Implementation Research: Practical Application of Frameworks and Strategies for Evidence-Based Practice Implementation

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Presented at the American Speech-Language-Hearing Foundation Implementation Science Summit. March 21, 2014

Disclosure

- Gregory Aarons, PhD

- Professor: UCSD
- Director: Child and Adolescent Services Research Center

- Speaker Disclosures
  - Financial
    - ASHF honorarium and travel expense
    - NIH funded studies
  - Non-financial
    - No conflicts to report

Acknowledgements

- NIMH
  - R01MH072961 (PI: Aarons)
    - Mixed-Methods Study of EBP Sustainment
  - R01MH092950 (PI: Aarons)
    - Interagency Collaborative Teams to Scale up EBP
  - R01MH087054 (PIs: Patterson & Aarons)
    - Implementation of an Efficacious Intervention for High-Risk Women
  - R21MH098124 (PI: Ehrhart)
    - Development and Validation of Implementation Climate Measures
  - P30MH074678 (PI: Landsverk)
    - Implementation Methods Research Group
  - R25MH080916 (PI: Proctor)
    - Implementation Research Institute
- NIDA
  - P30DA027828 (PI: Brown)
    - Center for Prevention Implementation Methodology
- CDC
  - R01CE001556 (PI: Aarons)
    - Dynamic Adaptation Process to Implement EBP

Agenda

- Implementation conceptual frameworks
- Illustrate implementation phases and levels
- Describe implementation outcomes
- Describe some study designs in different settings

Traditions that Inform Implementation

- Management Science
- Organizational development
- Organizational psychology
- Business Quality Improvement
- Health Care Quality Improvement
- Public health
- Population health
- Education
- Ethnography
- Informatics
- Economics
- Engineering/Systems Dynamics

Implementation Frameworks and Strategies

- Implementation *Framework*:
  - A proposed model of factors likely to impact implementation and sustainment of EBP
    - (Aarons, Hurlburt, & Horwitz, 2011; Damschroder et al., 2009; Tabak et al., 2012)

- Implementation *Strategy*:
  - Systematic *processes* to adopt and integrate evidence-based innovations into usual care.
    - (Powell et al., 2011)

Implementation Strategies

- *Address specific factors identified in implementation frameworks*
- *Discrete* implementation strategies
  - Clinical reminders, training only
- *Multifaceted* implementation strategies
  - Training + reminders
  - Training + fidelity monitoring + coaching
- *Blended* implementation strategies (comprehensive)
  - Community Development Team strategy (CDT)
  - Interagency Collaborative Team strategy (ICT)
  - Dynamic Adaptation Process strategy (DAP)
  - Leadership and Organizational Change for Implementation (LOCI)

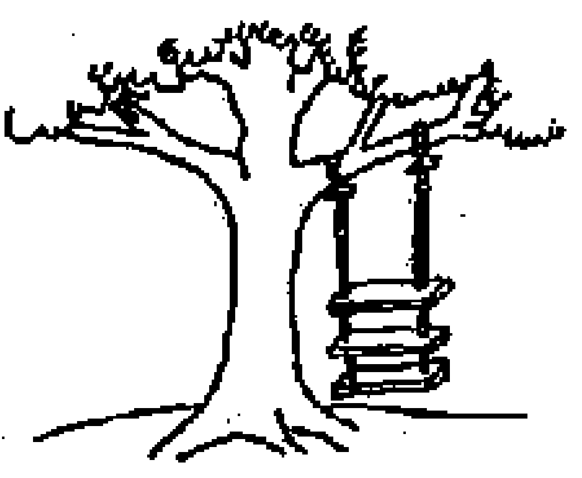
Source: Powell , McMillen, Proctor et al (2011). A compilation of strategies for implementing clinical innovations in health and mental health. *Medical Care Research and Review, 69(*2) 123-157.

Domains of Strategies

Type of Strategy	Description	Context Level	N
Planning	Info gathering, leadership, relationships	Outer/Inner	n=17
Education	Training, materials, influence stakeholders	Inner/Outer	n=16
Financing	Incentives, financial support	Inner/Outer	n=9
Restructuring	Change roles, create teams, alter record systems, create relationships	Inner/Outer	n=7
Quality Management	MIS + feedback, clinical reminders, decision support, PDSA cycles	Inner/Outer	n=16
Policy Change	Licensure, accreditation, certification, mandates	Outer/Inner	n=3

Source: Powell , McMillen, Proctor et al (2011). A compilation of strategies for implementing clinical innovations in health and mental health. *Medical Care Research and Review, 69(*2) 123-157.

Why Frameworks?



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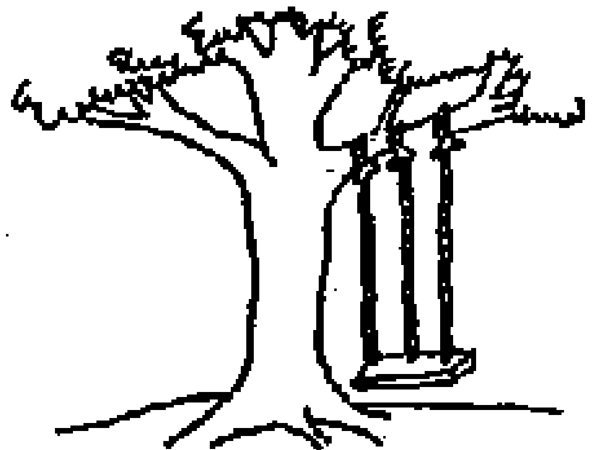

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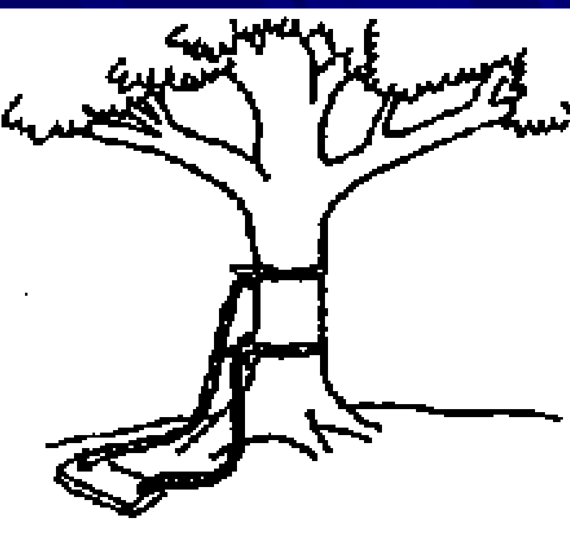

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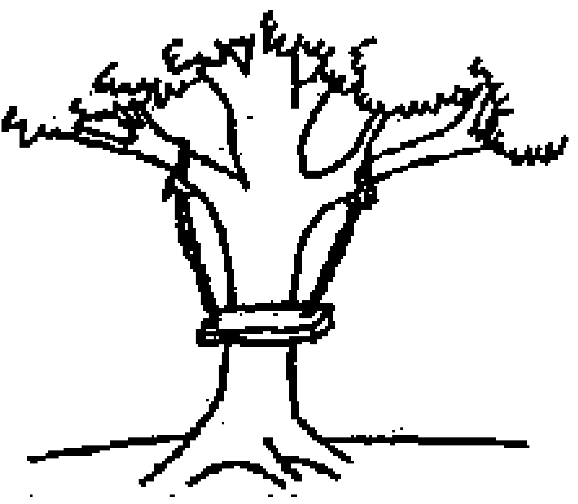

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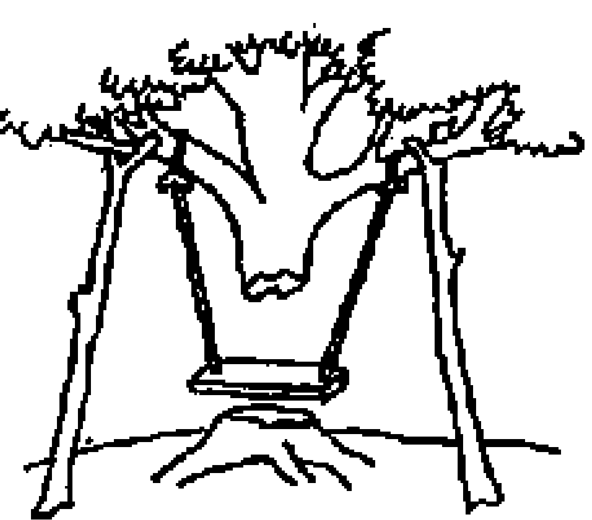

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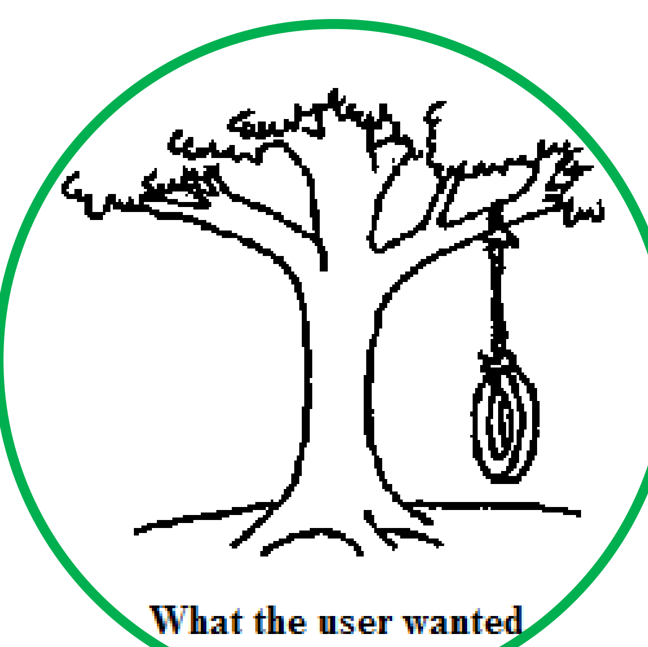


What the user wanted

Review of Models
(Tabak, et al., 2012)

- Reviewed 61 models
  - Models (aka “theories” or “frameworks”)
  - Frameworks evaluated on:
    - Construct flexibility
      - Broad → highly operationalized
    - Focus on dissemination vs. implementation
      - D-only → D=I → I-only
    - Socioecologic framework level
      - Individual → Community → System

Source: Tabak, R. G., Khoong, E. C., Chambers, D. A., & Brownson, R. C. (2012). Bridging research and practice: models for dissemination and implementation research. *American journal of preventive medicine*, *43*(3), 337-350.

Table 2. Categorization of D&I models for use in research studies *(continued)*

Model	Dissemination and/or Implementation	Construct flexibility: broad to operational	Socioecologic Level					References
			System	Community	Organization	Individual	Policy	
Pronovost's 4E's Process Theory	I-only	3		x	x	x		101
Sticky Knowledge	I-only	3		x	x	x		102, 103
Consolidated Framework for Implementation Research	I-only	4		x	x			104, 105
Replicating Effective Programs Plus Framework	I-only	4		x	x			106
Availability, Responsiveness & Continuity (ARC): An Organizational & Community Intervention Model	I-only	5		x	x			107, 108
Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors	I-only	5		x	x			109

D&I, dissemination and implementation; DHAP, Division of HIV/AIDS Use, and HIV Testing in Reducing HIV Risk Behavior and Prevention; 4E, exposure, experience, expertise, embedding; OPTIONS, OutPatient Treatment in Ontario Services; Precede-Proceed, predisposing, reinforcing, and enabling constructs in educational diagnosis and evaluation—policy, regulatory, and organizational constructs in educational and environmental development; Pronovost's 4E's, engage, educate, execute, evaluate; RAND, research and development; RE-AIM, reach, effectiveness, adoption, implementation, and maintenance

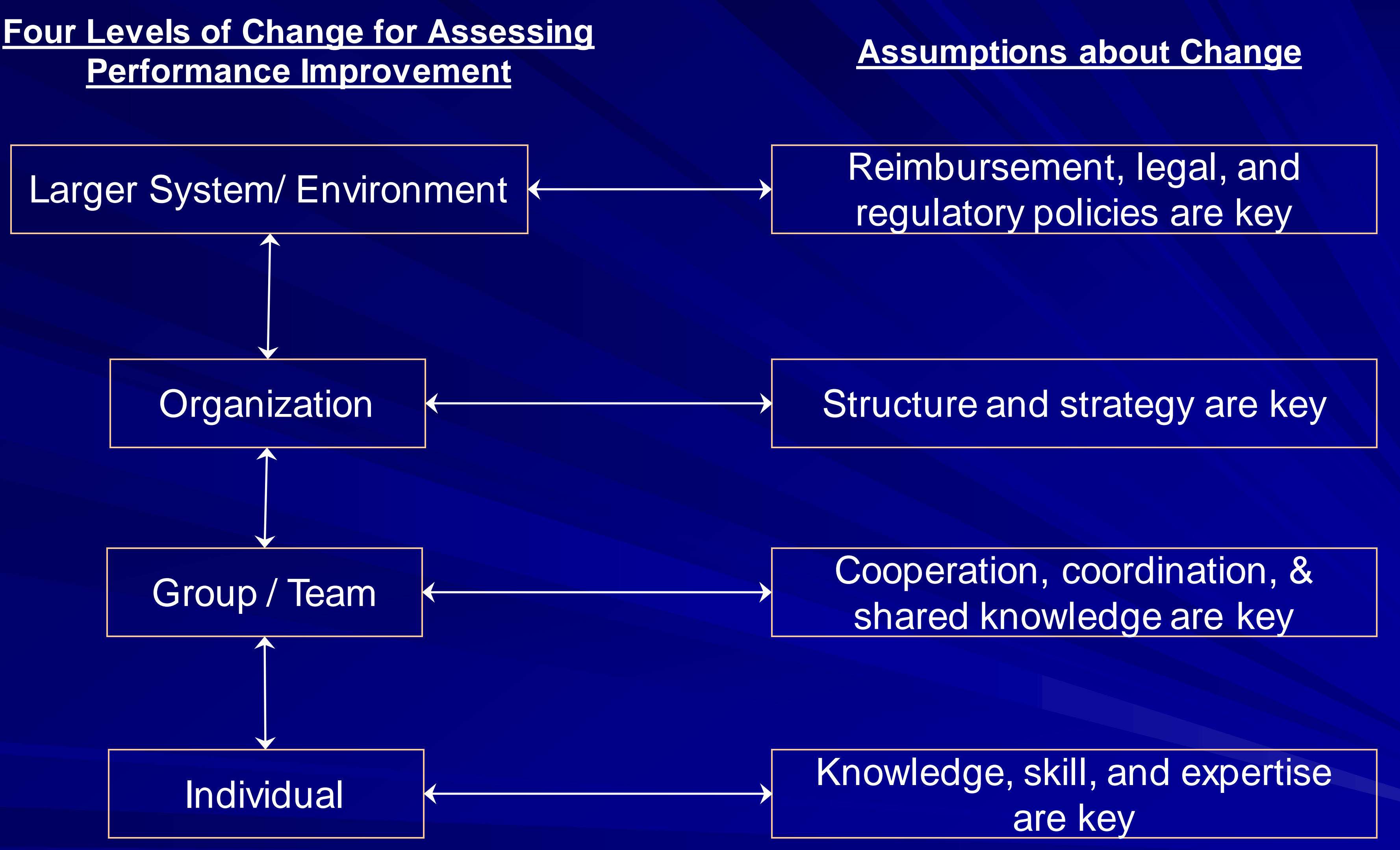
Most frameworks also are adapted or modified in practice

Source: Tabak, R. G., Khoong, E. C., Chambers, D. A., & Brownson, R. C. (2012). Bridging research and practice: models for dissemination and implementation research. *American journal of preventive medicine*, *43*(3), 337-350.

Common Elements of Frameworks

- Multiple Levels
  - Implementation occurs in complex systems
  - Need to identify concerns at different levels
- Multiple phases
  - Implementation occurs over time
  - There may be relatively discrete phases or stages

Why Consider Levels of 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.

Why Consider Multiple Phases?

- Characterizes process of implementation
- Develops a way to think about what supports are needed during the implementation process
- Helps in providing a “long-term view”
- Helps in planning

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 and Mental Health Services Research.38*, 4-23.

Consolidated Framework for Implementation Research (CFIR)

- The five CFIR domains are:
  - – Intervention characteristics
  - – Outer setting
  - – Inner setting
  - – Characteristics of the individuals involved
  - – Process of implementation

Source: Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., & Lowery, J. C. (2009). Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implement Science 4*(1), 50.

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.

Exploration, Preparation, Implementation, Sustainment (EPIS) Model

- Key phases of the implementation process
- Multilevel
- Frames implementation factors across levels within each phase
- Enumerates common and unique factors across levels and across phases

Source: 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 and Mental Health Services Research*, *38*(1), 4-23.

EXPLORATION

OUTER CONTEXT

Sociopolitical Context
- Legislation
- Policies
- Monitoring and review

Funding
- Service grants
- Research grants
- Foundation grants
- Continuity of funding

Client Advocacy
- Consumer organizations

Interorganizational networks
- Direct networking
- Indirect networking
- Professional organizations
- Clearinghouses
- Technical assistance centers

INNER CONTEXT

Organizational characteristics
- Absorptive capacity
  - Knowledge/skills
  - Readiness for change
  - Receptive context
- Culture
- Climate
- Leadership

Individual adopter characteristics
- Values
- Goals
- Social Networks
- Perceived need for change

PREPARATION

OUTER CONTEXT

Sociopolitical
- Federal legislation
- Local enactment
- Definitions of "evidence"

Funding
- Support tied to federal and state policies

Client advocacy
- National advocacy
- Class action lawsuits

Interorganizational networks
- Organizational linkages
- Leadership ties
- Information transmission
  - Formal
  - Informal

INNER CONTEXT

Organizational characteristics
- Size
- Role specialization
- Knowledge/skills/expertise
- Values

Leadership
- Culture embedding
- Championing adoption

IMPLEMENTATION

OUTER CONTEXT

Sociopolitical
- Legislative priorities
- Administrative costs

Funding
- Training
- Sustained fiscal support
- Contracting arrangements
- Community based organizations.

Interorganizational networks
- Professional associations
- Cross-sector
- Contractor associations
- Information sharing
- Cross discipline translation

Intervention developers
- Engagement in implementation

Leadership
- Cross level congruence
- Effective leadership practices

INNER CONTEXT

Organizational Characteristics
- Structure
- Priorities/goals
- Readiness for change
- Receptive context
- Culture/climate

Innovation-values fit
- EBP structural fit
- EBP ideological fit

Individual adopter characteristics
- Demographics
- Adaptability
- Attitudes toward EBP

SUSTAINMENT

OUTER CONTEXT

Sociopolitical
- Leadership
- Policies
  - Federal initiatives
  - State initiatives
  - Local service system
  - Consent decrees

Funding
- Fit with existing service funds
- Cost absorptive capacity
- Workforce stability impacts

Public-academic collaboration
- Ongoing positive relationships
- Valuing multiple perspectives

INNER CONTEXT

Organizational characteristics
- Leadership
- Embedded EBP culture
- Critical mass of EBP provision
- Social network support

Fidelity monitoring/support
- EBP Role clarity
- Fidelity support system
- Supportive coaching

Staffing
- Staff selection criteria
- Validated selection procedures

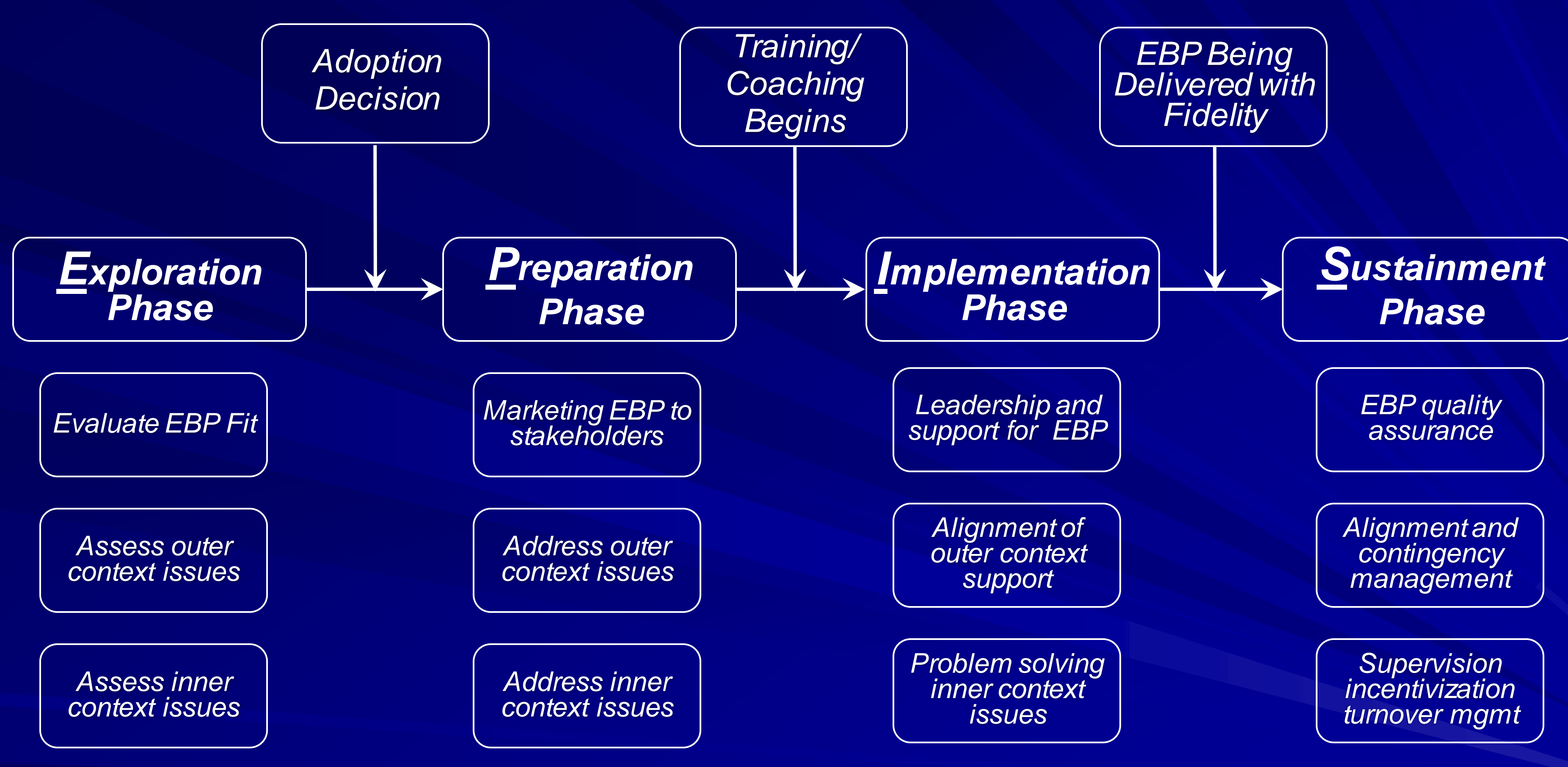
Aarons, G.A., Hurlburt, M. & Horwitz, S.M. (2011). Advancing a Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors. *Administration and Policy in Mental Health and Mental Health Services Research.38*, 4-23.

Adapted EPIS Model

EXPLORATION	PREPARATION	IMPLEMENTATION	SUSTAINMENT
OUTER CONTEXT • Sociopolitical Context • Funding • Interorganizational networks • EBT Fit • Internet use • Insurance availability	*OUTER CONTEXT* • Sociopolitical • Leadership at policy level • Funding • Interorganizational networks • Availability of EBT materials	*OUTER CONTEXT* • Sociopolitical • Funding • Intervention developer engagement • Leadership • Interorganizational networks • External ratings/report cards	*OUTER CONTEXT* • Sociopolitical • Funding • Leadership
INNER CONTEXT •Organizational characteristics •Individual adopter characteristics •EBT fit with client characteristics •Fiscal viability	*INNER CONTEXT* • Organizational culture and climate • Leadership • Staffing and staff characteristics • EBT Fit • EBT Adaptation • Fiscal viability & resources • Medication dose control • Training availability	*INNER CONTEXT* • Organizational culture and climate • Leadership • Staff attitudes to EBT • Individual adopter characteristics • Incentivizing providers • Fiscal viability • Fidelity monitoring & support	*INNER CONTEXT* • Organizational culture and climate • Training • EBT fit • Fidelity monitoring/support • Staffing • Child & parent outcomes • Fiscal viability • Technology supported practice

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

Phases and Transition Points in the EPIS Model



Problem Solving Orientation

Different philosophical bases

Mixed-Methods Research Offers Several Advantages over Single-Method Approaches

- Combine the qualitative and quantitative approaches into the research methodology of a single study or multi-phased study

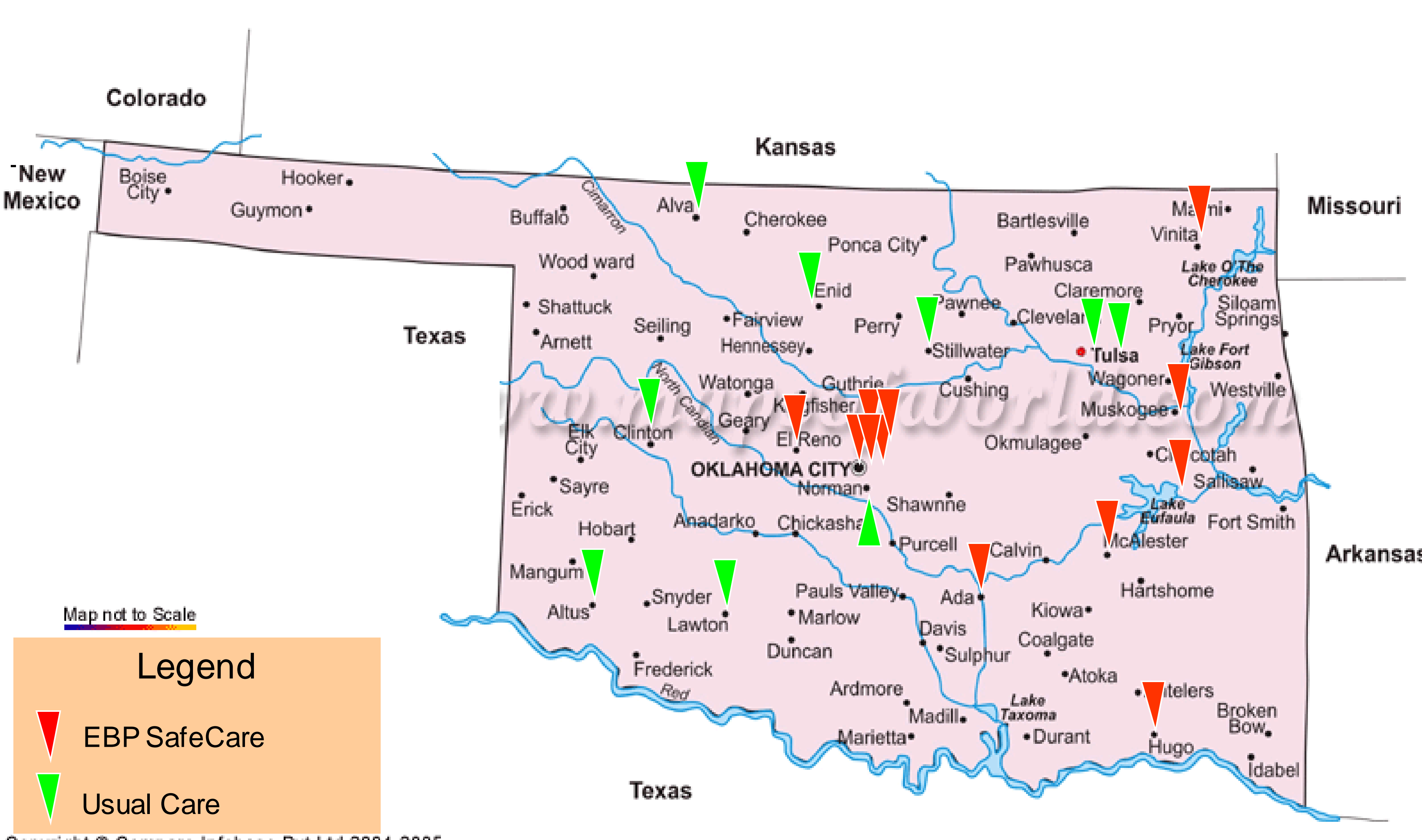
- Simultaneously answer confirmatory and exploratory questions, and therefore verify and generate theory in the same study
  - Teddlie & Tashakkori, 2003

Mixed-Methods Study of Statewide EBP Implementation (NIMH PI: Aarons)

- Implementation of SafeCare® in Oklahoma's Statewide Children's Services System
- Organizational and provider focused
- Mixed Methods
  - Quantitative, qualitative, and mixed
- Longitudinal at organization/team level
- Requires collaboration and ongoing relationship building and maintenance

Mixed-Methods EBP Implementation Study

NIMH 5R01MH072961 (PI: Aarons) Implementation
NIMH 5R01MH065667 (PI: Chaffin) Effectiveness



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SafeCare Effectiveness Study

NIMH 5R01MH065667 (PI: Chaffin) Effectiveness
NIMH 5R01MH072961 (PI: Aarons) Implementation

	Monitored	Non-Monitored
SafeCare	SafeCare + Coaching	SafeCare Protocol No Coaching
Services as Usual	Services as Usual + Coaching	Usual Care No Coaching

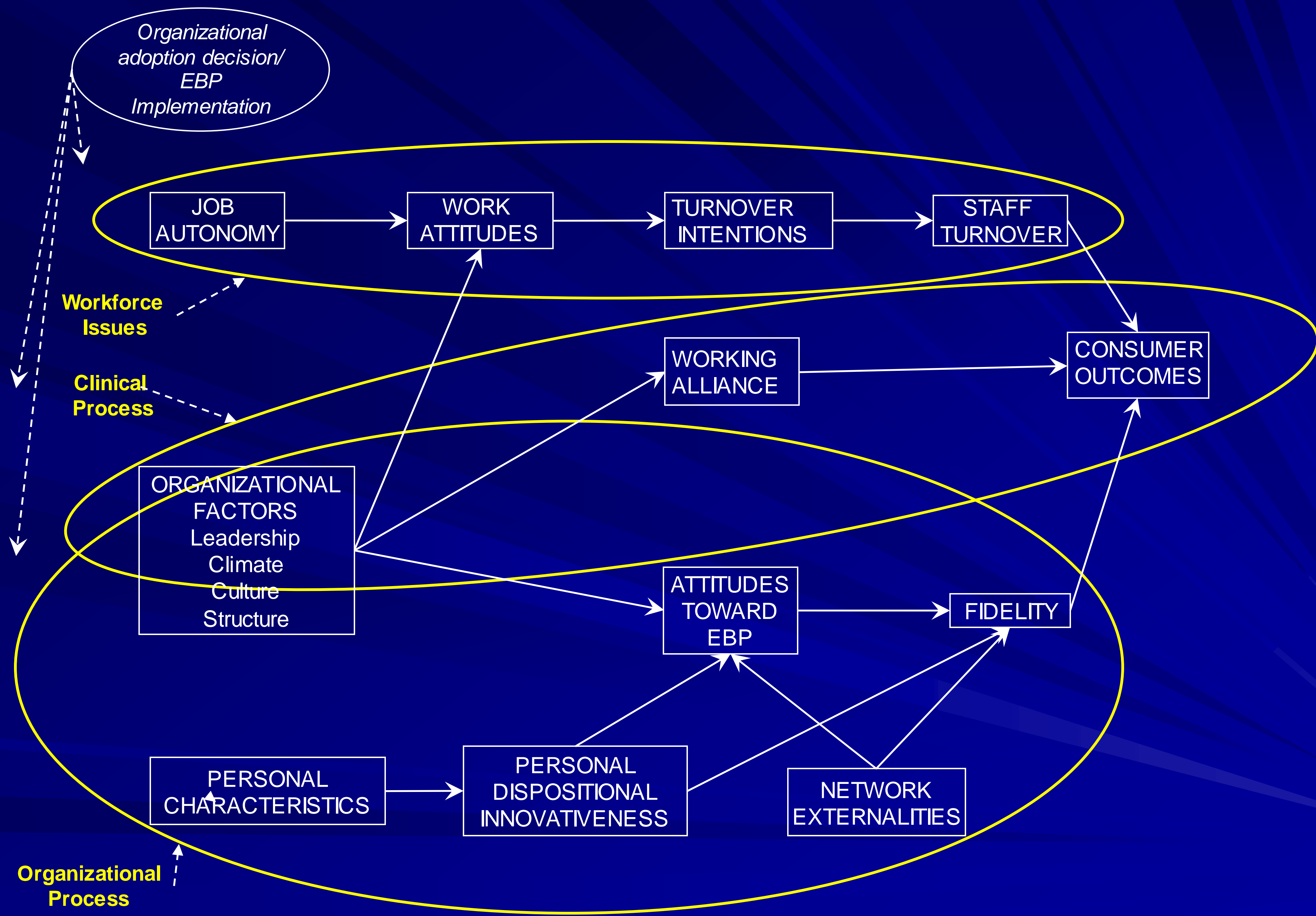
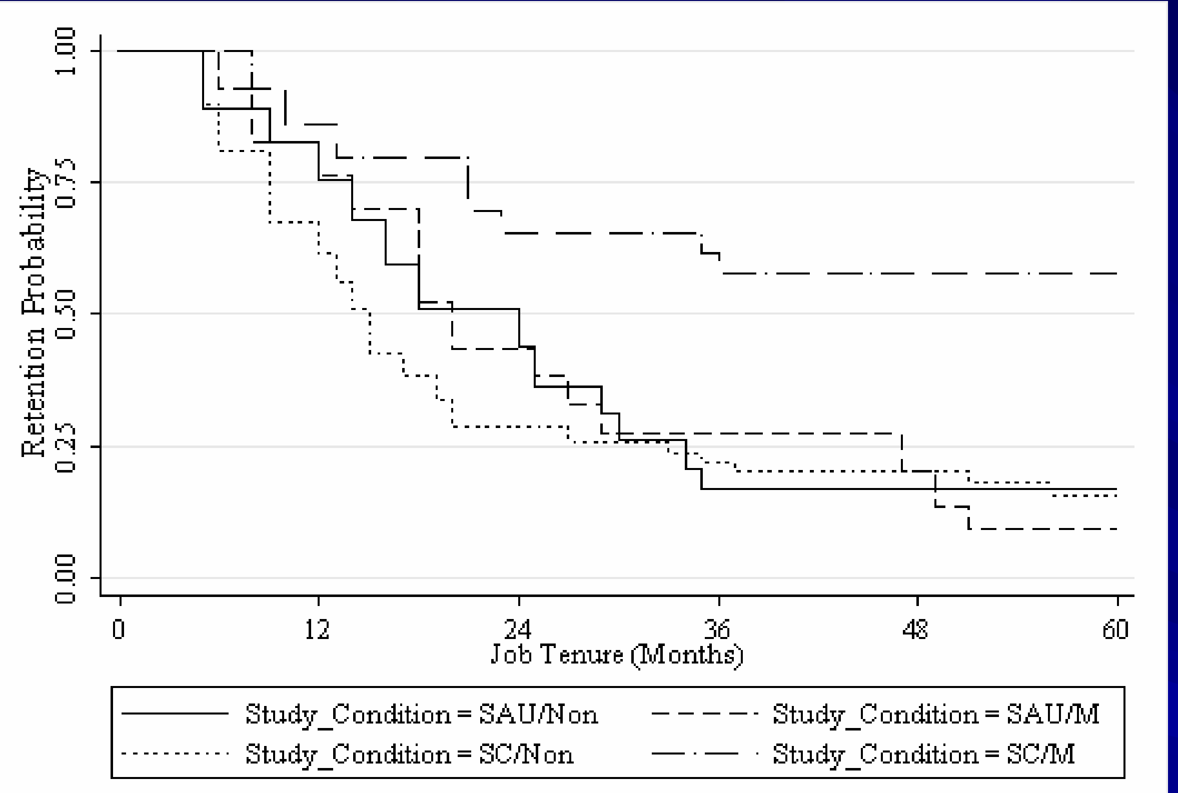


Figure 1. Integrative Model for Study of Implementation of EBP in Human Service Organizations. (Adapted from Aarons, Woodbridge, & Carmazzi, 2003; Frambach & Schillewaert, 2002; Knudsen, Johnson, & Roman, 2002); Note: SC-ES=SafeCare Effectiveness Study

Implementation Outcomes
Effect of EBP Implementation on Staff Retention



Annualized Turnover by Condition			
		Consultation	
		Yes	No
SafeCare®	Yes	**14.9%**	33.4%
	No	41.5%	37.6%

Figure 1. Kaplan-Meier Survival Function Estimates (Retention Probability) by Study Condition. Note: SC/M = participating in SafeCare and fidelity monitoring; SC/Non = participating in SafeCare, but not fidelity monitoring; SAU/M = services as usual and receiving fidelity monitoring; and SAU/Non = services as usual and not receiving fidelity monitoring. N=153.

Source: Aarons, Sommerfeld, et al (2009), ***Journal of Consulting and Clinical Psychology***

Table 2: Mixed method Results Demonstrating Complementarity of Findings

Method	Quantitative	Qualitative
Question	*Does SC implementation lead to increased turnover?*	*Does low rate of turnover signify satisfaction with SC?*
Answer	Home based providers in the SC/M condition had a greater likelihood of staying with their agencies for a longer period of time.	Yes: Some providers loved the structure provided by the EBP. Yes: Many providers felt that there was some value to the EBP and some felt it benefited their families. No: Some providers disliked having to implement some of the EBP modules. No: Many providers felt that the EBP was not appropriate for all families. No: Some providers felt the EBP detracted from dealing with more immediate issues (e.g., crises).
Question	*Does monitoring lead to increased turnover?*	*Does low rate of turnover signify satisfaction with monitoring?*
Answer	Home based providers in the SC/M condition and the UC/M condition had a greater likelihood of staying with their agencies for a longer period of time.	Yes: Some providers loved the supervision that came with monitoring. No: Some providers resented being monitored. According to administrator interviews, some of those providers subsequently left the agency. No: Some providers disliked their ongoing consultants.
Question	*Does lower perceived job autonomy lead to increased turnover?*	*Did SC increase or decrease autonomy?*
Answer	Yes: Lower perceived autonomy predicted greater turnover.	Decrease: Some providers reported use of the EBP reduced their ability to respond to more immediate demands like substance abuse or unemployment. Increase: Most providers reported that the EBP gave them more structure to do what they were already doing, making them feel more competent at their jobs (thus increasing perceived autonomy).
Question	*Do higher turnover intentions lead to increased turnover?*	*Did SC increase or decrease turnover intention?*
Answer	Yes: Higher turnover intention predicted greater turnover.	No: Most newer providers came in with the EBP as part of the work milieu and the service model so it did not impact turnover intentions. Yes: some experienced staff felt that they already had the knowledge and tools to provide effective services.

Aarons, G. A., Fettes, D. L., Sommerfeld, D. H., & Palinkas, L. A. (2012). Mixed Methods for Implementation Research Application to Evidence-Based Practice Implementation and Staff Turnover in Community-Based Organizations Providing Child Welfare Services. *Child Maltreatment*, *17*(1), 67-79.

OK Qualitative Results – Service Providers

- 6 primary factors associated with EBP implementation
  - Acceptability of the EBP to the caseworker and to the family
  - Appropriateness of the EBP to the needs of the family
  - Caseworker motivations for using the EBP
  - Experiences with being trained in EBP
  - Extent of organizational support for EBP
  - Impact of the EBP on process and outcome of case management

Aarons, G. A., & Palinkas, L. A. (2007). Implementation of evidence-based practice in child welfare: Service provider perspectives. *Administration and Policy in Mental Health and Mental Health Services Research*, *34*(4), 411-419.

OK Qualitative Results – Management/Executive Directors

- 6 primary factors associated with EBP implementation
  - Availability of resources
  - Positive external relations
  - Support of agency leadership for EBPs
  - Creating high motivation/low resistance in staff
  - Tangible benefits for staff
  - Perceived benefits outweigh perceived costs

Palinkas, L. & **Aarons, G.A.** (2009). A view from the top: Executive and management challenges in a statewide implementation of an evidence-based practice to reduce child neglect. *International Journal of Child Health and Human Development, 2*(1), 47-55.

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

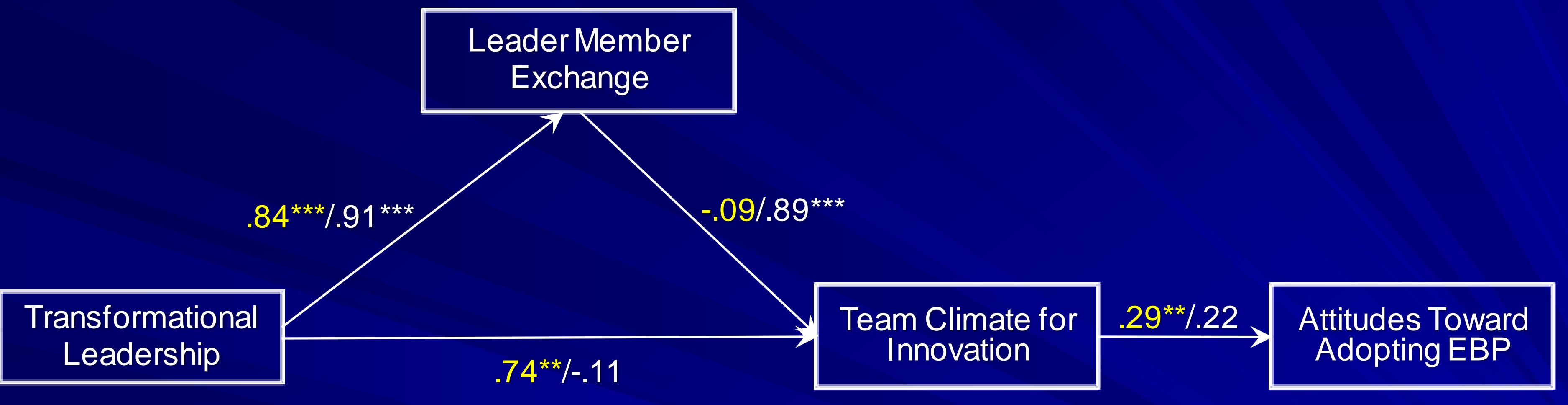


Figure 1. Multigroup Clustered Path Analysis: Association of Transformational Leadership and Leader-Member Exchange with Team Climate for Innovation and Team Climate for Innovation with Staff Attitudes Toward Innovation Adoption During Innovation Implementation compared to Services as Usual. Note: N=140; Teams Implementing the SafeCare (n=85) / Teams Providing Services as Usual (n=55);

χ^2 (4)=1.105; *p*=.894; CFI=1.000, TLI=1.037, RMSEA=0.000, SRMR=0.013; *p<.05, **p<.01, ***p<.001

Aarons, G. A., Sommerfeld, D. H., Hecht, D. B., Silovsky, J. F., & Chaffin, M. J. (2009). The impact of evidence-based practice implementation and fidelity monitoring on staff turnover: evidence for a protective effect. *Journal of consulting and clinical psychology*, *77*(2), 270.

OK SafeCare Trial: Effectiveness Results

Chaffin, M., Hecht, D., Bard, D., Silovsky, J. F., & Beasley, W. H. (2012). A statewide trial of the SafeCare home-based services model with parents in Child Protective Services. *Pediatrics*, *129*(3), 509-515.

Hybrid Designs

Implementation Research

Hybrid Type I

Test clinical intervention

observe/gather information on implementation

Hybrid Type II

Test clinical intervention

Test implementation intervention

Hybrid Type III

Test implementation intervention

observe/gather information on clinical intervention and outcomes

Adapted from: Curran, G. M., Bauer, M., Mittman, B., Pyne, J. M., & Stetler, C. (2012). Effectiveness-implementation hybrid designs: combining elements of clinical effectiveness and implementation research to enhance public health impact. *Medical care*, *50*(3), 217.

Implementation of an Efficacious Intervention for High Risk Women in Mexico (R01MH087054 PIs: Patterson & Aarons)

Mexfam

FUNDACIÓN MEXICANA PARA LA PLANEACIÓN FAMILIAR, A.C.

Construimos **bienestar social** desde la persona

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Proyecto Mujer Segura

Proyecto Mujer Segura · Universidad de California & Mexfam · Investigadores de la Universidad de California, visitaron Clínicas de Servicios Médicos Mexfam en Revolución, en Veracruz y las Oficinas de apoyo de Mexfam. Leer más...

Pause

Detección oportuna

CÁNCER CERVICOUTERINO

1,500 mujeres serán beneficiadas con la implementación de un proyecto que promocionará el autocuidado para la detección oportuna del Cáncer Cervicouterino...

Prevención

VIH/SIDA

En 2010 Mexfam fue seleccionada para ser propietaria del concepto dance4life en México. El objetivo es contribuir en la prevención del VIH entre la juventud...

Campaña Social

DERECHOS SEXUALES Y REPRODUCTIVOS

Entre mujeres nos cuidamos es una campaña social que ayuda a mujeres de bajos recursos a realizarse gratuitamente el examen de Papanicolaou...

Leer más...

Mujer Segura Study Map
Implementation Sites
Revolucion
Nezahualcoyotl
Veracruz
Guadalajara
Naranjos
San Luis Potosi
Ixtaltepec
San Luis de La Paz
Tuxtla Gutierrez
Tlapa
Iguala
Huajuapan de Leon
Tepeji del Rio
Baja California
Baja California Sur
Sonora
Chihuahua
Coahuila
Nuevo León
Sinaloa
Durango
Zacatecas
Tamaulipas
San Luis Potosí
Nayarit
Jalisco
Colima
Michoacán
Guerrero
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Oaxaca
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Yucatán
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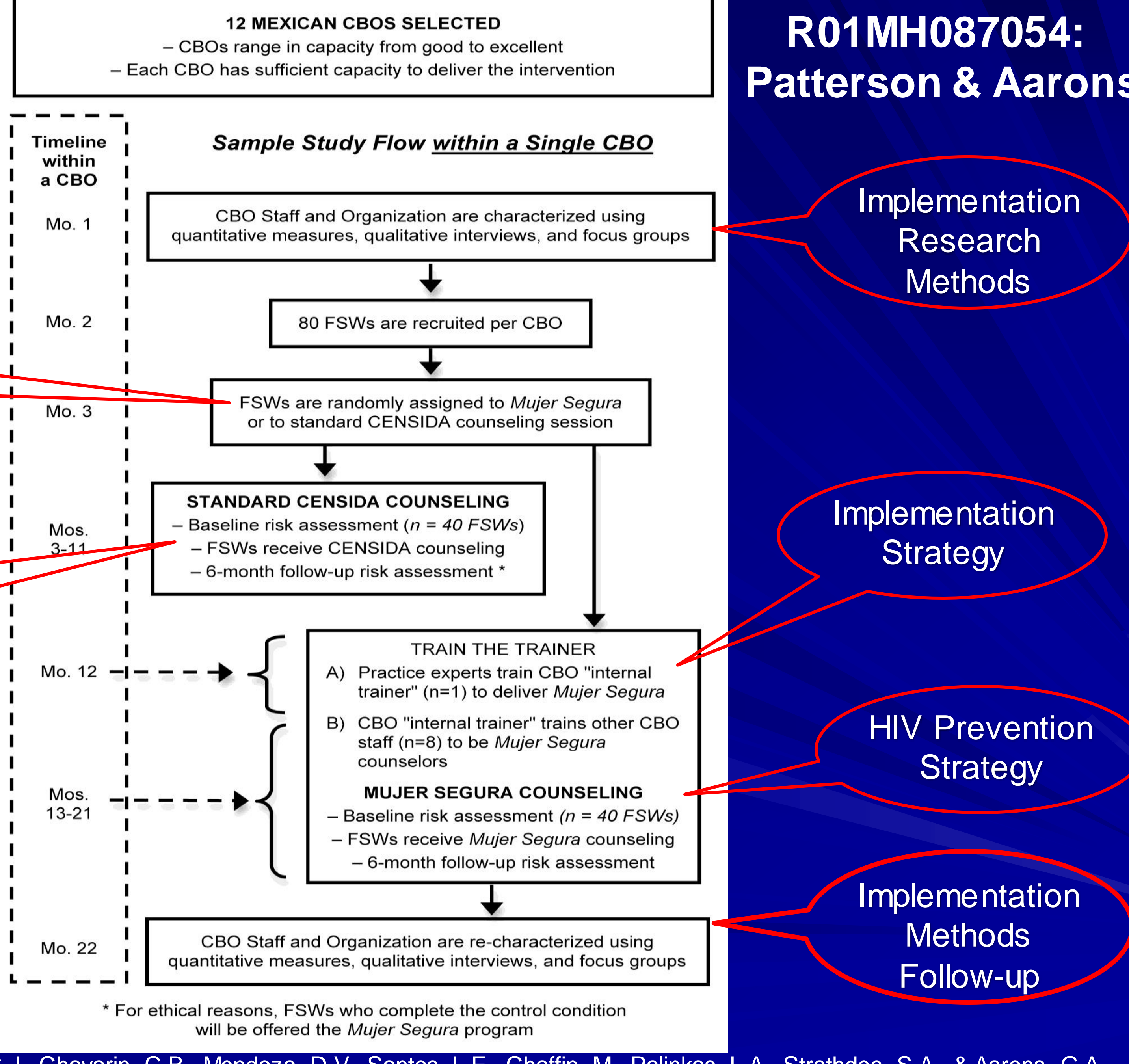
Hybrid Type 1 Design

R01MH087054: Patterson & Aarons

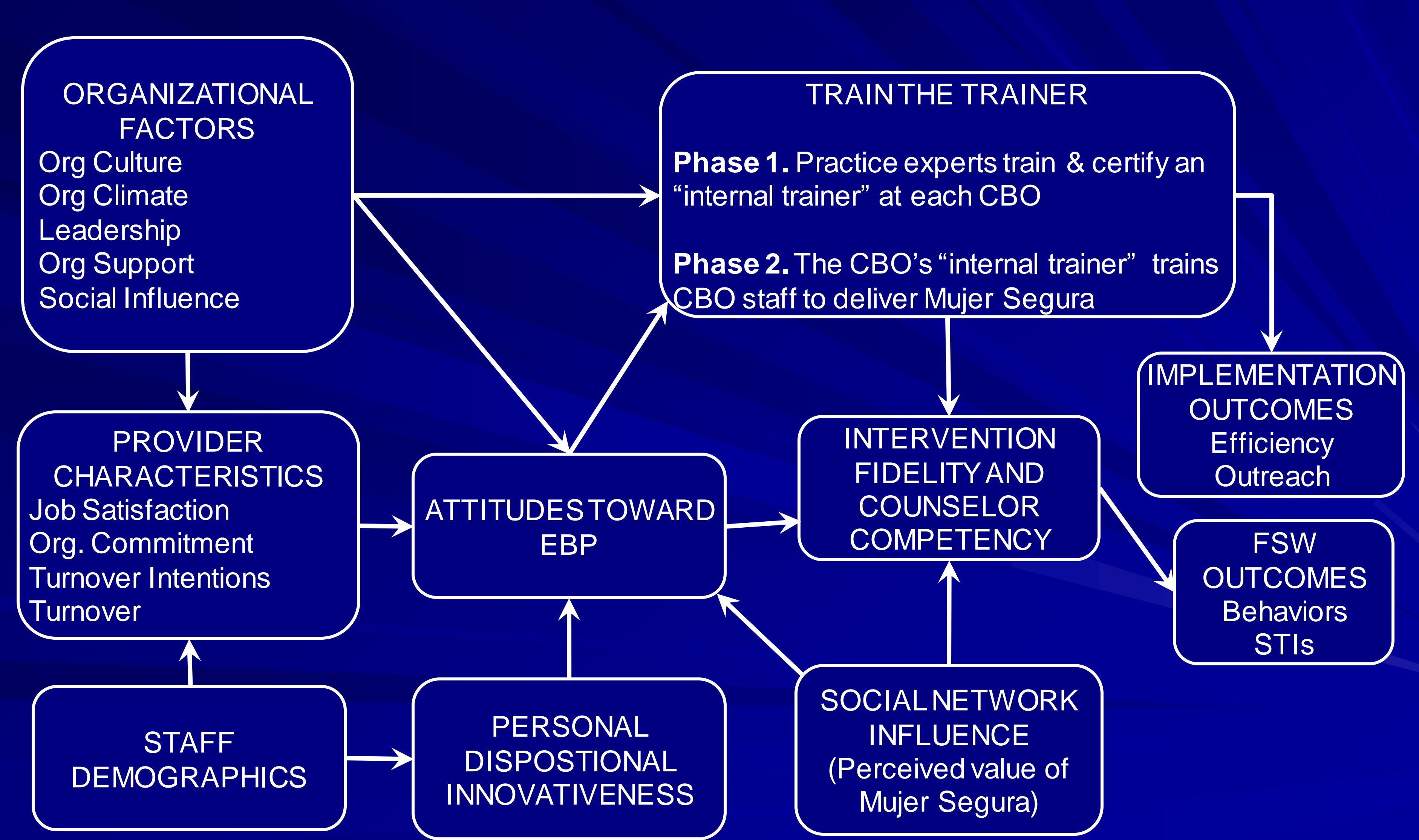


Effectiveness Trial Methods

HIV Prevention Control Condition

Source: Patterson, T.L., Semple, S.J., Chavarin, C.B., Mendoza, D.V., Santos, L.E., Chaffin, M., Palinkas, L.A., Strathdee, S.A., & Aarons, G.A. (2012). Implementation of an efficacious intervention for high risk women in Mexico: A study protocol. *Implementation Science*. 7:105

Figure 1. Mujer Segura Implementation Model: Organizational and Individual Factors Impacting training and Evidence-Based Intervention Attitudes, Fidelity, and Outcomes (Adapted from Aarons, 2005)



Cascading Models

- Address scale-up issues
- May have different hypotheses
  - e.g., may be interested in equivalence
    - Fidelity
    - Clinical outcomes

Cascading Dissemination of a Foster Parent Intervention

(NIMH Services Research Branch R01 MH60195)

Phase 1

Development of the intervention Oregon 3 County Study (*N* = 70)

Phase 2

Original developers train and supervise Cohort 1 Interventionists in San Diego (*n* = 508).

Phase 3

Cohort 1 Interventionists from San Diego train Cohort 2 Interventionists (*n* = 192).

Developers supervise Cohort 1's supervision of Cohort 2, but have no direct contact with Cohort 2 Interventionists.

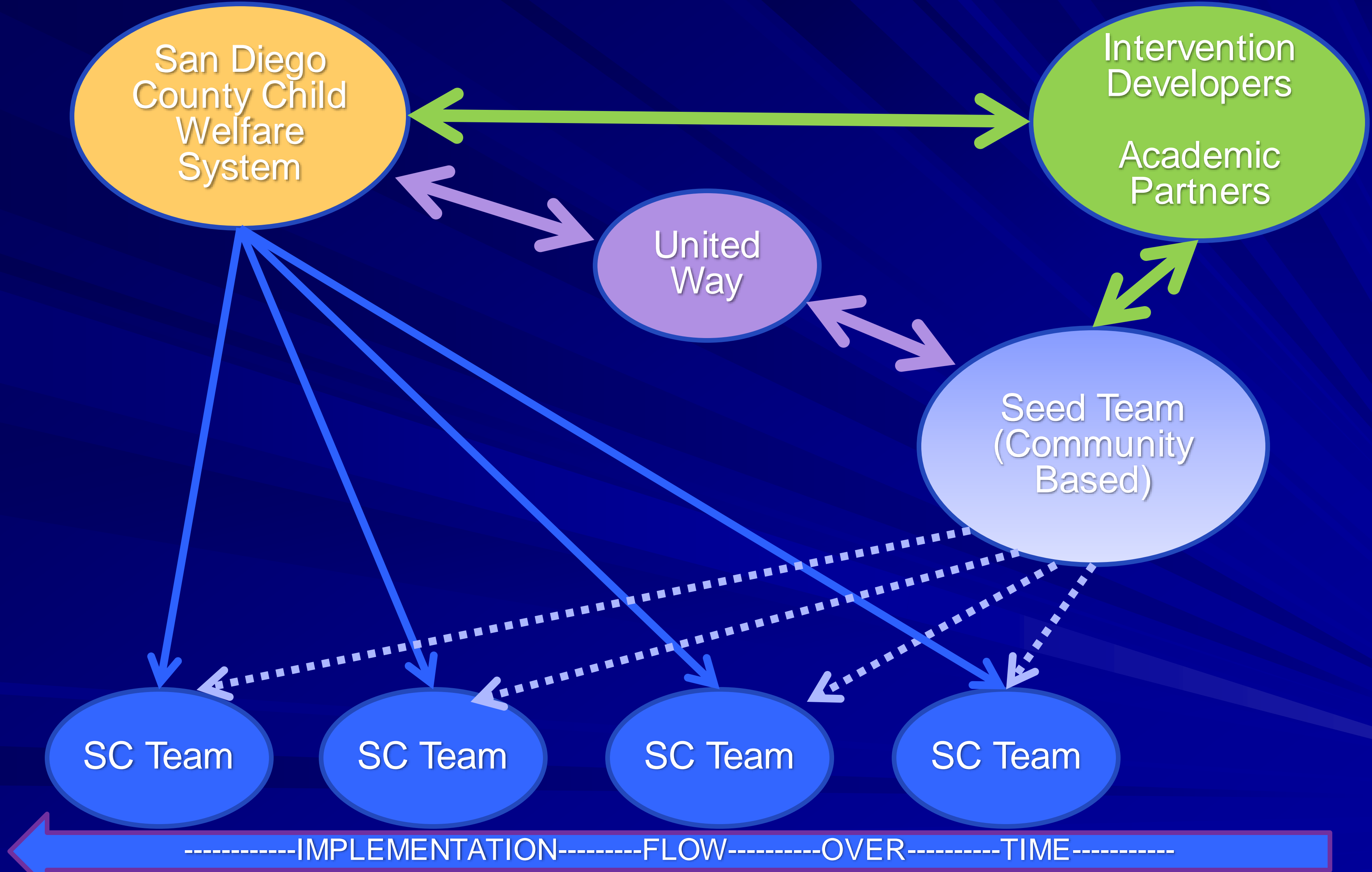
Price, J. M., Chamberlain, P., Landsverk, J., & Reid, J. (2009). KEEP foster-parent training intervention: Model description and effectiveness. *Child & Family Social Work, 14*(2), 233-242.

Cascading Implementation outcomes

- Baseline rates of behavior problems did not differ for phase 2 and phase 3 children.
- No differences between rates of child problems at treatment termination for phases 2 and 3.
- Assignment to the KEEP intervention group was associated with a significant decrease in child problems from baseline to termination
- No decrement in treatment effect when intervention developers pulled back and had the staff trained in phase 2 provide training and supervision for phase 3 interventionists.
- With proper training and ongoing supervision, KEEP can be transported to third generation interventionists not directly trained or supervised by the intervention developers.

Source: Chamberlain, P., Price, J., Reid, J., & Landsverk, J. (2008). Cascading implementation of a foster and kinship parent intervention. *Child Welfare: Journal of Policy, Practice, and Program, 87*(5), 27-48.

Interagency Collaborative Teams to Scale-Up Evidence-Based Practice (NIMH R01MH092950 Aarons & Hurlburt)



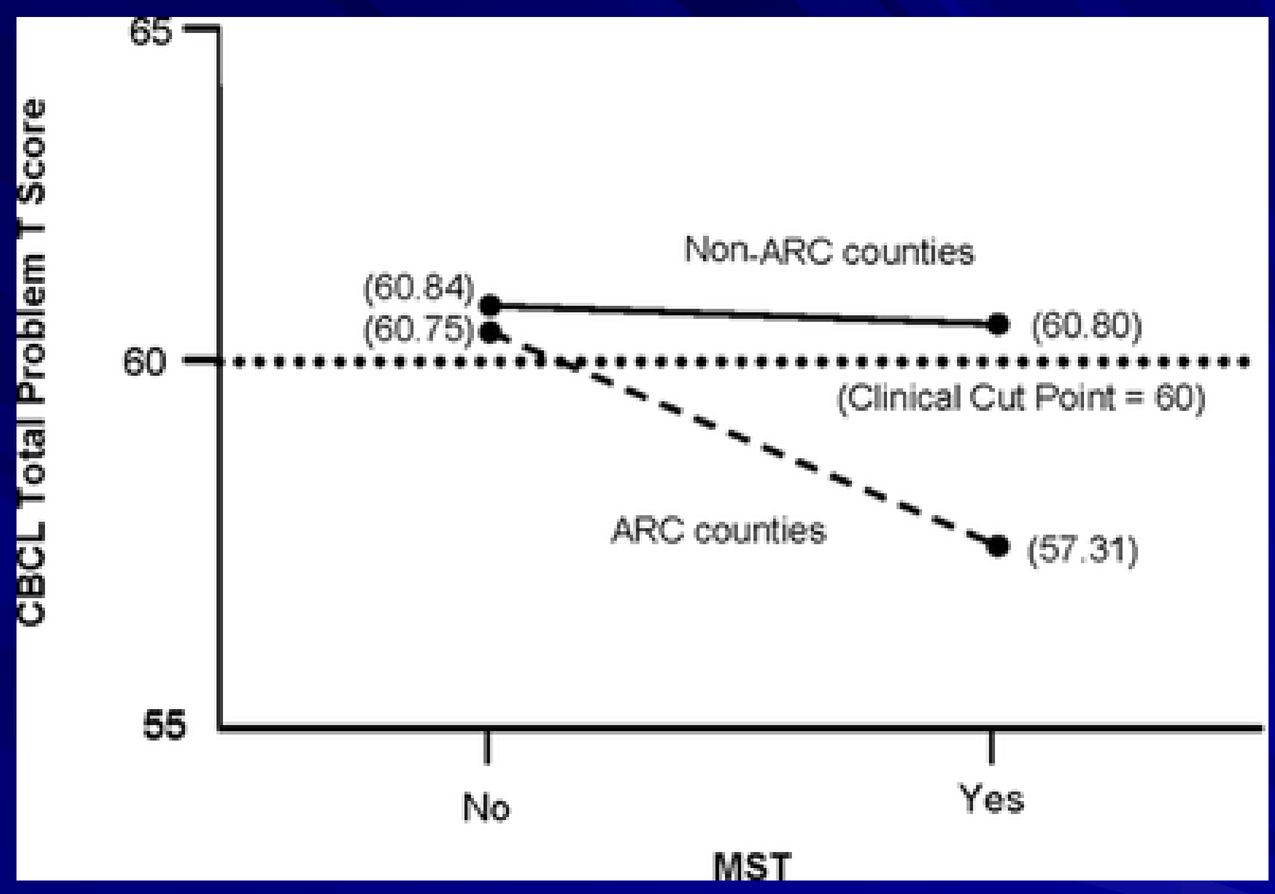
Source: Aarons, G. A., Hurlburt, M., Willging, C., Fettes, D., Gunderson, L., Chaffin, M., & Palinkas, L. (In press). Collaboration, Negotiation, and Coalescence for Interagency-Collaborative Teams to Scale-up Evidence-Based Practice. *Journal of Clinical Child and Adolescent Psychology.*

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.

ARC / MST Outcomes



- Significant reduction in out of home placements for ARC and MST separately (no interaction)
- Greater reduction in child behavior problems for ARC combined with MST
- Reductions in staff turnover
- No differences in adherence (coded tapes, client report, supervisor report)

Glisson, C., Schoenwald, S. K., Hemmelgarn, A., Green, P., Dukes, D., Armstrong, K. S., & Chapman, J. E. (2010). Randomized trial of MST and ARC in a two-level evidence-based treatment implementation strategy. *Journal of consulting and clinical psychology*, *78*(4), 537.

Adaptation

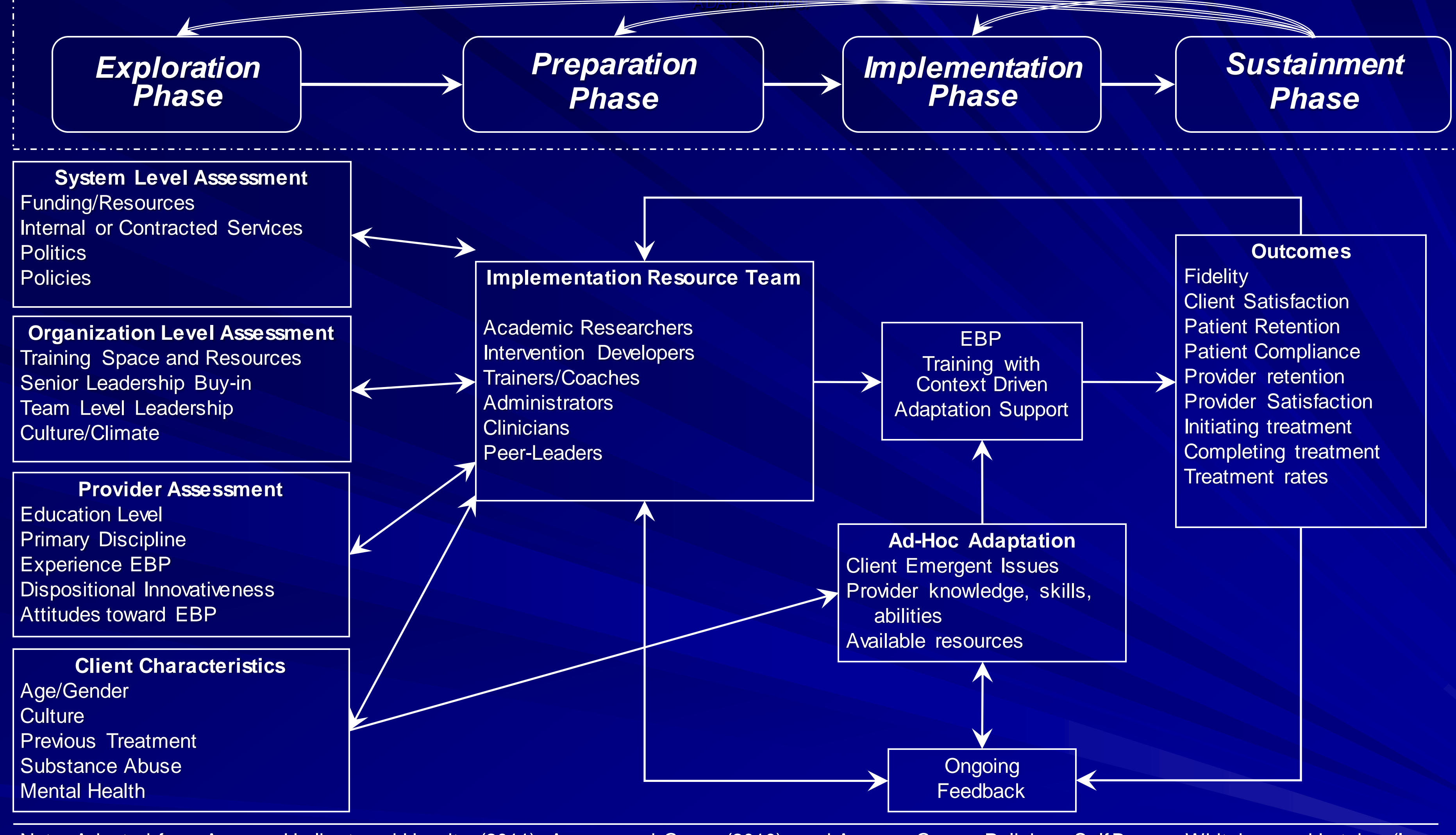
- How do local contexts need to adapt to be ready for EBP implementation?
- What types of adaptations may be needed to fit EBPs to local context?
- How can we conduct adaptation in a planned and efficient way keeping fidelity to EBP core elements?
- How can we use data feedback to support ongoing implementation and sustainment?
- What do we really need to know about system and organizational readiness to implement EBP prior to implementation?

Dynamic Adaptation to Implement an Evidence-Based Child Maltreatment Intervention

(CDC R01CE001556, PI: Aarons)

- Phased approach to implementing EBP
  - Allows for appropriate intervention adaptations
  - Allows system and organization adaptations
  - Minimize drift
- Pre-implementation assessment
  - System, organizations, provider, consumer
- Multi-stakeholder "implementation resource team"
- Ongoing outcomes and fidelity/satisfaction data feedback
- Data feedback to IRT and coaches
- Randomize multiple cohorts into ADAPTS vs. usual implementation

Aarons, G. A., Green, A. E., Palinkas, L. A., Self-Brown, S., Whitaker, D. J., Lutzker, J. R., ... & Chaffin, M. J. (2012). Dynamic adaptation process to implement an evidence-based child maltreatment intervention. *Implementation science*, *7*(32), 1-9.



Note: Adapted from Aarons, Hurlburt and Horwitz (2011), Aarons and Green (2010), and Aarons, Green, Palinkas, Self-Brown, Whitaker, and Lutzker (In preparation). The contents of boxes do not capture every contingency or issue, but contents are exemplars. The Implementation Resource Team and stakeholders collaborate to make system, organization, and intervention delivery adaptations without compromising core elements of an EBP.

Source: Aarons, G. A., Green, A. E., Palinkas, L. A., Self-Brown, S., Whitaker, D. J., Lutzker, J. R., ... & Chaffin, M. J. (2012). Dynamic adaptation process to implement an evidence-based child maltreatment intervention. *Implementation science*, *7*(32), 1-9.

Where to from Here?

- Research designs and methods should match research questions of interest
- Formative work may need qualitative or mixed-methods
- Are questions primarily about treatment outcomes or implementation outcomes?
- Consider at what levels (system, organization, client) key questions are posed
- Explore which implementation framework best encompasses your service/research context

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