Presentation Objectives

• Describe research on three interrelated facets of EBP implementation
  – Provider social networks
  – Cultural exchange between researchers and practitioners
  – Use of research evidence
• Focus on EBP implementation in public youth-serving systems
  – Child welfare
  – Specialty child mental health
  – Juvenile justice
• Illustrate use of mixed method designs in implementation research
What are Mixed Methods?

• A methodology that focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies.

• Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone.

(Cresswell & Plano Clark, 2007)
Mixed Method Designs

• **Combine** the qualitative and quantitative approaches into the research methodology of a single study or multi-phased study.
  – Not merely parallel play
  – A model of and for interdisciplinary research

• Simultaneously answer confirmatory and exploratory questions, and therefore verify and generate theory in the same study (Teddlie & Tashakkori, 2003).
Reasons for using mixed method designs in intervention research

• Quantitative methods to measure intervention and/or implementation outcomes and qualitative methods to measure process.
• Qualitative methods to explore a phenomenon and generate a conceptual model along with testable hypotheses and quantitative methods to confirm the validity of the model by testing the hypotheses.
• Quantitative methods to examine intervention content and qualitative methods to examine context.
• Quantitative methods to incorporate research perspectives and qualitative methods to incorporate consumer perspectives into research.
• Use one set of methods to address limitations of the other.
Social Networks and Implementation of Evidence-Based Practice in Public Youth-Serving Systems

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University of Southern California
Co-PI: Patricia Chamberlain, Ph.D.
Oregon Social Learning Center

Funded by the William T. Grant Foundation, #9493
Background

- Interpersonal contacts within and between organizations and communities are important influences on the adoption of new behaviors (Rogers, 2003; Palinkas, Allred, & Landsverk, 2005; Brekke, Ell, & Palinkas, 2007).

- Both the influence of trusted others in one’s personal network and having access and exposure to external information are important influences on rates of adoption of innovative practices (Valente, 2010; Valente et al., 2007; Valente et al., 2011).
The CAL-OH Study

• Objective: Determine whether community development teams (CDTs) are more effective than services as usual in “scaling up” implementation of MTFC
  – MTFC: EBP for youth who otherwise would be in congregate care and are placed in well supported foster homes
  – CDTs: Key stakeholders from multiple levels (system leaders, organizations/agencies, practitioners, consumers) who are provided with peer-to-peer exchanges, Locally informed planning (including financing), needs-benefit analysis, monitoring and support, fidelity focus, and technical assistance

• Design: Adaptive or rolling RCT in which 40 California and 11 Ohio counties are randomized into two conditions (CDT vs SU)
  – Matched into 4 equivalent cohorts to deal with feasibility (8 equivalent groups)
  – Then randomized to 2 conditions (CDT or IS)
  – Wait-list feature
Study Specific Aims

• Describe the structure and operation of influence networks of public-youth-serving systems participating in the first cohort of the CAL-OH Study.

• Determine the influence of these networks on decisions related to participation in the CAL-OH Study during the pre-implementation and implementation phases.

• Identify the personal and contextual factors that influenced the operation of these networks within the context of the CAL-OH Study.
Methods

• Semi-structured interviews with 38 agency directors and senior administrators in 12 California counties (MTFC Cohort 1)
  – County response rate (12/13 = 92.3%)
  – Individual response rate (38/45 = 84%)

• Web-based survey of social network structure (n=30) in which each participant was asked to identify up to 10 people for whom they relied for advice on whether and how to use evidence-based practices for meeting the mental health needs of youth served by their agency
  – Examination of Network characteristics of 176 person network using UCINet

• Stage of Implementation Checklist (SIC: Chamberlain et al., 2010) to measure progress made in implementation from engagement to sustainability
Regression of implementation stage on centrality, county size and urban/rural classification (n = 137)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-degree Centrality</td>
<td>0.16</td>
<td>0.07</td>
<td>2.26</td>
<td>0.03</td>
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<tr>
<td>Out-degree centrality</td>
<td>0.01</td>
<td>0.02</td>
<td>0.61</td>
<td>0.54</td>
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<tr>
<td>Large county</td>
<td>0.43</td>
<td>0.14</td>
<td>3.14</td>
<td>0.00</td>
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<tr>
<td>Urban county</td>
<td>0.47</td>
<td>0.15</td>
<td>3.24</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Social network members by intervention condition and implementation stage

Note: Triangles = CDT; Circles non-CDT; Squares = other organizations; Implementation Stage: Grey = 1; Dark green = 2; Bright green = 3.
Results

Figure 2: Treatment and Control Conditions w/ Non-County Actors
Conclusions

• Stage of implementation was associated with county size, urbanicity, and in-degree centrality of networks.
  – Leaders in counties ahead of the curve in implementation more likely to be consulted for advice and information on EBPs

• CDTs were associated with size and structure of influence networks
  – Fewer components (1 vs 5)
  – Larger size and density
  – Greater in-degree centrality and betweenness than control networks (p < 0.01).

• These network characteristics have been associated with implementation outcomes
  – Counties in the CDT condition enrolled over twice the number of youth than in IND sites.
Themes from Qualitative Data

• Systems leaders develop and maintain networks of information and advice based on roles, responsibility, geography, and friendship ties.

• Social networking is central to implementation of EBPs through two mechanisms,
  – Acquisition of information and advice related to EBPs
  – Pooling of resources among agencies

• Both mechanisms involve collaboration between organizations
Model of inter-organizational EBP implementation collaboration

Outer Context
- Availability of funds
- Govt. mandates
- County size
- Same clients

Collaboration characteristics
- Focus
- Formality
- Frequency

Inner context
- Intra-organizational culture
- Extra-organizational culture
- Characteristics of individual actors

Stage of implementation
Conclusions

• Successful implementation of evidence-based practices requires consideration and utilization of existing social networks of high status systems leaders that often cut across service organizations and their geographic jurisdictions for sharing of information and resources.
Child STEPS Effectiveness Trial
Dissemination and Implementation Study

CSET PI: John Weisz
Harvard University

DIS PI: Lawrence A. Palinkas, Ph.D.
University of Southern California

Co-Is: MacArthur Research Network on Youth Mental Health

Funded by the John D. and Catherine T. MacArthur Foundation
CSET Study Objectives

• Compare effectiveness of 3 approaches to treating depression, anxiety, and conduct disorders in 8-13 yr olds
  – Usual Clinical Care
  – Standard Manualized Treatment (SMT)
  – Modular Manualized Treatment (MMT)
  – Why modular?
    1. Single disorder cases are rare; comorbidity is common
    2. Children don’t stay put; problems shift during episode of care
    3. Clinicians dislike rigidity & single focus; may not be sustainable
    4. Modular mirrors what clinicians do with EBTs in practice, BUT provides structure and logic for decision-making
Coefficient Estimates for Group by Log-day for Overall Scores (Youth + Parent-report Random Effects Analyses; N=174 for Each Analysis) and Diagnostic change from pre- to post-treatment by study condition

<table>
<thead>
<tr>
<th>Rater</th>
<th>SMT vs UC</th>
<th></th>
<th></th>
<th>MMT vs UC</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Interaction</td>
<td>p-value</td>
<td>ES</td>
<td>Interaction</td>
<td>p-value</td>
<td>ES</td>
</tr>
<tr>
<td>1 Brief Problem Checklist Internalizing Score</td>
<td>0.014</td>
<td>0.852</td>
<td>0.04</td>
<td>-0.179</td>
<td>0.014</td>
<td>0.51</td>
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<tr>
<td>2 Brief Problem Checklist Externalizing Score</td>
<td>0.059</td>
<td>0.424</td>
<td>0.17</td>
<td>-0.164</td>
<td>0.023</td>
<td>0.48</td>
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<tr>
<td>3 Brief Problem Checklist Total Score</td>
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<td>0.569</td>
<td>0.12</td>
<td>-0.346</td>
<td>0.004</td>
<td>0.59</td>
</tr>
<tr>
<td>Mean Severity Rating on Top Three Problems</td>
<td>-0.043</td>
<td>0.578</td>
<td>0.12</td>
<td>-0.226</td>
<td>0.003</td>
<td>0.62</td>
</tr>
</tbody>
</table>

Source: Weisz et al., 2012
DIS Study Objectives

• Conduct a process and implementation evaluation of SMT and MMT in the Clinic Treatment Project.

• Identify characteristics of community-based mental health clinics that facilitate or impede the dissemination and implementation of evidence-based practice.
DIS Data Collection

• Participant observation at training sessions and clinics, key informant interviews.
• Semi-structured interviews with clinicians, clinical directors/managers, and CTP clinical supervisors.
• Member checking focus groups with therapists and clinical supervisors.
Model of EBP Implementation in Randomized Clinical Effectiveness Trials

Pre-Implementation Determinants

- Training opportunities
  - Lag time between training and use
  - No. of clients

- Clinician engagement in clinical trial
  - Motivation
  - Enthusiasm
  - Commitment

- Clinician-treatment fit
  - Prior experience with evidence-based treatments
  - Theoretical orientation
  - EBT structure vs flexibility

Clinician first impressions
- Positive
- Negative

Clinician competence
- Researcher assessment
- Self-assessment
- Client assessment

Clinician and researcher adaptability
- Creativity
- Compromise

Clinician-researcher interactions
- Professional
- Social

Clinician-researcher interactions
- Professional
- Social

Child Steps support
- Ongoing training
- EBP adaptation

Clinic support
- Leadership
- Organizational Culture
- Culture broker

Black = individual
Red = organizational
Green = cultural

MMT

University of Southern California
Results

• Reasons for continued use of the EBTs by 93% of the therapists
  – Therapists came to accept the treatments after using them
  – Therapists valued the interactions and support from researchers
  – Therapists valued the structure of the treatments
  – Therapists valued the evidence base of the treatments

• However, 93% of these therapists used them in a modular fashion (Palinkas et al., 2013).
Why was the Modular Condition so successful?

- MMT allowed for more cultural exchange between therapists and researchers.
  - Association with investigators was viewed by therapists and clinic directors as a benefit to participating in the CTP.
  - Everyone loved the training and supervision and many thought the supervision was the best part.
  - MMT allowed for more accommodation and negotiation than SMT.
    - Both therapists and supervisors felt that MMT approach gave them more “license” to negotiate/exchange.
Cultural Exchange

- A theory and a method for conducting translational research and facilitating research translation.
- A transaction and transformation of knowledge, attitudes and practices (KAP) of individuals or groups representing different cultural systems
  - Global culture of Evidence-Based Practice
  - Local culture of Practice-Based Evidence
- A process and product of debate and compromise

(Palinkas, Allred & Landsverk, 2005)
Innovation and the Use of Research Evidence in Public Youth-Serving Systems

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Co-PI: C. Hendricks Brown, Ph.D.
Northwestern University

Co-I: Antonio Garcia, Ph.D.
University of Pennsylvania

Funded by the William T. Grant Foundation  No. 10648
Little is known regarding when, how, and under what conditions research evidence is used in policy and practice that affect youth, and how its use can be improved.

How do policy-makers gain access to, evaluate, and apply research evidence in their decision-making?
Study Specific Aims

• **Aim 1.** Understand and measure the use of research evidence by decision makers of public youth-serving agencies.

• **Aim 2.** Identify factors that predict the use of research evidence.

• **Aim 3.** Prospectively determine whether use of research evidence predicts stage of EBP implementation.
Methods

– Semi-structured interviews and focus groups to assess how systems leaders determine a practice is evidence-based and how they acquire information, evaluate it, and apply it in making decisions about adopting and implementing new programs and practices.

– Development of two new measures
  • Structured Interview for Evidence Use (SIEU)
  • Cultural Exchange Inventory (CEI)

– Web-based survey of 156 leaders of county child welfare, juvenile justice and mental health systems participating in the CAL-OH study, 10 leaders in other counties and states other than California and Ohio, and 37 state-level systems leaders participating in the AAIMS Study (total = 202).
## Structured Interview for Evidence Use (SIEU)

<table>
<thead>
<tr>
<th>Factor</th>
<th>No. of items</th>
<th>Mean</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>17</td>
<td>2.89</td>
<td>.80</td>
</tr>
<tr>
<td>Acquisition from network members</td>
<td>7</td>
<td>2.61</td>
<td>.75</td>
</tr>
<tr>
<td>Acquisition from experts</td>
<td>5</td>
<td>3.08</td>
<td>.73</td>
</tr>
<tr>
<td>Acquisition from documents and published materials</td>
<td>5</td>
<td>3.10</td>
<td>.71</td>
</tr>
<tr>
<td>Process</td>
<td>16</td>
<td>3.80</td>
<td>.86</td>
</tr>
<tr>
<td>Self assessment of validity and reliability</td>
<td>9</td>
<td>3.82</td>
<td>.88</td>
</tr>
<tr>
<td>Self assessment of relevance</td>
<td>4</td>
<td>4.06</td>
<td>.71</td>
</tr>
<tr>
<td>Assessment by others</td>
<td>3</td>
<td>3.42</td>
<td>.74</td>
</tr>
<tr>
<td>Output</td>
<td>12</td>
<td>3.22</td>
<td>.80</td>
</tr>
<tr>
<td>Use the evidence to make or support decisions</td>
<td>8</td>
<td>3.65</td>
<td>.80</td>
</tr>
<tr>
<td>Ignore the evidence</td>
<td>4</td>
<td>3.18</td>
<td>.84</td>
</tr>
<tr>
<td>Total Use of Research Evidence</td>
<td>45</td>
<td>3.38</td>
<td>.88</td>
</tr>
</tbody>
</table>
Lessons Learned

• Research Evidence Use does inform policy and practice
  – Community Development Teams facilitate the scaling-up of evidence-based practices by providing assistance in REU access, evaluation and application. This, in turn, was associated with significantly more clients being served than in counties not participating in CDTs and a significantly greater likelihood of achieving competency in use of MTFC.
  – However, the impact of what kinds of evidence to access/use and how to prioritize evidence access/use on implementation of an evidence-based practice appears to be greater than there is consensus as to research evidence use among systems leaders involved in the decision to implement.
Consensus on Use of Research Evidence

- Clusters participating in CDTs were found to be more engaged in evaluating the research evidence for validity, reliability, and validity ($p < 0.05$).
- Consensus as measured by variance scores was significantly greater in the CDT clusters than in the control clusters ($p = 0.001$).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Consensus score</th>
<th>Group SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>-.46**</td>
<td>.08</td>
</tr>
<tr>
<td>Process</td>
<td>-.48***</td>
<td>.08</td>
</tr>
<tr>
<td>Output</td>
<td>-.43**</td>
<td>.30*</td>
</tr>
</tbody>
</table>

( * $p < 0.05$; ** $p < 0.01$. *** $p < 0.001$)
EBP implementation requires effective partnerships and collaborations that exchange information and resources through influence networks governed by the sharing of distributed understandings.