

# Synthesis of Findings from 3 Lifestyle Behavior Change Program Implementations in VA

Laura J. Damschroder, MS, MPH  
Julie C. Lowery, PhD

Seattle Implementation Research Conference  
17 May 2013

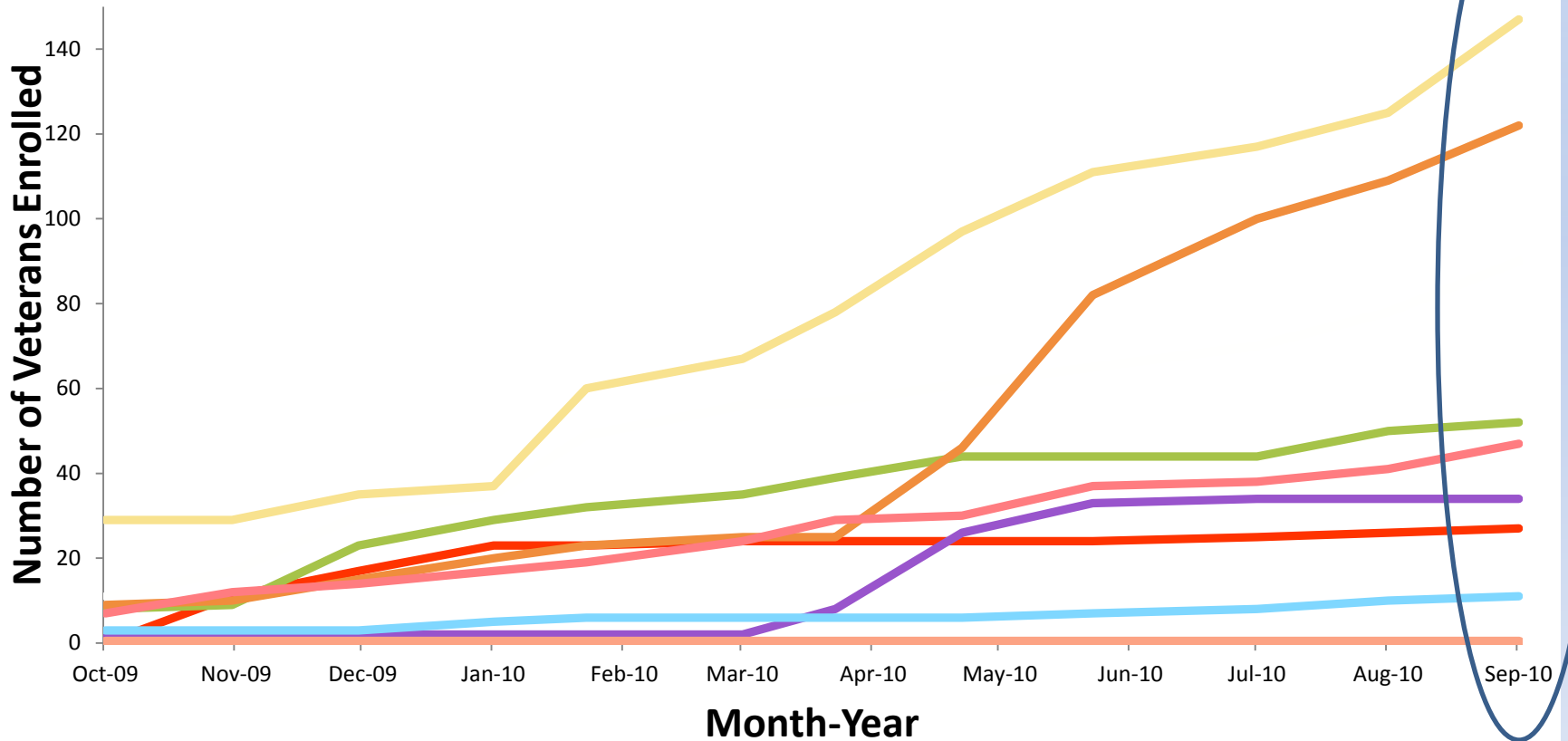
# Grounding of Approach

- Realist philosophy
  - What works where and why?
  - Intervention  $X$  alters...
    - ...**Context**, which then triggers...
    - ...**Mechanisms**, which produce...
    - ...**Outcomes** (intended and unintended)
- Integrative synthesis
  - Combine findings from studies using CFIR
- Interpretive synthesis
  - Explore interactions, higher-order theoretical structure

# 3 Lifestyle Behavior Change Programs

Program	Mode	Dose	Content	Delivered by
MOVE!® Weight Management	On-site	<ul style="list-style-type: none"> <li>• Weekly 1-1.5 hr in-person group sessions</li> <li>• 6-14 weeks</li> </ul>	<ul style="list-style-type: none"> <li>• Weight Loss</li> <li>• Evidence-based psycho-educational content</li> <li>• Multi-disciplinary team</li> </ul>	VA Staff in multi-disciplinary team
Telephone Lifestyle Coaching (TLC)	Phone	<ul style="list-style-type: none"> <li>• 10 x 20 min sessions</li> <li>• 6 months</li> <li>• Unlimited inbound calls</li> </ul>	<ul style="list-style-type: none"> <li>• 6 topics</li> <li>• MI coaching</li> <li>• Coach continuity</li> </ul>	Vendor coaches (non-staff)
TeleMOVE	In-home devices	<ul style="list-style-type: none"> <li>• 1 message/day for 82 days</li> <li>• Daily workbook lesson</li> <li>• 3 x 10-20 min monthly calls</li> </ul>	<ul style="list-style-type: none"> <li>• Evidence-based psycho-edu content</li> <li>• Safety checks</li> <li>• Coaching/problem-solving support</li> </ul>	MOVE! staff &/or Home Tele-Health coordinators

# Highly Variable Implementation Tele-MOVE

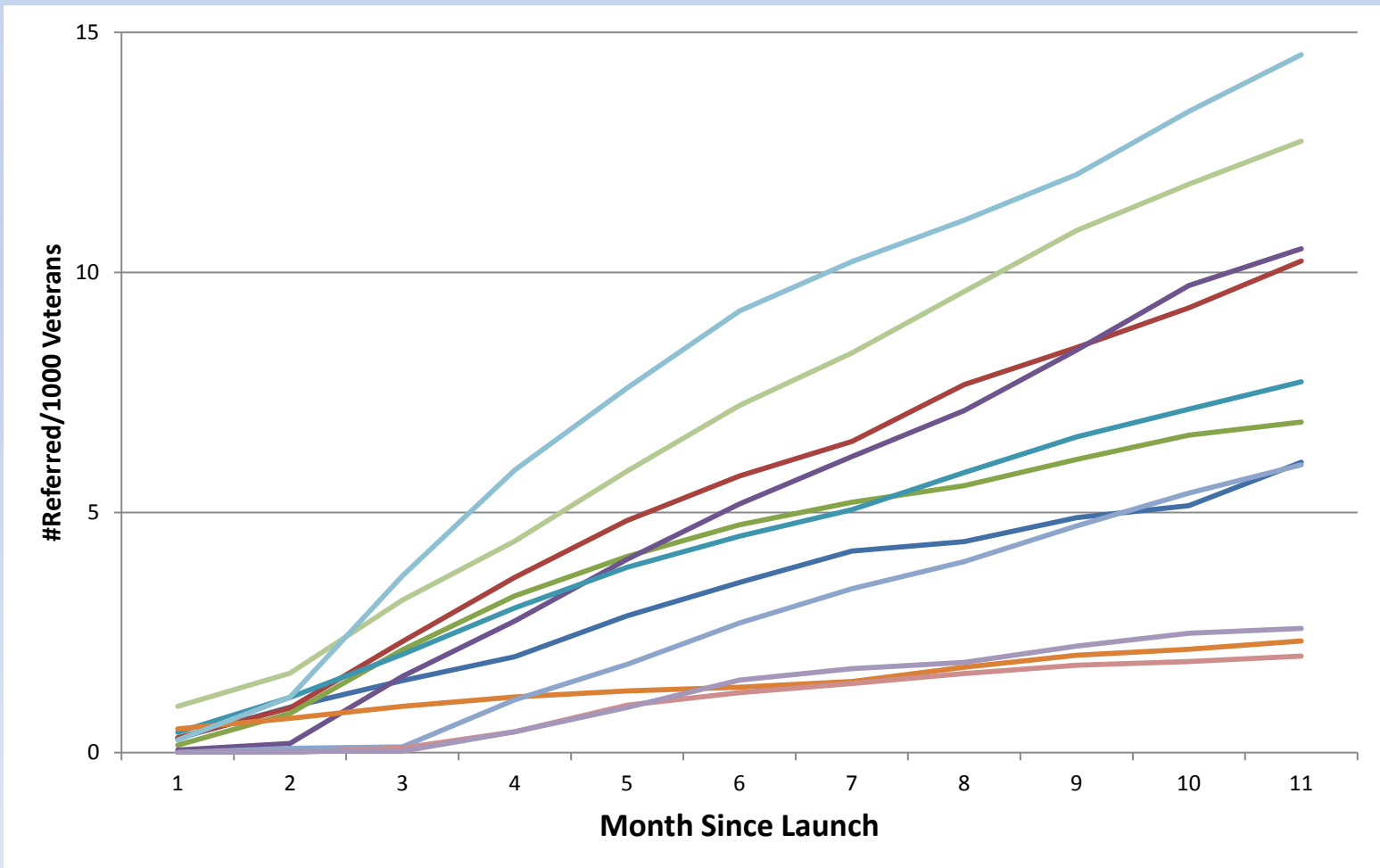


# Highly Variable Implementation

## TLC



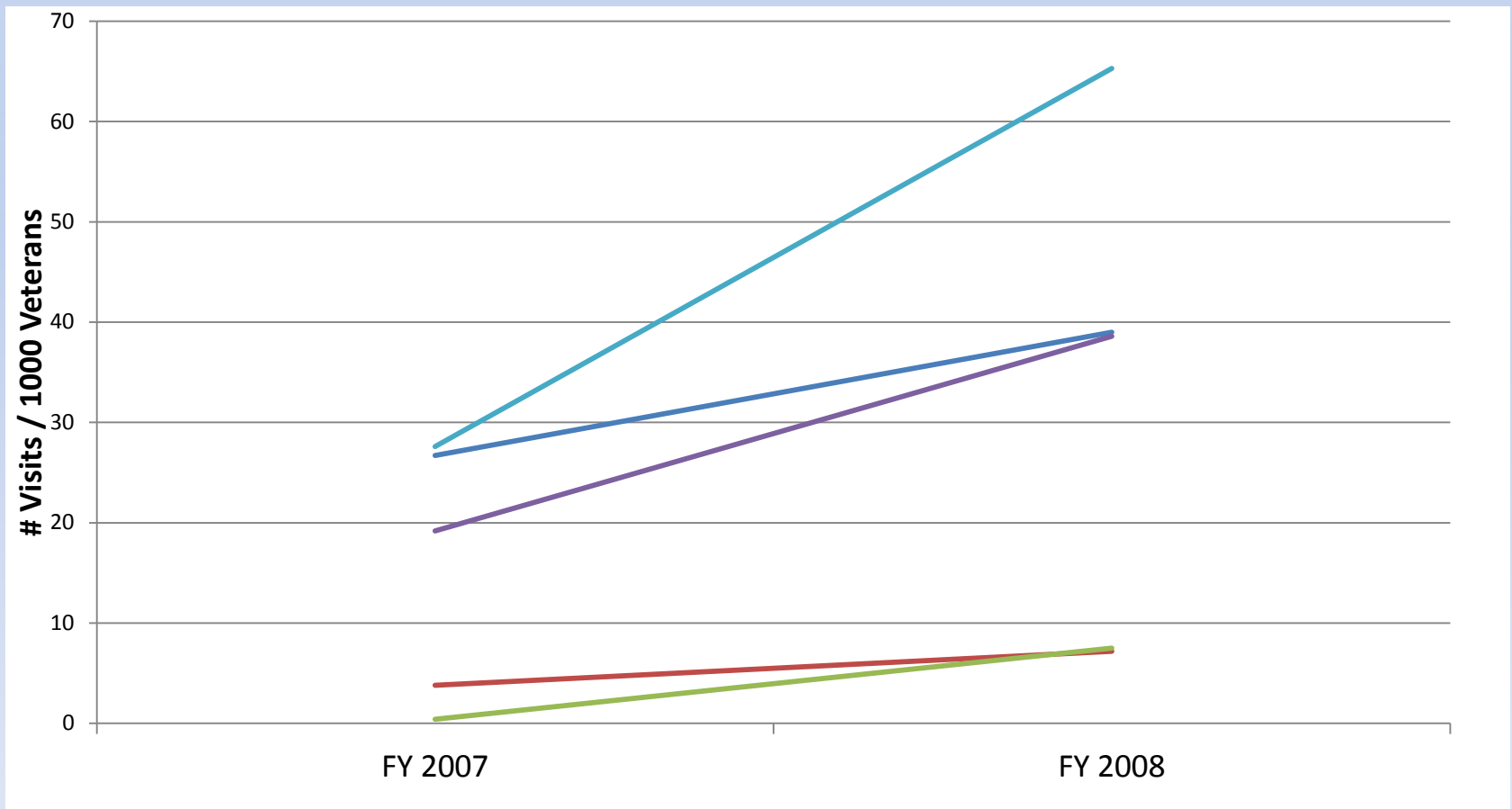
Number of Referrals by Site Since Launch of Pilot Program



# Highly Variable Implementation



Number of Visits Reported by Study Site 1 & 2 Years Since Dissemination



# 3 Observational Implementation Studies

- Overarching question:
  - What are barriers and facilitators to implementation?
- CFIR-guided semi-structured interviews
  - Telephone or in-person during site visits

N	MOVE!	TeleMOVE	TLC	TOTAL
Sites	5	6	11	22
Interviews	24	28	103	155

# CFIR: 5 Major Domains

- **Intervention**
  - 8 Constructs (e.g., evidence strength & quality, complexity)
- **Outer Setting**
  - 4 Constructs (e.g., patient needs & resources)
- **Inner Setting**
  - 14 constructs (e.g., leadership engagement, available resources)
- **Individuals Involved**
  - 5 Constructs (e.g., knowledge, self-efficacy)
- **Process**
  - 8 Constructs (e.g., plan, engage, champions)



# CFIR Constructs

Ref: <http://www.implementationscience.com/content/4/1/50>

Additional Resources: [www.wiki.cfirwiki.net](http://www.wiki.cfirwiki.net)

Topic/Description	Short Description
<b>I. INTERVENTION CHARACTERISTICS</b>	
A Intervention Source	Perception of key stakeholders about whether the intervention is externally or internally developed.
B Evidence Strength & Quality	Stakeholders' perceptions of the quality and validity of evidence supporting the belief that the intervention will have desired outcomes.
C Relative advantage	Stakeholders' perception of the advantage of implementing the intervention versus an alternative solution.
D Adaptability	The degree to which an intervention can be adapted, tailored, refined, or reinvented to meet local needs.
E Trialability	The ability to test the intervention on a small scale in the organization [8], and to be able to reverse course (undo implementation) if warranted.
F Complexity	Perceived difficulty of implementation, reflected by duration, scope, radicalness, disruptiveness, centrality, and intricacy and number of steps required to implement
G Design Quality and Packaging	Perceived excellence in how the intervention is bundled, presented, and assembled
H Cost	Costs of the intervention and costs associated with implementing that intervention including investment, supply, and opportunity costs.
<b>II. OUTER SETTING</b>	
A Patient Needs & Resources	The extent to which patient needs, as well as barriers and facilitators to meet those needs are accurately known and prioritized by the organization.
B Cosmopolitanism	The degree to which an organization is networked with other external organizations.
C Peer Pressure	Mimetic or competitive pressure to implement an intervention; typically because most or other key peer or competing organizations have already implemented or in a bid for a competitive edge.

# Rating Constructs

- Think of CFIR constructs as independent variables
  - $Construct_1 + construct_2 + \dots = f(\text{implementation effectiveness})$
  - Ratings  $\rightarrow$  ordinal values of independent variables
- Is the construct positive or negative force in the organization?
- Does it manifest strongly or weakly?
- Is the construct present but neutral?

# Rating the Constructs

Further Guidance: [www.cfir.cfirwiki.net](http://www.cfir.cfirwiki.net)

	Positive	Negative
Strong	<u>Strong facilitating</u> influence on implementation/work processes.	<u>Strong impeding</u> influence on implementation/work processes.
Weak	<u>Weak facilitating</u> influence on implementation/work processes.	<u>Weak impeding</u> influence on implementation/work processes.
Neutral (0)	Not positive or negative or mixed effects ( <b>X</b> )	
Missing	Information not elicited	

# Qualitative Data: Construct Ratings

<b>Implementation Effectiveness:</b>	<b>Low</b>		<b>High</b>	
<b>I. INTERVENTION CHARACTERISTICS</b>				
Relative advantage	-2	1	2	2
<b>II. OUTER SETTING</b>				
Patient needs & resources	-2	0	2	2
External Policy & Incentives	-1	-2	0	1
<b>III. INNER SETTING</b>				
<b>Networks and communications</b>	<b>-2</b>	<b>-2</b>	<b>2</b>	<b>2</b>
<b>Implementation Climate</b>				
Tension for change	0	0	1	1
Relative priority	-1	-2	1	2
Goals and feedback	-2	-1	1	2
Learning climate	N/A	-1	1	2

Damschroder, L. J., & Lowery, J. C. (2013). Evaluation of a large-scale weight management program using the consolidated framework for implementation research (CFIR). *Implementation Science*, 8(1), 51. doi:10.1186/1748-5908-8-51

# Inner Setting: Networks & Communications




- HIGH UPTAKE SITES:
- Both sites had a high degree of “teamness”
  - “Very amicable, very very good, pleasant, very professional. I mean there isn’t a week that doesn’t go by that you know, we’re not communicating with each other and not really, we’re having a good time too with the group sessions...we’re all there to make the patients really change the way they’re eating and their activity habits...”
- Meet regularly
  - “...we do this through our...lunch time. We keep it very short...It’s very difficult to and we have our other assignments and you ...don’t have the free time to do it...to discuss obstacles, to discuss problems, to discuss you know, things that need to be discussed for us to be able to run this program properly.”

# Inner Setting: Networks & Communications

- LOW UPTAKE SITES
- Did not have regular team meetings
  - Though one did have a multi-disciplinary team that takes turns leading the group visit
  - “Meet” through email
- Lack of effective communication
  - Patients confused about what the program was for
    - a movie?
    - Dance class?
    - Bariatric surgery?

# Inner Setting Domain

Study:	MOVE!	TeleMOVE	TLC
Structural Characteristics			
Networks & Communications			
Tension for Change			
Compatibility			
Relative Priority			
Goals & Feedback			
Learning Climate			
Leadership Engagement			
Available Resources			

	<b>Strongly Distinguishes</b>
	Weakly Distinguishes
	Not assessed




# Networks & Communications

- Consistently Important for all 3 programs
  - High quality working relationships across organizational boundaries
    - “If I need something, I just contact either the primary care supervisor or the mental health RN supervisor and request a meeting and they’ve been cooperative.”
  - Team Functioning
    - “It’s[...]’you help me[...]we help each other.’ We work as a team and that’s the way it should be.






# Inner Setting Domain

Study:	MOVE!	TeleMOVE	TLC
Structural Characteristics			Weakly Distinguishes
Networks & Communications	Strongly Distinguishes	Strongly Distinguishes	Strongly Distinguishes
Tension for Change	Strongly Distinguishes		
Compatibility		Strongly Distinguishes	Strongly Distinguishes
Relative Priority	Strongly Distinguishes		
Goals & Feedback	Strongly Distinguishes	Strongly Distinguishes	
Learning Climate	Strongly Distinguishes		Missing
Leadership Engagement	Strongly Distinguishes	Strongly Distinguishes	
Available Resources	Weakly Distinguishes		Missing

	<b>Strongly Distinguishes</b>
	Weakly Distinguishes
	Missing

# Process Domain

Study:	MOVE!	TeleMOVE	TLC
Planning	Strongly Distinguishes	Missing	Strongly Distinguishes
Engaging	Missing	Missing	Strongly Distinguishes
Reflecting & Evaluating	Strongly Distinguishes	Strongly Distinguishes	Weakly Distinguishes
Executing	Missing	Strongly Distinguishes	Missing

	<b>Strongly Distinguishes</b>
	Weakly Distinguishes
	Missing

# Reflecting & Evaluating

- Successful sites:
  - Regularly meet to discuss issues, solutions, improvements
  - Elicit patient feedback
  - Track key process data e.g., enrollments, session completion
- Program outcomes data generally not available, however

# Outer Setting Domain

OUTER SETTING	MOVE!	TeleMOVE	TLC
Patient Needs & Resources			
External Policy & Incentives			



**Strongly Distinguishes**



Weakly Distinguishes



Missing

# Patient Needs & Resources

- Demonstrate deep knowledge of patient needs and proactive responses to meet those needs
  - E.g., TLC:




SITE:	A	B	C	D	E	F	G	H	I	J	K
Patient Needs & Resources	+1	+2	+2	+1	+1	x	+1	+1	+1	x	+2

- Being “patient-centered” may be a necessary but not sufficient condition for success

# Program Characteristics

STUDY:	MOVE!	TeleMOVE	TLC
Adaptability			
Trialability			
Relative Advantage			

- No consistently distinguishing constructs
  - However, little variation in characteristics across sites within studies
- Interaction of Program Characteristics with Inner Setting and Process

	<b>Strongly Distinguishes</b>
	Weakly Distinguishes
	Missing

# Conclusions

- 2 constructs distinguished between high and low implementation, regardless of program
  - Inner Setting: Networks & Communications
  - Process: Reflecting & Evaluating
- Some constructs may be necessary but not sufficient
  - Larger sample needed with more variance in ratings

# Conclusions

- Some constructs may depend on *Interactions*:  
Program Characteristics \* Inner Setting  
Program Characteristics \* Process
  - E.g.,
    - Leadership Engagement was important for the two more complex programs that required inputs across organizational boundaries
    - Compatibility was important for two programs with technology components



# Next Steps

- Continue to refine CFIR constructs
- Refine the rating process to improve comparability across studies
- Structure data for qualitative comparative analyses to identify multiple *paths* to success
- Build a repository of findings and continue to add study findings
  - Tools for researchers & practitioners
- Develop higher-order theories



WHICH

WHEN

WHY

WHO

WHERE

HOW

WHAT

?

# Thank you!

Visit the CFIR Wiki: [www.cfir.cfirwiki.net](http://www.cfir.cfirwiki.net)

Contact Information:

[Laura.Damschroder@va.gov](mailto:Laura.Damschroder@va.gov)

# Citations

- Slide USE OF THEORY

- Foy, R., Ovretveit, J., Shekelle, P. G., Pronovost, P. J., Taylor, S. L., Dy, S., . . . Wachter, R. M. (2011). The role of theory in research to develop and evaluate the implementation of patient safety practices. *Qual Saf Health Care*. doi: 10.1136/bmjqs.2010.047993

- Slide GROUNDING OF APPROACH

- Dixon-Woods, M., Agarwal, S., Jones, D., Young, B., & Sutton, A. (2005). Synthesising qualitative and quantitative evidence: a review of possible methods. *Journal of Health Services Research and Policy*, 10(1), 45-53.
- Wong, G., Greenhalgh, T., Westhorp, G., Buckingham, J., & Pawson, R. (2013). RAMESES publication standards: realist syntheses. *BMC Medicine*, 11(1), 21.