

Leadership and Organizational Strategies for Implementation in Health

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Presented at the Southern California Implementation and Improvement Science Symposium: March 24, 2015.

Acknowledgements

- Mark G. Ehrhart,
 - San Diego State University
- Lauren Farahnak
 - University of California, San Diego
- Michael Hurlburt
 - University of Southern California
- Scott Roesch
 - San Diego State University
- Funding: NIMH
 - R01MH072961 (PI: Aarons)
 - R21MH082731 (PI: Aarons)
 - R21MH098124 (PI: Ehrhart)

Roadmap

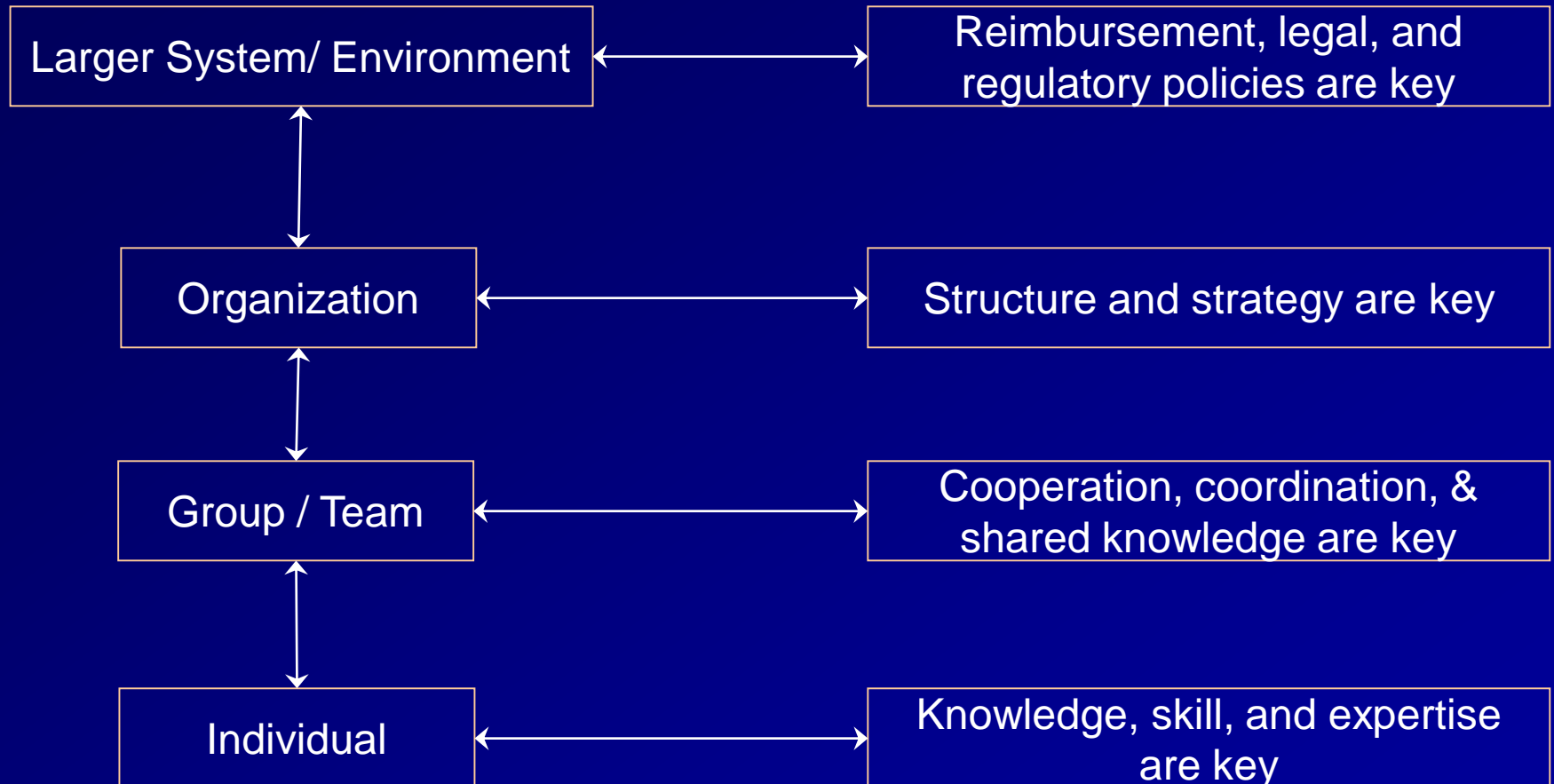
- Multilevel and phased nature of implementation
- Leadership in implementation in health
- Molar and focused climates
- General and implementation leadership
- LOCI
- Embedding mechanisms



Why Consider Leadership within Levels of Change?

Four Levels of Change for Assessing Performance Improvement

Assumptions about Change



Shortell, S. M. (2004). Increasing value: a research agenda for addressing the managerial and organizational challenges facing health care delivery in the United States. *Medical Care Research and Review*, 61(3 suppl), 12S-30S.

Ferlie, E. B., & Shortell, S. M. (2001). Improving the quality of health care in the United Kingdom and the United States: a framework for change. *Milbank Quarterly*, 79(2), 281-315.

Exploration Preparation Implementation Sustainment (EPIS) Framework

■ **Exploration**

- consideration of new approaches to providing services and fit with outer/inner context service system, organizations, providers and target population(s)

■ **Preparation**

- planning for providing a new service including funding, clinical or service processes, practical issues

■ **Implementation**

- Training and support for provision of this new service

■ **Sustainment**

- Maintaining the new service or intervention with fidelity over time

EPIS Framework: Contextual Factors

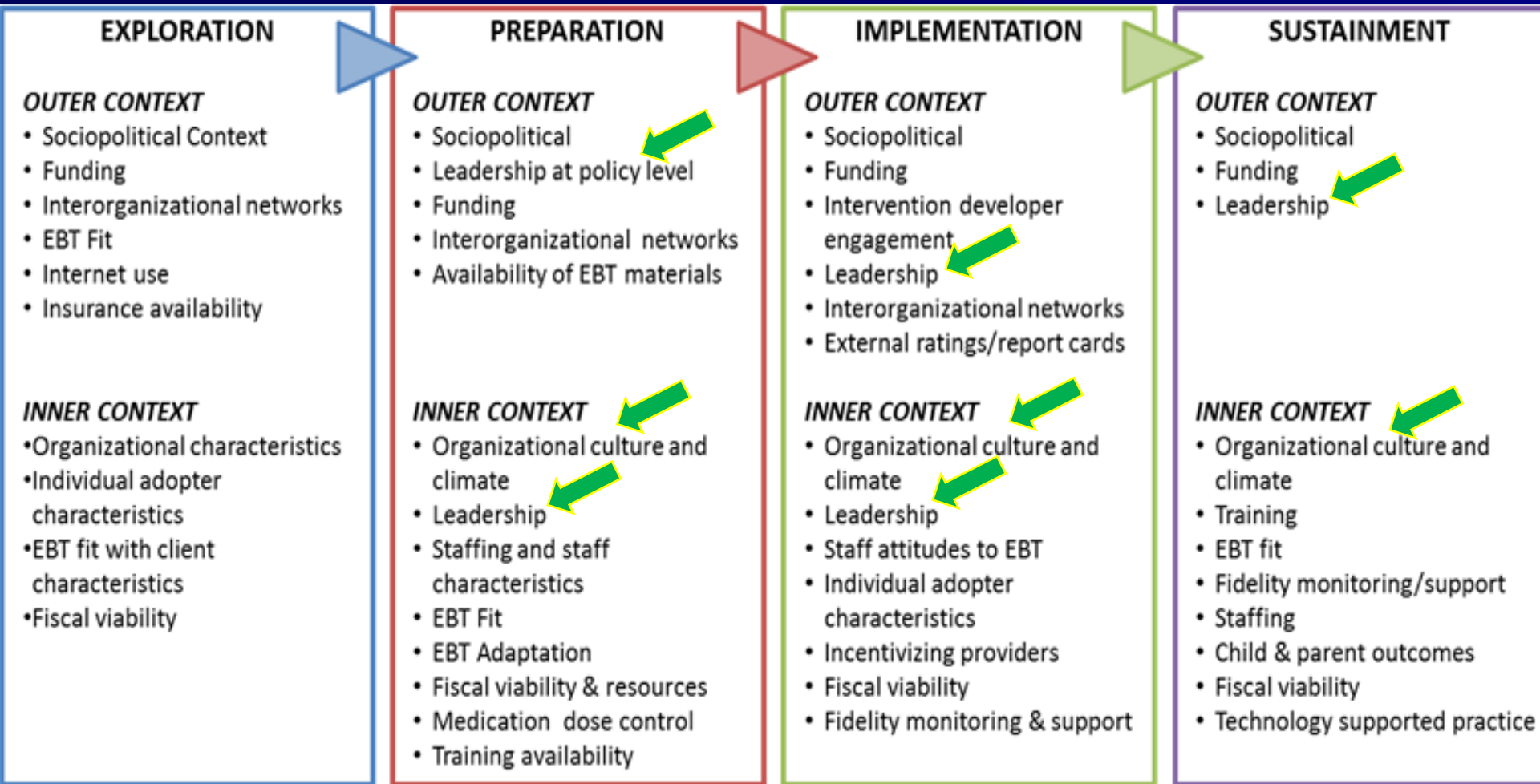
■ Outer context

- Larger environment in which the service unit operates
 - e.g., policy and funding, inter-organizational networks, relationships with intervention developers and technical assistance providers, certification and regulatory environment

■ Inner context

- Inside the organization or unit providing services
 - e.g., service organization, individuals providing services, target population(s)

EPIS Framework



Adapted from: Aarons, G.A., Hurlburt, M. & Horwitz, S.M. (2011). Advancing a Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors. *Administration and Policy in Mental Health*, 38, 4-23.

Novins, D.K., Green, A.E., Legha, R.K., & Aarons, G.A. (2013). Dissemination and Implementation of Evidence-Based Practices for Child and Adolescent Mental Health: A Systematic Review. *Journal of the American Academy of Child and Adolescent Psychiatry*. 52(10), 1009-1025

Leadership and Implementation Across Organizational Levels

■ Leadership Associated with:

– Organization

- Organizational climate²
- Innovation climate²
- Implementation climate⁶
- Implementation success and sustainment⁴

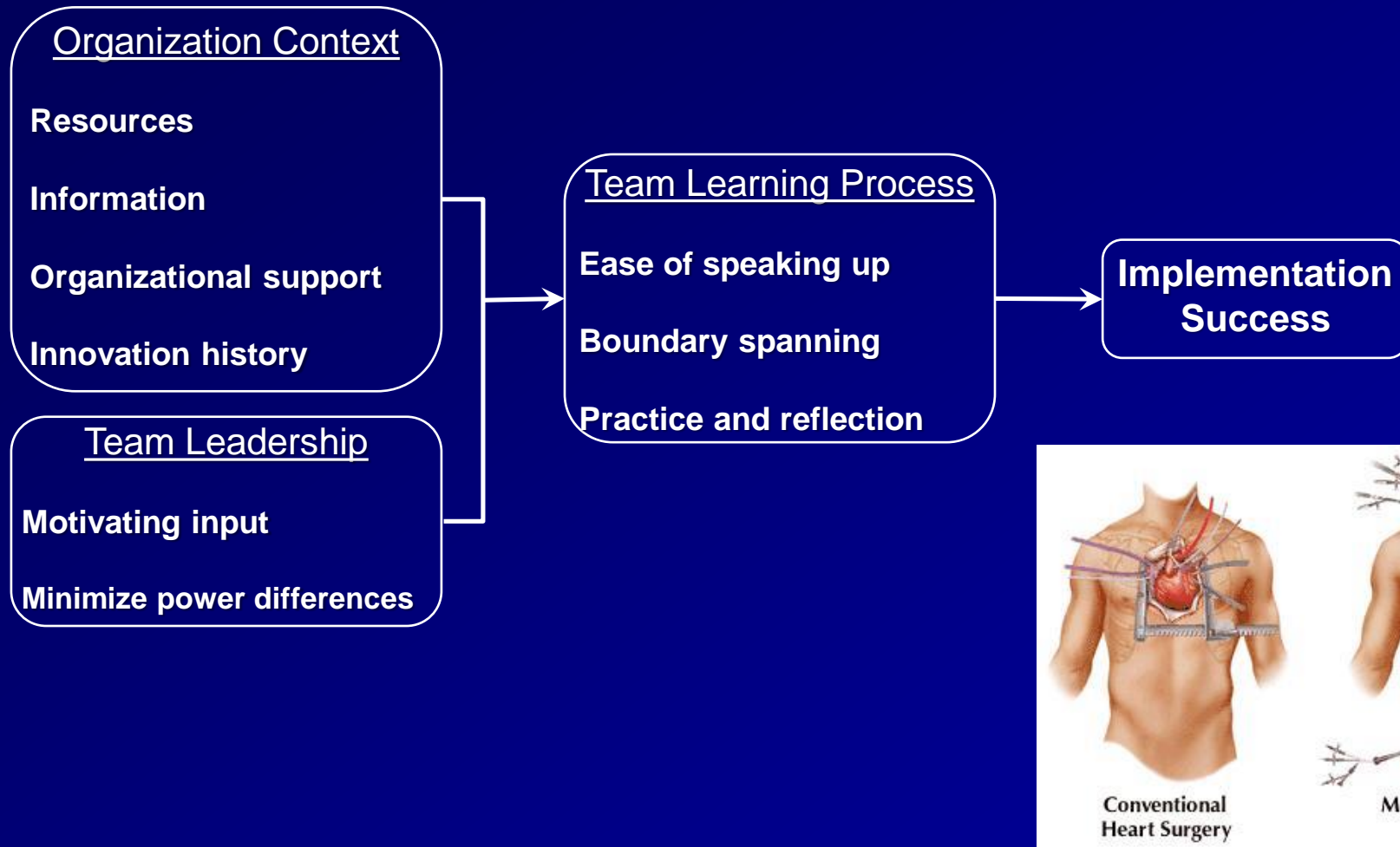
– Staff

- Attitudes toward EBP¹
- Emotional Exhaustion³
- Depersonalization³
- Personal Accomplishment³
- Working alliance
- Turnover²

– Client

- Consumer Satisfaction
- Consumer Quality of Life

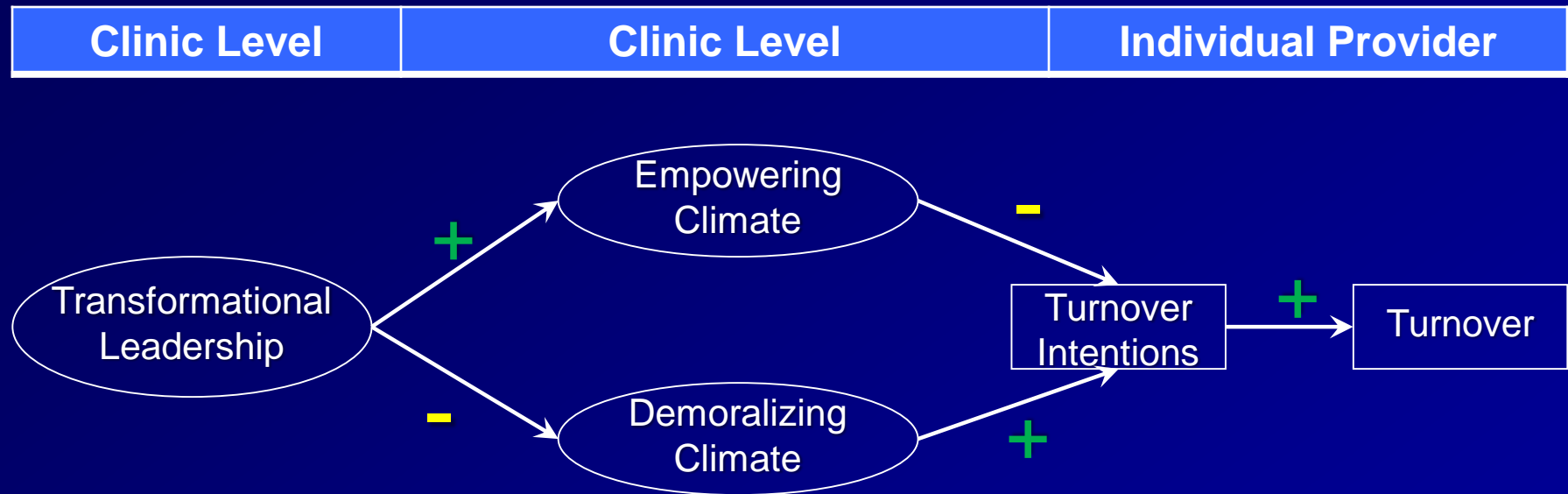
Leadership in Interdisciplinary Teams for Minimally Invasive Cardiac Surgery



Edmondson, A. C., Bohmer, R. M., & Pisano, G. P. (2001). Disrupted routines: Team learning and new technology implementation in hospitals. *Administrative Science Quarterly*, 46(4), 685-716.

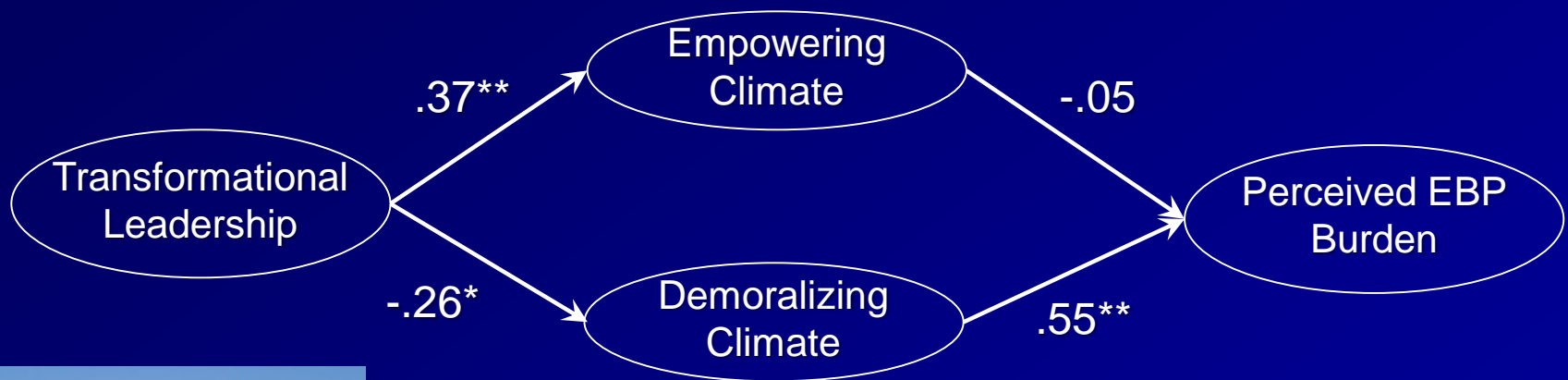
Edmondson, A. C. (2003). Speaking up in the operating room: How team leaders promote learning in interdisciplinary action teams. *Journal of Management Studies*, 40(6), 1419-1452.

Leadership Impact on Climate and Turnover During Statewide Behavioral Health Reform



Organizational Climate Mediates effect of Transformational Leadership on EBP Perceived Burden

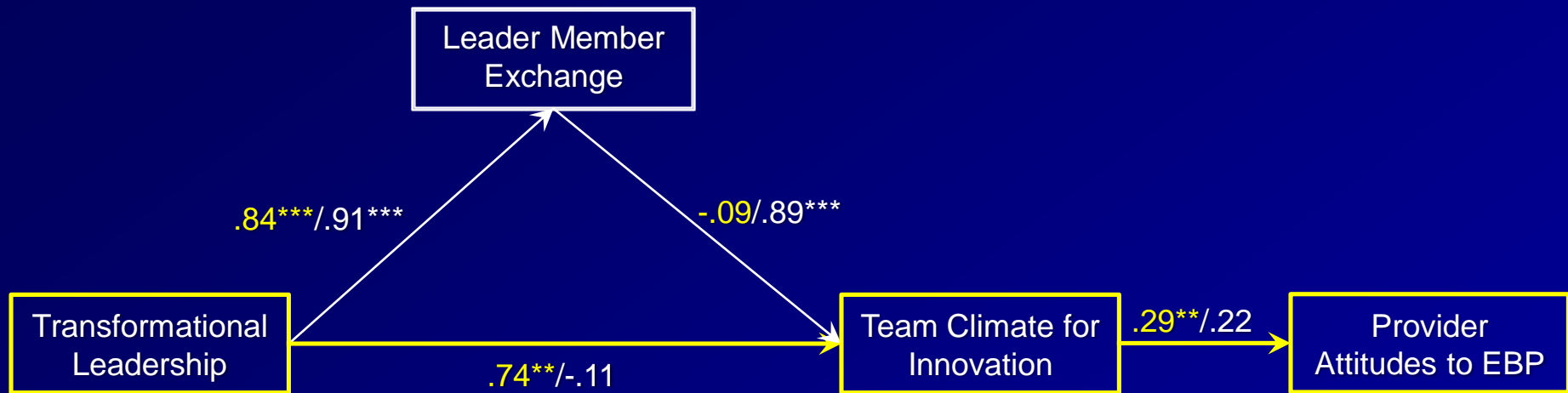
Team level	Team level	Individual Provider
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Brimhall, K.C., Fenwick, K., Hurlburt, M.S., Roesch, S., & Aarons, G.A., (2014). The Effects of Leadership and Organizational Climate on the Perceived Burden of Evidence-Based Practices in Mental Health Services. Manuscript submitted for publication.

Aarons, G.A., Cafri, G., Lugo, L., & Sawitzky, A. (2012). Expanding the Domains of Attitudes Towards Evidence-Based Practice: The Evidence Based Practice Attitude Scale-50 (EBPAS-50). *Administration and Policy in Mental Health*, 39, 331-340.

Effects of Type of Leadership on Team Climate for Innovation and Staff Attitudes Toward Adopting EBP



How Important and Changeable is Leadership for EBP?

Importance Ranking

1. Leadership
2. Funding
3. Staff Dev/Support
4. Staff resources
5. Costs
6. Research/Outcomes
7. Beneficial EBP features
8. Political dynamics
9. Clinical perceptions
10. Consumer values
11. Consumer concerns
12. System readiness/compatibility
13. Impact on clinical practice
14. EBP limitations
15. Agency compatibility

Changeability Ranking

1. Leadership
2. Clinical perceptions
3. Consumer values
4. Staff Dev/Support
5. Impact on clinical practice
6. Research/Outcomes
7. Consumer concerns
8. Agency compatibility
9. System readiness/compatibility
10. Staff resources
11. Beneficial EBP features
12. Political dynamics
13. EBP limitations
14. Costs
15. Funding

Aarons (2008). Implementation of Evidence-Based Practice: The Role of Leadership and Provider Attitudes. *Proceedings of the 21st Annual Research Conference: A system of Care for Children's Mental Health: Expanding the Research Base* (pgs. 63-68). Tampa, FL

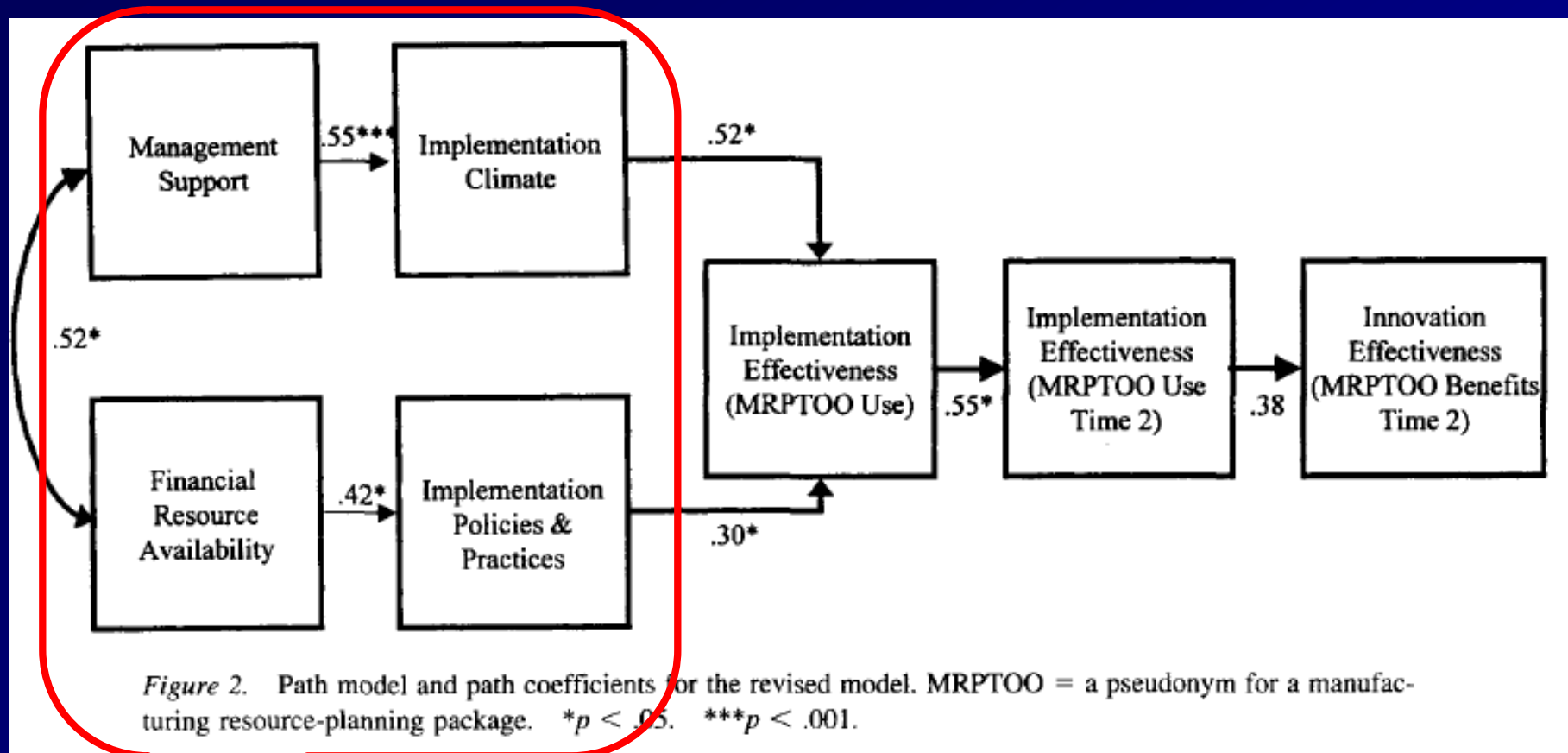
ARC Org Improvement Model

(Availability, Responsiveness, Continuity)

Stage	Component	Phase			
		I Problem Identification	II Direction Setting	III Implementation	IV Stabilization
Collaboration	1. Leadership	→			
	2. Personal Relationships	→			
	3. Network Development	→	→		
Participation	4. Team Building	→	→		
	5. Information and Assessment	→	→	→	
	6. Feedback	→	→	→	
	7. Participatory Decision-Making	→	→	→	→
	8. Conflict Management	→	→	→	→
Innovation	9. Goal Setting		→	→	→
	10. Continuous Improvement			→	→
	11. Job Redesign			→	→
	12. Self-Regulation				→

Source: Adapted from Glisson, C., & Schoenwald, S. K. (2005). The ARC organizational and community intervention strategy for implementing evidence-based children's mental health treatments. *Mental health services research*, 7(4), 243-259.

Impact of Management Support and Resource Availability on Implementation Effectiveness



Mgmt. support, resources, policies can be considered “climate embedding mechanisms”

Klein, K. J., Conn, A. B., & Sorra, J. S. (2001). Implementing computerized technology: an organizational analysis. *Journal of Applied Psychology*, 86(5), 811

Organizational, Strategic & Implementation Climate

■ General organizational climate

- Focuses on staff perceptions and affective response to the work environment
 - Organizational Social Context (Glisson et al., 2008)
 - Organizational Climate Measure (OCM: Patterson et al., 2005)

■ Strategic Climates

- Climate for a particular objective or goal
 - “events, practices, and procedures, and the kinds of behaviors that get rewarded, supported, and expected in a setting”
 - (Schneider 1990, p. 384; Schneider & Ehrhart, 2013).
 - Safety climate (Zohar, 2000, Zohar & Luria, 2005)
 - Service climate (Ehrhart, Witt, & Schneider, 2011)

■ Implementation Climate

- ...employees' shared perceptions of the importance of EBP or innovation implementation within the organization
 - (adapted from Klein, Conn, & Sorra, 2001, p. 813)

Scale Development

- The ICA intended to measure the structures and processes in an organization that support the perceived value, adoption, and use of evidence-based practices
- Convened workgroup as part of NIMH grant on leadership for improving organizational climate for EBP implementation and sustainment
 - Experts in implementation climate, leadership, I/O psychology, public sector service management
- Began with work of Klein, Conn, & Sorra (2001)
- Considered culture/climate embedding mechanisms
 - Schein (2010)
- Adapted existing dimensions and items
- Added dimensions and items pertaining to EBP
- Developed items related to implementation leadership

Implementation Climate Scale (ICS) Sample

- N=630 (CA & Pennsylvania)
- Sex
 - 76.5% female
- Ethnicity/Race
 - Hispanic = 37.4%
 - Caucasian = 45.9%
 - African American = 18.3%
 - Asian/Pacific Islander = 5.1%
 - American Indian = 1%
 - other or multiple = 30.1%
- Education
 - High school = 2.3%
 - Some college = 7.5%
 - College graduate = 25.4%
 - Some graduate work = 3%
 - Master's degree = 62%
 - Ph.D./M.D. or equivalent = 2.9%
- Position
 - Intern/trainee = 43.7%
 - Unlicensed professional = 39.6%
 - Licensed provider = 16.6%

Scale Development

- All items are scored on a 5 point Likert type scale
 - (0 = “Not at all” 1 to 4 = “To a very great extent”).
- Implementation Climate
 - 57 Items
 - 9 proposed subscales
 - Staff acceptance, support, educational support, program focus, team focus, recruitment, selection, recognition, rewards
- Implementation Leadership
 - 29 Items
 - 5 proposed subscales
 - Knowledge, anticipatory, supportive, perseverant, leader attitudes
- Preliminary analyses
 - Face validity
 - Content validity
 - Exploratory Factor Analyses (PAF, Promax)
 - Higher order analyses for leadership
 - Reliability analyses

Implementation Climate Scale

- 1. Focus on EBP
 - “Using EBP is a top priority at this agency”
- 2. Recognition for EBP
 - “Seen as clinical experts”
- 3. Educational Support for EBP
 - “This team provides EBP trainings or “in-services”
- 4. Rewards for EBP
 - “More likely to get a bonus/raise”
- 5. Selection for EBP
 - “Previously used EBP”
- 6. Selection for Openness
 - “Open to new interventions”
- Implementation Climate Total Scale
 - Alphas range .81-.91; Total alpha=.91; **18 items**

Jacobs et al: Implementation Climate

- 1. What is Expected
 - “I am expected to use TF-CBT with a certain number of clients:
 - “I am expected to help my agency meet its goals for implementing TF-CBT”

- 2. What is Supported
 - “I get the support I need to identify potentially eligible clients for TF-CBT”
 - “I get the support I need to use TF-CBT with my clients”

- 3. What is Rewarded
 - “I receive recognition when I use TF-CBT with my clients”
 - “I receive appreciation when I use TF-CBT with my clients”

General Leadership and Implementation Leadership

■ Full Range Leadership

- Transformational
 - Idealized Influence
 - Intellectual Stimulation
 - Individual consideration
 - Inspirational motivation
- Transactional
 - Management by exception (active)
 - Contingent reward

■ Implementation Leadership

- Leadership that supports implementation of evidence-based practices through proactive and supportive behaviors.
- Proposed 5 scales

Implementation Leadership Scale (ILS) Sample

- Sample
 - N=459 participants
 - K=93 outpatient clinics
- Age
 - 36.5 (SD=10.7)
- Sex
 - 79% female
- Ethnicity/Race
 - Hispanic = 23.4%
 - Caucasian = 54%
 - African American = 6.7%
 - Asian/Pacific Islander = 5%
 - American Indian = 0.5%
 - other or multiple = 10%
- Education
 - High school = 0.7%
 - Some college = 3%
 - College graduate = 12.2%
 - Some graduate work = 6.5%
 - Master's degree = 68%
 - Ph.D./M.D. or equivalent = 7%

Implementation Leadership Scale

■ Proactive Leadership

- “Has a plan to address implementation of EBP”

■ Knowledgeable Leadership

- “Is able to answer staff questions about EBP”

■ Supportive Leadership

- “Recognizes and appreciates employee efforts toward successful implementation of EBP”

■ Perseverant Leadership

- “Carries on through the challenges of implementing EBP”

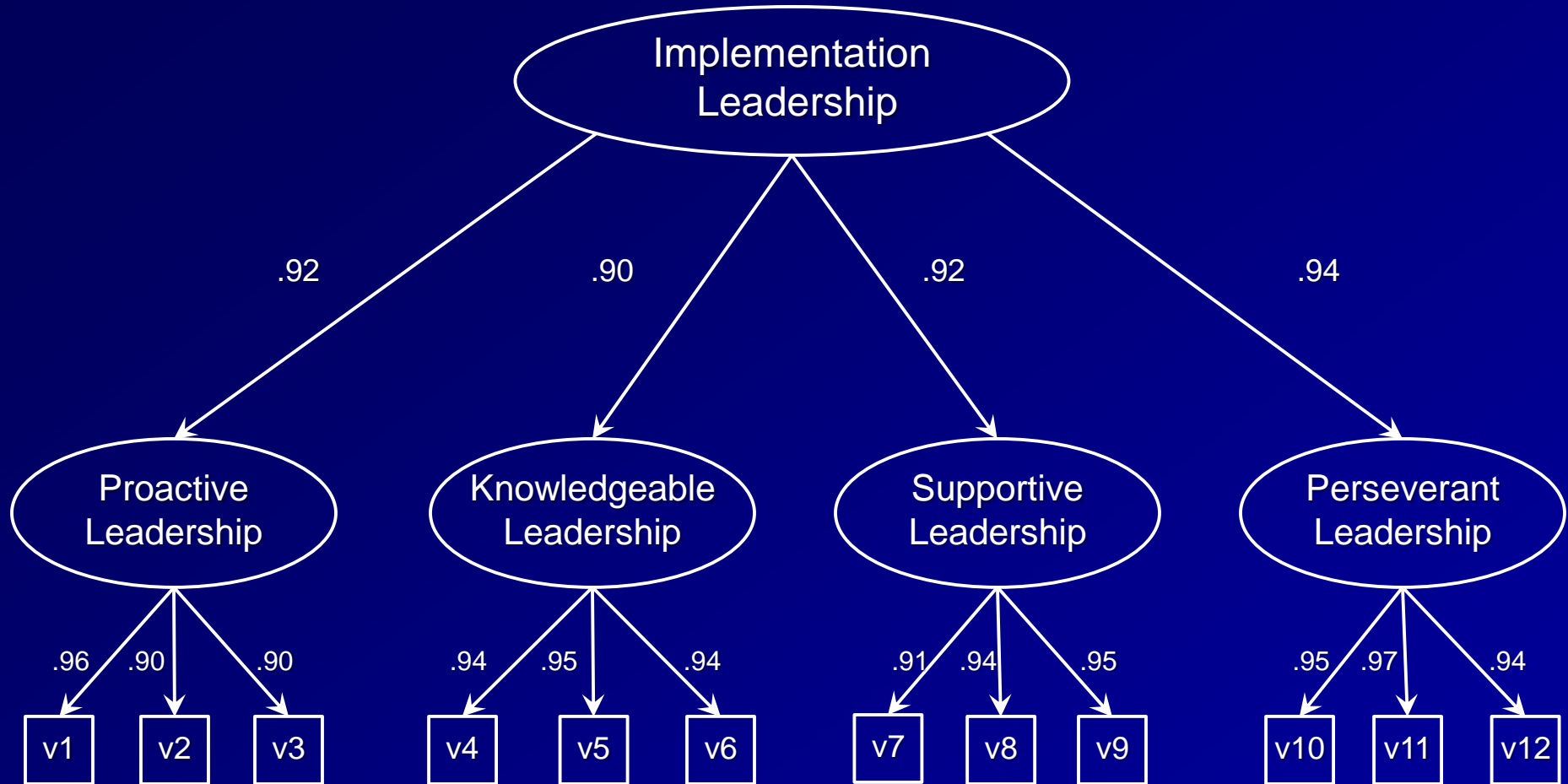
■ Implementation Leadership Total Scale

- (Alpha range Total $\alpha = .97$, 12 items; $v=91.1\%$)

Aarons, G.A., Ehrhart, M.G., & Farahnak, L.R. (2014). *The Implementation Leadership Scale (ILS): Development of a Brief Measure of Unit Level Implementation Leadership*. *Implementation Science*, 9(1) 45.

<http://www.implementationscience.com/content/9/1/45>

Multilevel Second Order Implementation Leadership Model



NOTE: N=230; $\chi^2(50)=118.572$; $\chi^2/df=2.37$; CFI=.972, TLI=.963; RMSEA=.077; SRMR=.034;
Multilevel analyses account for clinicians nested within teams

Aarons, G.A., Ehrhart, M.G., & Farahnak, L.R. (2014). *The Implementation Leadership Scale (ILS): Development of a Brief Measure of Unit Level Implementation Leadership*. *Implementation Science*, 9(1) 45.

Leadership and Organizational Change for Implementation (LOCI)

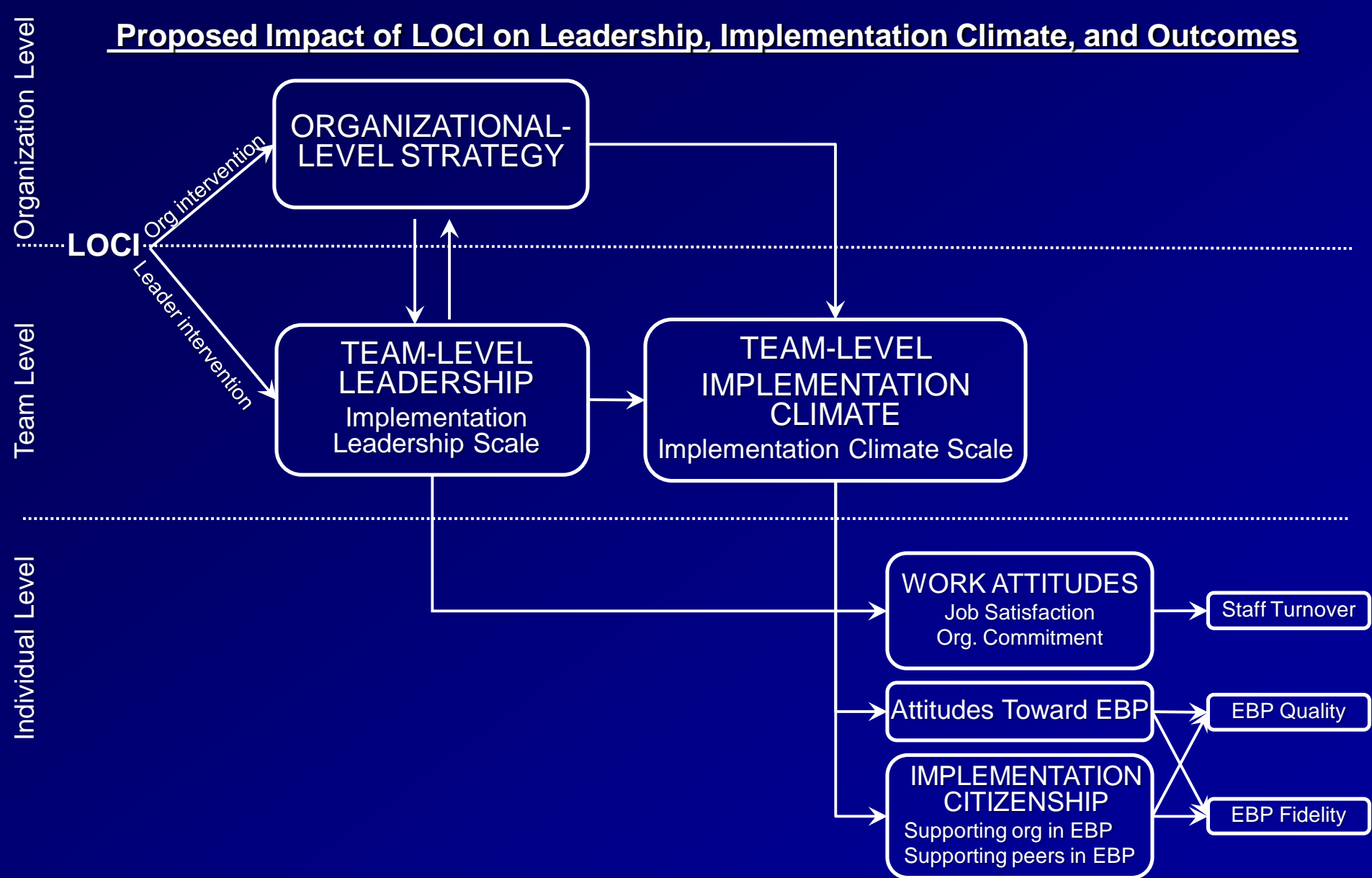
(R21 MH082731 Aarons)



Leadership and Organizational Change for Implementation: LOCI

- Inspiration for LOCI project
 - Idea developed in conjunction with managers at mental health CBOs (CBPR)
- Challenge for health care business and management
 - Using *evidence-based leadership and management* to improve implementation of *evidence-based health care*
- Increasing emphasis on moving research to practice
 - (NIH, CDC, AHRQ, W.T. Grant Foundation)
- Focus on First Level Leadership and cross-level embedding mechanisms
 - Priestland & Hanig (2005); Schein (2010)

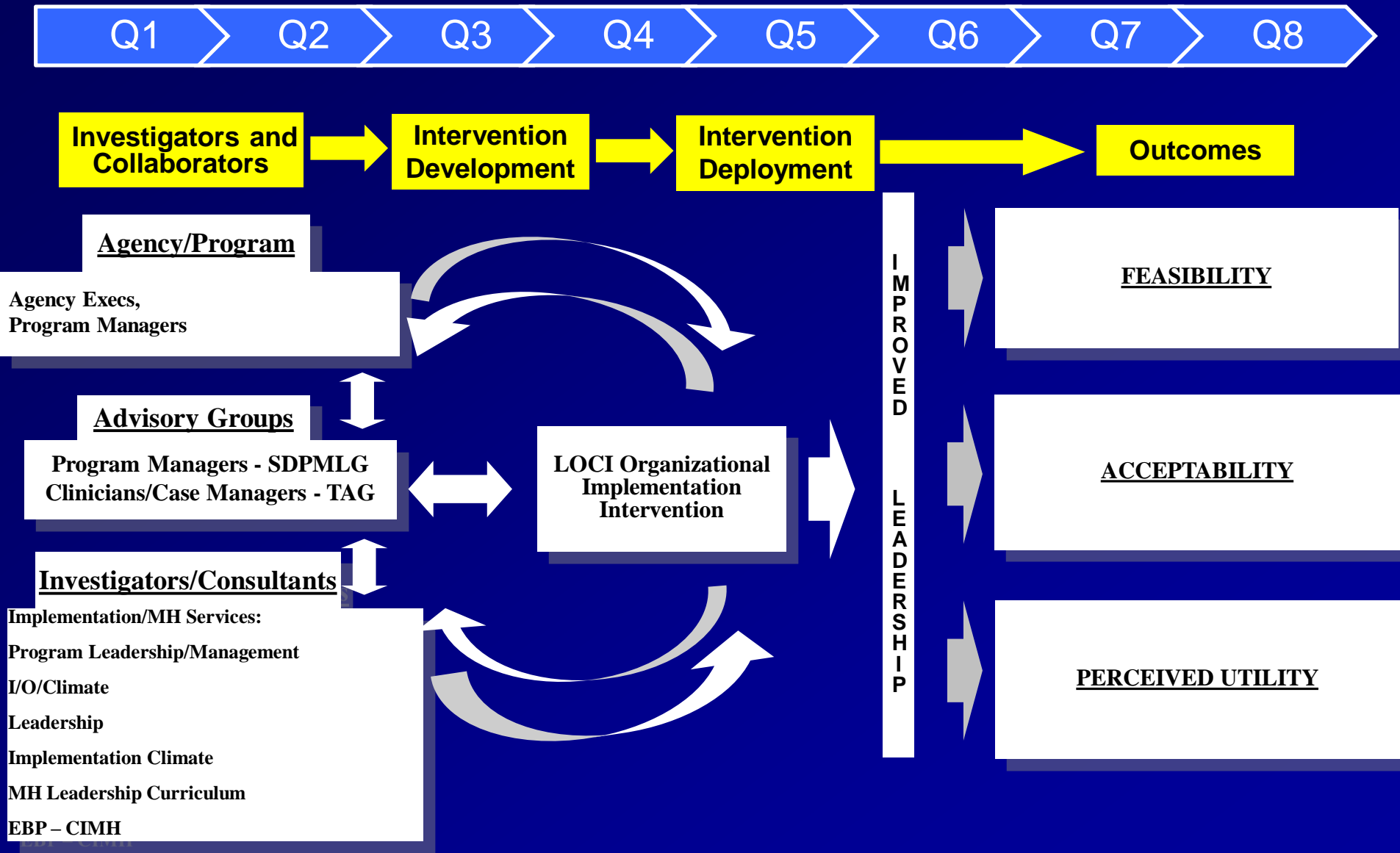
Proposed Impact of LOCI on Leadership, Implementation Climate, and Outcomes



Aarons, G.A., Ehrhart, M.G., & Farahnak, L.R. (2014). The Implementation Leadership Scale (ILS): Development of a Brief Measure of Unit Level Implementation Leadership. *Implementation Science*, 9:45.

Ehrhart, M.G., Aarons, G.A., & Farahnak, L.R. (2014). Assessing the Organizational Context for EBP Implementation: The Development and Validity Testing of the Implementation Climate Scale (ICS). 9:157

Leadership & Organizational Change for Implementation (LOCI) Study



LOCI Feasibility Pilot Trial Timeline



- Date driven
 - Initial 360 assessment at BL, 3months, 6months
- Individualized goal setting and training plans
- Weekly coaching calls
- Monthly group calls to share experiences
- Follow-up training – reinforcement/camaraderie
- Final meeting with focus group

Qualitative Outcomes

■ Feasibility

- Format and process (time commitment, group trainings, weekly coaching) seen as feasible

■ Acceptability

- Didactic and interactive aspects of training were acceptable
- Brief coaching calls were acceptable and valued
- Webinar not acceptable for consolidating learning

■ Perceived Utility

- Utility for EBP implementation and use
- Utility for engaging middle and upper management
- Utility for personal and professional development

Feasibility & Acceptability Outcomes

LOCI (n=5) Compared to Control Condition (n=6)

■ Feasibility

- Engagement in leadership training (t=2.39, p<.05)
- Increased leadership knowledge (t=6.43, p<.001)

■ Acceptability

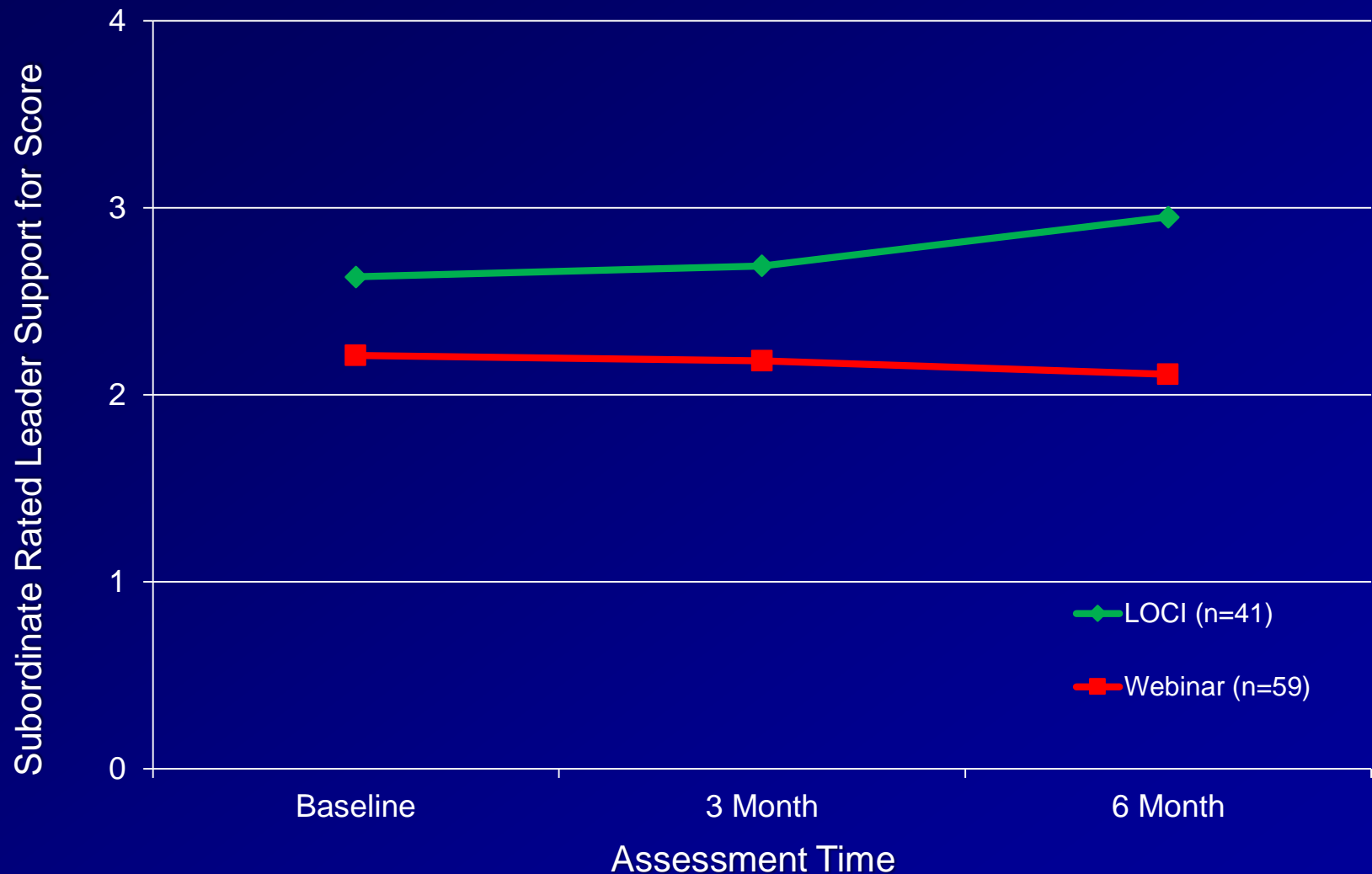
- Applied what was learned (t=4.80, p<.001)
- Improved leadership behaviors (t=4.88, p<.001)
- Ability to manage change (t=4.54, p<.01)
- Change in behavioral routines (t=4.94, p<.01)
- Changed leadership behaviors (t=4.97, p<.01)
- Increased emphasis on EBP with subordinates (t=4.11, p<.01)

■ Perceived Utility

- Greater overall utility (t=7.20, p<.001)
- Higher utility in managing organizational change (t=5.72, p<.001)
- Greater utility implementing/using EBPs in team (t=4.84, p<.001)

Aarons, G. A., Ehrhart, M. G., Farahnak, L. R., & Hurlburt, M. S. (2015). Leadership and organizational change for implementation (LOCI): a randomized mixed method pilot study of a leadership and organization development intervention for evidence-based practice implementation. *Implementation Science*, 10(1), 11.

Subordinate Report of Leader Support for EBP: Predicted Means over Time by Condition ($p < .05$).



Aarons, G. A., Ehrhart, M. G., Farahnak, L. R., & Hurlburt, M. S. (2015). Leadership and organizational change for implementation (LOCI): a randomized mixed method pilot study of a leadership and organization development intervention for evidence-based practice implementation. *Implementation Science*, 10(1), 11.

Organizational Context for Implementation

- Align leadership to develop strategic climate for implementation
- Enhance general leadership and “implementation leadership”
- Support congruence of leadership across organizational levels
- Schein’s (2010) primary & secondary culture/climate embedding mechanisms

Aarons, G.A., Ehrhart, M.G., & Farahnak, L.R. (2014). The Implementation Leadership Scale (ILS): Development of a Brief Measure of Unit Level Implementation Leadership. *Implementation Science*, 9:45.

Aarons, G. A., Ehrhart, M. G., Farahnak, L. R., & Sklar, M. (2014). Aligning Leadership Across Systems and Organizations to Develop a Strategic Climate for Evidence-Based Practice Implementation. *Annual review of public health*, 35, 255-274.

Ehrhart, M.G., Aarons, G.A., & Farahnak, L.R. (2014). Assessing the Organizational Context for EBP Implementation: The Development and Validity Testing of the Implementation Climate Scale (ICS). 9:157

Jacobs, S. R., Weiner, B. J., & Bunger, A. C. (2014). Context matters: measuring implementation climate among individuals and groups. *Implementation Science*, 9(1), 46.

Schein, E. H. (2010). *Organizational culture and leadership* (4th Ed). John Wiley & Sons.

Primary Climate Embedding Mechanisms

- What leaders pay attention to, measure, control
- How leaders react to critical incidents, crises
- How leaders allocate resources
- Role modeling, teaching, coaching
- How leaders allocate rewards and status
- How leaders recruit, select, promote, excommunicate

Aarons, G. A., Ehrhart, M. G., Farahnak, L. R., & Sklar, M. (2014). Aligning Leadership Across Systems and Organizations to Develop a Strategic Climate for Evidence-Based Practice Implementation. *Annual review of public health*, 35, 255-274.

Schein, E. H. (2010). *Organizational culture and leadership* (4th Ed). John Wiley & Sons.

Strategies to Support EBP Implementation Climate

■ What leaders pay attention to, measure and control:

- Regularly “talk up” EBP and get excited about it
 - ILS Proactive
 - TFL Inspirational Motivation
- Include the use of EBP in the team or agency mission
 - ILS Proactive, Knowledgeable
 - TFL Inspirational Motivation
- Tie in the importance of proven effectiveness of EBP to the larger goal of improving client outcomes
 - ILS Proactive, Knowledgeable
 - TFL Inspirational Motivation

Strategies to Support EBP Implementation Climate

■ How leaders react to critical incidents:

- React to crises during implementation by effectively problem-solving and engaging staff
 - ILS Proactive
 - TFL Intellectual Stimulation
- Engage the team in problem solving to support the use of the EBP
 - ILS Proactive
 - TFL Intellectual Stimulation
- Admit when things are puzzling and not going as expected invite other's input
 - ILS Perseverance
 - TFL Idealized Influence, Intellectual Stimulation

Strategies to Support EBP Implementation Climate

■ **How leaders allocate resources, rewards and status:**

- Provide rewards based on staff's quality use of EBP
 - ILS Support
 - TFL Contingent Reward
- Pay attention to and reward the proper use of EBP
 - ILS Support
 - TFL Contingent Reward
- Point out exemplary efforts toward implementation
 - ILS Knowledge, Support
 - TFL Individualized Consideration

Strategies to Support EBP Implementation Climate

■ **Role modeling, teaching and coaching:**

- Coach staff members individually as needed to improve their understanding and use of EBP
 - ILS Supportive, Proactive
 - TFL Individualized Consideration
- Ensure that supervisors are knowledgeable about EBP
 - ILS Knowledgeable
 - TFL Individualized Consideration,
- Be a role model of positive attitudes toward EBP
 - ILS Supportive
 - TFL Idealized Influence

Strategies to Support EBP Implementation Climate

■ **How leaders recruit, select, promote:**

- Selection at the program and agency level should include looking for prior EBP experience and assessing attitudes toward EBP
 - ILS Proactive, Knowledgeable leadership
- Ensure that supervisors are knowledgeable about EBP
 - ILS Knowledgeable leadership
 - TFL Idealized influence
- Be a role model of positive attitudes toward EBP
 - ILS Supportive, Perseverant
 - TFL Idealized Influence, knowledgeable, proactive, perseverant

Secondary Climate Embedding Mechanisms

- Organizational design and structure
- Organizational systems and procedures
- Rites and rituals of the organization
- Design of physical space, facades, building
- Stories about important events and people
- Formal statements of organizational philosophy, creeds, and charters (mission, vision)

Aarons, G. A., Ehrhart, M. G., Farahnak, L. R., & Sklar, M. (2014). Aligning Leadership Across Systems and Organizations to Develop a Strategic Climate for Evidence-Based Practice Implementation. *Annual review of public health*, 35, 255-274.

Schein, E. H. (2010). *Organizational culture and leadership* (4th Ed). John Wiley & Sons.

Summary of Leadership that Supports Implementation

- Pay close attention to the implementation of EBP and regularly communicate and model understanding and enthusiasm to staff
- Utilize critical incidents during implementation to engage staff and promote EBP
- Recognize and reward staff efforts and successes during EBP implementation
- Be a role model and a resource for your staff regarding EBP and implementation
- Consider EBP implementation when hiring and promoting staff
- Utilize structural (e.g., mis) and process (e.g., feedback) to support EBP implementation

The Challenge of Leading Implementation in Health Care

- Take responsibility for implementing the best evidence in clinical services
 - This is ethical leadership
- Take a stand for quality care
 - Apply the best evidence-based approaches to clinical care
 - Apply best approaches to leading change
- The Ultimate Goals
 - Constantly improve health care services
 - Improve work life of service providers
 - Improve the lives of patients/clients

Leadership to Implementation Climate



Conclusions

- Leadership is associated with climate for implementation and attitudes toward EBP
- Implementation leadership has four dimensions and can be assessed with the ILS
- Organizational context encompasses relationships but also structures and processes to support new practices
- There are new approaches to assessing implementation climate and measures are available
- Combining leadership and organizational change strategies can help develop a climate for EBP implementation and sustainment

Implementation Leadership Scale (ILS)

ILS - <http://www.implementationscience.com/content/9/1/45>

Implementation Climate Scale (ICS)

ICS - <http://www.implementationscience.com/content/9/1/157>

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