

Board member and stockholder, MST Services, LLC, universitylicensed technology transfer organization

# MST Research and Transport

- Family Services Research Center (FSRC)
  Research Center at the Medical University of South
  Carolina (MUSC)
- MST Services, LLC & its Network Partners
- MUSC-licensed technology transfer company and associated, geographically-dispersed technology transfer organizations supporting MST implementatio
- MST Institute (<u>www.mstinstitute.org</u>)
- Focuses on Quality Assurance and outcome tracking

# Why Do we Still Care About Transport?

 "For a successful technology, reality must take precedence over public relations, for nature cannot be fooled." *Richard Feynman*



# Why Care?

 "Across numerous industries, individuals and organizations decide to adopt a new program and equally often fail to implement it successfully" (*Real and Poole, 2005*).

### A Sample of Technology Transfer Challenges

- "Soft" technologies are vulnerable to adaptation in unplanned diffusion
- New technologies are often rejected in planned technology transfer
- Organizational factors can influence practitioners and outcomes
- Extra-organizational factors can influence organizations











# Transporting New Treatments: MST as Test Case

Funded by National Institute of Mental Health MH59138 1999 – 2004 National Institute of Drug Abuse DA018107 2005 – 2007 Schoenwald, PI

### MST Transportability Study Aims

To Examine Relations Between:

- MST therapist adherence and outcomes
- Organizational climate and structure, adherence, & outcomes
- Supervision, adherence, & outcomes
- Impact of clinician training & experience or adherence
- A mediation model of transport





Service system: biannually, & per case

### Participants

- 45 MST programs in 12 states and Canada
- 452 therapists: 73% female, 73% Caucasian, 15%
  African American, 6% Asian/PI, 2% Hispanic
- 64% masters (social work, counseling, psychology)
- 1979 youths and their caregivers
- Youths were: 15.5 years old, 65% male, 58%
  Caucasian, 19% African American, 6% Asian, 4%
  Hispanic, 13% Biracial

MST Transportability Study Published Findings Redux

### Predictors of Post-Treatment Change

- Therapist Adherence (Schoenwald, Sheidow, Letourneau, & Liao, 2003)
- Select Organizational Climate & Structure Scales (Schoenwald et al., 2003)
- Consultant Adherence (Schoenwald Sheidow, & Letourneau, 2004)

# Organizational Factors

- Few climate and structure factors predicted short-term outcomes, some in unexpected directions.
- Climate & structure did **not** predict adherence.
- Adherence moderated relations between climate and structure and outcomes.

# Findings at Follow-Up

#### In press

Schoenwald, Toward evidence-based transport of evidence based treatments, *Journal of Child and Adolescent Substance Abuse Treatment Under Review* 

Schoenwald, Carter, Chapman, & Sheidow, 2007; Schoenwald, Chapman, Sheidow, & Carter, 2007; Schoenwald, Sheidow, & Chapman, 2008

# Youth Change Over Time

- Significant reductions in behavior and functioning problems through 1-year posttreatment
- Significant reductions in criminal charges through 4-year post-treatment



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 Reductions in behavior problems one-year post-treatment differed significantly as function of therapist adherence ratings





### Adherence – Criminal Outcomes

- At the highest level of adherence, the annualized rate of post-treatment charges\* for youth was 47% lower than at the lowest level of adherence.
- When therapist adherence scores were one SD above the mean, annualized rate of post-treatment charges was 29% lower than when therapist adherence scores were one SD below the mean.

\*(3-level Poisson RRM; Schoenwald, Chapman, Sheidow, & Carter, under review)

# Supervisor Adherence

Greater supervisor average focus on Adherence to Principles predicted therapist adherence.

### SAM - Criminal Behavior

Preliminary Results

On all subscales of the SAM, a 1 unit increase over the supervisor's typical adherence was associated with a 43% - 45% lower rate of post-treatment charges for youths.

### Climate, Structure, & Long-Term Outcomes

- 1-year post-treatment behavior problem reductions were predicted by:
- Higher org levels of Growth & Advancement Lower org levels of Hierarchy
- Therapist perceptions of greater Participatory Decision making relative to the organization

# Structure & Climate Findings (2) Youth Criminal Charges Predicted By • Therapist perceptions of greater Job Satisfaction, Growth & Advancement • Higher organizational Participatory Decision

 Higher organizational Participatory Decision making

### But,

These relations washed out when therapist adherence was included in the model





# Workforce Mobility in MST Transport

- Clinician annual turnover rate in MST programs averaged 21%, ranged from 0 50%
- The rate varied widely across organizations
- Higher turnover was predicted by: low salary and climate of intense emotional demand
- Turnover predicted poorer youth behavioral and criminal outcomes
- (Sheidow, Schoenwald, Wagner, Allred & Burns 2006; Schoenwald & Chapman, under review)



### MST International Transport (2)

Where Is MST?

 Australia, Canada, Denmark, Ireland, Netherlands, New Zealand, Norway, Sweden

### How is MST Doing?

 Published randomized trial results from Norway (Ogden and colleagues) are consistent with U.S. studies.

# MST International Transport (3) What is Different?

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Which Differences Matter to Implementation?

Which Differences Matter to Outcomes

How Will We Know?

choenwald, Heiblum, Saldana, & Henggeler (2008). The international implementation of MST. *Evaluation and The Health Professions. Special Issue* 





# **Beyond Early Adopters**

• It is estimated about 10% of child-serving public agencies are early adopters of evidence-based intervention programs.

### Capacity Building: MST Network Partner Model

- The objective of the MST Network Partner Model is to support the indigenous capacity of service systems to expertly transport, implement, and sustain effective MST programs.
- The strategy being used is to develop the highest level of expertise in the MST clinical, program development, quality assurance, and administrative protocols in Network Partner organizations.

	Network	Partners	
Family Services R	esearch Center, Medic	al University of South	Carolina
MST Services (University licensed technology transfer organization)			
-MST Services -MST Services providing QA, program development & training to agencies under "traditional" contracted services	-MST Network Partners (Type A) -QA, program development & training provided within an agency or system based on DIRECT REPORT relationships	MST Network Partners (Type B) QA, program development & training provided within an agency or system based on VOLUNTARY relationship	MST Network Partners (Type C) - QA, program development & training provided to agencies based on a SYSTEM QA/OVERSIGHT basis
Licensed Provider Organizations	Licensed MST Network Partner	State/National Center or Agency (Licensed MST	State or National Center (Licensed









# **Beyond Early Adopters**

 What characteristics and processes in systems, organizations, clinicians, and consumers can support implementation in the remaining universe of agencies?

### Three Implementation Experiments

- Rural Appalachian Project (RAP; Glisson & Schoenwald, 2005 and ongoing)
- Child System and Treatment Improvement Projects (Child STEPs); Research Network on Youth Mental Health (J. Weisz, Network Director)
- Chamberlain and colleagues, "CA40"

# Moving up the *S*-*Curve* Means. . .

### Learning "Who Can do it? "

 Implementation Research: Is the product or service used as directed; how it is used; what factors affect use? (*Kimberly, 2008; Real & Poole, 2005*)
 AND

### "Who *Will* Do It?

 Dissemination Research: "focuses on how information is created, packaged, transmitted, and interpreted among various stakeholder groups." (Chambers, D.A., Ringeisen, H., & Hickman, E., 2005)

Schoenwald & Hoagwood, 2001

# Tips from EB Medicine Research

- Multi-faceted interventions targeting different barriers are more likely to be effective than single interventions -- they are also more expensive (Grimshaw et al., 2001)
- Coercive strategies (regulations, legal mandates, budgets) can establish a "floor" and "ceiling" for variation in local practice.
- But, coercive strategies are poor tools of intraorganizational change.

# Implementing Organization

- Multi-component strategies to change the operations and social context of the organization may be needed
- Strategies to address the interface of the organization and external environment may be needed

(Glisson & Schoenwald, 2005; Klein & Knight, 2005; Real & Poole, 2005)

### MST Research References

 Available from the Family Services Research Center, Medical University of South Carolina, at:

http://www.musc.edu/psychiatry/research/fsrc/pubs. htm

