

Evidence-Based Practice Implementation in a Child-Welfare System of Care: Examination of a Statewide System Change

Gregory A. Aarons, Ph.D., Danielle Fettes, M.A.
University of California, San Diego – Department of Psychiatry
Child & Adolescent Services Research Center

Lawrence Palinkas Ph.D.
University of Southern California
Departments of Social Work, Anthropology, & Preventive Medicine
Child & Adolescent Services Research Center

Amy Goldstein, Ph.D.
National Institute of Mental Health

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- Oklahoma Department of Mental Health and Substance Abuse Services
- Eastern Oklahoma Youth Services; Family & Children's Services; North Care Center

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- NIMH R01MH072961 (PI: Aarons) Mixed-Methods Study of a Statewide EBP Implementation
- NIMH R01MH065667 (PI: Chaffin) Effectiveness Trial Project SafeCare for Child Neglect

■ Academic Partners

- UCSD, SDSU, OUHSC, USC, Emory

What We'll Cover

- Greg Aarons
 - Overview
 - Child Maltreatment Intervention – SafeCare®
 - SafeCare® Effectiveness Study
 - Implementation Study:
 - Mixed-Methods study of Statewide EBP Implementation

- Danielle Fettes
 - Using Mixed-Methods for Studying Evidence-Based Practice Implementation

- Lawrence Palinkas
 - Implementation research findings
 - Quantitative
 - Qualitative

- Amy Goldstein
 - Discussant



It takes **17 years** to turn **14 per cent** of original research to the benefit of patient care

The Intervention: SafeCare®

- **Three parent training modules**
 - Parent-Child/Parent-Infant Interactions
 - Home Safety
 - Infant and Child Health Care

- **Core components within all training modules:**
 - Communication
 - Problem Solving

- **All SafeCare® services are provided *in the home***
 - SafeCare® services have never been provided in a clinic

- **Studies support SafeCare® effectiveness**
 - Single Case
 - Observational/Quasi-Experimental
 - Site Randomized (currently under way)

- **More info about SafeCare®**
 - <http://www.marcus.org/treatment/safecare.html>

The Intervention: SafeCare®

■ Infant and Child Health Module

- Train parents to use health reference materials
 - Prevent illness, identify symptoms of illnesses/injuries, provide or seek appropriate treatment by following steps of a task analysis.
 - Quizzes assess knowledge of basic health care information.
 - Role-play health scenarios and decide whether to treat the child at home, call a medical provider, or seek emergency treatment.
- Validated health manual
 - Symptom guide, planning/prevention, caring for a child at home, calling a physician/nurse, and emergency care.
 - Health recording charts and basic health supplies (e.g., thermometer).

■ Home Safety Module

- Identification and elimination of safety and health hazards
 - Go through home with parents to identify and address issues
- Assessment tools
 - Home Accident Prevention Inventory- Revised Parts I & 2 (HAPI R I& II)

■ Parent-Child Interactions Module

- **Train parents in appropriate interaction with children**
 - Parent-infant (birth-10month) and parent-child interactions (8-10 months to 5 years)
 - Teach parents to provide engaging and stimulation activities, increase positive interactions between parents and their children, and prevent child behavior problems.
- **Planned Activities Training Checklist (PAT).**
 - Observe 5-10 minutes of play or daily routine and code for certain behaviors.
 - Positive behaviors are reinforced and problematic behaviors are addressed and modified. Providers teach parents to use PAT checklists to help structure their activities.

Effectiveness Trial Project SafeCare for Child Neglect (PI: Chaffin)

- **Statewide in Oklahoma**
- **Randomized by Region**
- **Collaboration of:**
 - Oklahoma State Office of Children's Services
 - Agency Directors
 - Academic Researchers
- **Longitudinal**
- **Primary Outcomes**
 - Recidivism
 - Collected on ongoing basis
 - Child Well-Being
 - 3 Waves of data collection

Implementation Process

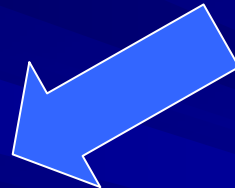
Phase I—Outcome eval

- Establish evaluation-provider collaboration
- Data collection habit



Phase II—Policy Planning

- Planning with DHS
- Feedback from providers
- Feedback to providers



Phase III--Dissemination

- Mutually agreed evidence based model
- Implement statewide controlled trial

- Governing Board: DHS, providers agency directors, OUHSC, external members
- Consultation from model developers
- Planning for future directions is collaborative
- As data accrues, board has direct input into questions are asked of data, new types of data
- Funding includes state dollars and federal grant dollars

Effectiveness Trial Project SafeCare® Study Design

- 2 X 2 Design evaluating effects on recidivism:
 - 1) EBP
 - 2) Fidelity Monitoring
 - 3) Interaction of EBP and Fidelity Monitoring

| | |
|-------------------------------|-------------------------------------|
| SafeCare Monitored/Coached | SafeCare Unmonitored |
| Usual Services Unmonitored | Usual Services Monitored/Coached |

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

- Focus on organizational issues and implementation process
- Builds on SafeCare® effectiveness study
- Organization and staff factors that influence implementation
- Impact of implementation on organizations and staff

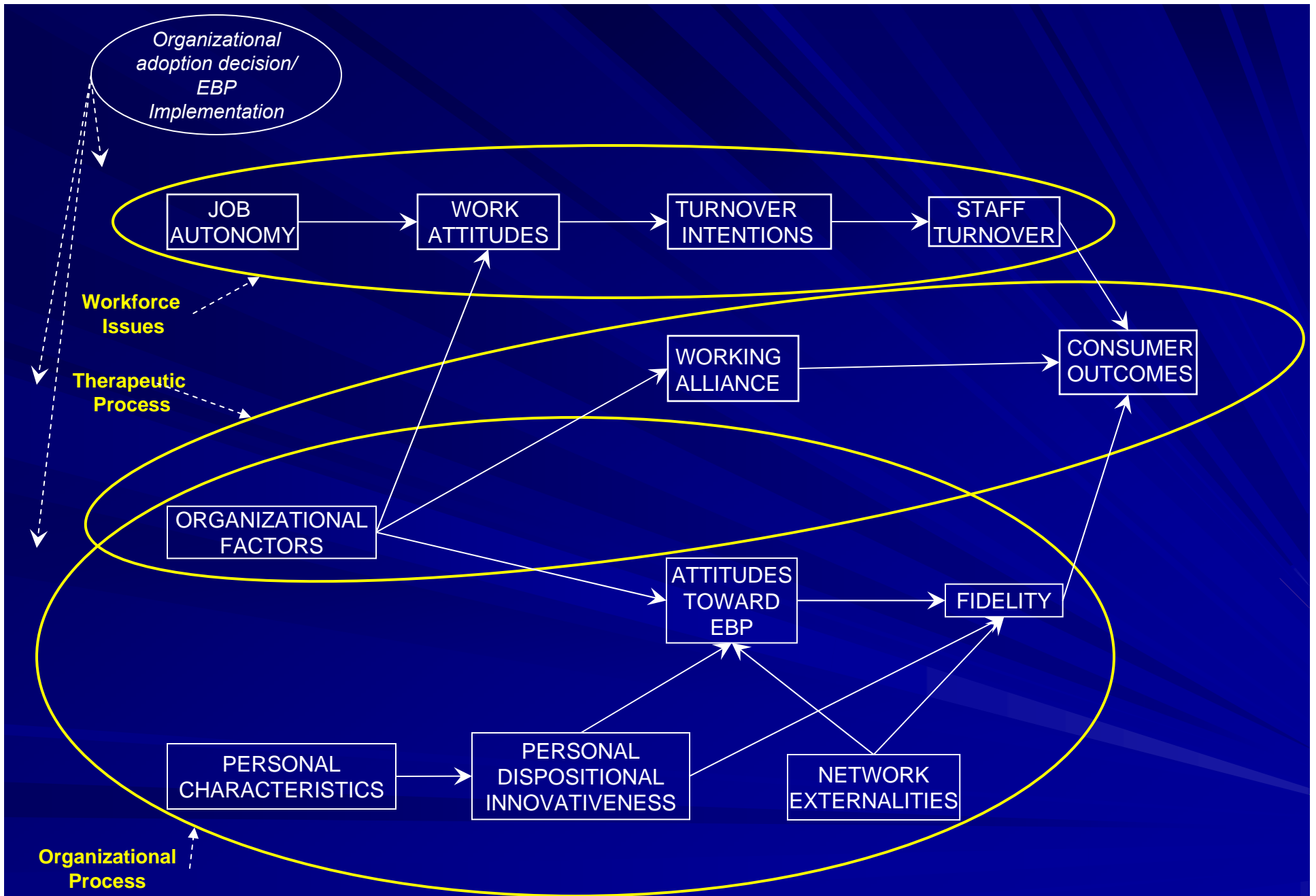


Figure 1. Integrative Model for Study of Implementation of EBP in Human Service Organizations. (Adapted from Aarons, Woodbridge, & Carmazzi, 2003; Frambach & Schillewaert, 2002; Knudsen, Johnson, & Roman, 2002); Note: SC-ES=SafeCare Effectiveness Study

Mixed-Methods Implementation Study

■ Mixed-Methods

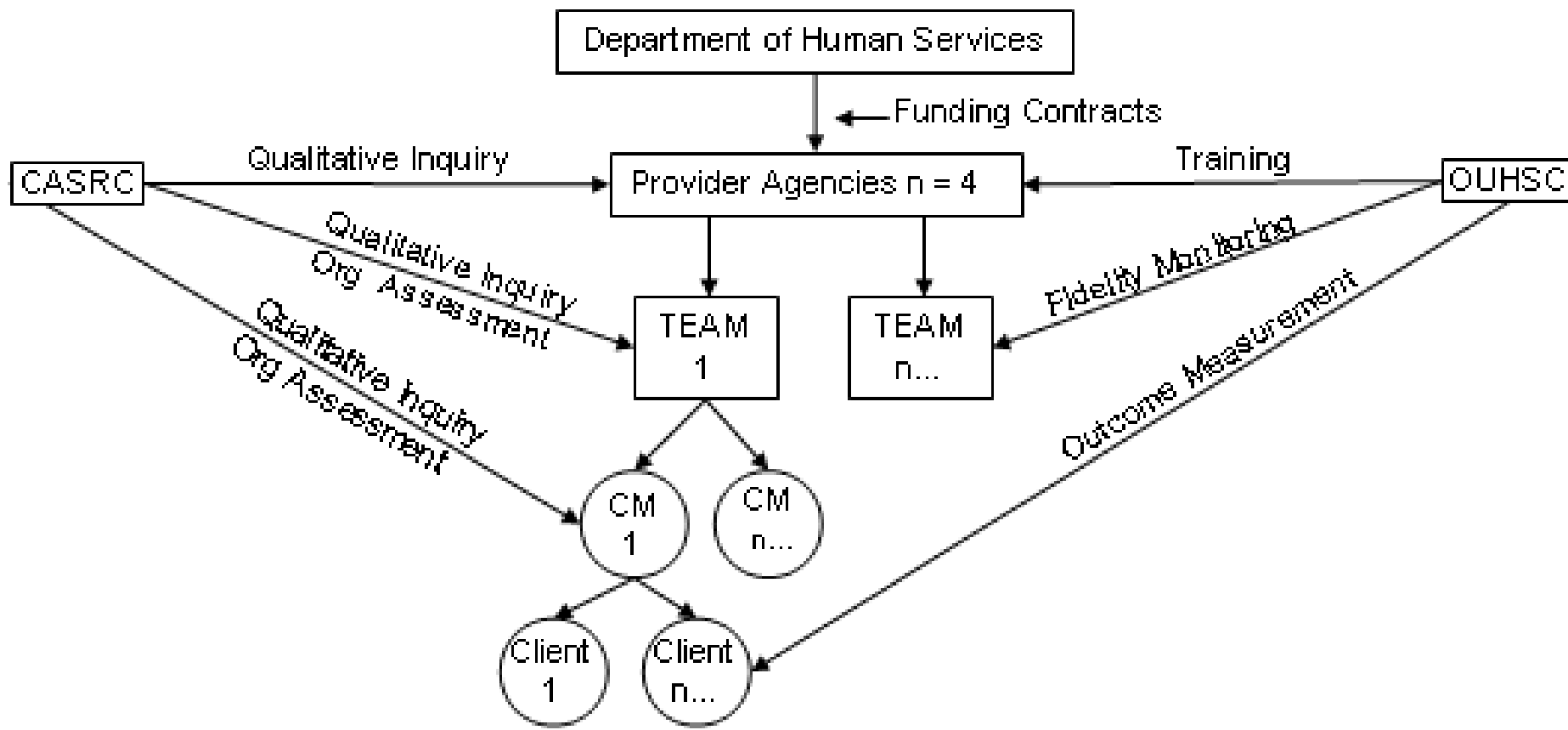
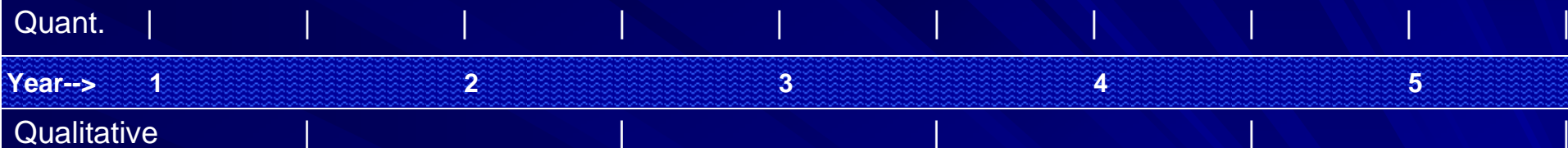
– Quantitative

- Web-based survey
- Longitudinal
- Questions based on theoretical model
 - Organizational
 - Individual provider
 - Interactions of implementation, organization, and provider

– Qualitative

- Interviews
- Focus groups
- Observations

Mixed-Methods Study of a Statewide EBP Implementation Timeline and Design



Implementation Study Participants

■ Comprehensive Home-Based Service Providers

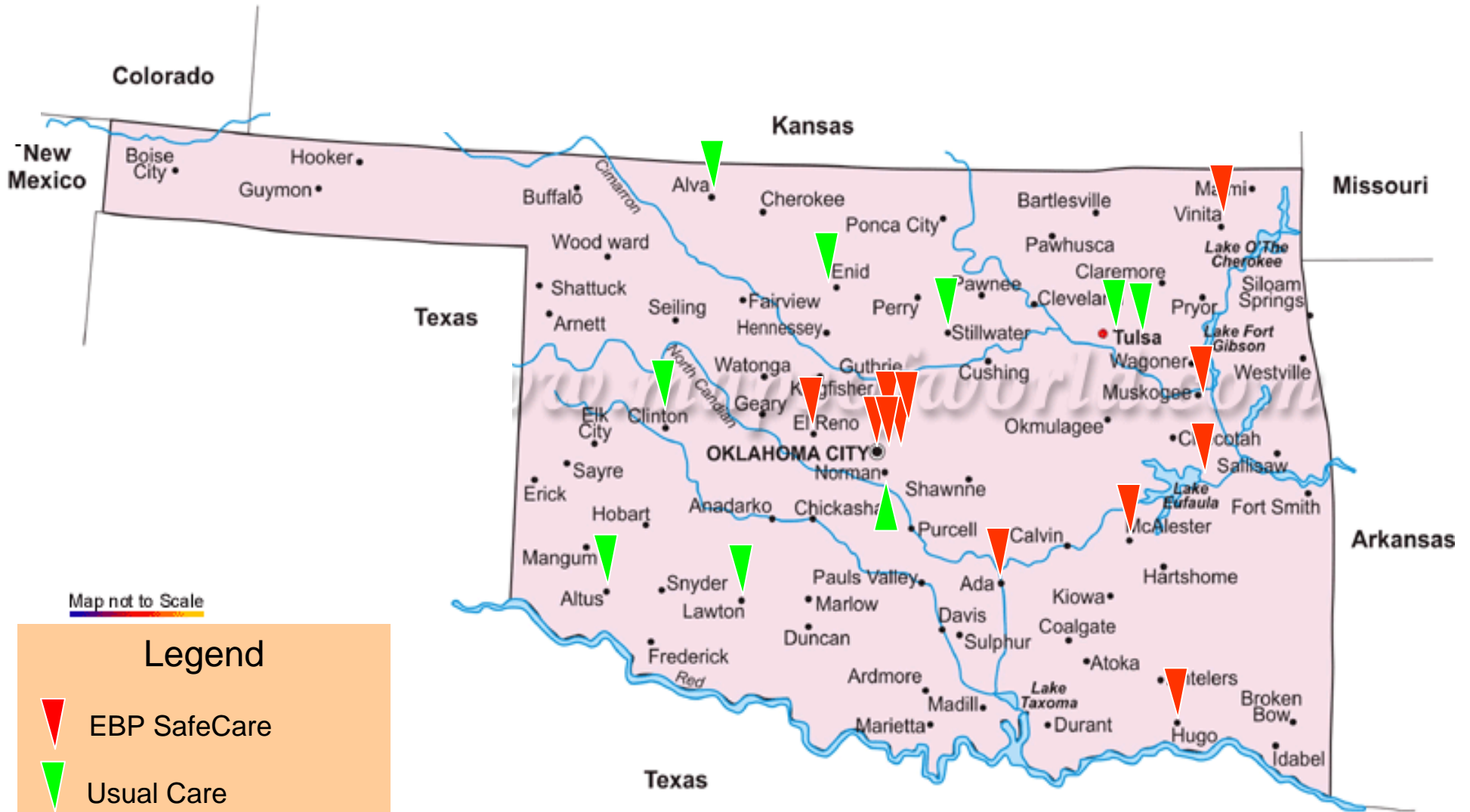
- Approximately 120 Providers per wave
- Contract agency providers
- Urban 39.2%, Rural 60.8%
- Gender
 - 85.6% female
- Race/Ethnicity
 - 63.4% Caucasian/non-Hispanic
 - 19% American Indian
 - 19.6% African-American
 - 7% Hispanic/Latino
- Education
 - HS = 0.7%
 - BA = 42.1%
 - Some Grad = 25.7%
 - MA = 31.6%
- Age = 36.84 (10.23) years
- Job Tenure = 2.6 (3.1) years

■ State Population Demographics

- Gender
 - 50% Female
- Race/Ethnicity
 - 78.3% Caucasian
 - 8% American Indian
 - 7.8% African American
 - 6.9 Hispanic/Latino
- Education
 - 80.6% High school graduate
 - 20.3% BA degree or higher

Mixed-Methods Implementation Study

NIMH 5R01MH072961 (PI: Arons)



Map not to Scale

Legend

- EBP SafeCare
- Usual Care

Using Mixed-Methods for Studying Evidence-Based Practice Implementation

Danielle L. Fettes, M.A., Gregory A. Aarons, Ph.D.
University of California, San Diego – Department of Psychiatry
Child & Adolescent Services Research Center

Lawrence Palinkas Ph.D.
University of Southern California
Departments of Social Work, Anthropology, & Preventive Medicine
Child & Adolescent Services Research Center

In this presentation ...

- How mixed-methods research is appropriate for studying EBP implementation in systems of care
- Overview of mixed-methods approach
- Specifics of conducting mixed-method research in a statewide implementation study

Mixed Method Frameworks Offer A Unique Approach to Community-Based Research

- NIMH *Blueprint for Change* (2001)
 - Dissemination and implementation science to understand how to best position and sustain effective services in communities and identify factors that impede this positioning
- Mixed method research allows for adaptations that increase fit between the EBP and an organization/community

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 Studies Allow You to Research Implementation Here ...



... AND Here ...



And Capture the Many Complexities of EBP Implementation

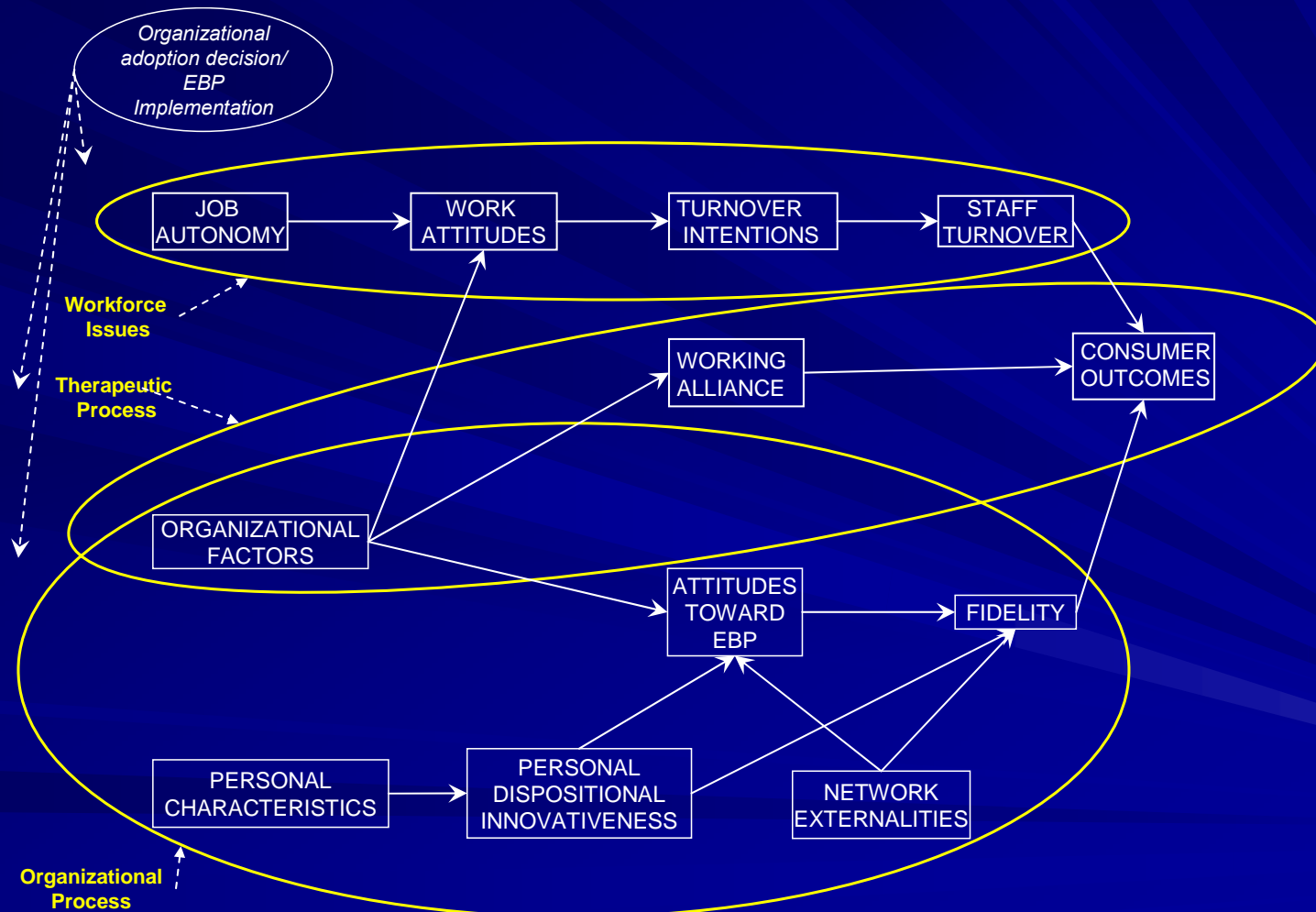


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Mixed Methods Implementation Studies Incorporate Several Component Features

- Corroboration of findings (i.e. triangulation)
- Complementarity of assessments and methods
- Expansion based on initial findings

Triangulation Uses Multiple Methods to Strengthen the Validity of Results

- Corroboration of findings
 - Especially important when small sample size limits statistical power to test hypotheses.
- Convergence
 - Do different methods provide similar answers to the same question?
- For example: What role does leadership play in EBP implementation?

Complementarity Addresses Overlapping Facets of the Same Phenomenon

- Qualitative → exploratory questions
- Quantitative → confirmatory questions

- Qualitative → depth of understanding
- Quantitative → breadth of understanding

- For example: How does EBP implementation affect employee turnover?

Expansion Designs Use Mixed-Methods for Different Inquiry Components

- Qualitative findings used to **expand** the depth of understanding of issues addressed in quantitative approach
 - Has the quantitative study identified all relevant variables?
- Quantitative findings used to **expand** the breadth of understanding of issues addressed in a qualitative approach
 - How generalizable are results of the qualitative study?
- Example query: What factors of EBP implementation influence therapeutic alliance?

SO ... How We Used Mixed Methods to Study a Statewide EBP Implementation

- Quantitative: longitudinal, web-based survey
 - Participants:
 - Agency directors, clinical supervisors, case managers
 - N~120, per wave
 - Bi-annual survey
 - > 95% completion rate across six waves of data collection
 - Questions based on theoretical model
 - Organizational culture and climate
 - Leadership
 - Provider attitudes toward evidence-based practice

- Analyses control for nested study design

Qualitative Data Collection, 2005: Interviews with Case Managers

■ One-on-One Interviews

– Participants:

- Clinical case managers (n=15)

– Structure: Semi-structured using interview guide

– Issues

- Knowledge, attitudes and behavior (use) of the SC model
- Fidelity to or adaptation of the SC model in practice
- Factors that facilitated or impeded use of SC
- Likelihood of using SC at completion of study

Qualitative Data Collection, 2006: Interviews with Upper-level Management

■ One-on-One Interviews

– Participants:

- Agency directors and clinical supervisors (n=12)

– Structure: Semi-structured using interview guide

– Issues

■ Experience with SC

- Agencies implementing SC
- Agencies performing usual care (UC)
- Relationships between agencies and OU investigators

■ Experience in using SC and other EBPs

■ Impact of SC on agency and staff

■ Requirements for implementation of SC

■ Requirements for sustainability of SC and other EBPs after conclusion of trial.

Qualitative Data Collection, 2007: A Tour of Oklahoma

■ One-on-One Interviews

- Participants:
 - Clinical supervisors (n=21)
 - Structure: Semi-structured using interview guide
- Issues
 - Agency changes since SC implementation
 - EBP adaptation

■ Focus Groups

- Participants:
 - Clinical case managers (n=95)
 - Structure: Semi-structured using interview guide
- Issues
 - Experience with SC
 - Agencies implementing SC
 - Agencies performing usual care (UC)
 - Consultation
 - Team climate

In the EBP Implementation Study, the Mixed-Methods are Truly Integrated

1. Simultaneous use of quantitative and qualitative methods.
2. Quantitative analysis to inform the qualitative data
3. Qualitative data to inform quantitative measurements
4. Annual meeting with multiple stakeholders to review both quantitative and qualitative results

“Improved dissemination and deployment of research should be a main goal of system reform so that the investment in research is truly extended to children in the United States who need effective treatment and their families.”

NIMH Blueprint for Change - 2001

Evidence-Based Practice Implementation in a Child-Welfare System of Care: Employee Turnover, Therapeutic Alliance, and Leadership

Lawrence Palinkas Ph.D.

University of Southern California

Departments of Social Work, Anthropology, & Preventive Medicine
Child & Adolescent Services Research Center

Gregory A. Aarons, Ph.D., Danielle Fettes, M.A.

University of California, San Diego – Department of Psychiatry
Child & Adolescent Services Research Center

Employee Turnover

- A significant problem for human service organizations
- One goal of this study is to:
 - Examine the relationship between implementation of an evidence-based practice and employee turnover
- Hypotheses
 - Implementing EBP will be associated with a *greater likelihood* of leaving the agency
 - Receiving ongoing monitoring will be associated with a *greater likelihood* of leaving the agency
 - Implementing the EBP AND receiving ongoing monitoring will be associated with the *greatest likelihood* of leaving the agency

CCM perspective on resistance to EBP implementation and turnover

- Having to learn new skills and dissatisfaction with SC or with being monitored may have contributed to some of the older CCMs to quit their jobs.
- Learning skills like SC were motivations to stay with current employers.

- *“...EB is inefficient because you’re so busy trying to do it [the trainer’s] way. Because [my trainer] goes off and reports and he tells people. He writes e-mails to the big hot dogs at [my agency]. And you don’t want that. Because you want to keep your job. And so I don’t know if it’s having a trainer or if it’s that particular one...”*
- *“And the CCM’s that I see having a problem adapting; actually the ones that have the trouble adapting were excellent case managers, but they have a style that’s pretty free flowing and they just aren’t adjusting as well as you would like to see them.”*
- *“I mean if they don’t all succeed and I never, ever am going to expect that they all succeed, because you have those that are not just to do it and work at it successfully. But when you see the percentage of them that do succeed is so much higher than those that don’t, it really makes it worth it. And that’s the whole goal for me with my families is for them to succeed.”*

Agency/program director perspective on resistance to EBP implementation and turnover

- Implementation of EBPs helps to recruit and retain new staff.
- Learning new skills like SC might inspire CCMs to seek higher paying jobs elsewhere.

- *“Some of the staff that were initially resistant in the beginning aren’t even with us anymore.”*
- *“...its like any kind of change within, you know, staff. There’s gonna be some resistance. But I feel like, well, as evidenced from our turnover. We have very little turnover here. And, you know, if they weren’t happy, they wouldn’t stay.”*
- *“It is helping recruit and retain good staff to recognize that, wow, [agency] is the place where you can go and get trained in the latest evidence-based practices and have good support, good supervision, and that sort of is part of our goal is to be recognized for that”*

Impact of EBP Implementation and Fidelity Monitoring on Staff Turnover

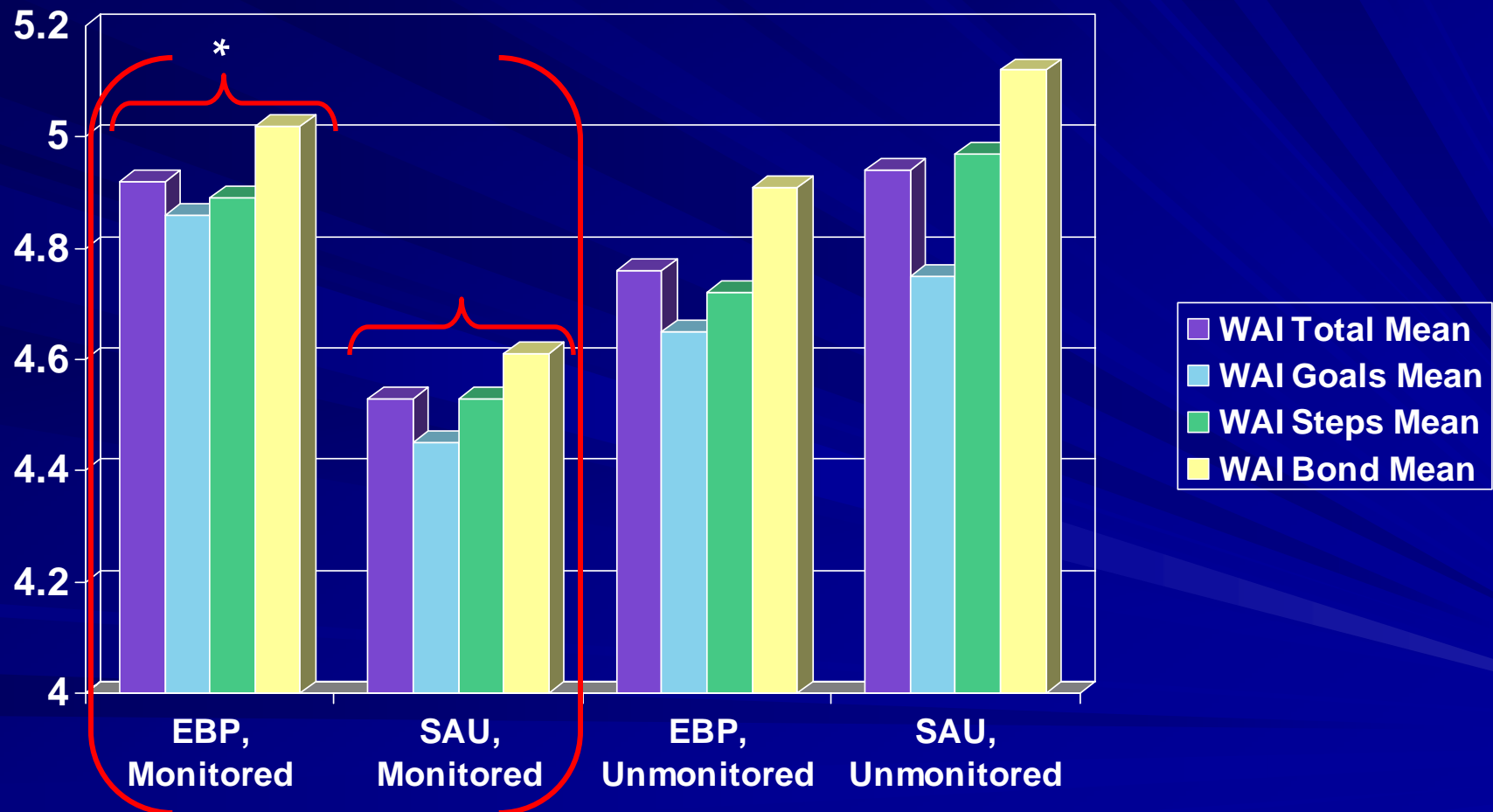
Average Annualized Turnover Wave1 - Wave4 by Condition Consultant

| | | No | Yes |
|-----|-----|-------|--------|
| EBP | No | 33.6% | 36.6% |
| | Yes | 29.0% | 16.4%* |

Therapeutic Alliance

- The Working Alliance Inventory was developed to assess therapeutic alliance and was adapted for this study. It has three subscales:
 - Goals: The extent to which the client and case manager agree on the goals of treatment
 - Steps: The extent to which a client and case manager agree on how to achieve these goals
 - Bond: The strength of the personal bond between client and case manager
- Hypotheses:
 - Goals and Steps scores will be higher in the EBP condition
(Due to increased structure of EBP)
 - Bond scores will be lower in the monitored condition
(Due to having an observer visiting the home)

Working Alliance Inventory (WAI) Outcomes Relative To EBP and Monitoring



EBP = Evidence-Based Practice; SAU = Services As Usual

WAI Range = 0 to 6; * $p < .05$

Impact on SC on Therapeutic Alliance with Family

■ Negative impacts

- Interferes with dealing with more immediate problems.
- Not appropriate for families with older children.
- Family concern with trainer's presence.

- *“I mean, it's kind of a requirement that we use it and do it. You know, we do run into problems sometimes where we may go into the family, the families' homes and they have other issues. I mean, we have to find a job immediately, or we have to find housing immediately, and so we're addressing those issues first.”*
- *“And I know that I can't say that it works on all families. There are families that are, you know, I just got through with one and she was biting her tongue until I was out of her home. But there are some things that really caught her attention...”*
- *“It's been difficult for me. Like I said, I can get the consistency down, and some of the parents look at you like you're crazy, because we know how to raise our children, and we don't need you down here to help us do this or that. But so far, it's been productive in probably, I'd say, 80 percent of the cases.”*

Impact on SC on Therapeutic Alliance with Family

■ Positive impacts

- Provides structure to CCM-family relationship.
- Positive outcomes
- Fit with usual duties/tasks/issues
- Fit with own experience as parent
- Family satisfaction

- *“...It’s probably more focused. It’s more refined. I think in all things that we do, we get better at them...”*
- *“... And now it works, you continue to do it. I mean it’s required anyway. But when you see the results of how it works it makes you want to continue to do it...”*
- *“... I think I’ve always done it. It just hasn’t always had a name or a paperwork to go with it...”*
- *“... Well, if it worked for me, it can work for them. That’s the way I figured...”*

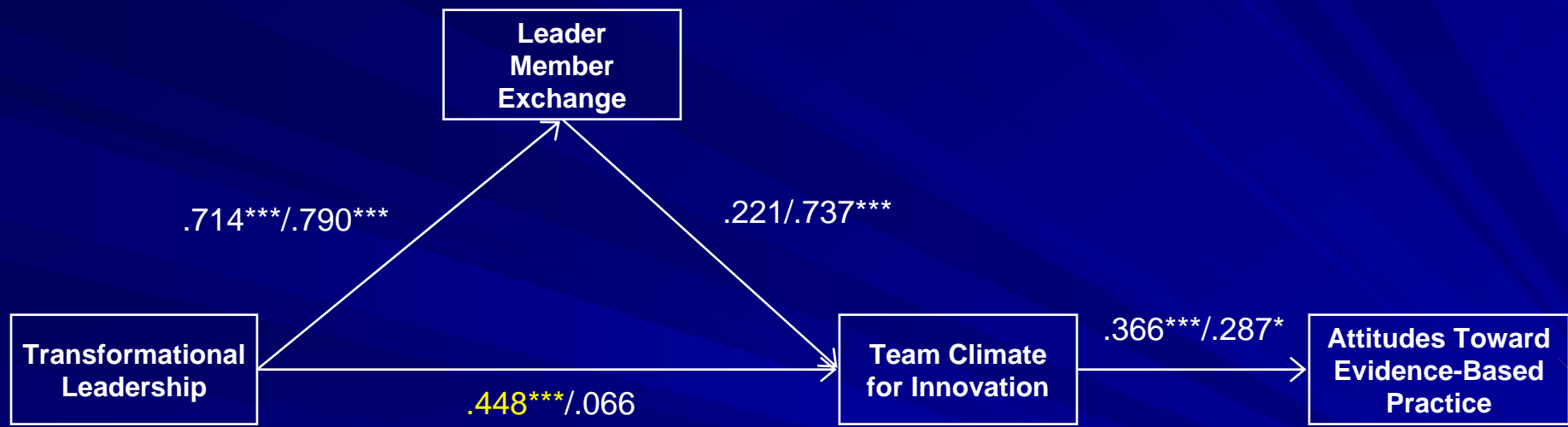
Transformational Leadership, Team Climate for Innovation, and Staff Attitudes toward Evidence-Based Practice

- Public sector mental health and social service settings often use a team structure;
 - however the functioning of the team structure is understudied
- The impact of leadership on followers have examined leader member exchange (LMX) as a mediator of leadership on team functioning.
- Transformational leadership (TFL) is associated with more positive attitudes toward adopting EBP's but mediation of LMX has not been studied.

Hypotheses

- More positive transformational Leadership (TFL) will lead to better team climate for innovation.
- The effect of leadership on team climate for innovation will be mediated by leader-member exchange
- More positive team climate for innovation will in turn be associated with more positive staff attitudes toward adopting EBP's
- Leadership effects will be more salient during the EBP implementation process when leadership plays a more prominent role in organizational change

Impact of Transformational Leadership and Leader-Member Exchange on Team Climate for Innovation and Attitudes Toward Evidence-Based Practice



(1) Better Leadership has a direct effect on Team Climate for Innovation during active implementation and (2) an indirect effect at other times. (3) Team Climate for Innovation is associated with more positive staff attitudes toward EBP in both conditions.

Figure 1. Multigroup Path Analysis Note: **Implementing SafeCare® / SAU**
 $\chi^2(4)=4.174$; $p=.382$; CFI=.999, TLI=.996, RMSEA=0.028, SRMR=0.053;
* $p<.05$, ** $p<.01$, *** $p<.001$

CCM perspective on transformational leadership and EBP implementation

- Support for change
- Support from supervisor
- Support from trainer
- Staff morale

- *“...[My supervisor] is always keeping up. Where are you on it? Did you do the health medical? And he believes that it's a good program...”*
- *“Yeah, I mean I would say it (support from leadership) influenced me, because he is supportive of it and he thinks that it is a good model to go by. So I am supportive of it also.”*
- *“...yeah, I think [the trainers], all the people I work with believe in it. And I think that's very important...”*

Agency/program director perspective on transformational leadership and EBP implementation

- High motivation/low resistance
 - State contract
 - Being part of a research project
 - Consistent with organizational culture of agency
 - Marketing tool in recruiting new staff
 - Openness to innovation
- Reinforcing agency policy to staff
- Monitoring progress and performance through supervision
- Having a long-range plan for sustainability

- *“And more than anything else in the beginning it was wanting it and trying to convince staff that it was good. It was a good thing, that number one we were happy to be doing it, and number two, it was something that we needed to get behind and actually buy into it. Initially that was a little bit of a struggle, so it was, kind of a, almost a cheerleader for the program at the beginning.”*
- *“I think it comes from the supervisor. That’s where it’s driven. It’s what the supervisor is focusing on, week to week in staffing.”*
- *“We paid very close attention when the folks at OU told about getting buy-in from the therapists and the agency. This is why we picked therapists that we know to be very open to learning. We see that as key to our success. Otherwise you would have more resistance on the part of the staff.”*

Conclusion

- Types of mixed methods
 - Quantitative and qualitative
 - CCMs and Agency/Program Directors
- Use of mixed methods
 - Confirmation through triangulation
 - Transformational leadership
 - Complementarity by selective focus
 - Therapeutic alliance
 - Expansion by elaborating on context
 - Turnover

Thank you and Questions?

