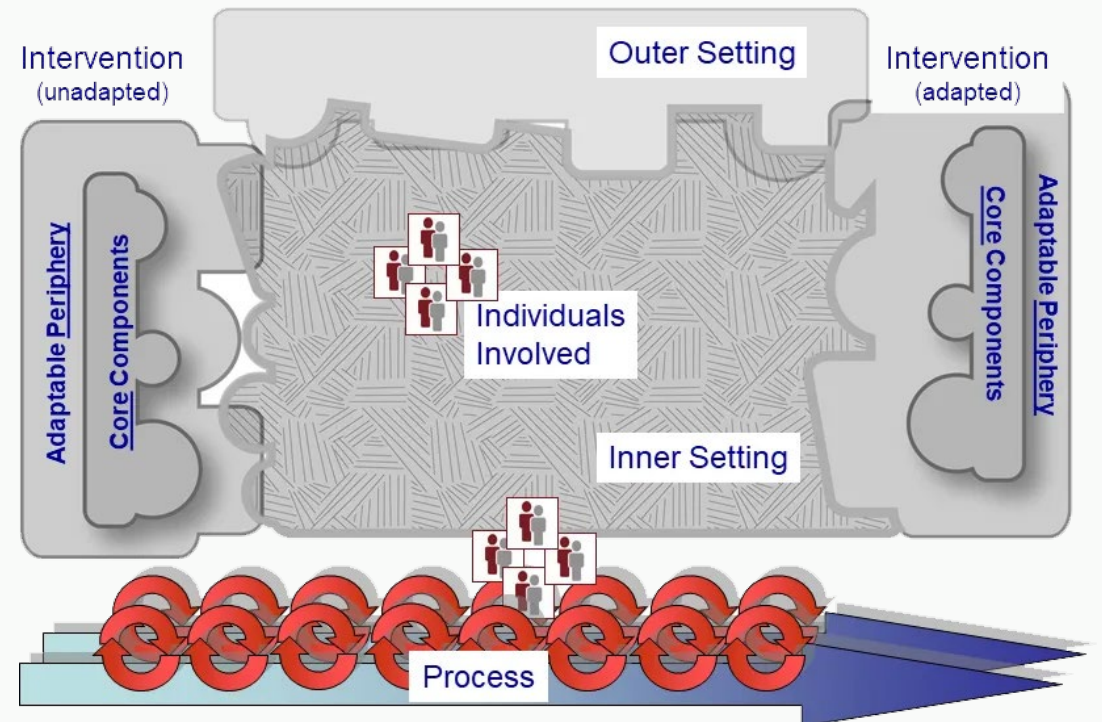
- Identify the sites that will participate in implementation
- Consider your budget
- Identify your key stakeholders - should include ALL agency roles
- **Needs assessment goal:** Identify determinants of practice

# Step 1: Conduct a Needs Assessment

- Select a determinant framework to guide your Needs Assessment

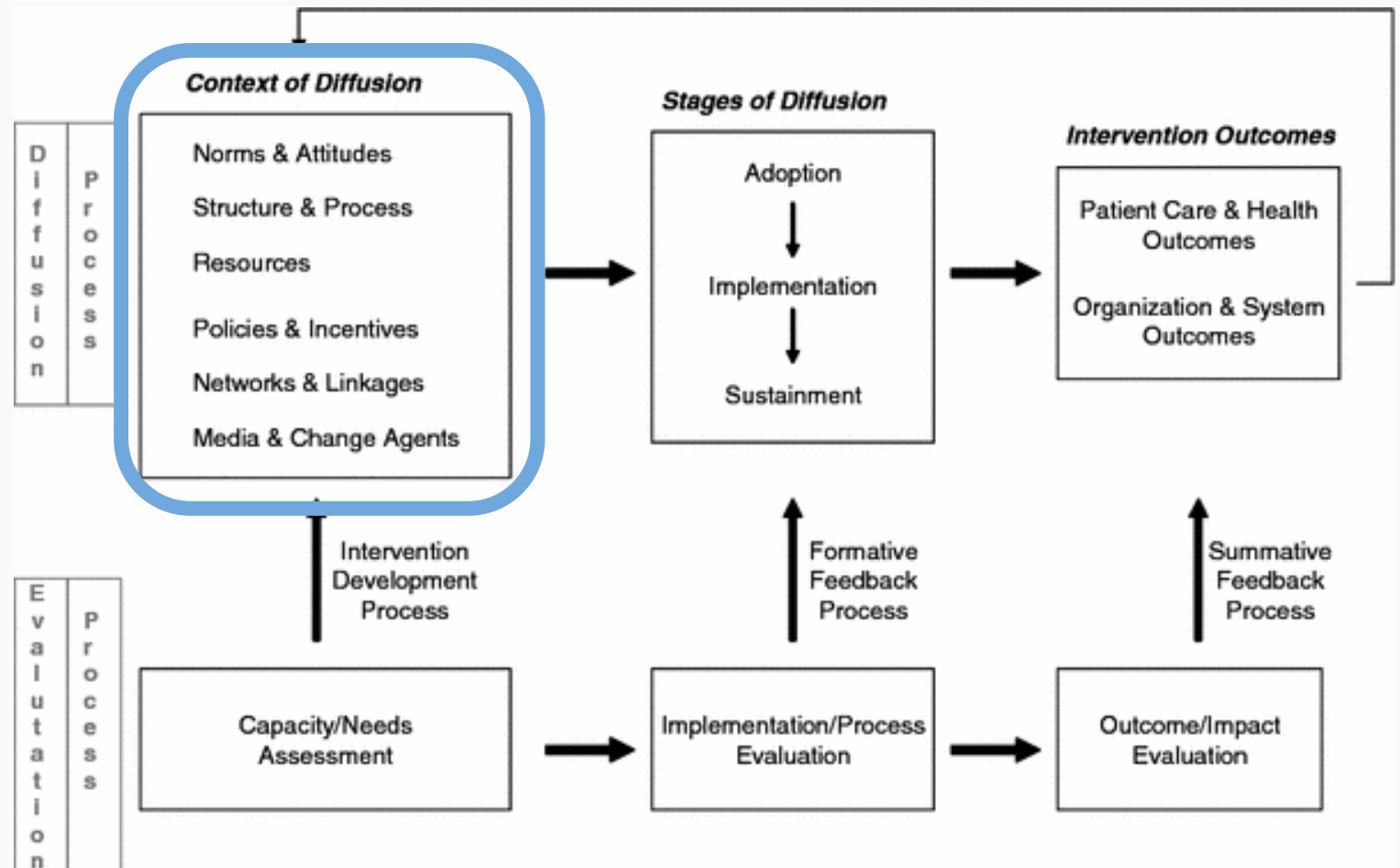
## Consolidated Framework for Implementation Research

(Damschroder, 2009)



# Step 1: Conduct a Needs Assessment

## Framework of Dissemination in Healthcare Intervention Research (Mendel et al., 2008)





# Step 1: Conduct a Needs Assessment

- Mixed methods data collection
  - quantitative (surveys), qualitative (interviews, focus groups), observational
- Purposeful sampling to select participants with representative views (Palinkas et al., 2016)
- Consider rapid mixed methods (e.g. Rapid Assessment Procedure Informed Clinical Ethnography; Palinkas & Zatzick, 2020)
- Use validated scales and interview guides
  - Instrument repository via Society for Implementation Research Collaboration (<https://societyforimplementationresearchcollaboration.org/>)
  - Interview guide development tool via [cfirguide.org](https://cfirguide.org),

## Step 2: Mixed Methods Data Analysis

- **Develop a plan for integrating qualitative, quantitative, and observational data**
  - *Structure* - sequential or simultaneous data collection, emphasis on qual or quant data (QUAN + QUAL; quan → QUAN)
  - *Function* - convergence, expansion, etc.
  - *Process* - merging, connecting, embedding
- **Compare average scores on quantitative measures to the literature**
- **Use mixed methods data to generate a list of barriers**

## Step 3a: Identify and Prioritize Barriers

- **Conjoint analysis**
  - Rating and sorting method where stakeholders assign values to product attributes, services, or interventions
  - Pictorial materials presented to stakeholders to rate on factors such as “desirability”
  - Can identify trends in preferences and “must have” features

Teamwork



Climate



Staff  
Supervision



Training  
Needs



Feasibility

Importance

Burnout



Office  
Space



Email  
Communication





Director  
Leadership



High Feasibility and High Importance	High Feasibility or High Importance	Low Feasibility and Low Importance
<div data-bbox="140 278 820 1292"><p>Training Needs</p><p>Staff Supervision</p><p>Director Leadership</p></div>	<div data-bbox="963 278 1633 1320"><p>Burnout</p><p>Climate</p><p>Office Space</p></div>	<div data-bbox="1839 592 2339 1063"><p>Email Communication</p></div>

## Step 3b: Engage in Collaborative Selection of Strategies


**3** Conduct Educational Outreach Visits





Feasibility

Importance



**2** Alter Incentives



**3** Create an Implementation Team




**1.5** Restructure Clinical Teams




High Impact and High Feasibility

3  
Create an  
Implementation  
Team




High Impact or High Feasibility

3  
Conduct  
Educational  
Outreach  
Visits




1.5  
Restructure  
Clinical  
Teams



Low Impact and Low Feasibility

2  
Alter  
Incentives



## Step 3b: Matching Barriers and Strategies

Go to [menti.com](https://menti.com) and enter code **5850 4513**

OR

Scan QR code below





## Step 4: Implementation Team Formation

Factors	Examples
Goal	Lead implementation in the organization
Member selection	Key opinion leaders and champions Various levels and perspectives of the organization
Roles	Chair Secretary Evaluator
Process	Meeting schedule

## Step 5: Implementation Blueprint Creation

- Bring together key strategies that will work across phases: pre-implementation, implementation, and sustainment
- Consider the following factors:
  - Strategy
  - Potential for impact
  - Feasibility
  - Importance
  - Goals
  - Responsibility
  - Timeline

# Example 1: Implementation of CBT in a youth residential setting (Lewis et al., 2018)

Lewis et al. *Implementation Science* (2018) 13:68  
<https://doi.org/10.1186/s13012-018-0761-6>

Implementation Science

## METHODOLOGY

## Open Access



# A methodology for generating a tailored implementation blueprint: an exemplar from a youth residential setting

Cara C. Lewis<sup>1,2,3\*</sup>, Kelli Scott<sup>2</sup> and Brigitt R. Marriott<sup>4</sup>

## Abstract

**Background:** Tailored implementation approaches are touted as more likely to support the integration of evidence-based practices. However, to our knowledge, few methodologies for tailoring implementations exist. This manuscript will apply a model-driven, mixed methods approach to a needs assessment to identify the determinants of practice, and pilot a modified conjoint analysis method to generate an implementation blueprint using a case example of a cognitive behavioral therapy (CBT) implementation in a youth residential center.

**Methods:** Our proposed methodology contains five steps to address two goals: (1) Identify the determinants of practice and (2) select and match implementation strategies to address the identified determinants (focusing on barriers). Participants in the case example included mental health therapists and operations staff in two programs of Wolverine Human Services. For step 1, the needs assessment, they completed surveys (clinician  $N = 10$ ; operations staff  $N = 58$ ; other  $N = 7$ ) and participated in focus groups (clinician  $N = 15$ ; operations staff  $N = 38$ ) guided by the domains of the Framework for Diffusion [1]. For step 2, the research team conducted mixed methods analyses following the QUAN + QUAL structure for the purpose of convergence and expansion in a connecting process, revealing 76 unique barriers. Step 3 consisted of a modified conjoint analysis. For step 3a, agency administrators prioritized the identified barriers according to feasibility and importance. For step 3b, strategies were selected from a published compilation and rated for feasibility and likelihood of impacting CBT fidelity. For step 4, sociometric surveys informed implementation team member selection and a meeting was held to identify officers and clarify goals and responsibilities. For step 5, blueprints for each of pre-implementation, implementation, and sustainment phases were generated.

**Results:** Forty-five unique strategies were prioritized across the 5 years and three phases representing all nine categories.

**Conclusions:** Our novel methodology offers a relatively low burden collaborative approach to generating a plan for implementation that leverages advances in implementation science including measurement, models, strategy compilations, and methods from other fields.

**Keywords:** Tailored implementation, Conjoint analysis, Mixed methods, Community partnership, Youth residential setting

## Step 1: Needs Assessment (Lewis et al., 2018)

- Framework for Dissemination guided quantitative and qualitative data collection (six contextual domains for targeted analysis)
- Quantitative measures assessing determinants of practice
- Focus groups with therapists and operations staff (purposeful sampling)

## Step 2: Mixed Methods Data Analysis (Lewis et al., 2018)

- Mixed methods: QUAN + QUAL
- Revealed 76 unique determinants

Morale

Communication

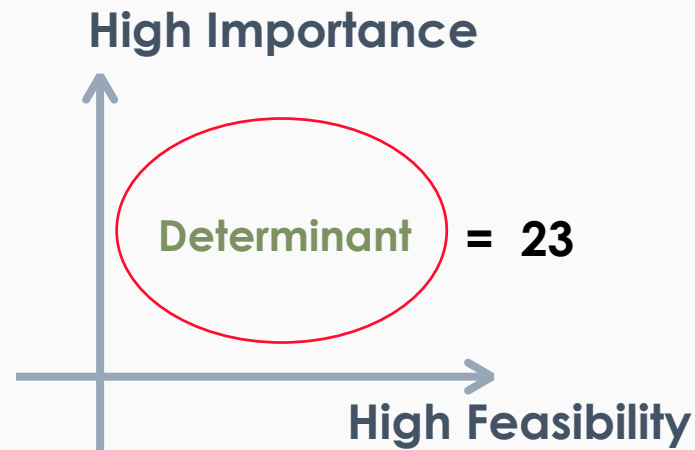
Training

Teamwork

Conflict

Climate

## Step 3a+b: Modified Conjoint analysis (Lewis et al., 2018)



## Step 4: Implementation Team Formation (Lewis et al., 2018)

- Two implementation teams were formed (one for each site)
- ~10 opinion leaders and champions from all staff levels
- Roles:
  - Chair
  - Secretary
  - Program evaluator
  - Incentives officer
  - Communication officer

## Step 5: Implementation Blueprint Creation (Lewis et al., 2018)

- Three blueprints developed: pre-implementation, implementation, and sustainment
- Key factors:





# Pre-Implementation

**Goals:** 1. Improve climate, satisfaction, communication, and teamwork; 2. Re-establish consistency/quality of restraints; 3. Prep materials to support CBT

**Timeline:** Revisit in 6-8 months (truncated surveys, focus groups)

Importance	Goal	Responsible	Feasibility	Impact	Implementation Category	Action Step
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# Implementation

**Goals:** 1. Continue to enhance climate, teamwork, communication, attitudes, and satisfaction; 2. Increase CBT knowledge, skill- integrate into care; 3. Demonstrate benefit to youth  
**Timeline:** 3 years total; 3-5 day training every 6 months

Importance	Goal	Responsible	Feasibility	Impact	Implementation Category	Action Step
H	1, 2, 3	B	H	3	Train & educate stakeholders/ Provide interactive assistance	Beck/IU Training/ Supervision
H	1, 2, 3	IT	L	2	Develop stakeholder interrelationships	Hold cross-staff clinical meetings
H	1, 3	B/IT	H	2	Adapt & tailor to context	Facilitate, structure, and promote adaptability (Beck to work with IT to modify CBT to fit the sites)
H	2	B	L	3	Train & educate stakeholders	Conduct educational outreach visits
H	3	IT	L	3	Utilize financial strategies	Shift resources (ensure strategy for monitoring outcomes)
H	2	IT	H	1	Develop stakeholder interrelationships	Identify early adopters (have person shadowed, talk in clinical meetings about overcoming barriers)
H	2	B	L	3	Provide interactive assistance	Provide clinical supervision- include IT on calls
H	1, 2	B/IT	L	3	Train & educate stakeholders	Use train-the-trainers strategies
H	2, 3	IT	L	3	Change infrastructure	Increase demand- present data to courts and state level
H	2	IT	H	2	Support clinicians	Change performance evaluations, change professional roles
M	2	B/IT	H	1	Use evaluative & iterative strategies	Develop and institute self-assessment of competency
M	2, 3	IT	H	2	Develop stakeholder interrelationships	Capture and share local knowledge
M	2	IT	H	1	Support clinicians	Remind clinicians
L	3	B/IT	L	2	Train & educate stakeholders	Prep CBT client handouts (Beck to provide examples)
L	1, 2	B/IT	L	2	Utilize financial strategies	Alter incentives (certification, vacation, salary)
L	1, 3	B/IT	L	2	Support clinicians	Facilitate relay of clinical data to providers (data parties)
L	1, 2	IT	L	2	Support clinicians	Modify context to prompt new behaviors
L	1, 2, 3	IT	L	2	Train & educate stakeholders	Shadow other experts
L	1, 2, 3	IT	L	2	Use evaluative & iterative strategies	Obtain and use consumer & family feedback (exit interviews and surveys)

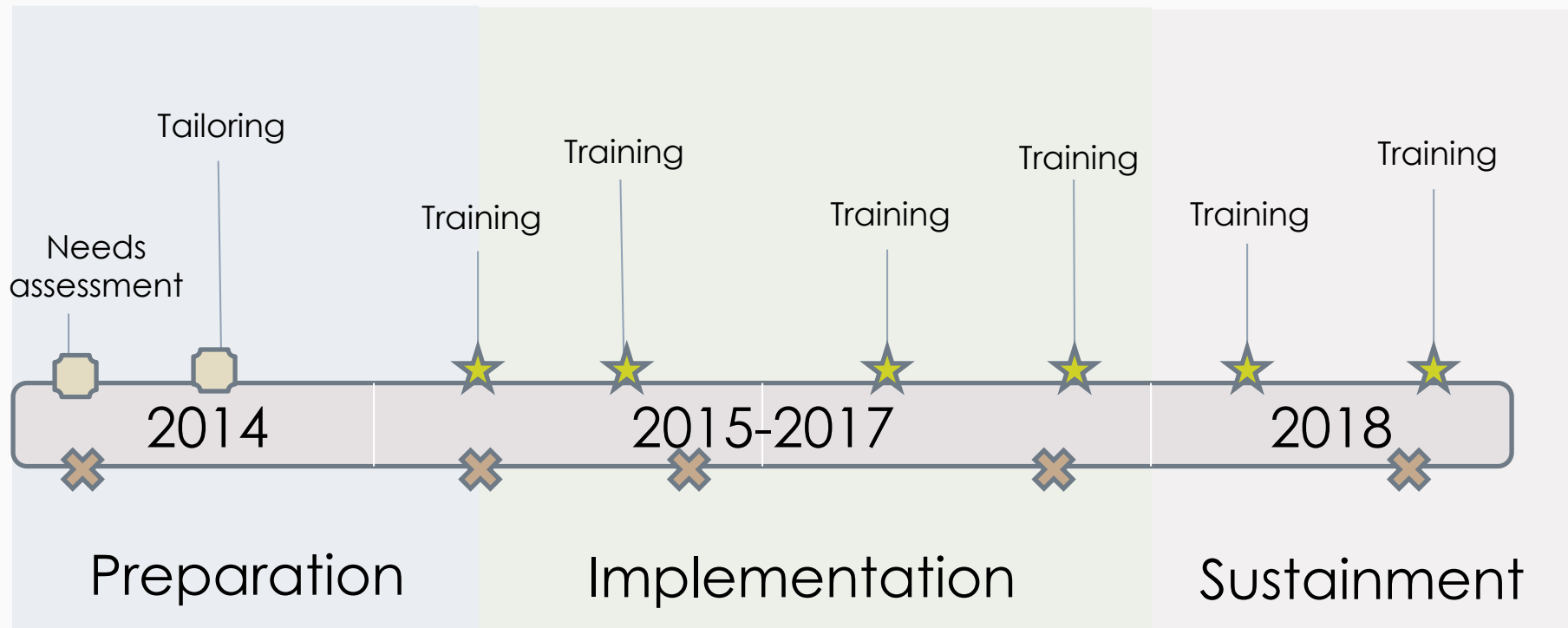
# Sustainment

**Goals:** 1. Train new staff efficiently; 2. Maintain climate and communication; 3. Sustain integration and penetration of CBT

**Timeline:** Monitor 1 year post formal training

Importance	Goal	Responsible	Feasibility	Impact	Implementation Category	Action Step
H	1, 2, 3	IT	H	3	Develop stakeholder interrelationships	Engage implementation team
H	1, 3	IT	L	2	Develop stakeholder interrelationships	Hold cross-staff clinical meetings
H	3	IT	L	3	Use evaluative & iterative strategies	Develop and implement for quality monitoring- must monitor fidelity through observation regularly and randomly
H	1, 3	IT	H	1	Train & educate stakeholders	Conduct educational meetings- hold regularly for new staff and as refreshers
H	1, 3	IT	L	3	Train & educate stakeholders	Use train-the-trainer strategies- only those certified in CBT
H	1, 2, 3	IT	L	2	Provide interactive assistance	Centralize technical assistance- create standard operating procedure for training and use of CBT at each staff level
L	1, 2	IT	L	2	Utilize financial strategies	Alter incentives- provide raise earlier based on competency
L	1, 3	IT	L	2	Use evaluative & iterative strategies	Obtain and use consumer feedback w/ PQI data collection
L	1, 3	IT	L	2	Train & educate stakeholders	Shadow other experts- elongate period for new staff
L	1, 2, 3	IT	L	2	Train & educate stakeholders	Develop learning collaborative
L	3	B/IT	L	2	Use evaluative & iterative strategies	Stage implementation scale-up to generate plan across site
L	3	B/IT	L	2	Engage consumers	Use mass media- get press release out with data from implementation

# Step 5: Implementation Blueprint Creation (Lewis et al., 2018)



# Example 1: Implementation of CBT in a youth residential setting (Lewis et al., 2018)



Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

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Cognitive and Behavioral Practice xxx (2021) xxx–xxx



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## Implementation of the Wolverine Mental Health Adoption Phase

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Robert K. Hindman, *Beck Institute for Cognitive Behavior Therapy*

Residential treatment facilities (RTFs) are a first-line treatment option for juvenile justice-involved youth. However, evidence-based interventions for youth with internalizing or externalizing mental health conditions are rarely offered in these settings. The Wolverine Mental Health Program (WHP) is one of the first RTFs in the nation to implement cognitive-behavioral therapy (CBT) for youth. This study outlines the preimplementation phase of a 5-year implementation effort among WHP, the Beck Institute, and an implementation science research team. The preimplementation phase included a needs assessment across two sites of WHP to identify and prioritize barriers to CBT implementation. Of the 76 unique barriers, 23 were prioritized as important and feasible to address. Implementation and staff champions and opinion leaders worked across 8 months to deploy 10 strategies designed to address the barriers. Upon reevaluation of the needs assessment domains, all prioritized barriers were removed and WHP's readiness for CBT implementation was enhanced. This study serves as a model for the implementation process that can be employed to enhance the potential for successful evidence-based treatment in youth RTFs.

## Implementation of the Wolverine Mental Health Program Implementation Phase

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To enhance mental health care for youth in a midwestern residential treatment facility, Wolverine Mental Health Program (WHP) implemented an implementation research team to implement cognitive-behavioral therapy (CBT). CBT has strong evidence supporting effectiveness for treating youth internalizing and externalizing problems, but it is a complex psychosocial intervention that demands a thoughtful implementation approach. This study outlines the implementation phase (2.5 years) of a 5-year collaborative effort. The implementation phase adapted CBT to fit the complex youth needs and the roles of the multidisciplinary team members resulting in a comprehensive and coordinated care model, and (b) the strategies utilized to support its competent integration into the facility. Six blended implementation strategies were deployed in this phase: forging implementation teams, installing progress monitoring, adapting CBT, training, providing supervision and consultation, and training the trainers. A components-based approach to CBT yielded six core skills: active listening, problem solving, mood monitoring and intervention mapping, activity scheduling, distress tolerance, and cognitive restructuring. By the end of this phase, all staff had robust exposure to and experience with the adapted form of CBT. The work of our academic-community partnership has both research and clinical implications, with respect to integrating an adapted version of CBT for residential environments (CBT-RE).

## Implementation of the Wolverine Mental Health Program. Part 3: Sustainment Phase

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Sustaining the implementation of an evidence-based practice (EBP) is the ultimate goal of often years of significant personnel and financial investment. Some conceptualize sustainment as a distinct phase following an active implementation period where the contextual factors, processes, and supports are bolstered to ensure continued EBP delivery. This study provides an overview of the sustainment strategies deployed to embed cognitive-behavioral therapy (CBT) in a Midwestern residential treatment facility serving youth with complex mental health needs. Seven key strategies and their outcomes are described: use of CBT teams, new hire orientation plans, monthly campaigns, change in job descriptions and performance evaluations, development of a behavioral reinforcement system for youth, and a pathway to CBT certification. This study provides a window into how one might sustain an EBP by addressing barriers unique to this phase of work.

# Example 2: Brief TF-CBT in Primary Care (Valentine et al., 2021)



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Psychological Trauma:  
Theory, Research, Practice, and Policy

<https://doi.org/10.1037/tra0001145>

## Leveraging Multistakeholder Engagement to Develop an Implementation Blueprint for a Brief Trauma-Focused Cognitive Behavioral Therapy in Primary Care

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**Objective:** The implementation of evidence-based treatments (EBTs) to address posttraumatic stress disorder (PTSD) is a public health priority. Successful EBT implementation requires effective collaboration between multiple stakeholder groups, including hospital leaders, providers, and patients, to build buy-in for this effort. **Method:** We describe our implementation science approach to meaningful stakeholder engagement, as part of a hybrid type I effectiveness-implementation trial of Skills Training in Affective and Interpersonal Regulation for PTSD treatment in primary care (STAIR-PC) at a large safety net hospital. We used primary care and patient community advisory boards (CABs) to interpret key informant interviews and identify strategies to adapt the intervention to ensure fit with the primary care setting. We documented our stakeholder engagement methodology through comprehensive field notes and minutes from CAB meetings, detailing the focus of meetings, suggestions for intervention and delivery adaptations, decision-making processes, and how disagreements about adaptations between stakeholders were resolved. To support replicability, we specify and operationalize implementation strategies to be used across each implementation phase of the trial. **Results:** Key strategies involved a) ensuring that research questions are relevant to both patients and clinical providers; b) tailoring interventions that are flexible and adaptable to the needs of the local setting; c) continuous engagement of patients and providers throughout the implementation process; and d) building mutual respect, trust, and credibility between the research team, various provider groups, and patients. **Conclusions:** Our approach to engaging stakeholders informed an implementation blueprint to guide implementation of EBTs for PTSD in safety net hospital primary care clinics.

Table 3

Implementation Blueprint: Selected Implementation Strategies by REP Phase

REP phase	Strategies	Description of how this strategy was operationalized in our implementation blueprint
All phases	Use advisory boards and workgroups	We assembled a Primary Care community advisory board (PC CAB) consisting of various stakeholders in primary care and behavioral health leadership (N = 9). Members of the PC CAB also serve as local champions of the intervention, and this group directly informs all phases of the study, including intervention selection and adaptation, development of implementation blueprint, organizational readiness for implementation, and oversight of the trial.
	Identify and prepare champions	We also assembled a Patient CAB comprised of patients with PTSD who had good knowledge of the local context (N = 6). The group was presented with the proposed PTSD treatment and our implementation blueprint; then feedback on various components were elicited. Feedback from the Patient CAB was relayed back to the PC CAB to make final adjustments prior to pilot trial. We will convene the Patient CAB periodically during the pilot trial, to assist with monitoring and need for further modification to intervention or implementation plan.
Pre-conditions	Obtain and use patients/consumers and family feedback	We completed a mixed-methods contextual analysis to understand barriers and facilitators to implementation, guided by the CFIR, which included surveys and interviews with key stakeholders in primary care and integrated behavioral health specialists (N = 22).
	Assess for readiness and identify barriers and facilitators	We met with primary care leadership to select the PTSD intervention prior to grant submission.
	Conduct local consensus discussions	Initial contextual analysis with key stakeholders in primary care and integrated behavioral health specialists (N = 22) included assessment of the importance of treating PTSD in primary care, and whether the selected treatment was appropriate for the local setting and patient population.
Pre-implementation (A)	Develop a formal implementation blueprint	We have worked with our PC CAB to (1) set goals for recruitment (enroll 1 new patient per week); (2) set goals for PTSD symptom reduction (linked to 10 point changes in PCL-5) and functional improvement (e.g., social functioning, quality of life); and (3) assess appropriateness of the intervention (need for further refinement of intervention and implementation plan) once 30 patients have enrolled in the treatment.
	Promote adaptability	Several modifications to the intervention were made based on feedback from the contextual analysis, including changes to design and packaging, condensing content to fit to 30-minute therapy appointments, and increasing flexibility of delivery (deeming some components as optional; allowing for less than weekly sessions)
	Change record systems	We ensured that our PTSD screener (PC-PTSD-5) was accurately embedded in the electronic medical record. We developed SmartText to allow for consistent documentation of engagement in the therapy. We started the process of adding a full symptom PTSD scale (PCL-5) to the electronic medical recorded for ongoing symptom monitoring.

# Implementation Blueprint Resources

- Higgins, M. C., Weiner, J., & Young, L. (2012). Implementation teams: A new lever for organizational change. *Journal of Organizational Behavior*, 33(3), 366-388.
- Lewis, C. C., Scott, K., & Marriott, B. R. (2018). A methodology for generating a tailored implementation blueprint: an exemplar from a youth residential setting. *Implementation Science*, 13(1), 1-13.
- NIRN, Active Implementation Hub: <https://nirn.fpg.unc.edu/ai-hub>
- Valentine, S. E., Fuchs, C., Carlson, M., & Elwy, A. R. (2021). Leveraging multistakeholder engagement to develop an implementation blueprint for a brief trauma-focused cognitive behavioral therapy in primary care. *Psychological Trauma: Theory, Research, Practice, and Policy*. Advance online publication.
- Waltz, T. J., Powell, B. J., Matthieu, M. M., Damschroder, L. J., Chinman, M. J., Smith, J. L., ... & Kirchner, J. E. (2015). 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 Science*, 10(1), 1-8.



# Thank You and Acknowledgements



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QUESTIONS?



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