

# **UNDERSTANDING SUSTAINMENT CHALLENGES AND OPPORTUNITIES FROM A LONGITUDINAL ANALYSIS OF EVIDENCE-INFORMED PRACTICES IMPLEMENTED IN THE VETERANS HEALTH ADMINISTRATION**

Advanced Qualitative Methods Cyberseminar hosted by the Qualitative Methods Learning Collaborative  
Veterans Affairs Health Systems Research Implementation Research Group (IRG)  
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# QUERI Spreading Healthcare Access, Activities, Research and Knowledge (SHAARK) Partnered Evaluation Initiative

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# ACKNOWLEDGMENTS & DISCLOSURES

**Related paper:** Nevedal A, Widerquist M, Reardon C, Arasim M, Jackson G, Cutrona S, Brandolyn W, Burns M, Fix G, DeLaughter K, Cutrona S, Gifford A, Jasuja G, Hogan T, King H, Henderson B, Damschroder. Understanding pathways from implementation to sustainment: a longitudinal, mixed methods analysis of promising practices implemented in the Veterans Health Administration (in review)

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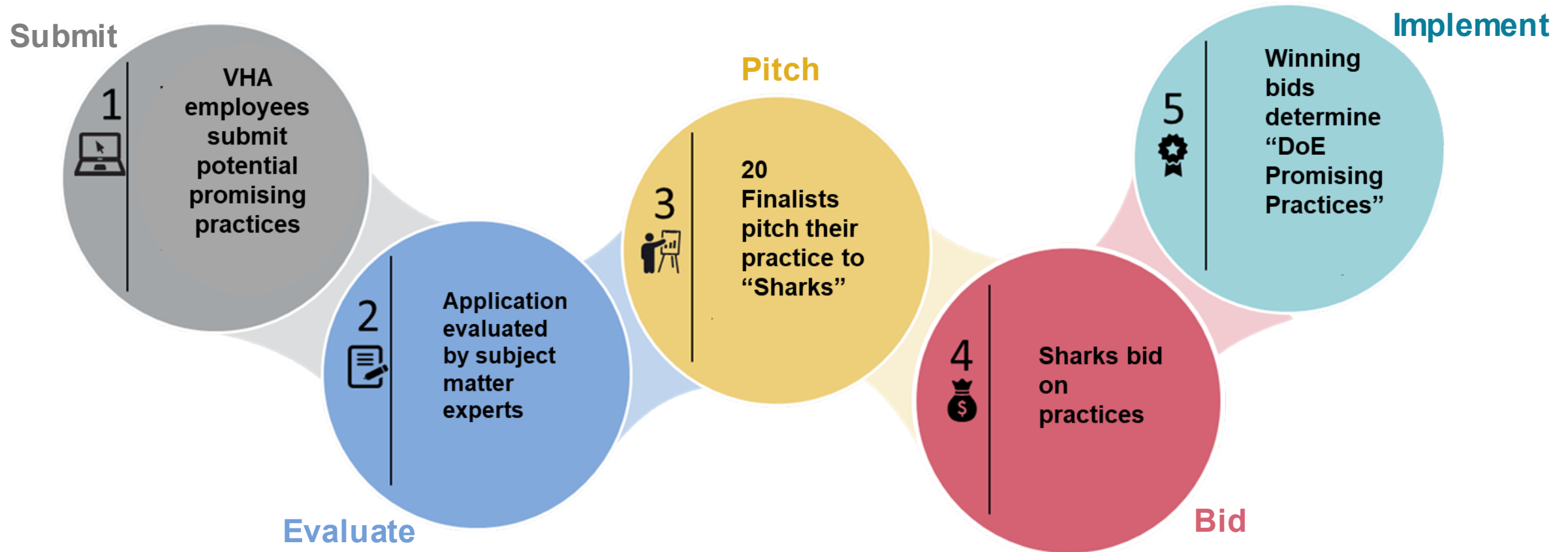
# OBJECTIVES

- Describe the process of evaluating the impact of learning health system infrastructure
  - Spreading Healthcare Access, Activities, Research and Knowledge (SHAARK) Partnered Evaluation of **VHA** **Diffusion of Excellence**
- Understand the longitudinal pathways of diverse, evidenced-informed practices as they transition from initial implementation to long-term sustainment within the Veterans Health Administration (VHA)

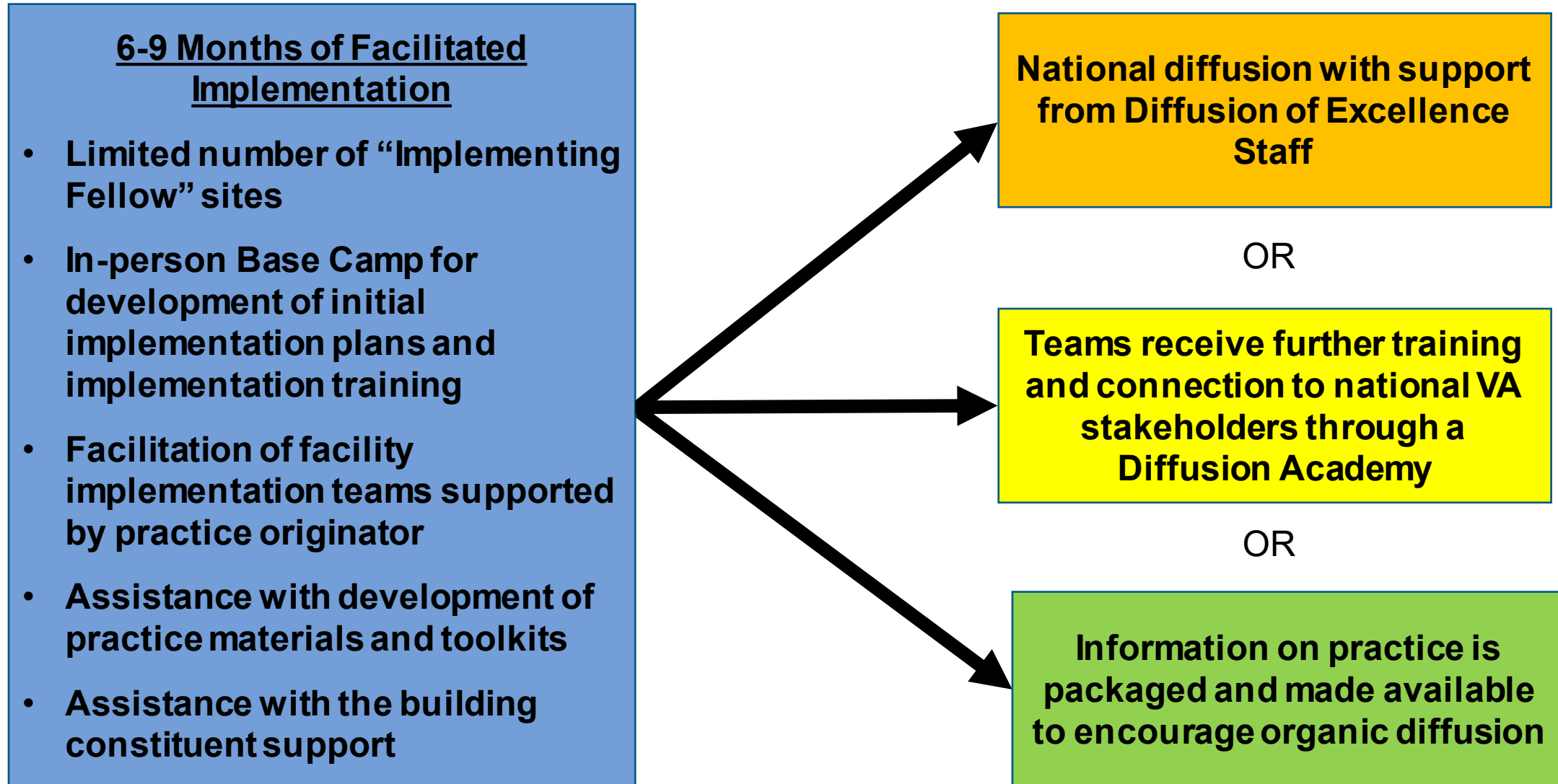


# IMPLEMENTATION STRATEGY – VHA SHARK TANK

Identifies effective clinical and administrative practices developed by VA employees that can be spread across the system to enhance delivery of Veteran-centered services.



# FACILITATED REPLICATION AFTER THE VHA SHARK TANK



# EXAMPLE DOE PROMISING PRACTICE – STRIDE



- Assi**ST**ed Ea**RL**y Mob**IL**ity for Hospitalize**D** Older **VE**terans (STRIDE)
- Designed to optimize the physical function of older Veterans by increasing the amount of time spent walking during their hospitalization
- Developed at the Durham VA Health Care System

## Key Program Elements (Core Components)

- (1) Proactive, no baseline functional deficits required
- (2) Early enrollment, ideally within 24 hours of admission
- (3) Supervised walking, up to 20 minutes daily until discharge
- (4) Dedicated STRIDE staff to perform pre/post evaluations and daily walks

**65  
facilities**



STRIDE participants were more likely to be **discharged to home** rather than skilled nursing or rehabilitation (92% vs 74%,  $p = 0.007$ )



STRIDE participants had shorter hospitalizations, **1 day shorter** on average (4.7 days vs 5.7,  $p = .31$ )



90% of STRIDE participants reported feeling **better** immediately after their walk

# SPREADING HEALTHCARE ACCESS, ACTIVITIES, RESEARCH AND KNOWLEDGE (SHAARK) QUERI PARTNERED EVALUATION



**How do we encourage meaningful engagement?**  
Goal: Help DoE determine how to encourage meaningful engagement with DoE, practices, and tools.

**How do leaders choose practices?**  
Goal: Help DoE develop tools to enhance the decision process.

**What influences implementation success?**  
Goal: Help DoE select practices and facilitate implementation.

**What factors influence spread of practices?**  
Goal: Help DoE measure and develop strategies for spread.

**Mixed methods evaluation: Quantitative facility & practice data; qualitative methods; surveys**

**Based on Consolidated Framework for Implementation Research (CFIR); Weiner Theory of Organizational Readiness for Change; and Rogers Diffusion of Innovations**

**Results presented today organized based on the Glasgow Reach-Effectiveness-Adoption-Implementation-Maintenance (RE-AIM) Framework**



# INDIVIDUAL PRACTICES VS. IMPLEMENTATION SUPPORT INFRASTRUCTURE

- The impact of specific practices has varied.
- However, impacts have been associated with greater use of evidence-based services and improved administrative functioning.
- The impact of specific projects is different from the potential effect of health system structures and process designed to identify, replicate, and diffuse multiple promising practices within learning health systems.

# DATA COLLECTION



## Analysis of trends in participation and practice spread.

### Data on

- DoE participation
- Application trends
- Spread of practices across the VHA (**VHA Diffusion Marketplace**)

### Combined with

- **VA administrative and quality data**
- **Qualitative review of bids and artifacts**

## Semi-structured Qualitative interviews – 194 (> 200 people)

- Practice originators
- Representatives of facilities receiving intensive facilitation
- Individuals facilitating implementation
- VHA facility directors/leadership
- VHA Central Office leaders

## Structured observations of DoE Events – 8 events

Informal observation and feedback on most subsequent DoE events

Virtual focus groups of Shark Tank participants – 2 groups

## Surveys of DoE participants


- **Sharks** (Tanks 2-3)
- Other **Individuals participating in DoE** (3 surveys per Shark Tank starting with Tank 4)
- **Participants in Diffusion Academy** (started in 2020)
- **Sustainment of practices** (starting in 2020)

# SHARK TANK COMPETITION PARTICIPATION


Shark Tank	Applications	DoE Promising Practices (Shark Tank Winners)
January 2016	263	12
November 2016	435	13
June 2017	356	10
August 2018	622	11
October 2019	591	12
October 2020	404	10
October 2021	324	10
October 2022	286	10
October 2023	355	10
<b>TOTAL</b>	<b>3,636</b>	<b>98</b>

- **In the first eight Shark Tanks:**
  - **3,636** Veterans Health Administration (VHA) Shark Tank applications have been submitted
  - **98** DoE Promising Practices have been designated
  - **140 of 141** of VHA parent health systems/facilities have submitted applications to the VHA Shark Tank
  - **2/3** of parent healthcare systems/facilities have participated as Sharks

# HELPING MEDICAL CENTER LEADERS (“SHARKS”) DECIDE WHICH PRACTICE(S) TO ADOPT – PROVIDING REQUESTED PRACTICE DETAILS



## 2019 VHA Shark Tank Competition Finalist Bid Wishlist



2019 VHA Shark Tank Competition Finalists were asked to respond to the following question: If you could help write the winning bid for your own practice, what would that bid look like?

**Must-Have:** Assuming none of the required elements are in place yet, please list the minimum requirements a new site will need to provide in order to implement your practice.

**Nice-to-Have:** What additional commitments would help make your project implementation a success?

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### A Whole Health Approach for Reducing Opioid Reliance and Utilization

**Must-Have (minimum requirements):** Implementation of the Whole Health Approach for Reducing Opioid Reliance and Utilization requires a minimum of 4 team members, Provider (Prescriber), RN, LPN (for coaching and education), MSA for scheduling. Adequate space for 12 to 14 clients along with staff, media such as computer and power point projector and adjacent clinic space for patient exams or private consultation with staff.

**Nice-to-Have (additional details):** Additional team members include various subject matter experts Pharmacist, Psychologist, Social worker, nutritionist, physical or occupational therapist, or whole health clinical specialist and health coach.


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### Dedicated Environmental Services Training Specialist

**Must-Have (minimum requirements):** The practice requires an approved PD that structurally meets the needs of implementing department. To recruit and fill the position, minimum requirements and KSA's should be established, along with initial performance evaluation elements. If the selected personnel does not already possess a solid knowledge of front line Environmental Technician work routines and responsibilities, principles, and roles within the larger facility environment, sufficient time to gain this knowledge and develop a level of individual competency before instructing others is necessary.


**Nice-to-Have (additional details):** Initially, a shared administrative work space will suffice, but ultimately an office space with computer and large monitor display capabilities is ideal for one to one small group, didactic teach and learning events to take place. Relatively early in the practice, the Training Specialist should have TMS administrator level access. Although not absolutely necessary, facility level preceptor and mentor training has proved incredibly beneficial.

Practice Title	VHA Shark Tank Priority Area	Target Population: Veterans Employees Caregivers	Complexity Level of Finalist Facility	Total FTE Required	Number of persons required to implement  Average hours per week	# of Facilities that have successfully implemented this practice	Implementation Complexity  Little to No Complexity High or Large Complexity	Anticipated Replication Time (months)	Requires: IT Materials IT Support	Requires: Specialized Materials Dedicated Space
A Whole Health Approach for Reducing Opioid Reliance and Utilization	Whole Health		1A	0.2 FTE	1 person @ 8 hours per week	9				
Dedicated Environmental Services Training Specialist	Workforce Development		1B	1.0 FTE	1 person @ 40 hours per week	1				
Fall Boot Camp for Veteran Suffering from Parkinson's Disease	Veteran Experience		1C	<.1 FTE	5 persons @ <1 hour per week*	1			None Needed	
Geriatric Emergency Room Innovations for Veterans (GERI-VET)	Veteran Experience		1A	.6 FTE	2 persons @ ~12 hours per week	2				
Healthier Kidneys Through Your Kitchen	Whole Health		1B	<.1 FTE	1 person @ <1 hour per week*	4			None Needed	



Anticipated Replication Time	1-3	4-6	7-9	10-12	12+

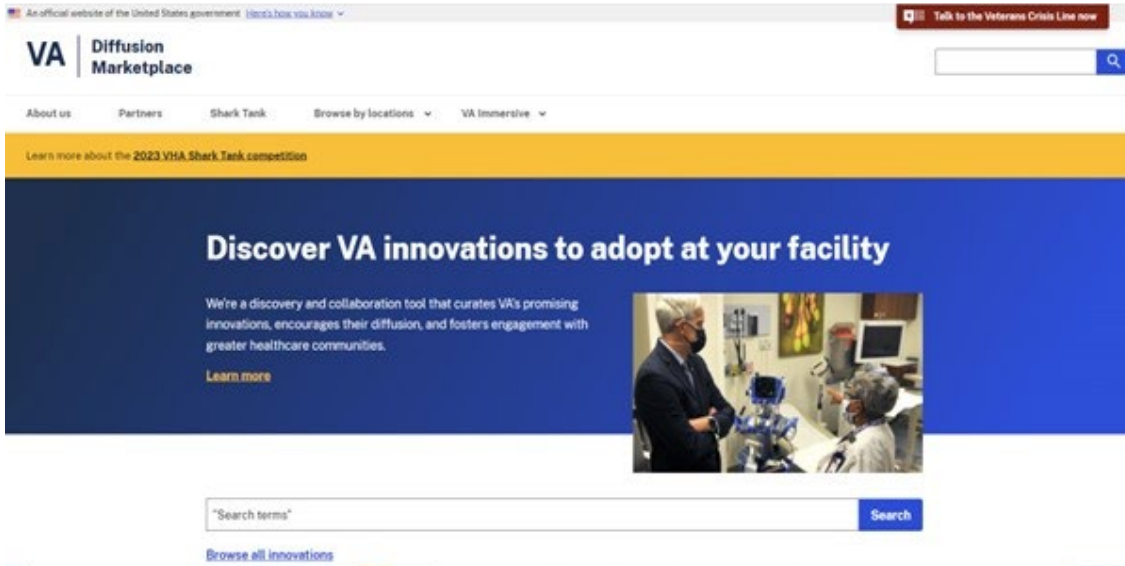
\*One or more of these persons are required for less than 52 weeks



- While a causal relationship cannot be proven, use of these materials has been associated with an increase in quality of information provided in Shark Tank bids.

Cutrona SL, White L, Miano D, Damschroder LJ, Hogan TP, Gifford AL, White B, King HA, Opra Widerquist MA, Orvek E, DeLaughter K, Nevedal A, Reardon CM, Henderson B, Vega R, Jackson GL. Supporting VA Medical Center Directors' Decisions when Adopting Innovative Practices: Development and Implementation of the 'QuickView' and 'WishList' Tools. *The Permanente Journal*. 2023. Sep 15;27(3):79-91.

# SPREAD OF PRACTICES

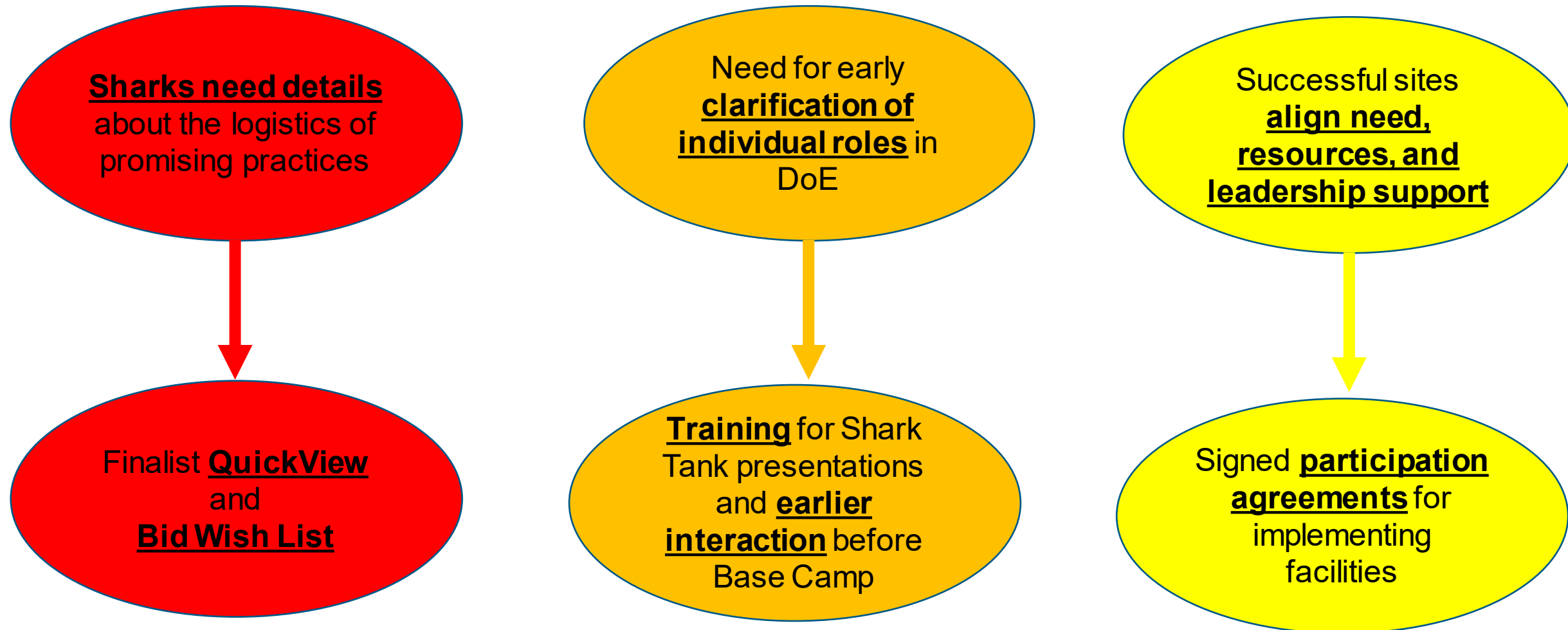


## VHA Diffusion Marketplace

<https://marketplace.va.gov/>

- **66 of 98** DoE Promising Practice (67%) are still being actively spread across the VHA, as indicated by inclusion in the VHA Diffusion Marketplace.
- **DoE Promising Practices** have been fully or partially implemented **1,897** times across the VHA as document in the VHA Diffusion Marketplace
- As of the end of FY 2022, **13** National Diffusion Practices have been:
  - Implemented **966** times at different VHA care locations
  - Documented as serving or impacting approximately **978,947** Veterans

# SUMMARY OF PRACTICAL FINDINGS AND SAMPLE RESPONSES



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## Persistence matters

– Sites can overcome barriers to implementation



## Proactively planning transitions

for DoE Practices after 6-9 month facilitation

> 1/2 of practices at receiving replication support are sustained



From the beginning, considering how to encourage practice sustainability

1,897 documented efforts to implement DoE Practices



Informed Diffusion Marketplace features designed to track implementation



# Objective

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- Understand the longitudinal pathways of diverse, evidenced-informed practices as they transition from initial implementation to long-term sustainment





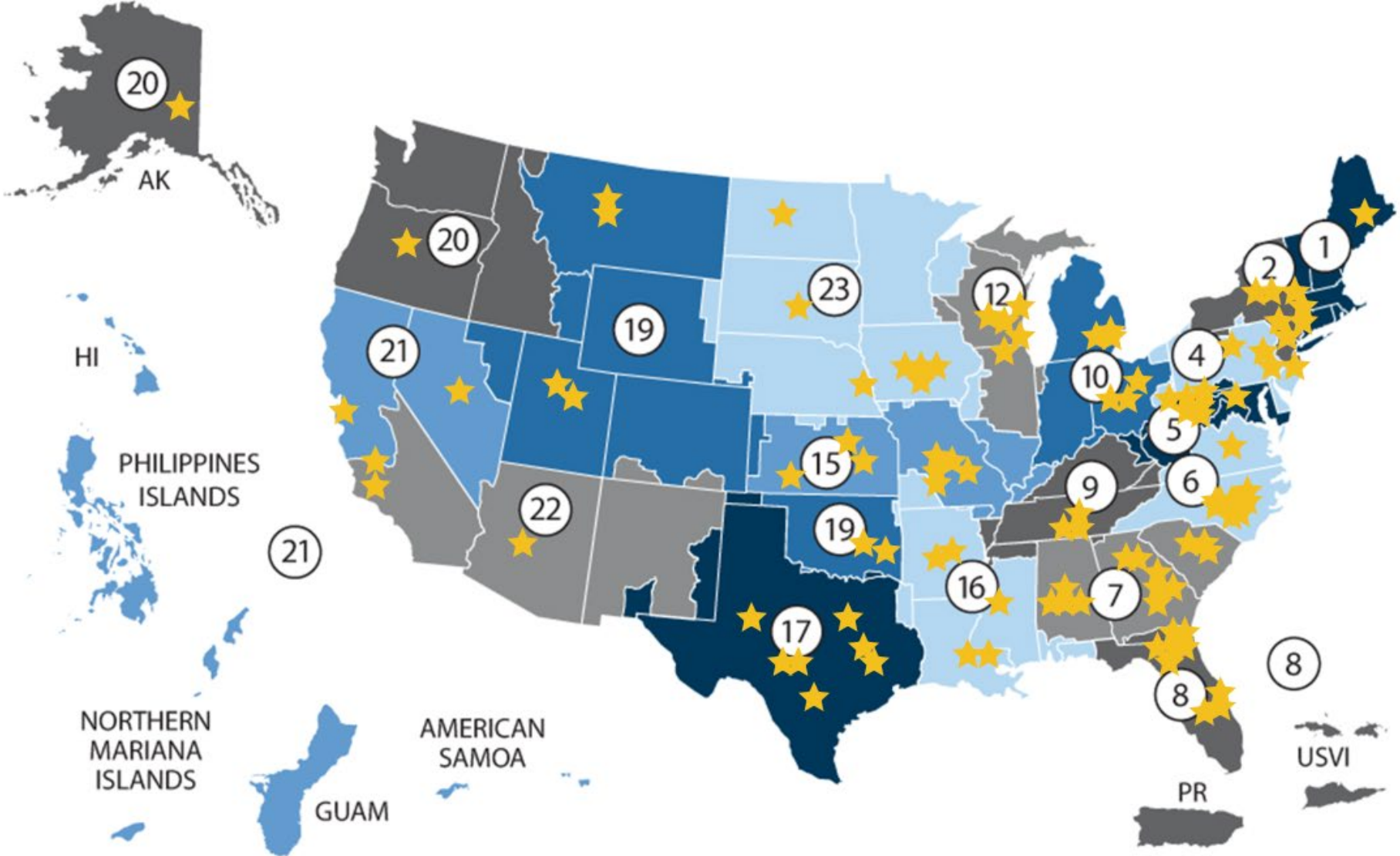
# Background

- Sustainment: extent to which a practice is in use after implementation
- Over half of innovations fail to be sustained over time
- Sustainment is challenging to study
- Achieving implementation milestones has been thought to predict sustainment
- Our prior work suggests initial sustainment can still be achieved despite early implementation failures





# Promising Practice Diffusion: 82 Implementing Facilities (Cohorts 1-5)



# Diverse Promising Practice Examples (N=57)



## Dedicated Environmental Services Training Specialist

- Lead: Housekeeping Aid

Staff  
Intervention



## Advanced Comprehensive Diabetes Care (ACDC)

- Lead: Nurse

Clinical  
Intervention

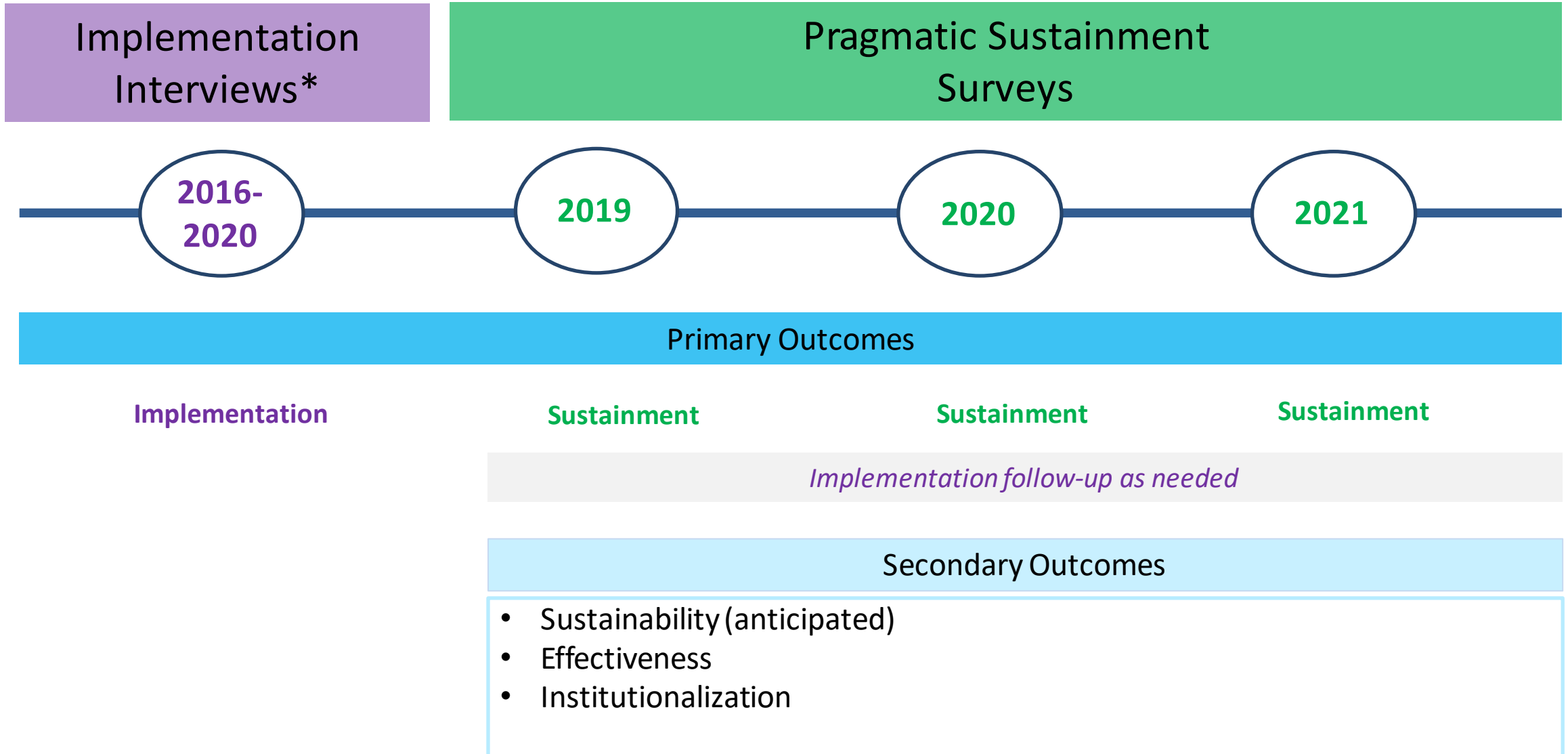


## SharePoint Construction Safety Tool

- Lead: Engineer

Process  
Improvement

# Longitudinal, Mixed Methods Design



# Data Analysis

## Implementation Interview Data

- Qualitative analysis
  - Directed content analysis using the Consolidated Framework for Implementation Research (CFIR)
- Implementation outcome ratings

On a scale of 1 to 10, where 1 is unsuccessful, and 10 is successful, how would you rate your site in implementing this practice? Why?

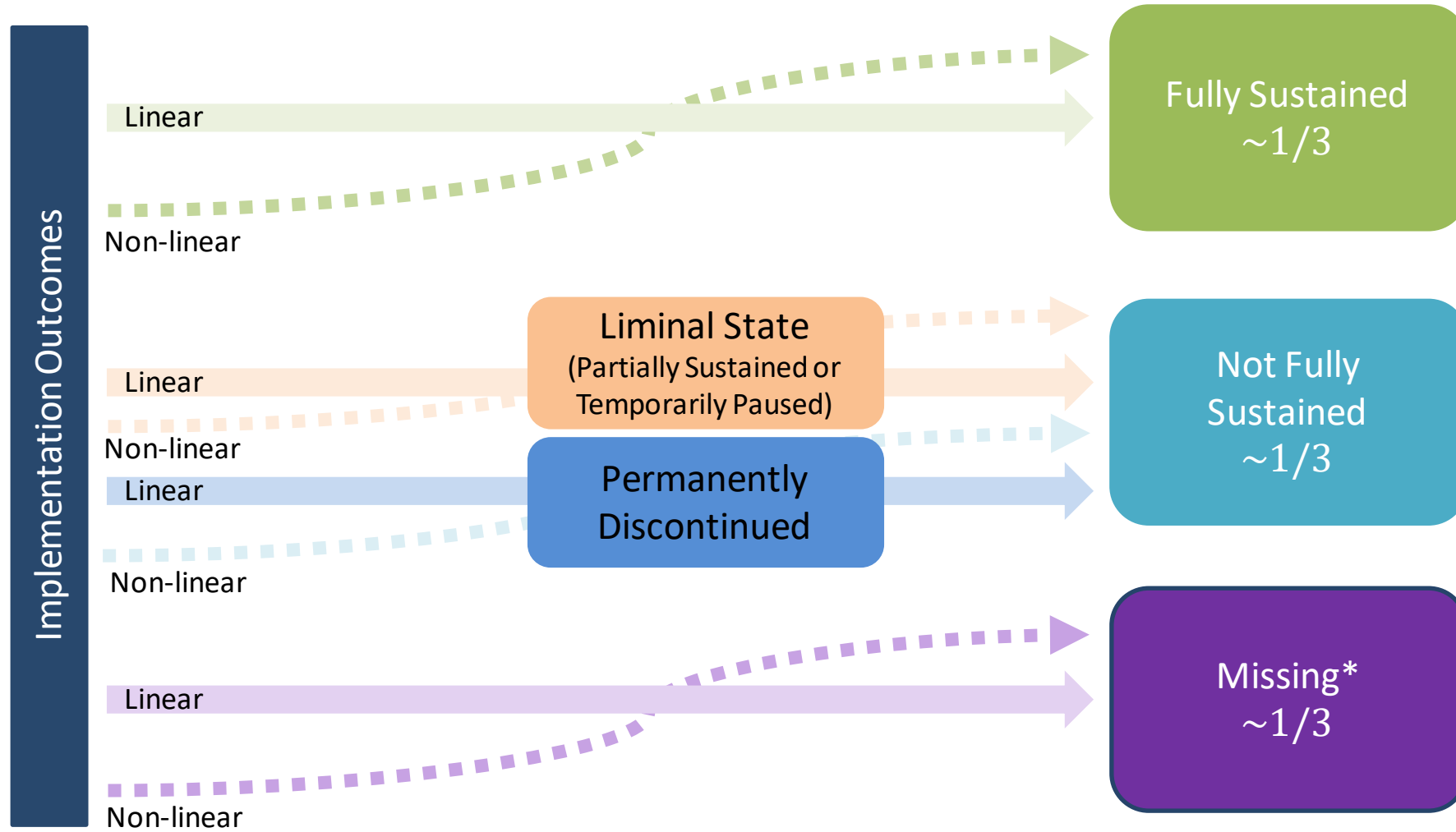
## Pragmatic Sustainment Survey Data

- Descriptive statistics
- Directed content analysis
  - Adapted Hailemariam et al.'s sustainment factors
- Recoded responses based on qualitative responses
- Characterized pathways (linear or non-linear)
- Matrix to compare longitudinal outcomes

“What is the current status of your practice?” (Multiple Choice)

“Why is your practice [current status]?”

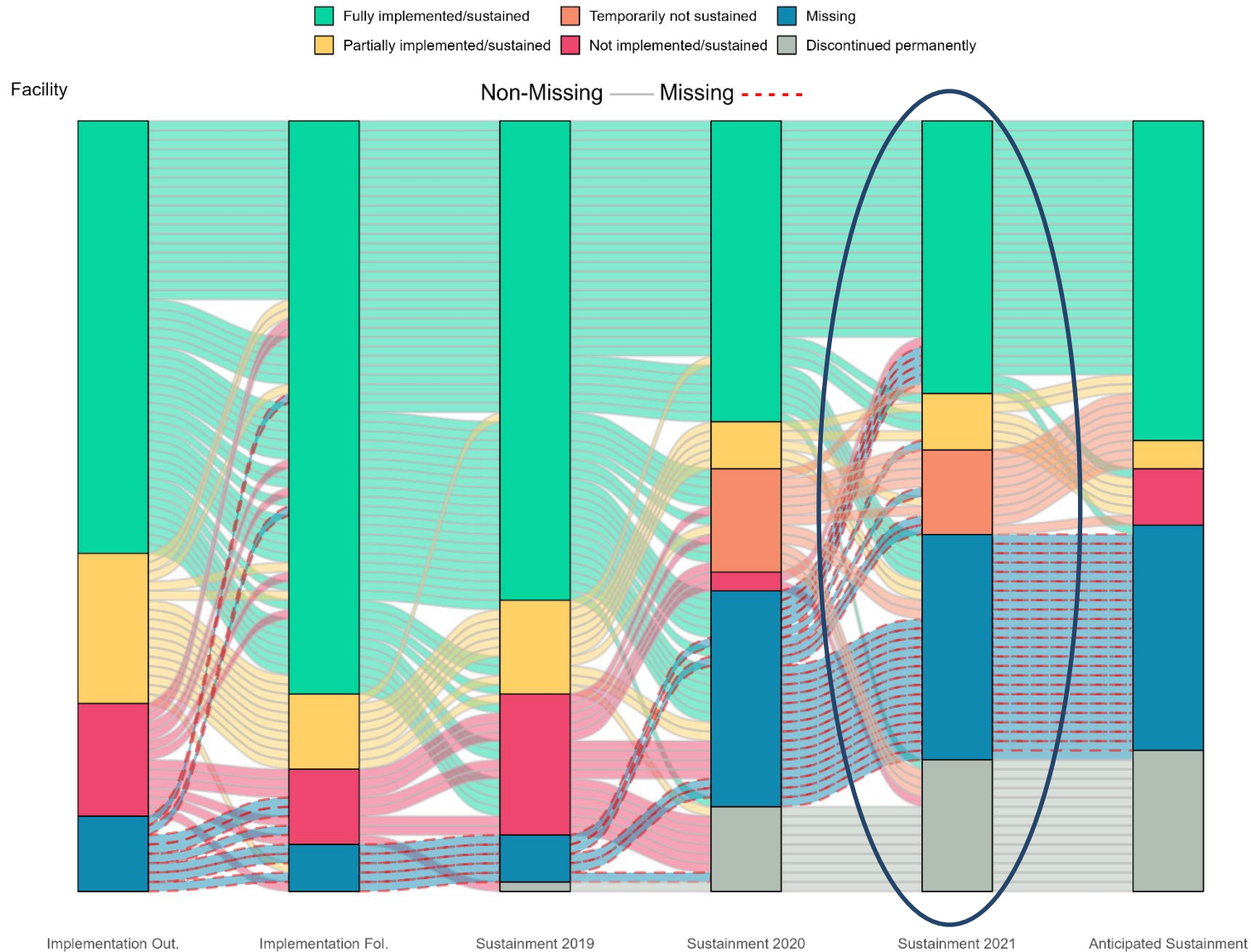
# Findings: Sustainment Pathways



Linear = same outcomes vs. Non-linear = different outcomes over time



# Findings: Sustainment Pathways (N=82)



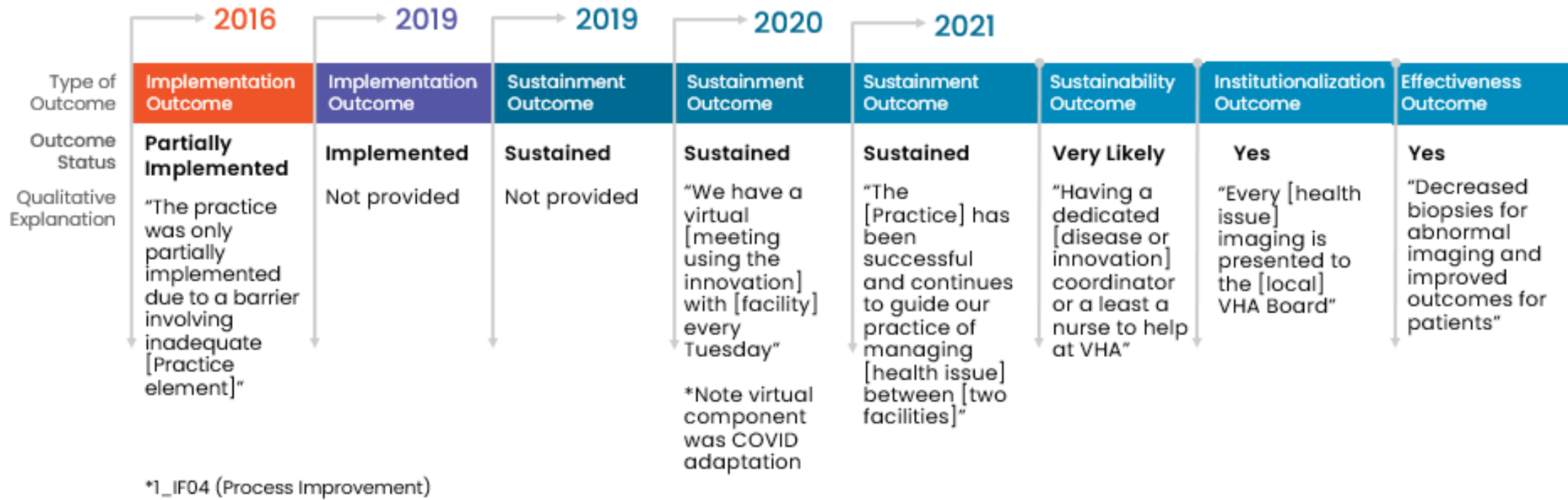
## Key Takeaway

- Overall, more facility leads reported **non-linear** pathways over time than linear



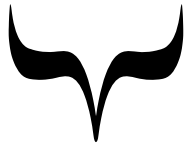
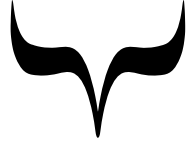


# Fully Sustained Practice: Non-Linear Pathway Example



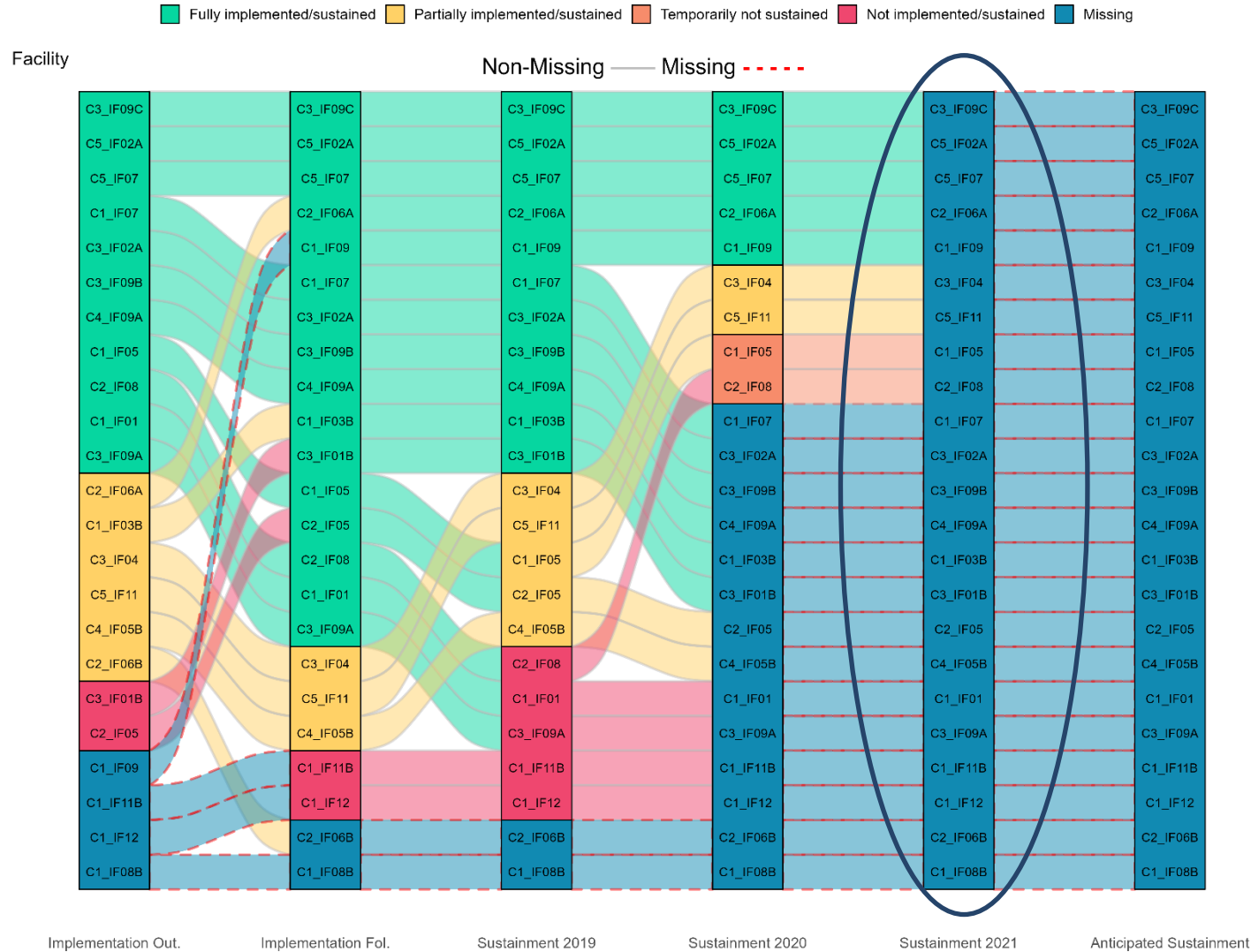


# Not Fully Sustained (Liminal) Practice: Non-Linear Pathway Example

	2018	2019	2019	2020	2021			
Type of Outcome	Implementation Outcome	Implementation Outcome	Sustainment Outcome	Sustainment Outcome	Sustainment Outcome	Sustainability Outcome	Institutionalization Outcome	Effectiveness Outcome
Outcome Status	Partially implemented	Implemented	Partially sustained	Sustained	Partially sustained	Unlikely	Partial	No
Qualitative Explanation	"There were barriers to implementation as the site had logistical issues involving technology permissions and compatibility"	Not provided	"We are still working to migrate the practice to the site. We've had some issues with lost and not calculated data"	"Weekly multi-disciplinary group walks for [practice-related] projects. All notes from walk through are then [integrated using the practice]"	"Many [staff] don't find the [practice] to be effective and find it to be redundant to local processes"	"Currently the [practice] is Internet Explorer 11 dependent and may have more issues when the support ends for MS desktop users"	"Practice is only used occasionally... our facility can't export Web file reports, due to network connection permissions"	Not provided
								
			Liminal		Liminal			

\*C3\_IF05 (Process Improvement)

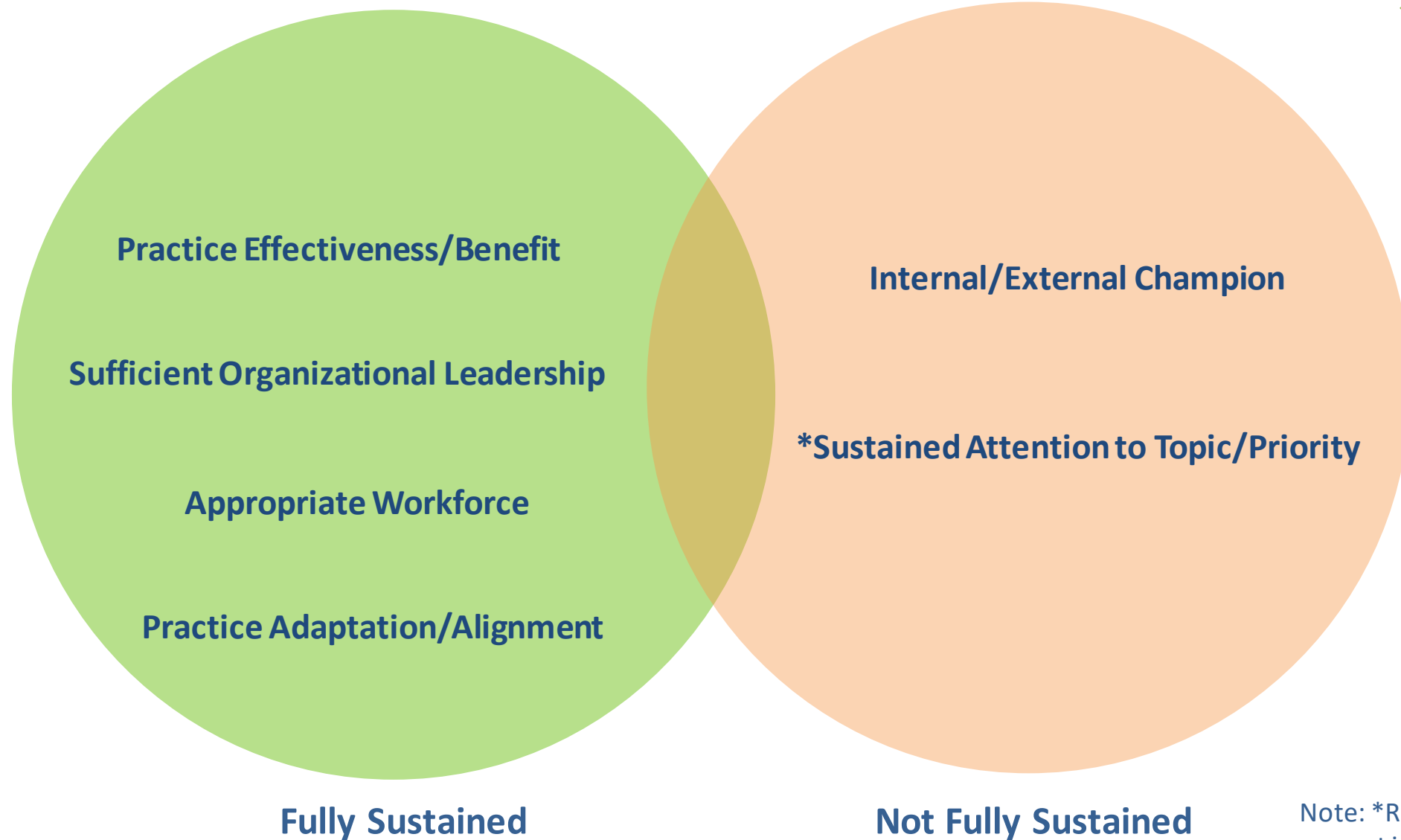
# Missing Practices (N=23/82)



## Key Takeaway

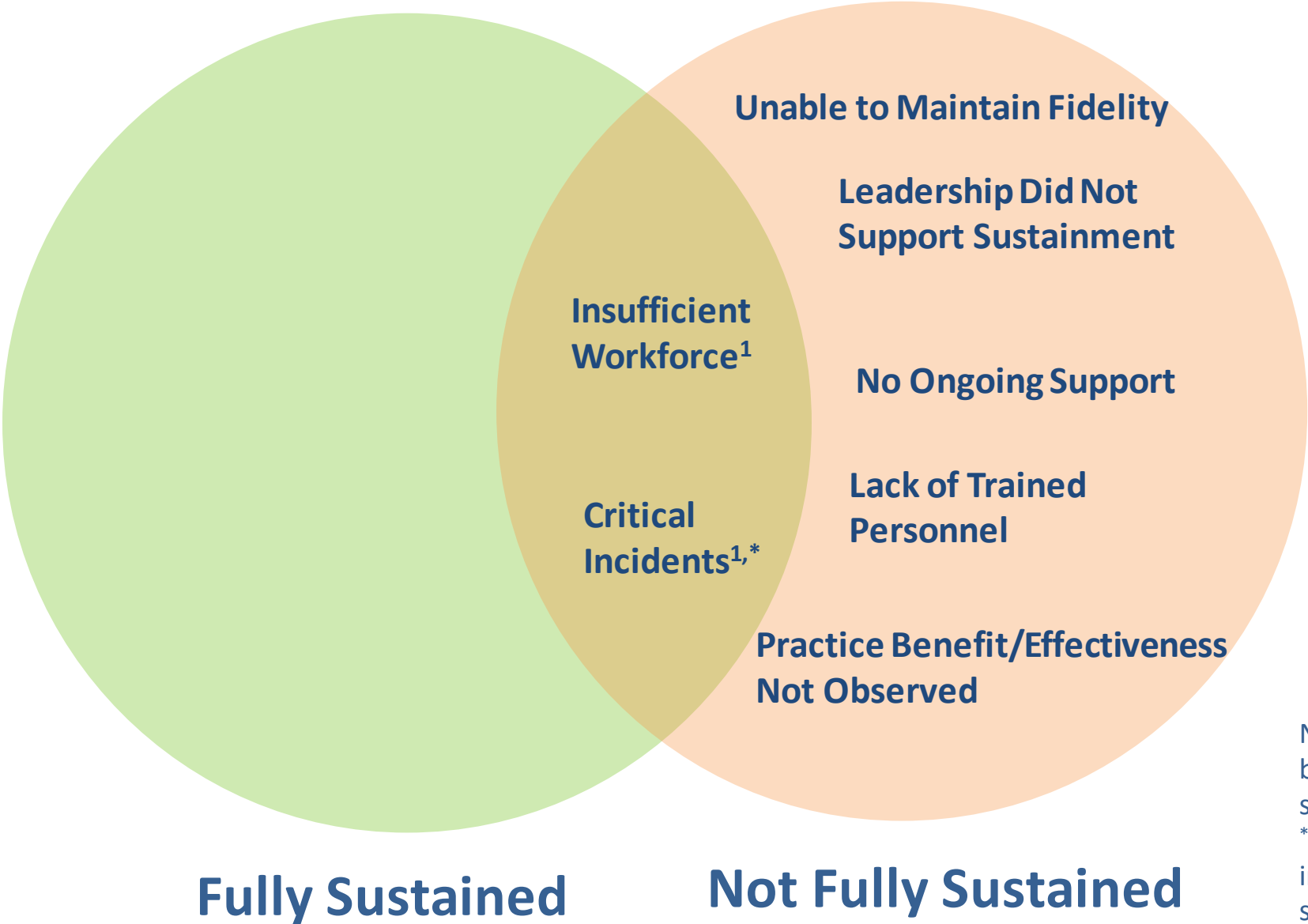
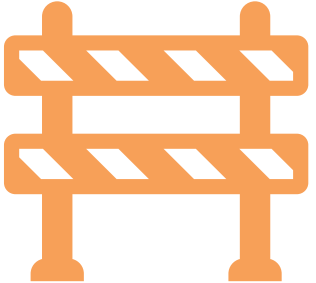
- Most facility leads with missing 2021 outcomes reported **successfully implementing or sustaining** as their last known status

# Findings: Key Factors Facilitating Sustainment



Note: \*Refers to factors not present in Hailemariam et al's systematic review.

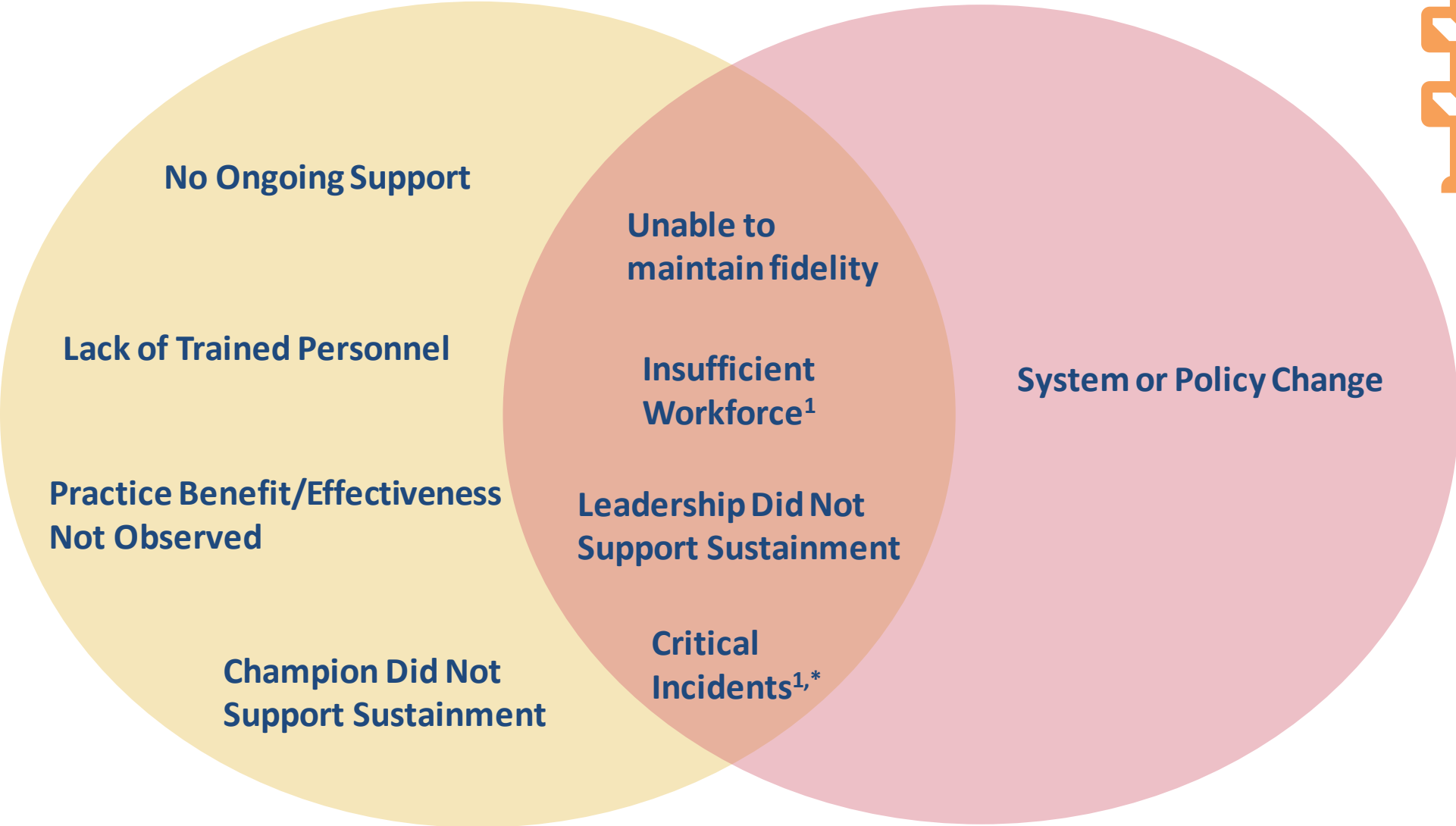
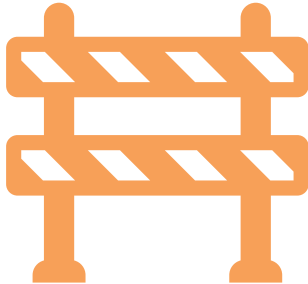
# Findings: Key Factors Hindering Sustainment



Note: <sup>1</sup>Refers to anticipated barriers for facilities with sustained practices.

\*Refers to factors not present in Hailemariam et al's systematic review.

# Findings: Key Factors Hindering Those Not Fully Sustained



**Liminal State**

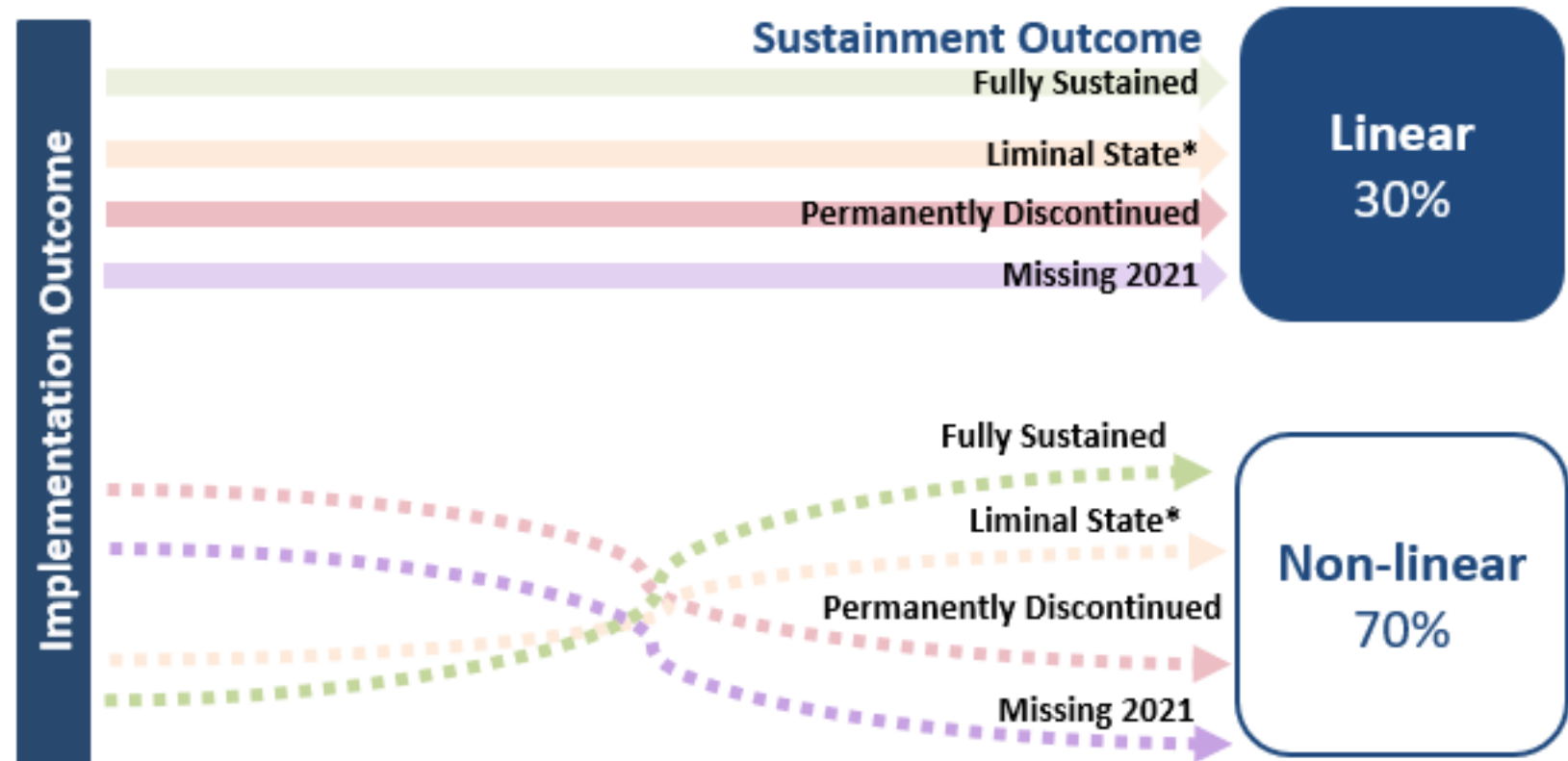
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# Sustainment Lessons Learned

- Pathways are often non-linear
- Don't make long-term decisions on initial outcomes
  - Initial failure not always = long-term failure
  - Initial success not always = long-term success
  - Don't give up on people who haven't met milestones
  - Don't assume missing data = lack of sustainment
  - Those with non-linear pathways had poorer outcomes overall

## Longitudinal Sustainment Pathways (2016-2021)

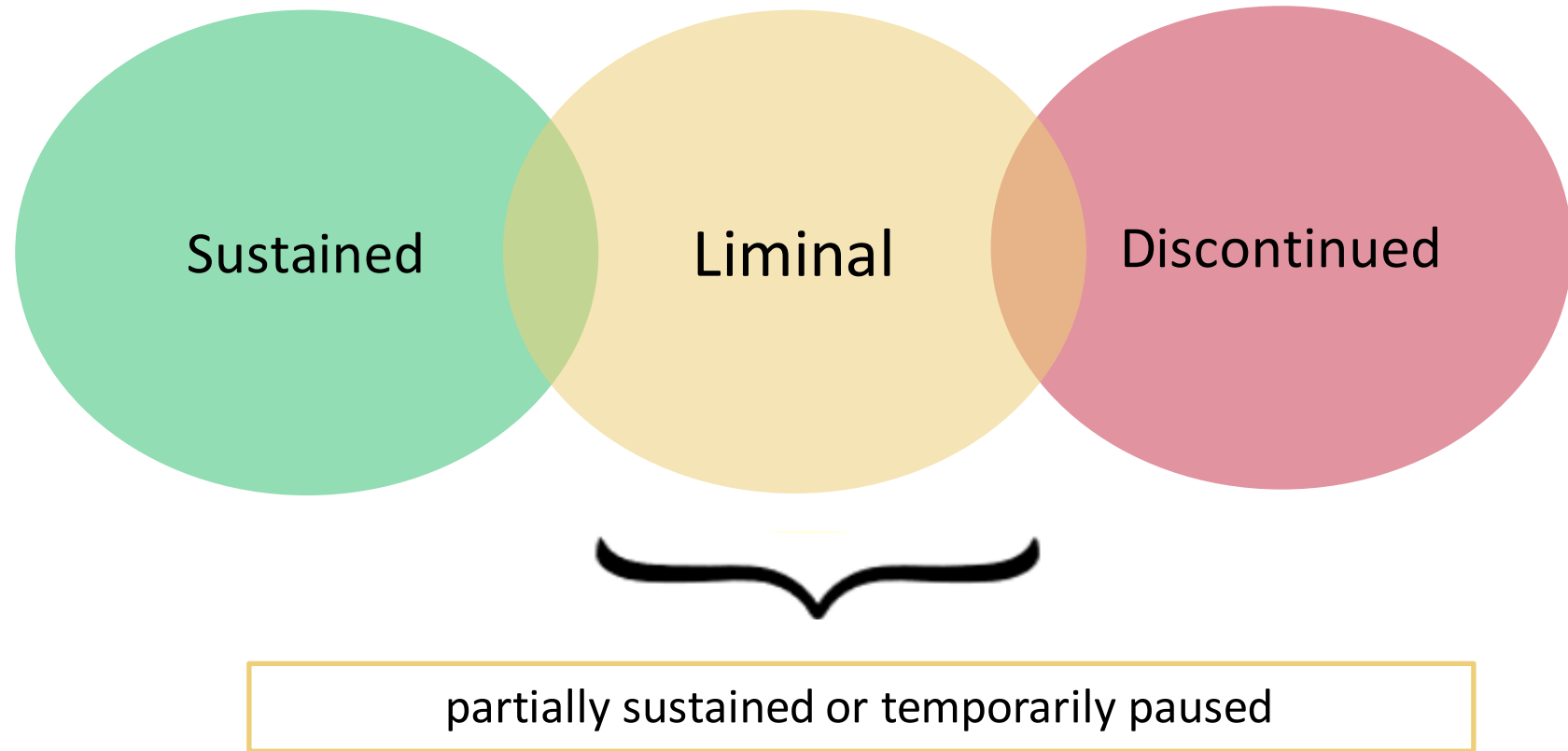


\*Liminal State = partially sustained or temporarily paused  
Linear = same outcomes vs. Non-linear = changing outcome over time

# Sustainment Lessons Learned

- **Sustainment isn't binary**
- “**Liminal**” state offers more nuance
- “**Liminal**” state provides opportunity for intervention

## Phases of Sustainment



# Diffusion of **EXCELLENCE**

Diffusing Best Practices Across VHA



## **Program Lessons Learned**

- Higher rates of sustainment suggest return on investment
- Re-consider only selecting practices for scale up / national diffusion based on initial success
- Adapt program to better support those during sustainment, especially those in “liminal” state

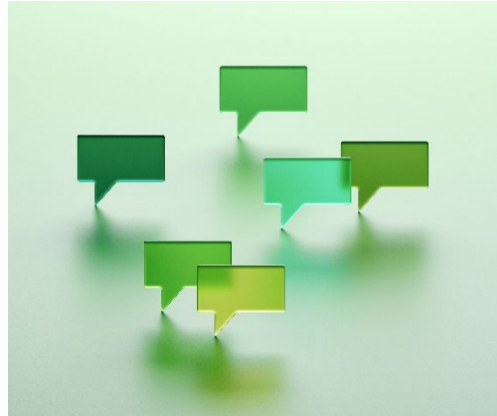
# Field Engagement Lessons Learned



Don't make assumptions based on initial results or missing status



Pragmatic surveys reduce participant burden



Instant messaging improves response rates



Robust partnership with operational partners is essential

# Survey

## Lessons Learned

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### Open Text Boxes Guide Adaptation

- ✓ Identified new sustainment outcomes
- ✓ Contextualized sustainment determinants pragmatically
- ✓ Enhanced Hailemariam et al.'s sustainment factors
  - Critical incidents
  - Sustained attention to topic/priority
- ✓ Highlighted the need for more in-depth qualitative insight on sustainment context and factors



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DURHAM CENTER OF INNOVATION  
TO ACCELERATE DISCOVERY AND  
PRACTICE TRANSFORMATION

[Information on the VHA Diffusion of Excellence and Quality Enhancement Research Initiative \(QUERI\)](https://www.va.gov/innovationecosystem/)

<https://www.va.gov/innovationecosystem/>

<https://www.queri.research.va.gov/>

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## Evaluation & Background

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# Image References

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