

CFIR Implementation Framework with Application to the VISN 11 Stroke Collaborative

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Consolidated Framework for Implementation Research (CFIR)

- A comprehensive framework to promote consistent use of constructs, terminology, and definitions
 - Consolidate existing models and frameworks
 - Comprehensive in scope
 - Tailor use to the setting

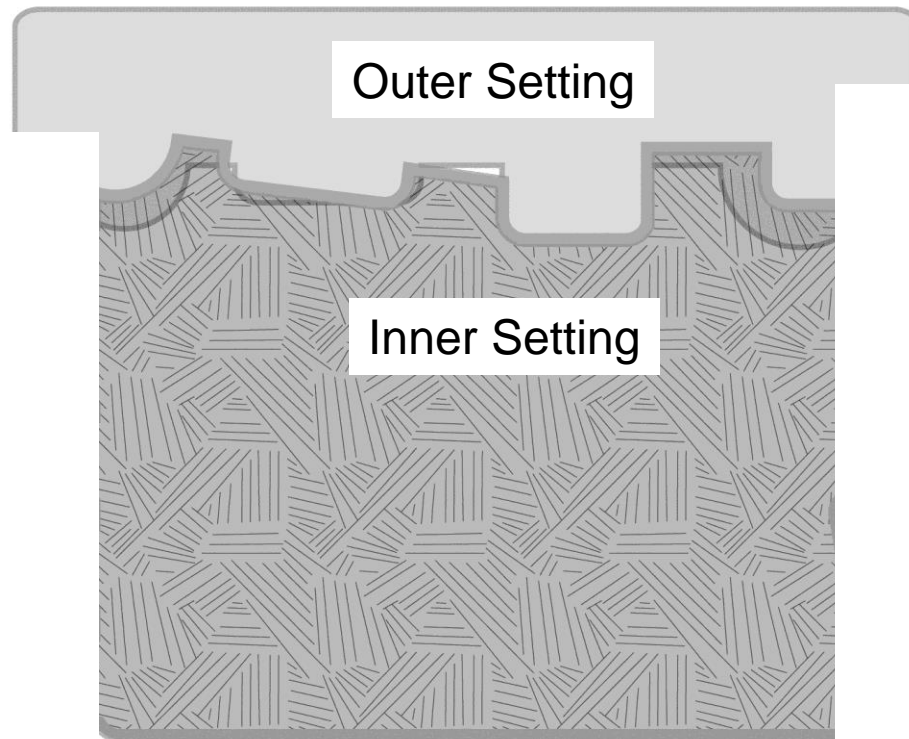
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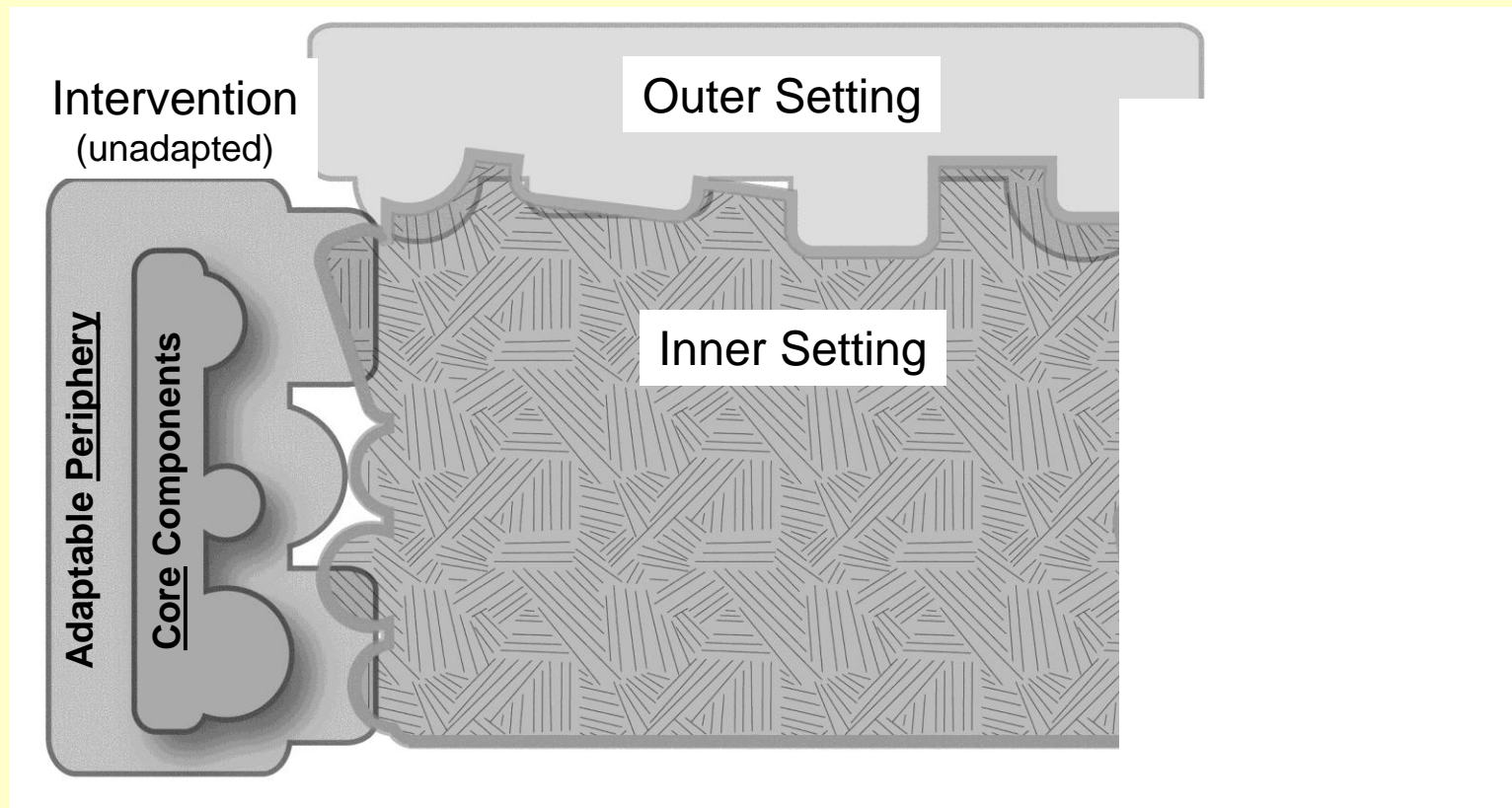
Outer Setting

The diagram illustrates the CFIR framework. It features a large white rectangular area representing the implementation research space, set against a light yellow background. At the top of this white area is a gray horizontal bar with rounded corners. A white rectangular label with the text 'Outer Setting' is positioned on the gray bar, slightly to the right of the center. The gray bar has a small notch on its right side, suggesting it is part of a larger structure.

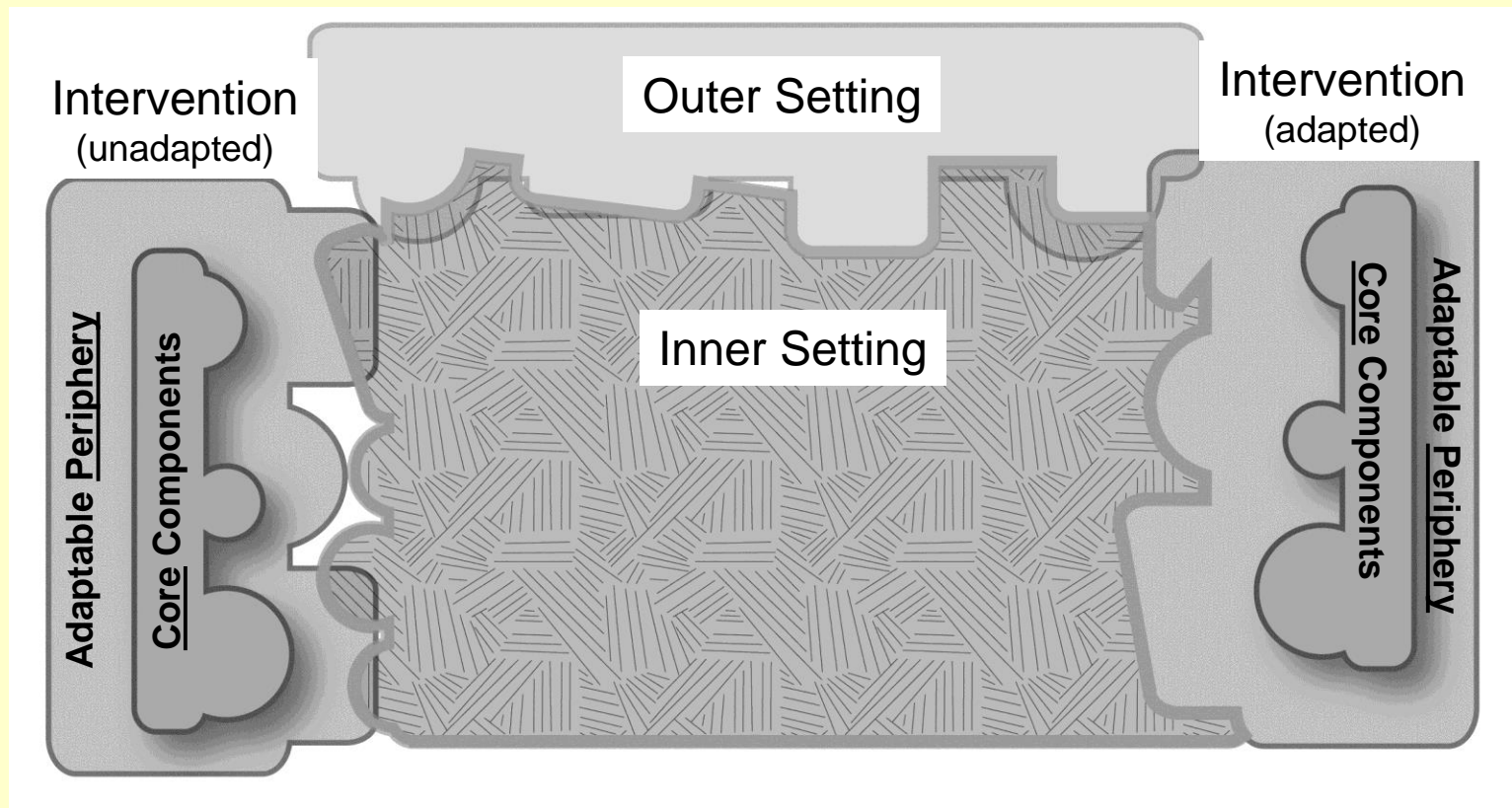
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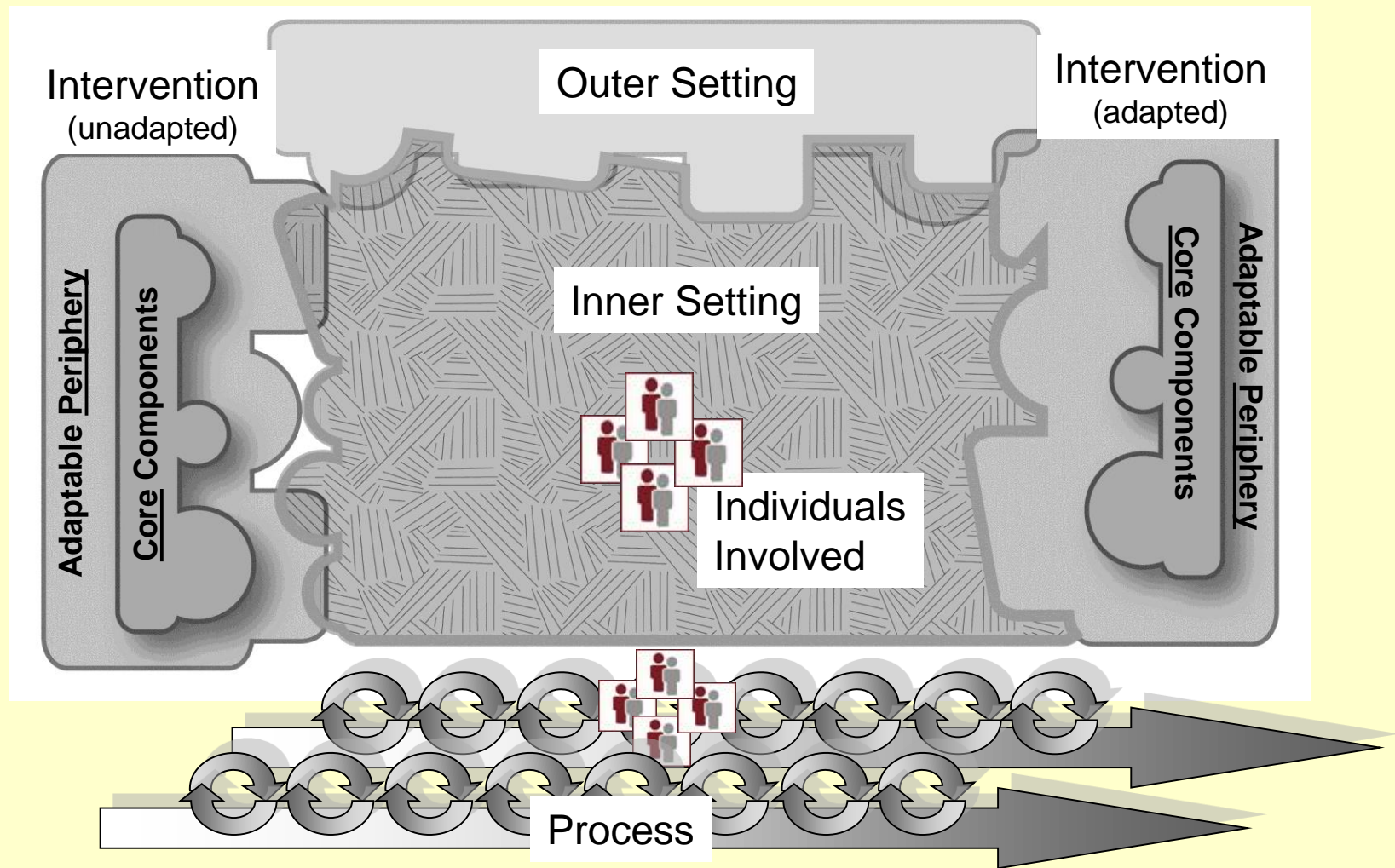
Consolidated Framework for Implementation Research (CFIR)



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Consolidated Framework for Implementation Research (CFIR)



Application of the CFIR

- Consists of 39 individual constructs
- Cannot use them all in every study
 - And not all will apply
 - A priori assessment of which constructs to include
 - Modifiable & non-modifiable constructs
- Determine levels at which each construct may apply
 - E.g., teams, departments, clinics, regions

VISN 11 Stroke Collaborative

- VISN 11 Administration/CMO initiated an Acute Stroke Care QI project
- Asked VA Stroke QUERI Center for assistance
- Each of 7 VA sites identified a clinical champion and QI team
- Partnered with COE Health Care System Redesign expert, Heather Woodward-Hagg

VISN 11 Stroke Collaborative

- 3 Day Summit – Trained QI teams in LEAN methodology to conduct Rapid Improvement Projects
- Teams collectively voted to:
 - Implement electronic stroke order sets in ED and Admissions – tailor to their site
 - Target 2 JC acute stroke care processes
 - Lipid Management
 - Dysphagia Screening

Selecting a Theory – VISN 11

■ Consider Context

- **Study characteristics** – Implementation study within a Quality Improvement initiative from VISN leadership
- **Professional discipline/perspective** – Interdisciplinary groups
- **Intervention characteristics** – Multiple stages and a combination of methodologies included in the intervention
- **Inner and outer setting** – Structure of stroke care varied across sites
- **Individuals involved** – Clinical teams, CACs, QUERI Researchers, Administrators
- **Implementation process** – PDSA cycles, stroke order sets, training, policy changes, social marketing

■ Consider Level

- **Individuals** – coached individual team members
- **Teams** – targeted clinical teams across 7 VA sites
- **Organization** – VISN leadership supported this initiative
- **System**

Project: Theory Selection and Use

1. Your targeted EBP recommendation: We

- a. Explore others' relevant experiences and results :
- b. Based upon previous learning collaboratives, lack of external facilitation was identified as a barrier to successful implementation after collaborative participation. Thus, the Stroke QUERI planned to provide this needed intervention element.

What related barriers, facilitators, determinants have been identified?

Access to Clinical Application Coordinators was identified by the clinical groups as a barrier to implementing a stroke order set. Thus, the VISN coordinated access to a CAC for each site. Some CACs were shared across sites and the VISN/Stroke QUERI facilitated CAC collaboration to locally tailor and implement a stroke order set.

Selecting a Theory - 2

- Multiple theories often needed
 - Process theories
 - *How implementation should be planned, organized and scheduled*
 - Impact theories
 - *Hypotheses and assumptions about how implementation activities will facilitate a desired change, as well as the facilitators and barriers for success*

Selecting a Theory

■ USE:

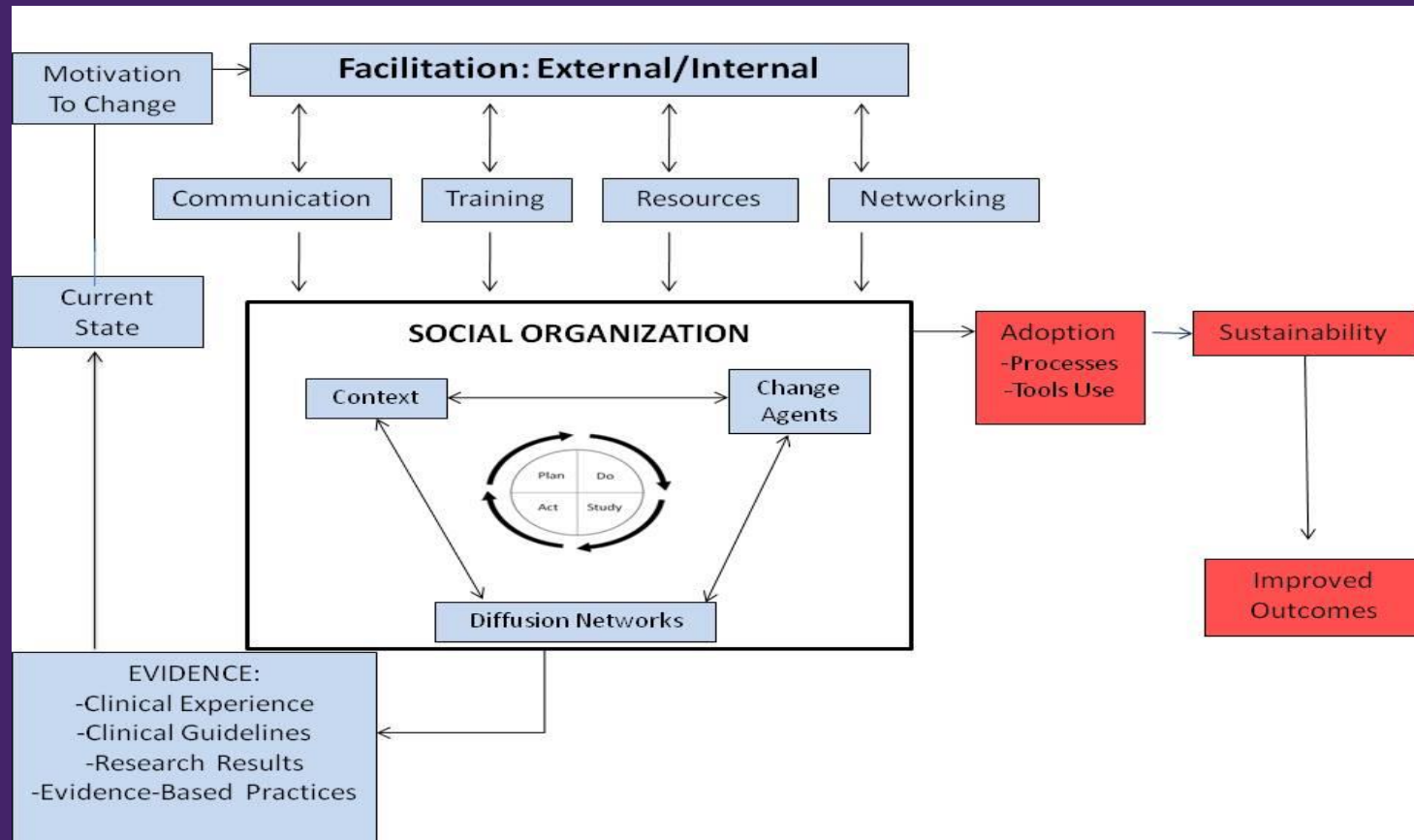
- Specify the elements of the collaborative intervention
- Specify the external/internal facilitation
- Specify diffusion of innovation across sites
- Specify strategies to address barriers
- Assess effects on adoption and maintenance
- Tie Processes to Outcomes

Selecting a Theory

■ Hypothesis generation

- Clinical teams that engage in PDSA cycles will improve quality performance on 2 JC indicators compared to those who do not engage.
- Clinical teams that participate in the external facilitation coaching calls will improve quality performance on 2 JC indicators compared to those who do not participate.
- Successful implementation strategies will spread to other clinical practices.

FAB Model-Facilitating the Adoption of Best Practices



Based upon Diffusion of Innovations, Translation Model, PARIHS, and Social Learning Theory

Methods: QI project-1

- Use of Sharepoint Site
 - Training Resources- LEAN
 - Tools for Sites
 - Examples of Administration letters
 - Examples of MOU for policy changes
 - CAC protocols for Stroke Order Sets
 - Social Marketing – Stall Street Journal
 - Training – how to screen for dysphagia
 - Training – how to use Stroke Order Set in CPRS

Methods: QI project-2

- External Facilitation: Bi-weekly Coaching
 - All 7 sites monthly call
 - One on one coaching as needed
- Networking: Within and Between Sites
- Monthly QI data reported on 2 JC processes

Methods: Evaluation

■ Quantitative

- % improvement on 2 JC stroke care processes
- Dose of biweekly coaching

■ Qualitative

- Evaluate the FAB Domains
- Barriers and Facilitators of Implementation
- Analyze contents of biweekly coaching calls

Application of CFIR

- Paucity of implementation measures
- Used the CFIR as a resource for constructing semi structured interviews of FAB domains with 7 QI teams
- Incorporated measures/questions from previous work and mixed with items from CFIR and reviewed with Laura.

CFIR Application

- Communication and Diffusion Networks
 - Key components of the collaborative intervention – Training summit, coaching calls, shared resources on listserv
 - Viewed the teams as change agents who would return to facility and diffuse the innovation to peers.
 - In CFIR, described as “Social Capital”
 - Internal bonding -relationships within site
 - External bridging – relationships across sites

CFIR Application (continued)

- We asked questions
 - Communications within teams
 - Communications to other units
 - Communication with administration
 - Communication with other 6 sites
 - Asked about frequency
 - Record of coaching call attendance

CFIR Application: Implementation Process

- Innovation may not be used daily because of stroke volume – thus, difficult to observe
 - Implementation processes
 - process maps of stroke care processes
 - PDSA plans
 - Listed possible processes, date of implementation, and degree of implementation 1-10 (CFIR)
 - Locally tailored stroke order set (CAC –VISN/QUERI)
 - Gained dept and admin approvals
 - Trained staff and implemented order sets
 - Addressed barriers – night staff not trained

Dependent Variable of Interest

- Implementation
 - Implemented a stroke order set
 - Implemented a training program
- Fidelity
 - Degree to which an intervention is delivered as intended- #PDSA cycles; # coaching calls
- Implementation Effectiveness
 - Widespread avoidance (non-use)
 - Meager and unenthusiastic use (compliant use)
 - Skilled, enthusiastic, consistent use (committed use)

Processes

- 6/7 sites developed and implemented stroke order set
- PDSA cycles ranged from 1 to 15 ($m=4$)
- Participation in coaching calls ranged from 22 – 100% ($m = 64\%$)
- 3/7 spread intervention methods to other QI areas.
- *Spread was seen among teams with highest fidelity.

Outcomes

- We found clinically significant improvements in 2 stroke performance measures by end of 6 month collaborative
- 22% improvement dysphagia screening
- 4% improvement in lipid management

Conclusions: CFIR...

- Embraces, consolidates, and standardizes key constructs from multiple theories
- Agnostic to specific theories
- Provides a pragmatic structure for evaluating complex implementations
- Helps to organize findings across disparate implementations
- Paves the way for cross-study research

INTERVENTION – Evidence Building Face Validity

	<u>High Uptake</u>		<u>Low Uptake</u>	
	300	400	200	500
1 Innovation Source	-	+	!!	
2 Evidence Strength & Quality	+++	+++	--	+
3 Relative advantage	+++	+++	--	+

INTERNAL CONTEXT

Face Validity

		<u>High Uptake</u>		<u>Low Uptake</u>	
		300	400	200	500
<hr/>					
Inner Setting					
A	Networks & Communications	+++	+++	--	-
B	Culture	N/A	N/A	N/A	N/A

Next Steps

- Continue to evaluate usefulness of the CFIR
 - Is terminology/language coherent?
 - Does it promote comparison of results across settings and studies over time?
 - Does it stimulate new theoretical developments?
- Build database of evidence
 - Shared Wikipedia of definitions and evidence
- Factor analysis of findings to consolidate constructs and facilitate subsequent analyses (fewer variables, greater power)
- Promote use by QUERIs

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