Leveraging Implementation Practice and Research For The Greater Good

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• Testing Context Effects... R01 DA018107-01, S. Schoenwald, PI
• Several effectiveness and implementation studies conducted by Scott Henggeler

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This Morning

• Why care about implementation?
• What research tells us about implementation strategies and tools; a selective review
• What we can do to increase the impact of practice and research in implementation; some ideas, some examples
Why Care About Implementation?

- People cannot benefit from innovations they do not experience (courtesy of Dean Fixsen)
- How well an innovation works and how well it is implemented are two different things

Someone left the cake out in the rain.
I don’t think that I can take it.
Cause it took so long to bake it.
And I’ll never have that recipe again,
Oh, no!
### Why is Implementation Research Relevant?

<table>
<thead>
<tr>
<th>Dissemination Step</th>
<th>Concept</th>
<th>% Impacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>50% of Clinics Use</td>
<td>Adoption</td>
<td>50%</td>
</tr>
<tr>
<td>50% of Practitioners Recommend</td>
<td>Adoption</td>
<td>50%</td>
</tr>
<tr>
<td>50% of Patients Accept Recommendation/Attempt Change</td>
<td>Reach</td>
<td>12.5%</td>
</tr>
<tr>
<td>50% Follow Regimen Advice Correctly</td>
<td>Implementation</td>
<td>6.2%</td>
</tr>
<tr>
<td>50% of Those Implementing Correctly have Substantial Benefit</td>
<td>Effectiveness</td>
<td>3.1%</td>
</tr>
<tr>
<td>50% Continue to Adhere and Benefit after 6 Months</td>
<td>Maintenance</td>
<td>1.6%</td>
</tr>
</tbody>
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Courtesy of Russell Glasgow, Re-Aim  
http://www.re-aim.org/
Conceptual model of global factors affecting implementation in public service sectors

Source: Aarons, Hurlburt & Horwitz, 2011
Implementation research examines “the use of socio-behavioral strategies to adopt, integrate, and scale-up evidence-based interventions and change practice patterns within specific settings”

Chambers, Ringeisen, & Hickman, 2005
Implementation Strategies

- Systems Environment
- Organizational*
- Group/Learning*
- Supervision*
- Individual * Providers/Consumers

Implementation Outcomes
- Feasibility
- Fidelity*
- Penetration
- Acceptability
- Sustainability
- Uptake
- Costs

Service Outcomes*
- Efficiency
- Safety
- Effectiveness*
- Equity
- Patient-centeredness
- Timeliness

Client Outcomes
- Satisfaction
- Function*
- Symptomotology*

Implementation Research Methods

Red bold font* = Today’s talk

Source: Proctor, Landsverk, Aarons, Chambers, Glisson, & Mittman, 2009
Quality Tools for Implementation

• Information-centered work requires quality tools that are designed and refined on the basis of relevant research (e.g., educational, cognitive, informatics) and user input (Wandersman, Chien, & Katz, 2012)

• The same guidance applies to human services (with domains of relevant research varying)
Training

• Adequate training can reduce variations in provider behavior, improve fidelity, and increase service delivery quality.
• In what settings, under what training and support conditions, can this be achieved?
• Research on training and support in EBP implementation contexts is in early stages
• But, we do know from research on learning, adult education, and professional training. . .
Evidence-Based Training?

“Telling Ain’t Training
Training Ain’t Performance”
Harold Stolovitch

Learning and Performance Solutions
American Society for Training and Development and the International Society for Performance Improvement

Courtesy of the
Annapolis Coalition on the Behavioral Health Workforce

http://www.annapoliscoalition.org/
Performance Based Training

- **Know**: Knowledge acquisition
- **Know How**: Skill Acquisition
- **Do**: Skill performance
- Performance-based training includes
  - Deliberate practice
  - Experiential learning
  - Feedback
  - Support
Toward Evidence-Based Training

• One-time workshops can increase knowledge and attitude toward change but not behavior

• Building proficiency appears to require repetitions and active learning
  o One estimate: 20 – 25 implementation attempts to achieve consistent professional behavior change (Joyce & colleagues, 2002)

• Approaches & techniques recently reviewed
  o academic detailing
  o coaching
  o interprofessional learning
  o reminders
  o self-regulated learning
  o problem-based learning

Lyon, Wiltsey Stirman, Kerns, & Bruns (2011)
Coaching and Consultation

Common Types\(^1\)

- Expertise-based
- Peer-to-peer

Common Methods\(^1\)

- Direct feedback following observation
- Coach reflection on own practice

Emerging Type?

- Peer - Expert

\(^1\) Lyon, Wiltsey Stirman, Kerns, & Bruns (2011)
Coaching and Consultation

• Expertise-Based Coaching Examples
  o Trauma-Focused Cognitive Behavioral Treatment
  o Parent-Child Interaction Training
  o Multisystemic Therapy
    ▪ Consultation effects on adherence and outcomes

• Peer Coaching Example
  o Triple P Positive Parenting Program encourages peer support groups
    ▪ One study underway to evaluate advantages and challenges of using these groups

Lyon, Wiltsey Stirman, Kerns, & Bruns, 2011
Coaching and Consultation

• Specific functions, processes, of consultation
  o Engagement
  o Problem solving implementation barriers
  o Direct case application
  o Appropriate adaptation
  o Accountability
  o Mastery skill building
  o Sustainability planning

*Nadeem, Gleacher, & Beidas (2013). Consultation as an implementation strategy for evidence-based practices across multiple contexts: Unpacking the black box. Administration & Policy in Mental Health and Mental Health Services Research*
Toward Evidence-Based Consultation

• Dosage, delivery-method, collaboration, & proactive nature matter (Wandersman, Chien, & Katz, 2012)

• Less is known about the specific functions and processes that are most effective

• Study underway:
  o Stirman & colleagues (2013)
    ▪ RCT: 3 consultation conditions for clinicians treating PTSD in military veterans with Cognitive Processing Therapy (CPT)
    ▪ Outcomes: CPT adherence, competence; client symptoms

Stirman et al., (2013)
Clinical Supervision

What Constitutes Effective Supervision?

• Clinician behavior change
• Effects on client outcomes
  “The “acid test” of good supervision is client outcomes”
  (Ellis & Ladany, 1997)
• The “acid test” is rarely conducted
• Quality of EBT coaching in clinical supervision associated with:
  o Decreased emotional exhaustion & turnover intention
    (Knudsen & colleagues, 2008)
  o Decreased turnover (Aarons & colleagues 2009)
Toward Evidence-Based Supervision

Examples from EBT Implementation Research

• “Old” News: MST Transportability Research
  o 9-site pilot included supervisor adherence measurement development
  o 43-site study

• “New” News:

• Research Network on Youth Mental Health, System and Treatment Enhancement Projects
  o Prospective observational study of supervision
  o During RCT of treatment effectiveness
  o Valid, reliable measurement of supervision
Toward Evidence-Based Supervision

MST Transportability Study

• Two of four MST SAM scales predicted one-year post-treatment changes in youth behavior problems
• One scale predicted therapist adherence
• Direct effects of supervisor adherence and therapist adherence were observed

Schoenwald, Sheidow, & Chapman, 2009
Clinical Supervision, MST Transportability Study

*MST Transportability Study, funded by NIMH and NIDA
Results reported in Schoenwald, 2008
Toward Evidence-Based Supervision


- 57 community-based therapists trained in EBPs
- 12 doctoral level supervisors with EBP expertise
- 136 youths and families
- Modeling and role-play ➔ higher use than discussion
- Modeling ➔ practice use in next session
- Greater effects for older clinicians
- Discussion predicted use for male therapists (n = 18)

Bearman, Weisz, Chorpita et al & The Research Network on Youth Mental Health, 2013
Toward Evidence-Based Supervision

Newest News – Study In Progress

• Randomized trial of supervision in public mental health in Washington State (Dorsey & colleagues, in press)
  o Descriptive study of supervision of those trained in TF-CBT via WA public mental health initiative
  o RCT of supervision elements from efficacy trials (session review, model fidelity, outcome monitoring, skill-building – behavioral rehearsal)
    ▪ Both conditions: Symptom and fidelity monitoring
    ▪ One condition: SFM plus Behavioral Rehearsal in supervision
Feedback To Practitioners

Health Care

• Audit-and-feedback systems
• Effective for:
  o Relatively straightforward tasks
  o Physicians demonstrating low baseline adherence
  o When the feedback is sufficiently detailed and intensive.

(Grimshaw et al, 2001; Jamvedt et al., 2006)

Mental Health/Behavioral Health

• In mental health/behavioral health, there are fewer, and fewer rigorous, studies
• Evidence from randomized trials appears promising
Feedback To Practitioners

• Feedback to school-based providers about fidelity to Coping Power as rated on observational measures improved fidelity and outcomes 
  (Lochman, Boxmeyer, Powel, Qu, Wells, & Windle, 2009.)

• Feedback to therapists on standardized measures of client progress and outcome  
  (Bickman, Kelley, Breda, De Andrade, & Riemer, 2011).
  - Outcomes for children were better when practitioners had access to weekly feedback
  - Positive association between practitioners’ frequency of use of outcome feedback and the extent of child improvement
“Implementation feedback systems could support the reach, quality, and sustainability of evidence-based treatments”

Implementation Feedback Systems

• Distinguish closer to real time the failure of implementation from the failure of intervention

• Refine the target of implementation support
  o Practitioners: Intervention-specific skills and performance
  o Organization: policies, procedures, leadership, implementation climate, climate-and-culture profile
  o Service system: Regulations, procedures, norms, inter-organizational interactions

• Support “learning organization” process and culture

• Contribute “shared yardstick of accountability”* amongst the multiple participants in implementation *Yeaton & Sechrest, 1981
You Get What You Measure

Measurement Focuses Attention, Behavior, & Resources

- Some Examples
  - Hospital Accreditation
  - No Child Left Behind
  - Child Welfare

- Potentially Perverse Effects
  - No Child Left . . . Untested?
  - Child Welfare Paperwork
“Driving with Roadmaps & Dashboards...”

Fig. 3 Individual client summary example from the child STEPs clinical trial (Chorpita et al. 2008 ) Springer Science and Business Media
Help?

The Dashboard Spy 2007 Edition
Designing Dashboards For
Dummies

Enterprise Dashboard Projects Not From Scratch!

Enterprise-Dashboard.com

www.SignGenerator.org
Data Dashboards
Balancing characteristics of effective and efficient adherence measurement on the basis of measurement purpose(s)

Schoenwald, Garland, Chapman, Frazier, Southam-Gerow, & Sheidow, 2011
Quality Tools for Implementation

- Quality tools alone are not enough

Wandersman, Chien, & Katz, 2012
Multicomponent Strategies

Examples

• Availability, Responsiveness, Continuity (ARC; Glisson & colleagues)
• Community Development Teams (CDT; CIMH)
• Interagency Collaborative Teams (ICT; Aarons & colleagues, under evaluation)
• Learning Collaboratives (see Nadeem et al., in press, Millbank Quarterly)
Availability, Responsiveness, Continuity  
(ARC; Glisson & Colleagues)

Objective

• “Help community based service settings improve their social contexts by creating the capacity to identify & address contextual deficits and barriers that impede service and treatment outcomes” (Glisson, Hemmelgarn, Green, & Williams, 2013, p. 494)

Means

• ARC facilitator  
• Team-based clinician and management focused activities  
• Three broad strategies  
  o Embed 5 principles into the organization’s processes & practices  
  o Use 12 component tools to identify and address service barriers (within organization and in inter-organizational relations)  
  o Cultivate service provider attitudes and behaviors (e.g., openness to change)  
• Implement over an 18-month period
Rural Appalachian Project (RAP)
Randomized Trial of MST & ARC
in a 2-Level EBT Implementation Strategy
Glisson, Schoenwald, Hemmelgarn, Green, Dukes, Armstrong, & Chapman, 2010

Questions

• Are MST model fidelity and outcomes better in counties that receive ARC?
• Are youth outcomes better in ARC counties than non-ARC counties?
• Are youth outcomes better for youth who receive MST compared to youth who receive the usual services?
RAP Implementation Results

• MST Implementation in ARC and non-ARC
  o No differences in adherence (therapist or supervisor)
  o Therapists in ARC counties
    ▪ rated progress with extra-familial systems more highly
    ▪ and spent fewer minutes within the family system
  o But, no differences in the odds a therapist addressed
    a particular system in natural or service ecology
RAP Outcomes Results *

Out of home placement* 18-months after baseline

• ARC reduced the odds of placement by 44%
• MST reduced the odds of placement by 53%
• Together, MST and ARC reduced the odds of out of home placement from 34% to 16%
• Mechanism of action for combined effects not yet evaluated (e.g., is effect in part accounted for by ARC-induced change in team climate/ culture?)

*Parent-reported
MTFC Implementation Trial*

- Randomized trial of Multidimensional Treatment Foster Care (MTFC)
- 40 counties in California; 11 counties in Ohio
- Randomized to 2 implementation conditions
  - Standard Implementation
  - Community Development Teams (CDT)
- Both conditions received standard MTFC training, clinical consultation and QA procedures
- Randomized to cohorts for start time
- Total of 51 sites consented

* Courtesy of Patti Chamberlain and Lisa Saldana; Research Funding from NIMH, Children’s Bureau, WT Grant Foundation
Stages of Implementation Completion (SIC)

8 Stages:

1. Engagement
2. Consideration of Feasibility
3. Readiness Planning
4. Staff Hired and Trained
5. Adherence Monitoring
6. Services and Consultation
7. Ongoing Services, Consultation
8. Competency (certification)

Involvement:

System Leader
System Leader, Agency
System Leader, Agency
Agency, Practitioner
Practitioner, Client
Practitioner, Client
System Leader, Agency, Practitioner, Client

Emerging SIC Findings

• Meaningful prediction of implementation milestones
• Pre-implementation SIC behavior predicts successful program start-up
• Pre-implementation SIC behavior predicts discontinuing program
• Thus far, pre-implementation SIC behavior does not predict competency but does predict penetration

Findings reported in Brown, Chamberlain, Saldana & Wang, submitted
Utility of SIC for Other Treatments?

Aims

• Adapt the SIC for other EBPs
• Evaluate SIC for other EBPs (predictive ability, which activities are common across practices and systems, psychometrics)
• Conduct cost-mapping using the COINS strategy to determine resource allocation needed across the different practices to conduct different implementation activities

Method

• 3 evidence-based treatments, 3 service sectors (JJ, CW, Education)
• Retrospective assessment of activities in 15 sites per treatment
• Prospective assessment of activities in 15 sites per treatment

“Stages of Implementation Completion for Evidence Based Practices”
L. Saldana, PI, NIH R01MH097748
• The feasibility of technology use is a contextual experience
• Infrastructure supporting current use of a technology is well developed and often invisible at the point of use
• When use of a new technology requires adjustments to infrastructure, feasibility of use appears limited
• As infrastructure to support the technology becomes commonplace, use is experienced as feasible

Implications for Larger Scale Implementation of Effective Interventions

• “Practical” constraints on implementation may reinforced by “invisible infrastructure”

• That infrastructure can be revealed and altered

• Alternative infrastructures can be developed
Harnessing Technology Infrastructure For Implementation

Examples From Currently Ongoing Research

• Broad-band enabled tablets for coach observation of SafeCare ® fidelity during home visits (G. Aarons, PI)

• Distance digital recording and web-based feedback of group supervision sessions (Chapman & Schoenwald, Co-PIs)

• Internet-based fidelity monitoring for MTFC pilot study (Feil & colleagues, 2012).

• Computer-assisted and e-learning modalities for training (see review and discussion by Beidas, et al., 2011)
From Implementation Strategies to Implementation Systems

- Evidence-Based Implementation Support Systems (EBSIS; Wandersman, Chien, & Katz, 2012)

- “The D&I research field has advanced from examining barriers and facilitators to investigating the uptake of effective interventions and conducting comparative studies of systematic approaches to implementation” (Chambers & Azrin, 2013).
Leveraging Practice And Research for the Greater Good

• **Ongoing, Collaborative Partnerships**
  o For strategic and opportunistic purposes
  o Conjoint discernment of relevancy of goals (but, beware status quo)
  o For comparative studies of multicomponent, systematic strategies

• **Synergies & Complementarities:** of purpose, expertise, methods
  o When designing a project for one purpose, consider which data and methods can legitimately accomplish additional purposes.
  o If none, are there data and methods that could be added with minimal burden and fundraising (grant writing) to accomplish those purposes?

• **Some Examples:**
  o Development of the SIC in the context of MTFC Implementation Trial
  o Child STEPs, Research Network on Youth Mental Health
  o MST adherence instrument language mini-studies
  o NIMH FOA on fidelity assessment in practice contexts
References


References


MST Transportability Study References Available from the Family Services Research Center, Medical University of South Carolina, at: http://www.musc.edu/psychiatry/research/fsrc/pubs.htm

Nadeem, Gleacher, & Beidas (2013). Consultation as an implementation strategy for evidence-based practices across multiple contexts: Unpacking the black box. Administration & Policy in Mental Health and Mental Health Services Research


Schoenwald, S.K., (2011). It’s a bird, it’s a plane, it’s . . . Fidelity measurement in the real world. Clinical Psychology: Science and Practice, 18, 142-147.

