

Effect of frontline clinical team participation in a virtual quality improvement learning program on weight management program outcomes:

Results from the LEAP stepped-wedge randomized controlled trial

July 23, 2020



Personalizing Options through Veteran Engagement (PROVE) QUERI



VA CENTER FOR CLINICAL MANAGEMENT RESEARCH
Ann Arbor HSR&D Center of Innovation



U.S. Department of Veterans Affairs

Veterans Health Administration
VA Ann Arbor Healthcare System

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Disclaimer

The views expressed in this presentation are our own and do not reflect the position or policy of the Department of Veterans Affairs or the United States government



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Personalizing Options for Veteran Engagement
(PROVE) QUERI program funding from VA QUERI
- QUE15-286



Our Partners

National Center for Health Promotion and Disease Prevention

Dr. Jane Kim, Chief Consultant for Preventive Medicine

Dr. Michael Goldstein, Associate Chief Consultant for Preventive Medicine

Dr. Sue Raffa, National Program Director for Weight Management

VA



U.S. Department of Veterans Affairs

Veterans Health Administration

Patient Care Services

Health Promotion and Disease Prevention



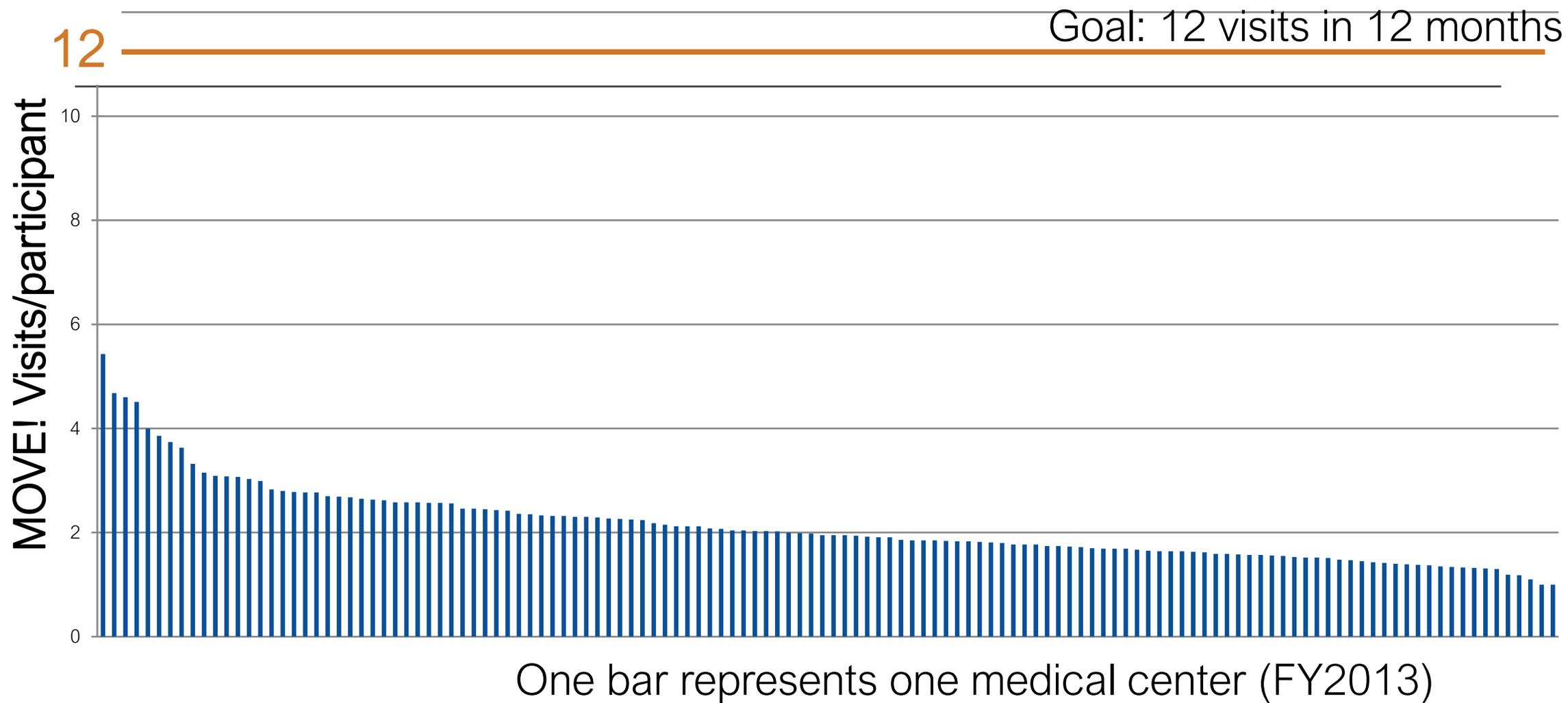


There is Much to Celebrate

- Obesity screening and brief counseling has been nearly universal (90%+)
- Modest and clinically meaningful weight loss
 - Among MOVE! participants with > 2 visits, **1 in 5** achieve *clinically meaningful* weight loss
 - Especially laudable in context of many Veterans who were on a weight *gain* trajectory before participating in MOVE!



Variation in Delivery of MOVE!



RESEARCH

Open Access



Implementation findings from a hybrid III implementation-effectiveness trial of the Diabetes Prevention Program (DPP) in the Veterans Health Administration (VHA)

Laura J. Damschroder^{1,2*}, Caitlin M. Reardon¹, Mona AuYoung^{1,13}, Tannaz Moin^{3,4,5}, Santanu K. Datta^{6,7}, Jordan B. Sparks¹, Matthew L. Maciejewski^{6,7}, Nanette I. Steinle^{8,9}, Jane E. Weinreb^{3,4}, Maria Hughes¹, Lillian F. Pinault^{8,9}, Xinran M. Xiang^{10,14}, Charles Billington^{11,12} and Caroline R. Richardson^{1,2,10,15}

Abstract

Background: The Diabetes Prevention Program (DPP) is an effective lifestyle intervention to reduce incidence of type

Recurring Barriers to Implementation & Strategies to Address Them

CFIR Domain	Construct	ERIC Strategy
Inner Setting	Networks & Communications	Organize clinician implementation team meetings, Promote network weaving
	Compatibility	Promote adaptability , Develop a formal implementation blueprint , Inform local opinion leaders, Conduct cyclical small tests of change
	Leadership Engagement	Involve executive boards
	Available Resources	Access new funding
Process	Engaging	Identify and prepare champions , Conduct local consensus discussions
	Reflecting & Evaluating	Audit and provide feedback , Develop and implement tools for quality monitoring
	Engaging	Create a learning collaborative

• Damschroder LJ, et al. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. Implementation science. 2009 Dec;4(1):1-5.

• Powell BJ, et al. A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project. Implementation Science. 2015 Dec 1;10(1):21.

• Waltz TJ et al. Choosing implementation strategies to address contextual barriers: diversity in recommendations and future directions. Implementation Science. 2019 Dec;14(1):1-5.

Recurring Barriers to Implementation & Strategies to Address Them

CFIR Domain	Construct	ERIC Strategy	LEAP Component
Inner Setting	Networks & Communications	Organize clinician implementation team meetings, Promote network weaving	Team building, Share Project Charter and Results
	Compatibility	Promote adaptability , Develop a formal implementation blueprint , Inform local opinion leaders, Conduct cyclical small tests of change	Develop Project Charter, Select Change Ideas, Complete Plan-Do-Study-Act (PDSA)
	Leadership Engagement	Involve executive boards	Share Project Charter and Results
	Available Resources	Access new funding	N/A
Process	Engaging	Identify and prepare champions , Conduct local consensus discussions	Provide coaching, Team building
	Reflecting & Evaluating	Audit and provide feedback , Develop and implement tools for quality monitoring	Develop Data Plan, Use Run Charts, Provide UCD Program Reports,
	Engaging	Create a learning collaborative	Virtual Collaborative Sessions

Why LEAP?

Everyone has the power to make Veterans' healthcare better, even in the face of limited time and resources.



THE LEARN. ENGAGE. ACT. PROCESS. (LEAP) PROGRAM FEATURES:

1. **Accessible** content
2. **Hands-on learning** within a busy clinical setting
3. **Coaching support** to enhance learning and accountability



LEAP components:



Coaching

A LEAP Improvement Coach meets with each team and facilitates virtual collaborative learning sessions.



Virtual Learning and Collaboration

LEAP written and video guidance is housed virtually. LEAP provides collaboratives to connect peers nationwide.



Data

LEAP helps teams identify sources of actionable data to monitor impact of changes.



Learn. Engage. Act. Process.

Participating VA Sites

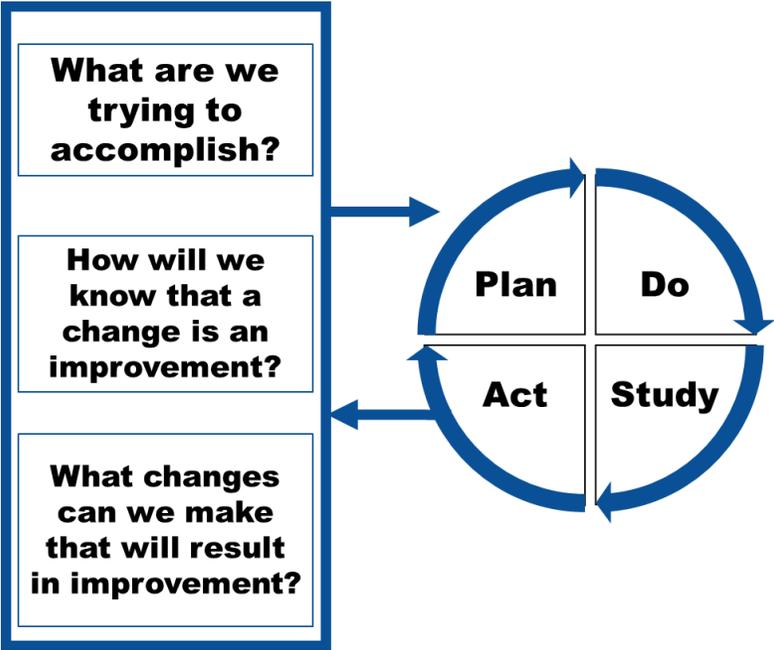


LEAP CURRICULUM

Week 1 • • • 5 • • • 10 • • • 18 • • • 26



+ 6 monthly virtual collaboratives to **sustain, scale up, and spread change**



 This site will be improving and expanding in the coming months. If you have feedback for us, [click here](#).

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LEAP

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Increase quality improvement skills with a virtual, hands-on learning program

LEAP is designed to engage frontline teams in quality improvement (QI) within the demands of everyday clinical practice. By the end of LEAP, teams will complete a project with the support of a coach and with a learning community comprised of other teams. Team members come away from LEAP with higher confidence in applying QI methods and intentions to continue QI to optimize care for their patients.



Origin

Origin

Created by the Ann Arbor VA Medical Center in October 2016

Sponsors

Quality Enhancement Research Initiative and Systems Redesign and Improvement

Adoptions

49 facilities have adopted this practice

LEAP is listed in VA online Diffusion marketplace

<https://marketplace.va.gov>

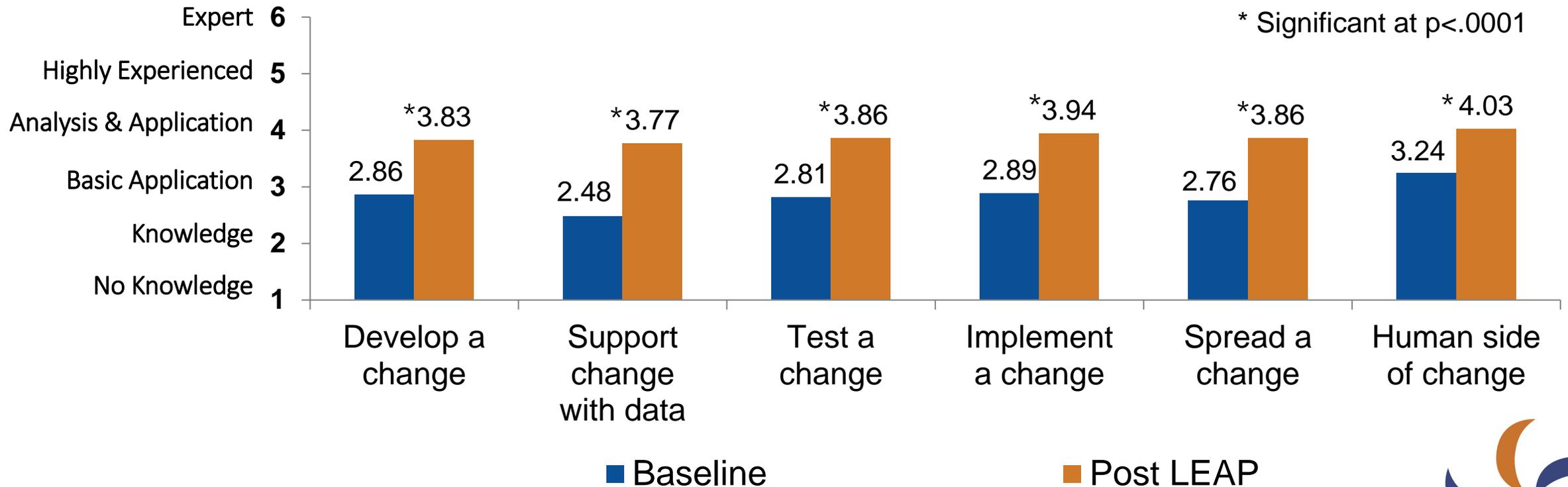
Pathway of Change



Year 1: *Self-rating* of QI Skills Increased

n=36 individuals from 20 teams who responded before and after LEAP (Pilot + Cohorts 1-4)

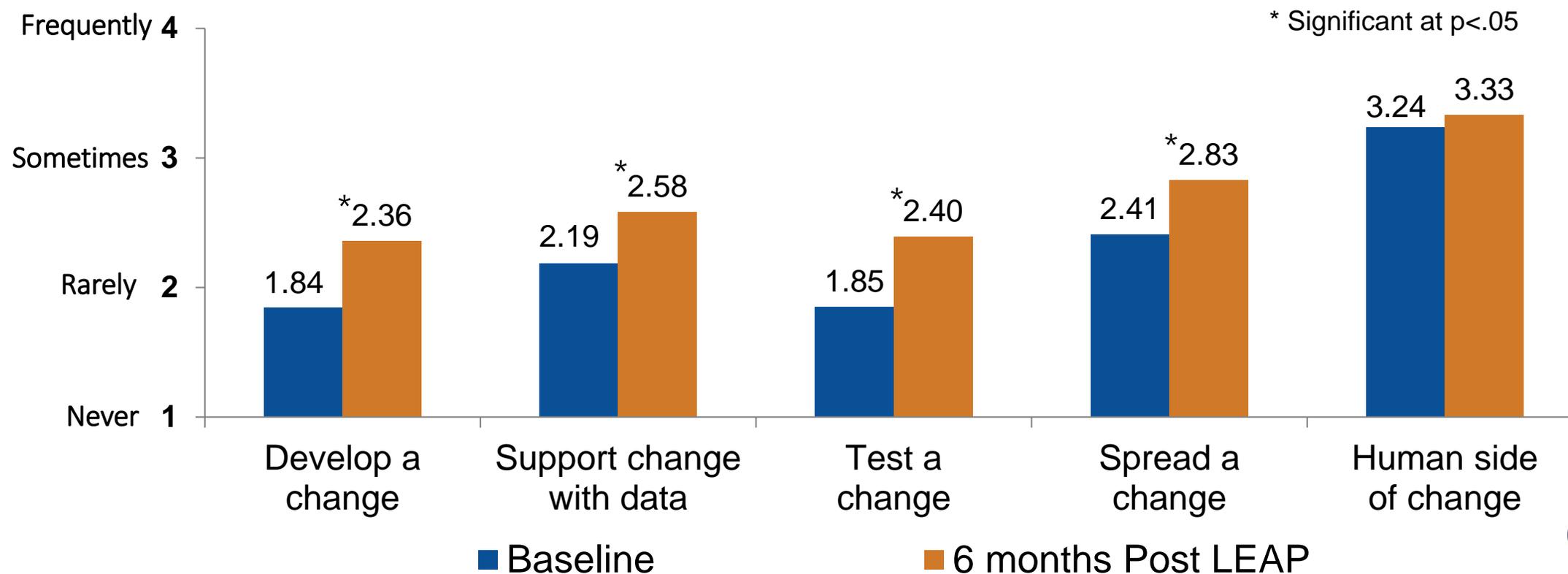
For each skill area, select the one response that best describes your skill level:



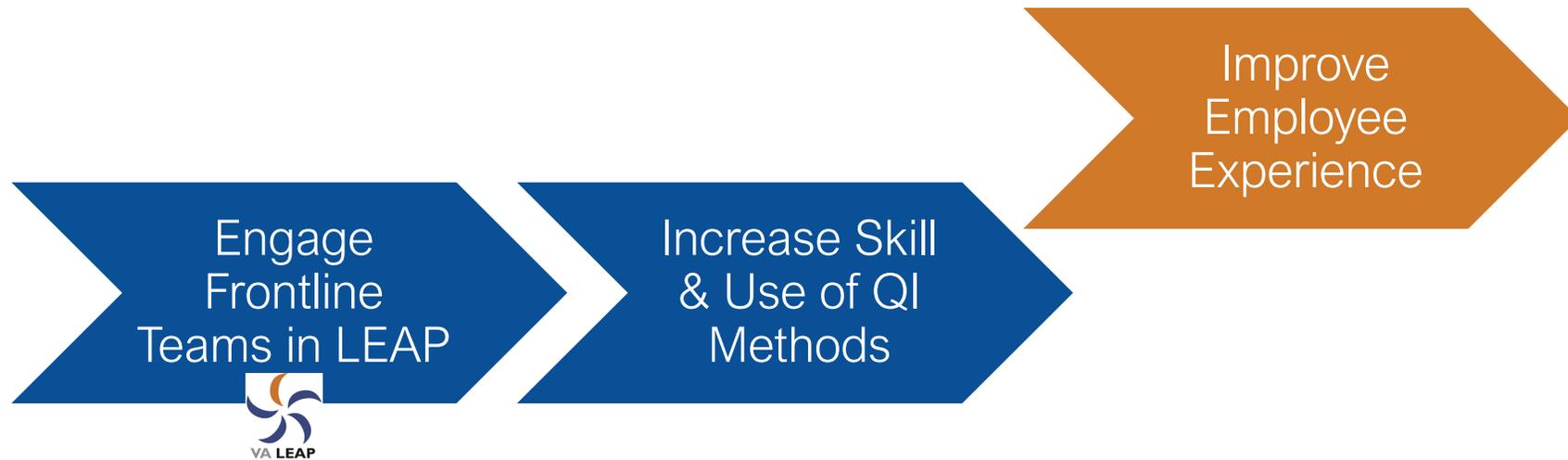
Year 2: Use of QI Skills Increased

n=53 individuals from 22 teams who responded before and again 6 months after completing LEAP

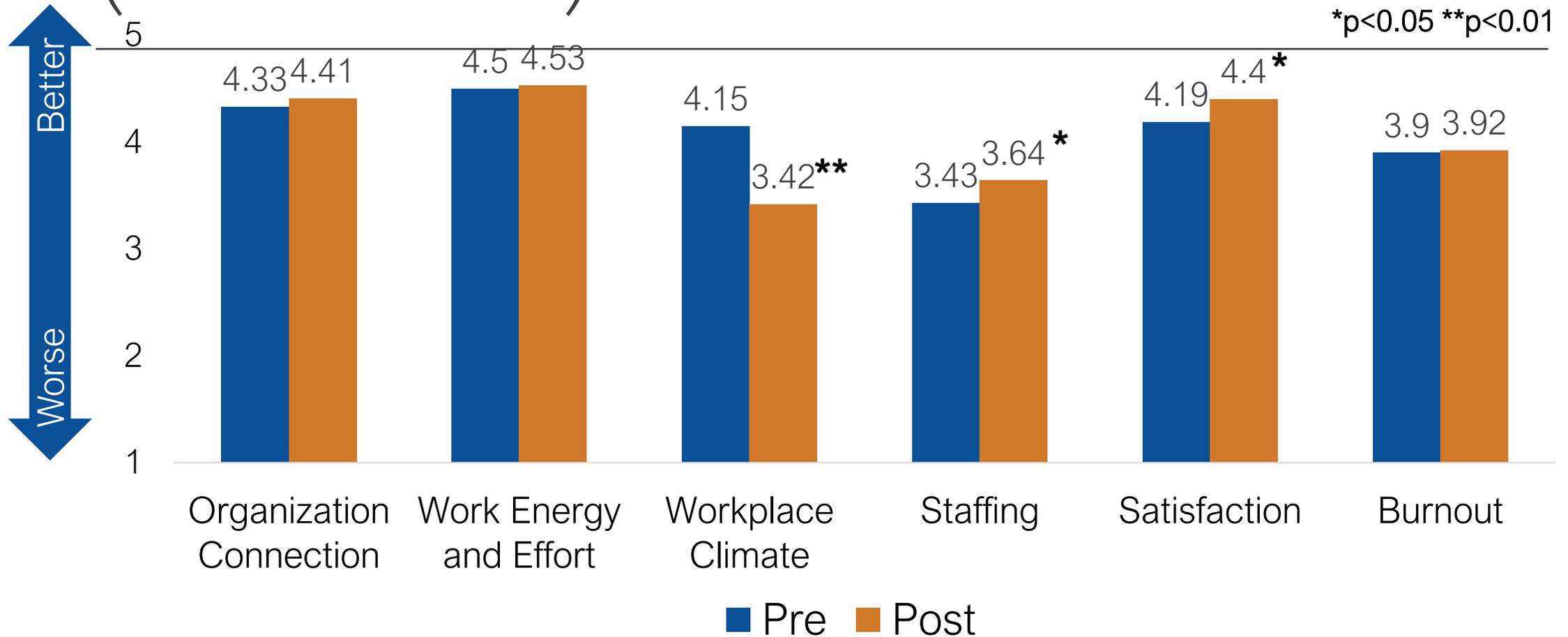
Select one response that best describes how often you have used this skill *over the past six months*:



Pathway of Change

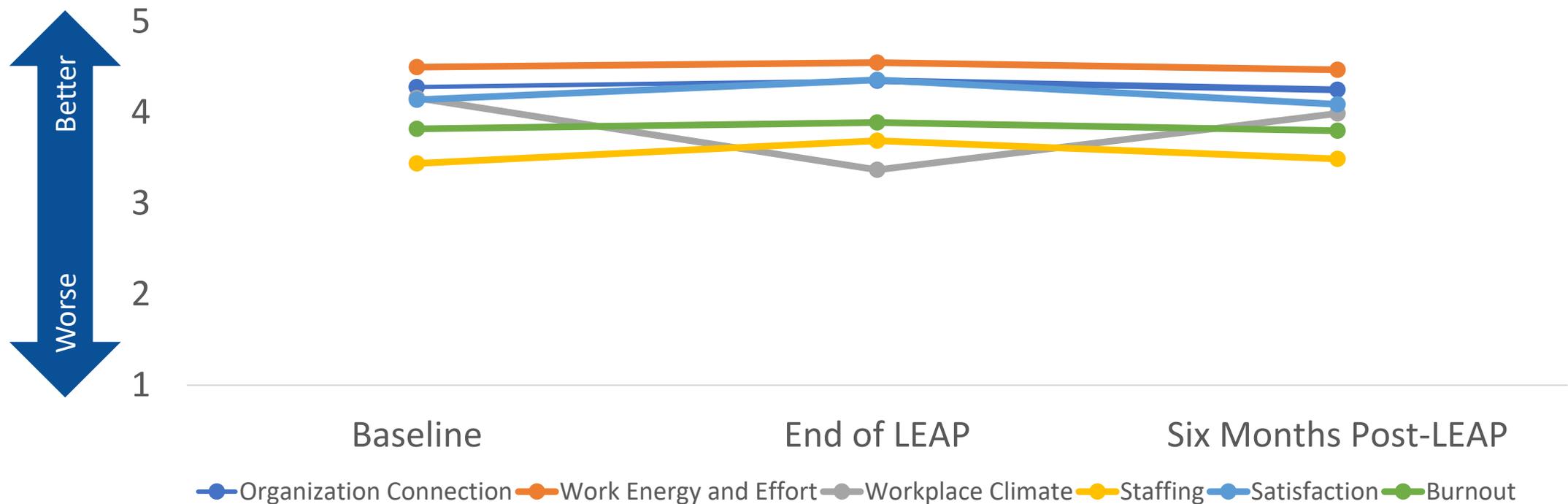


Employee Engagement and Burnout (Cohorts 5-8)



Employee Engagement and Burnout

Means for 46 participants from Cohorts 5-8 who responded at 3 timepoints



Workplace climate decreased significantly from baseline to end of LEAP ($p < .0001$), **then increased** significantly from end of LEAP to six month follow-up ($p < .0001$).

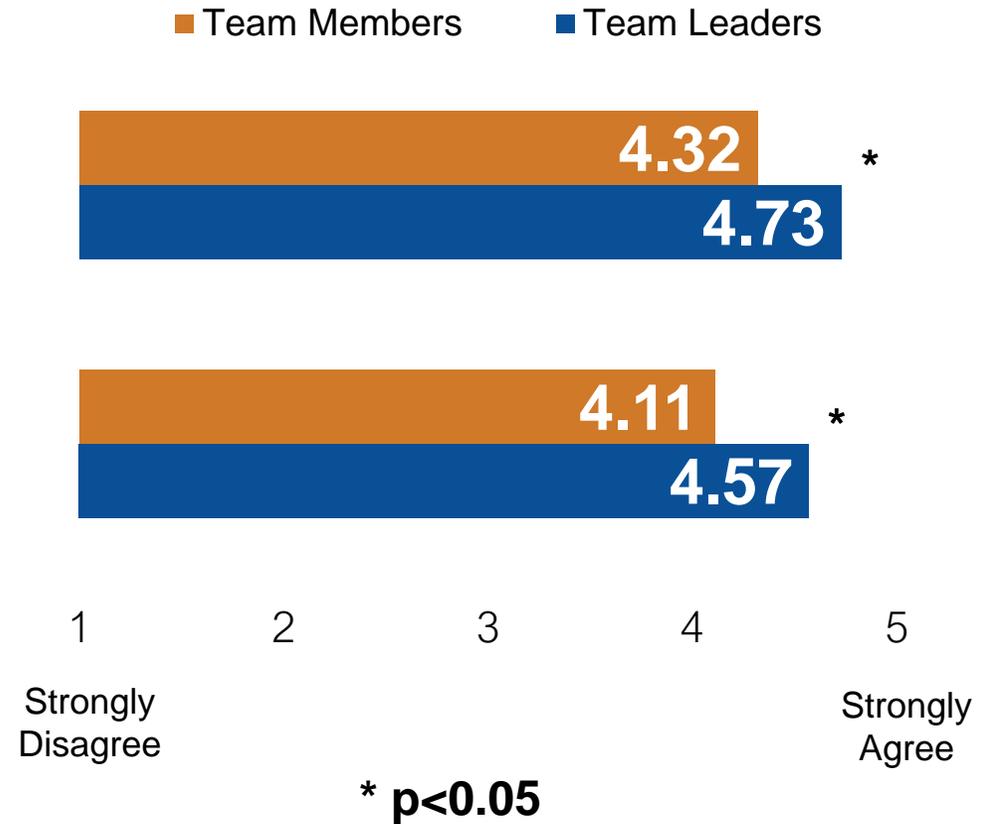
Satisfaction decreased significantly from end of LEAP to six month follow-up ($p < .05$).

No other measures changed significantly between time points.

High satisfaction with LEAP

The LEAP program is **relevant** to the needs of our MOVE! program.

I feel **comfortable** using the LEAP materials and methods to help guide improvements to our MOVE! program.



Participants value the structured approach

“Expectations for each week and a check list has made it very manageable.”

Pathway of Change



Clustered RCT: Stepped Wedge Design

Purpose: To conduct an interrupted-time series analysis to determine effect of LEAP on group MOVE! reach

Reach computed as a rate:

$$\frac{\text{number of new \& returning Veterans to group MOVE!}^*}{\text{number of MOVE! eligible Veterans for a given fiscal year}}$$

*Everyone in the numerator should be in the denominator, but there were some exceptions (1.6%).

Definitions

New: never had a group MOVE! visit

Returning: first group MOVE! visit after a 6-month gap

MOVE! eligibility:
Inclusion - Veterans with a BMI>30 or a BMI>25 with specific comorbidities

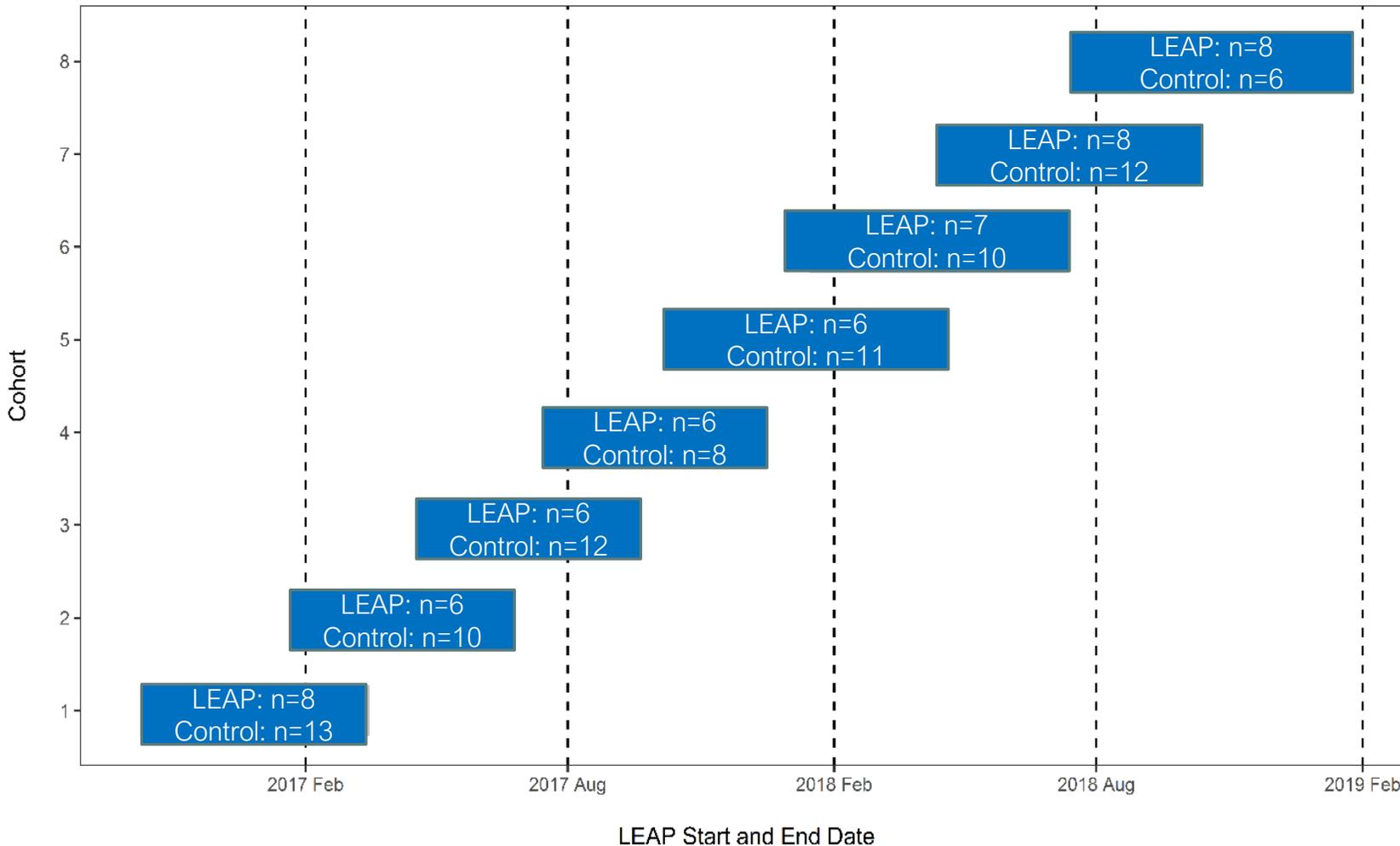
Exclusion – terminal cancers or end-of-life documentation

Stepped-wedge Trial Set-up

- **Primary Outcome:** Reach
- **Unit of Analysis:** n=137 medical centers with group MOVE!
 - N=55 sites randomized to LEAP start date → n=82 control sites
 - Intention-to-treat analyses
 - N=39/55 completed LEAP → 71%



Stepped-Wedge Design



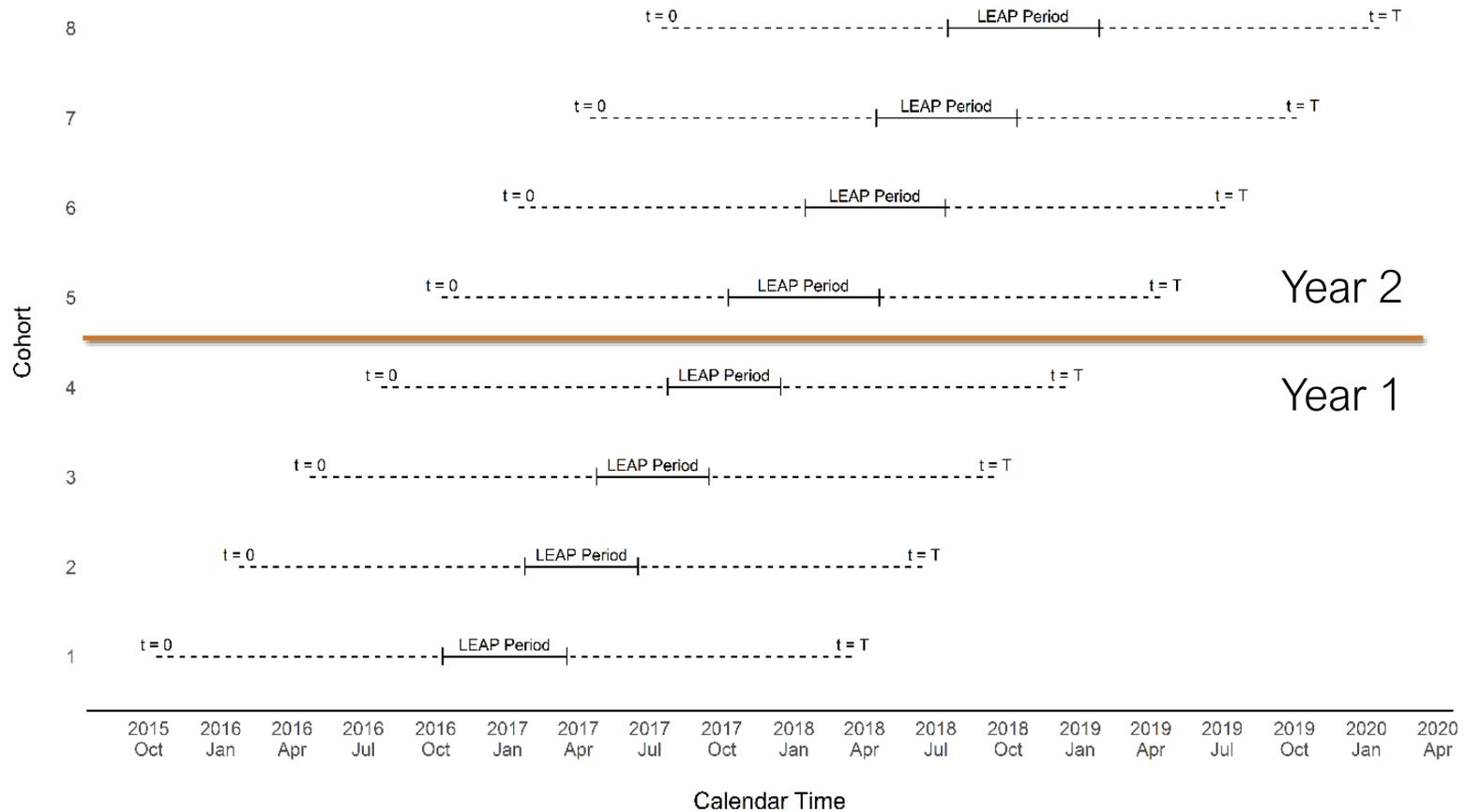
137 Group MOVE! Programs

8 Cohorts of n=55 sites randomized to LEAP

- Y1: Randomly assigned a starting date.
- Y2: Randomly selected from willing teams each quarter.
- N=39/55 (71%) completed LEAP

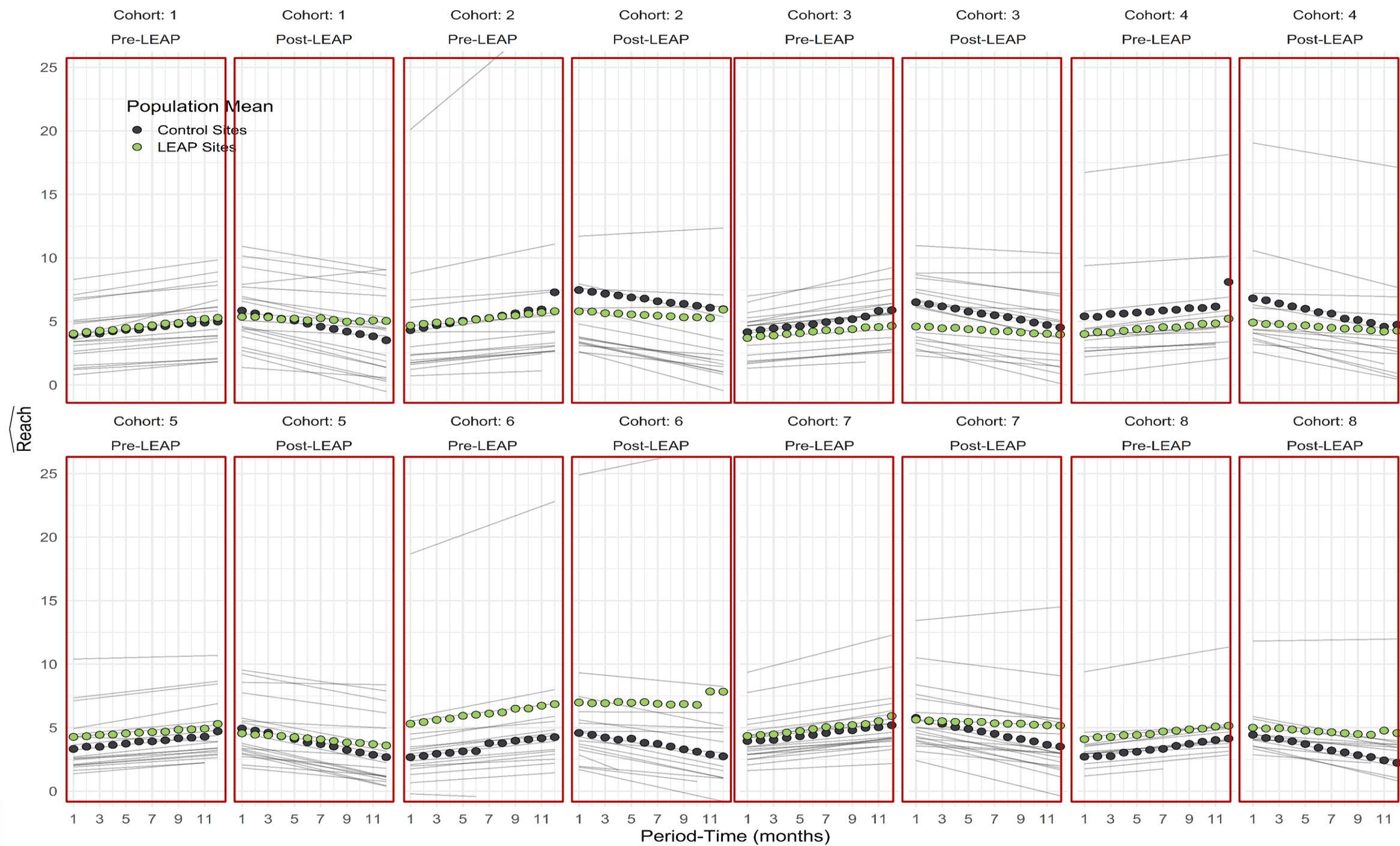
N=82 Randomized Control Sites

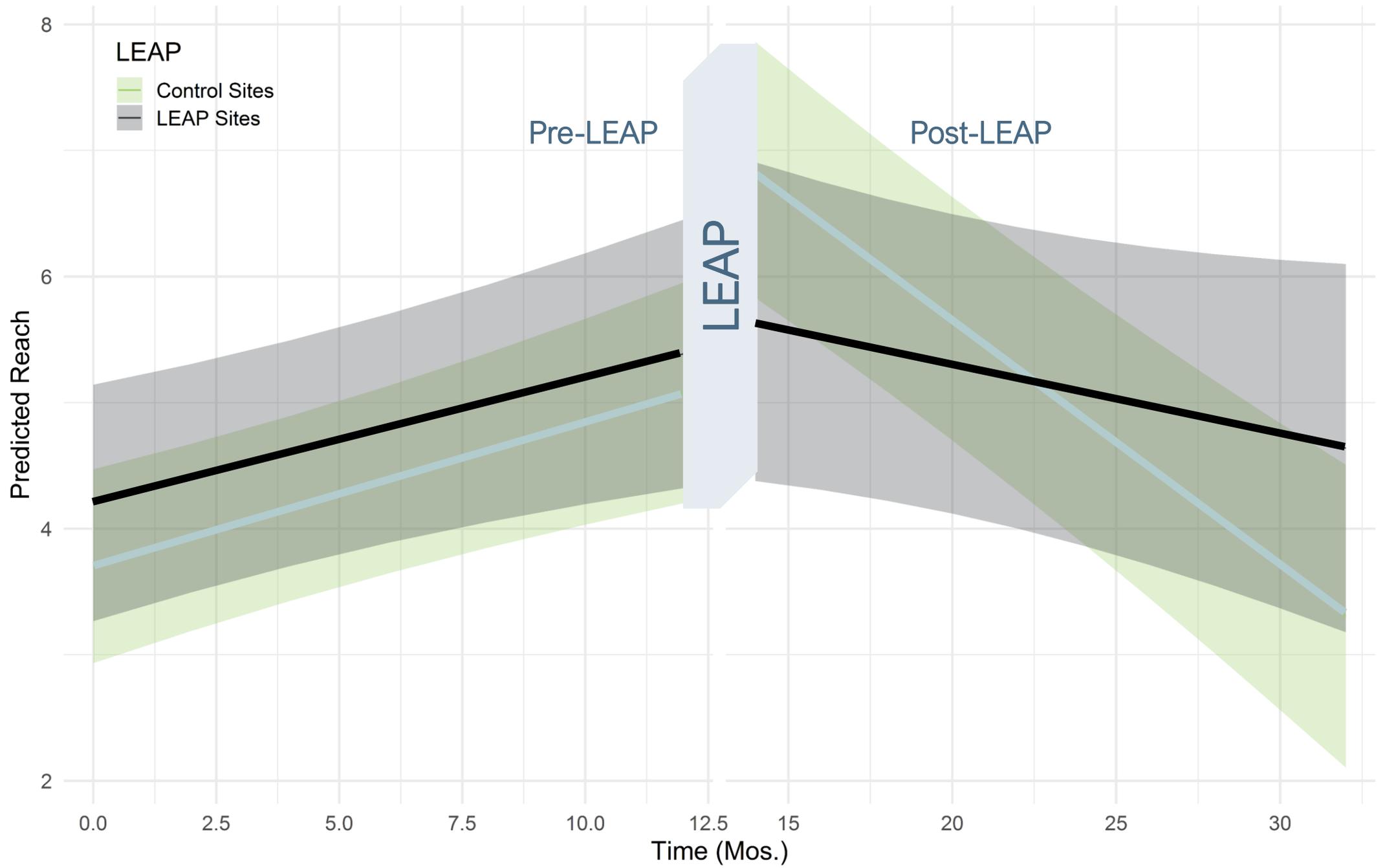
Interrupted Time-series Analyses



- ### Conceptual Structure
- 12 months pre-LEAP
 - 5-6 month LEAP Program
 - 12 months post-LEAP.







LEAP
Control Sites
LEAP Sites

Pre-LEAP

Post-LEAP

LEAP

Predicted Reach

Time (Mos.)

Challenges & Opportunities

Time is a challenge...

I had the time to do the work required in **21-week** LEAP.

Neutral or disagree

53%

Agree or strongly agree

47%

...we lengthened LEAP to help address this...

I had the time to do the work required in **26-week** LEAP.

Neutral or disagree

41%

Agree or strongly agree

59%



Intention to continue

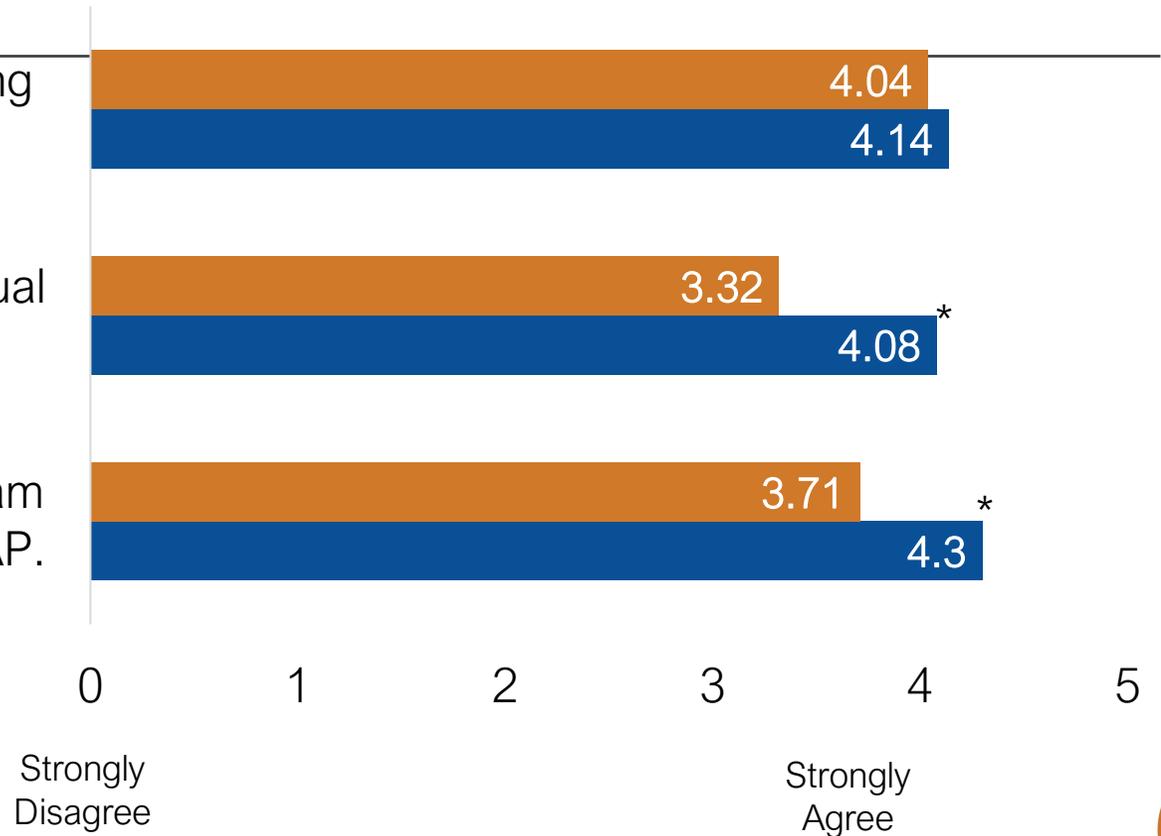
Our LEAP Improvement Team will continue working together after the 26 weeks of LEAP.

I plan to attend follow-up coaching or virtual collaborative sessions.

I plan to continue to monitor our MOVE! program using the MOVE! data reports provided by LEAP.

■ Team Members

■ Team Leaders



* p<0.05



Patient care takes priority



Patient Care and Quality Improvement

Time and priority constraints dampen intention to continue engaging in QI for MOVE!

- Affirms a growing literature:
 - *“We now understand the problem better. Clinicians were too busy delivering patient care and had no spare time to improve it.”*

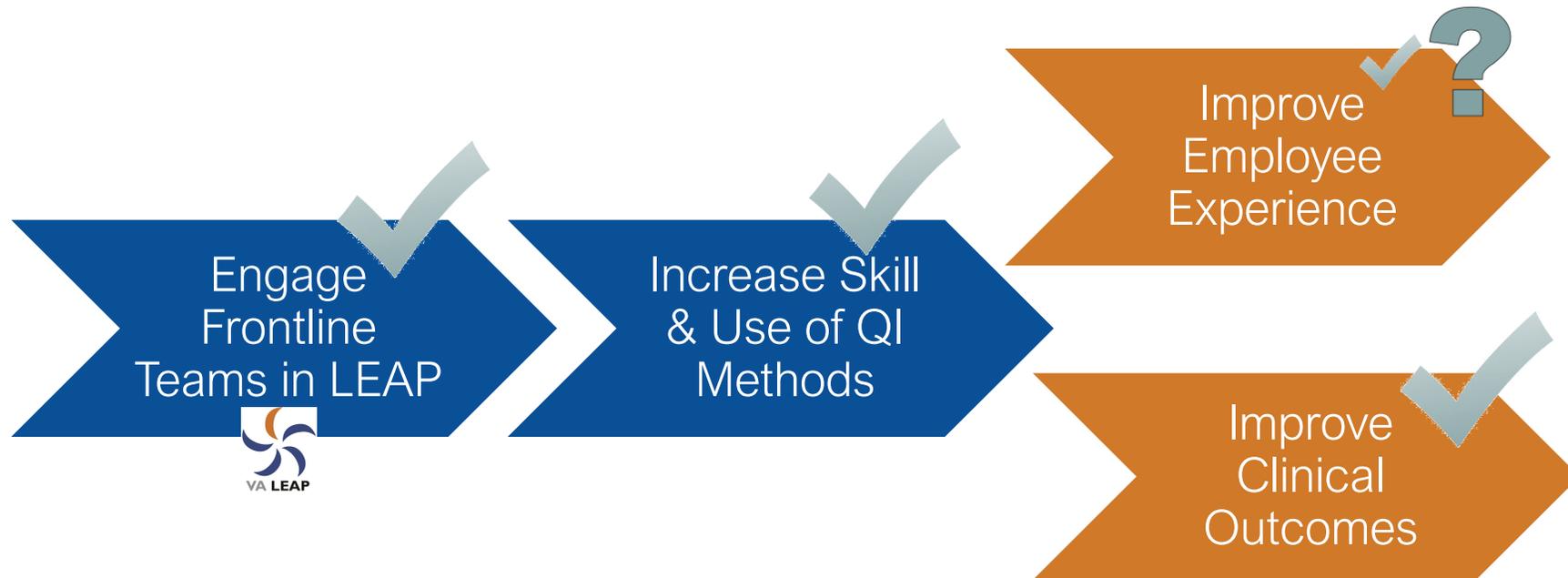
[Rupert Pearse, as quoted by Hawkes, Nigel. *“QI falters after trial fails to reduce mortality after abdominal surgery.”* BMJ (2019): l1924. Commenting on Peden CJ, Stephens T, Martin G, Kahan BC, Thomson A, Rivett K, Wells D, Richardson G, Kerry S, Bion J, Pearse RM. Effectiveness of a national quality improvement programme to improve survival after emergency abdominal surgery (EPOCH): a stepped-wedge cluster-randomised trial. The Lancet. 2019 Jun 1;393(10187):2213-21.]

High rate of completion

- 42/48 (81.25%) of teams who initially committed to LEAP



Evidence to Support Pathway of Change



THREE

PILLARS OF HRO



Leadership Commitment

Safety and reliability is reflected in leadership's vision, decisions and actions.



Safety Culture

Throughout our organization, safety values and practices are used to prevent harm and learn from mistakes.



Continuous Process Improvement

Across the organization, teams use effective tools for continuous learning and improvement.

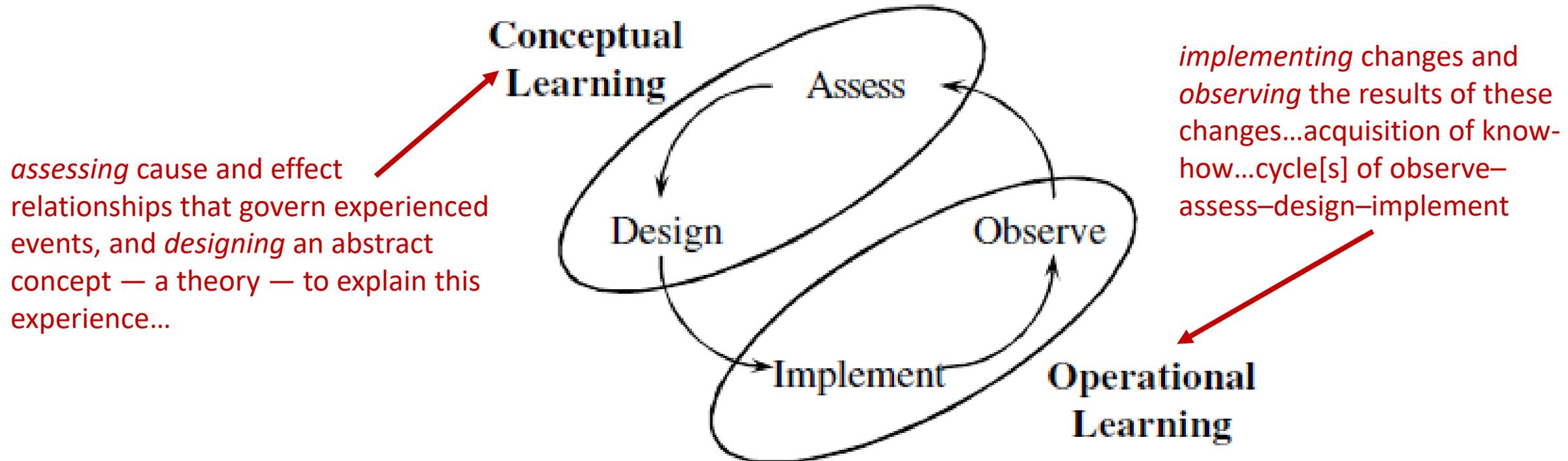
Change Management

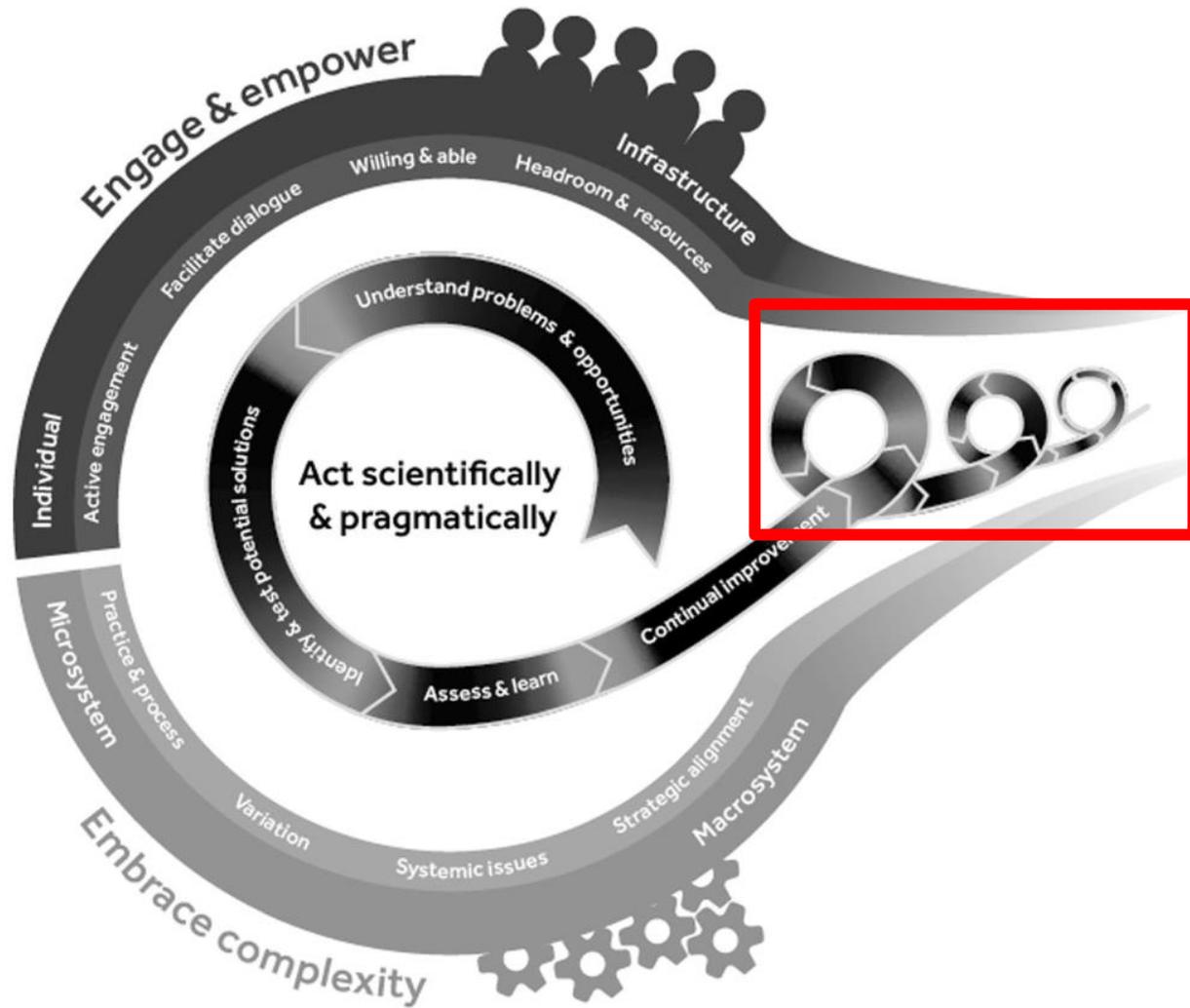
VHA Journey to High Reliability Organization (HRO) Maturity

**Inside the Organizational Learning Curve:
Understanding the Organizational
Learning Process**

By Michael A. Lapré and Ingrid M. Nembhard

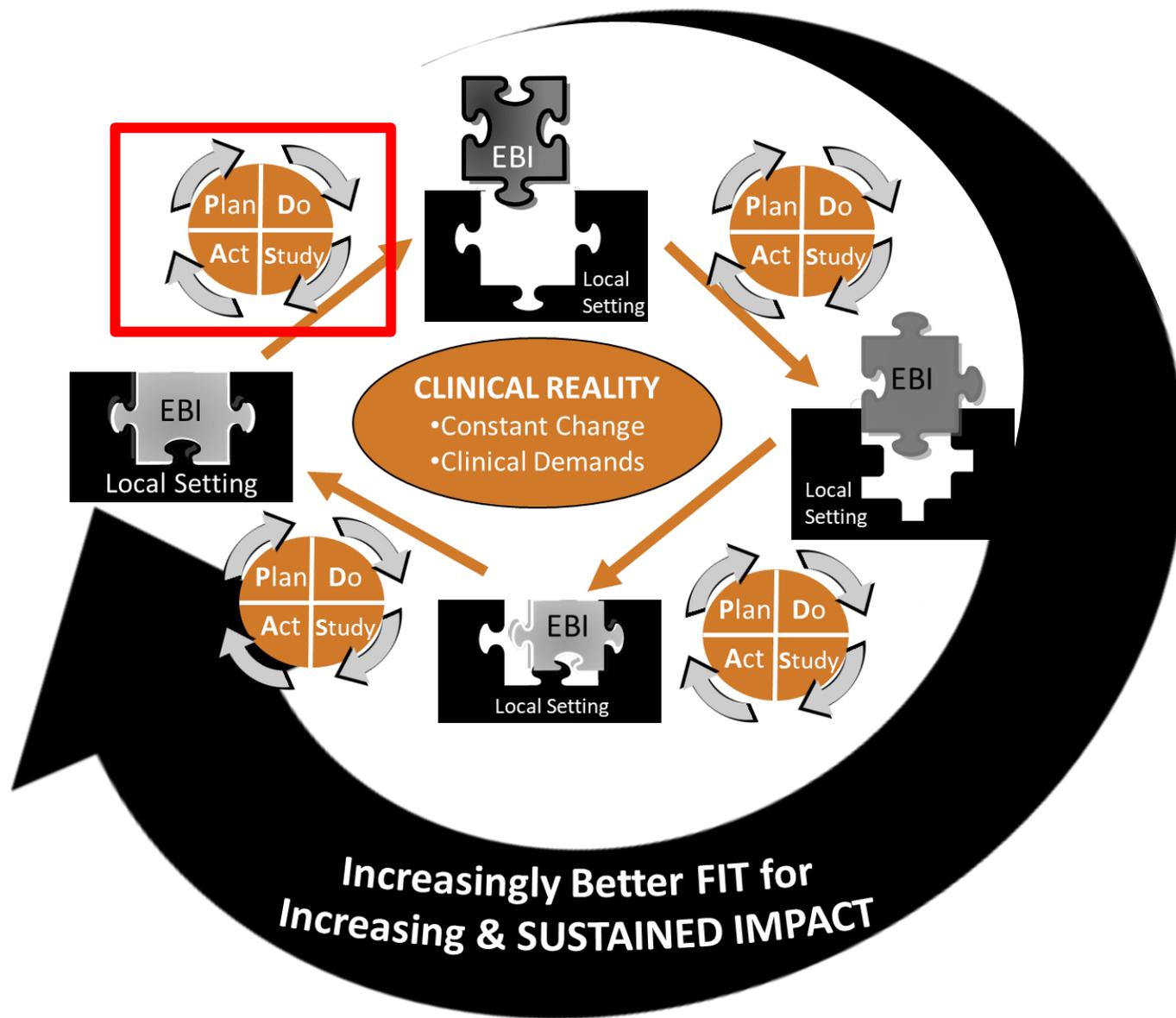
Learning Health System





Simple Rules for Complex Implementation

Ref: Reed JE, Howe C, Doyle C, Bell D. Simple rules for evidence translation in complex systems: a qualitative study. BMC medicine. 2018 Dec 1;16(1):92.



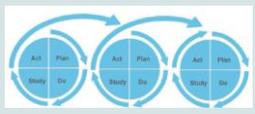
Dynamic Sustainability Framework



Unit:	Content:	EMC Strategy:
Learning:	Resources & Communications:	Change: An organization's ability to respond to changing circumstances, demands & risks
Compliance:	Planning:	Planning: Planning, identifying & allocating resources to ensure that the organization achieves its long-term goals
Leadership & Engagement:	Implementing:	Implementing: Implementing the organization's strategy, vision, and values
Resilience:	Monitoring & Reviewing:	Monitoring & Reviewing: Monitoring and reviewing the organization's performance against its strategy, vision, and values
Empowering:	Enabling:	Enabling: Enabling the organization to achieve its strategy, vision, and values
Reliability & Flexibility:	High and precise knowledge, Security and resilience: Ability to adapt to change, respond to risks & opportunities	
Empathy:		

Synthesized Empirical Evidence

Quality Improvement (e.g. IHI, Lean)



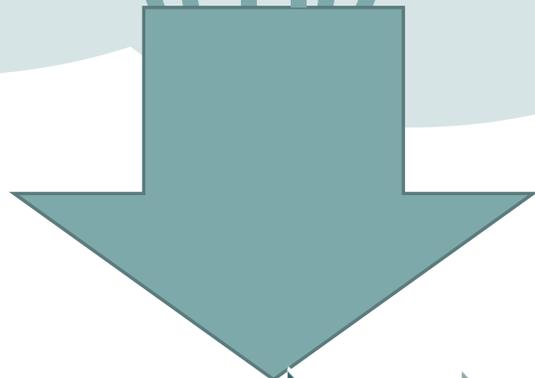
Deep Empirical Evidence

Learning Health Systems

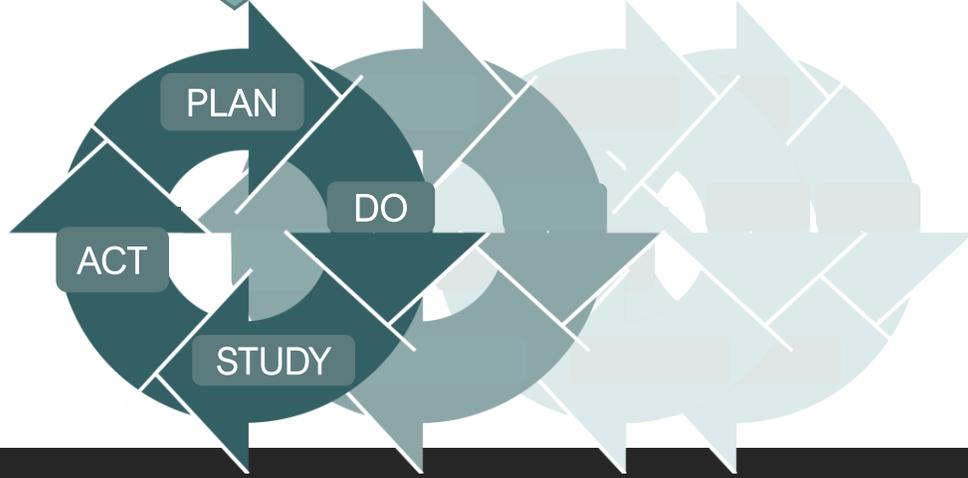


Implementation Science

High Reliability Organization (HRO)



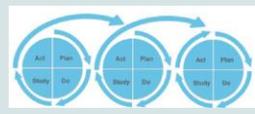
Engage Front-line Teams:
Conduct cyclical small tests of change



Area	Challenge	Key Strategy
Leadership	Weakness in Communication	Clear and concise communication
Collaboration	Lack of shared responsibility	Shared responsibility, clarity of roles and expectations
Learning & Innovation	Lack of shared responsibility	Shared responsibility, clarity of roles and expectations
Support	Lack of shared responsibility	Shared responsibility, clarity of roles and expectations
Measuring & Evaluating	Lack of shared responsibility	Shared responsibility, clarity of roles and expectations
Support	Lack of shared responsibility	Shared responsibility, clarity of roles and expectations

Synthesized Empirical Evidence

Quality Improvement (e.g. IHI, Lean)



Learning Health Systems



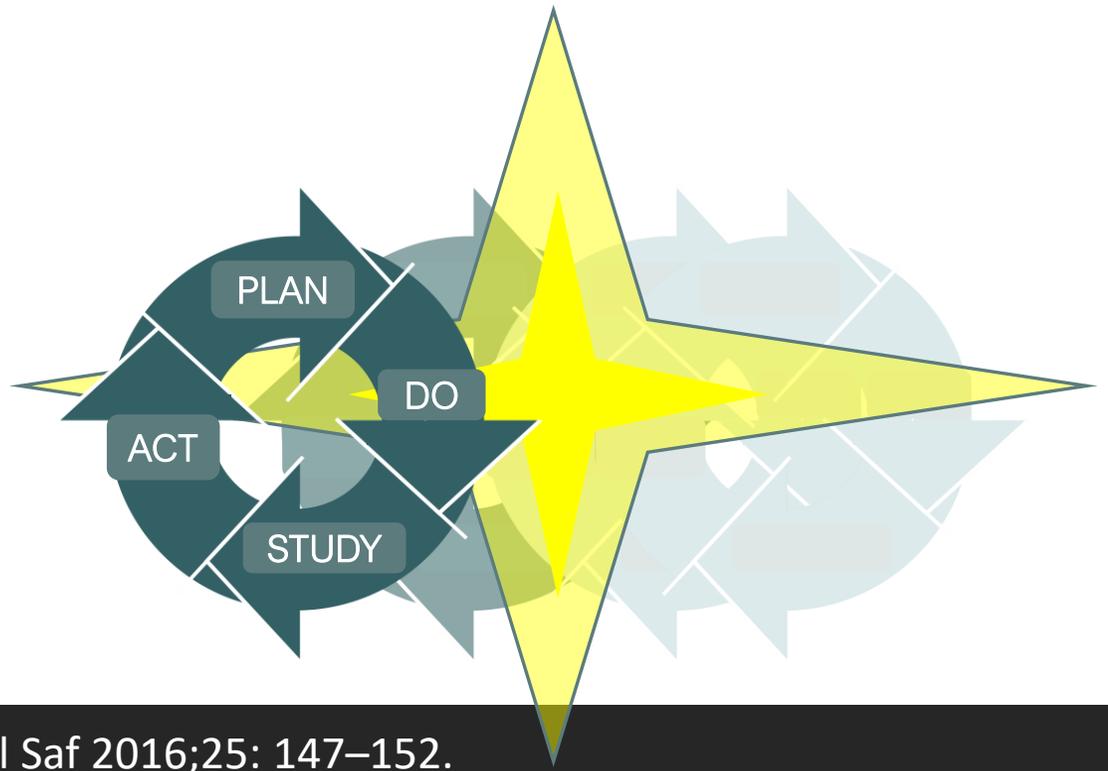
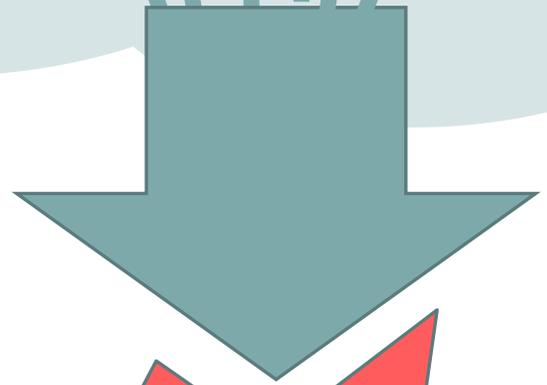
High Reliability Organization (HRO)



Deep Empirical Evidence



Implementation Science





Questions?

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