School-Based Mental Health in Underserved Communities

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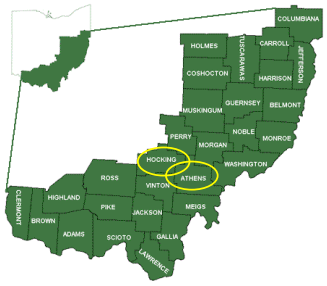
The Appalachian Region



The Appalachian Region

- Educational attainment and income statistics fall below state averages
- Poverty rates exceed state averages
- Mental Health Professional Shortage Area
  - Services are not available or accessible
- Fears of being judged and concerns of trust are salient barriers
  - Services are not acceptable

ARC, 2004a, 2004b; Murphy & Owens, 2006; Owens et al, 2007

Evidence-based Psychosocial Treatments for ADHD

- Behavioral Parenting Programs (Pelham et al., 1998; Pelham & Fabiano, in press)
- Behavioral Classroom Management (Pelham & Waschbusch, 1999; DuPaul & Stoner, 1994; Kelley, 1990)
  - Daily Report Card
  - Collaborative Teacher Consultation (Sheridan et al., 1990)

Do these findings generalize to community practice?

Child with multiple diagnoses?
Complex cases?
Families in poverty?
Rural communities?

Statement of the Problem

- Meta-analysis of 162 treatment outcome studies, less than 20% examined:
  - "typically referred" cases
  - children multiple diagnoses
  - children receiving care in community settings
- Review of 98 studies on treatment for ADHD, less than 40% reported on SES
  - 82% reported an SES of Level 3 on Hollingshead (skilled laborers)

Weisz & Hawley, 2005; Girio et al., 2007

Statement of the Problem

We know very little about the effectiveness of evidence-based practices when implemented with referred samples in rural, low-income communities

National Initiatives

- **Equitable dissemination of best practices to underserved populations**
- **Expand School Mental Health Programming**

New Freedom Commission, 2003; IOM, 2006

Research Questions

- How effective are evidence-based practices when implemented with children in low-income families referred to a school mental health program in rural communities?
  - Expected that treatment-related gains would be less substantial than those observed in efficacy trials
- Lessons learned: How can EBTs be *integrated* into the educational setting

Overcoming Barriers via Expanded School Mental Health

Y.E.S.S.
Youth Experiencing Success in School

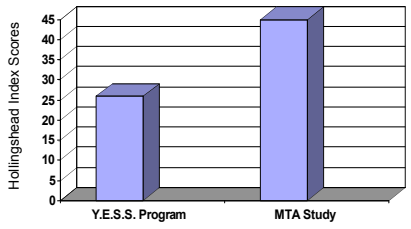
Participants

- Data from 2002-2006
  - 91 children in the Treatment Group
  - 26 children in the Waitlist Group
- 75% Male
- 87% Caucasian
- 40% identified for special education services
- 20% had repeated a grade
- Average IQ = 95
- Only 30% were receiving services at the time of intake (despite moderate to severe problems)
- 70% have ADHD
  - 60% have multiple diagnoses

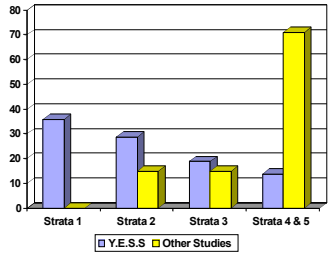
Selected Participant Data by Group

Variable	Treatment N (%)	Waitlist N (%)
Grade *		
K through 3rd grade	69%	88%
4th, 5th, or 6th grade	31%	12%
On Medication at Referral	36%	31%
In Counseling at Referral	31%	27%
Medication part of treatment	44%	42%
Met criteria for ADHD *	71%	39%

Socioeconomic Status (SES)



Socioeconomic Strata in Y.E.S.S.



Parent's Education

	Y.E.S.S Mothers	Y.E.S.S. Fathers	MTA Study
No High School Diploma	30%	45%	23%
High School Diploma	35%	35%	
Some College	35%	20%	77%

Procedures

- Youth referred by teachers and principals
  - No advertising or active recruitment to the study
  - 75% of referred families consented
- Treated children:
  - Received Y.E.S.S. Program services
  - Participated in assessments in fall, winter and spring
- Waitlist children:
  - No Y.E.S.S. Program services in their school
  - Participated in assessments in fall, winter and spring
  - Received services the next year

Y.E.S.S. Program Services

- In-house clinician 15-20 hours/week
- Comprehensive assessment
- Daily Report Card Intervention (Kelley, 1990, Pelham, 2002)
- Bi-weekly collaborative consultation with teachers (Sheridan et al., 1990)
  - Weekly 'curbside' consultation
- Individual behavioral parenting sessions (Barkley, 1998)

Outcome Indicators

- Parent and Teacher Ratings of Child Symptoms
  - Disruptive Behavior Disorder Rating Scale (Pelham et al. 1992)
  - Inattention, hyper/impulsivity, defiance, aggression
  - Scores range from 0-3
- Parent and Teacher Ratings of Impairment
  - Impairment Rating Scale (Fabiano et al. 2006)
  - Academic, classroom functioning, family functioning, relationships w/peers, teachers, parents
  - Scores range from 0-6; 3 or higher, clinically significant
- Grade Point Average by Quarter
- Daily Report Card data
- Teacher and Parent participation & compliance
- Satisfaction surveys

Analytic Procedures

- Hierarchical Linear Modeling (HLM)
- DVs: child symptoms, impairment, GPA
- Time: Fall (-2), Winter (-1), Spring (0)
- Level-1:

  $y_{ij} = \pi_{0j} + \pi_{1j}(\text{Time})_{ij} + e_{ij}$
- Level-2:

  $\pi_{0j} = \gamma_{00} + \gamma_{01}(\text{Treatment Group})_j + r_{0j}$

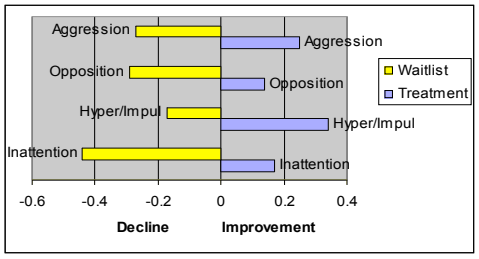
  $\pi_{1j} = \gamma_{10} + \gamma_{11}(\text{Treatment Group})_j + r_{1j}$
- Within-group effect size analysis

Results –Teacher Report

HLM Coefficients for Teacher-Rated Symptoms

	Teacher Ratings		
	Treatment	Waitlist	Group
Variable			Contrast
DBD Ratings			
Inattention	-.07†	.18*	$p < .01$
Hyper/Imp	-.13**	.07	$p < .05$
Opp/Defiant	.02	.13†	$p < .09$
Conduct	-.07*	.09	$p < .05$

Within Subjects Effect Sizes for Teacher-Rated Symptoms

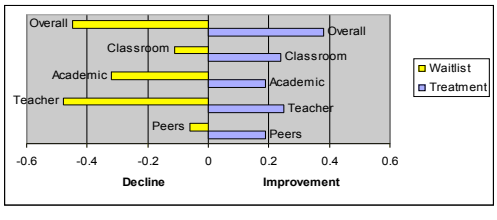


Group differences for Inattention, Hyper/Impul, and Aggression are significant, $p<.05$

HLM Coefficients for Teacher-Rated Impairment

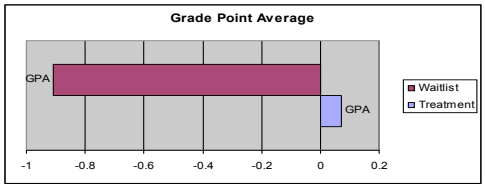
	Teacher Ratings		
	Treatment	Waitlist	Group
Variable			Contrast
IRS Peers	-.19	.08	ns
IRS Teacher	-.25*	.54*	$p < .01$
IRS Academics	-.21†	.37†	$p < .05$
IRS Classroom	-.25*	.12	ns
IRS Self-Esteem	-.18†	-.35†	ns
IRS Overall	-.32**	.46*	$p < .01$
GPA	.04	-.24**	$p < .01$

Effect Sizes for Teacher-Rated Impairment in Functioning



Group differences for teacher, academic, & overall are significant, $p<.05$

Effect Sizes for Grade Point Average



Results –Parent Report

HLM Coefficients for Parent-Rated Symptoms

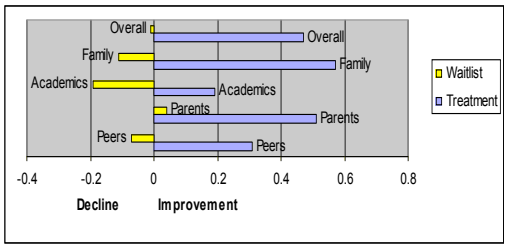
	Parent Ratings		
	Treatment	Waitlist	Group
Variable			Contrast
DBD Ratings			
Inattention	-.08*	.01	ns
Hyper/Imp	-.12**	-.18*	ns
Opp/Defiant	-.14**	.00	ns
Conduct	-.06**	-.01	ns

Effect Sizes for Parent-Rated Symptoms

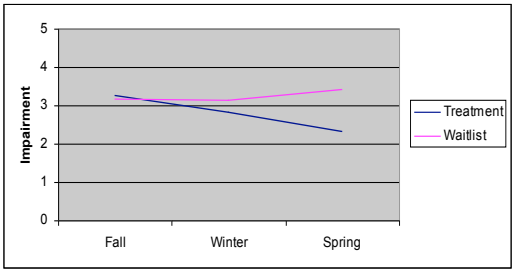
HLM Coefficients for Parent-Rated Impairment

	Parent Ratings		
	Treatment	Waitlist	Group
Variable			Contrast
IRS Peers	-.24*	-.04	ns
IRS Parent	-.53**	-.13	ns
IRS Academics	-.12	.06	ns
IRS Family	-.42**	.03	$p < .09$
IRS Self-Esteem	-.12	-.06	ns
IRS Overall	-.37**	-.11	ns

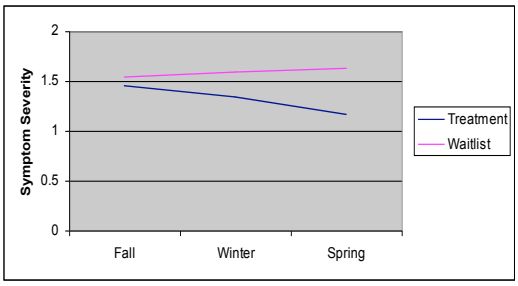
Effect Sizes for Parent-Rated Impairment in Functioning



Parent-Rated Impairment in Family Functioning



Parent-Rated Opposition



Individual Goals

Positive, Proactive

Daily Report Card

Home School Links

Sample Daily Report Card

Daily Report Card

[Name]

1. [Child] raised hand to speak with 4 or fewer rule violations

# of Rule Violations _____ YES _ NO _

2. Child completed 25% of math work today

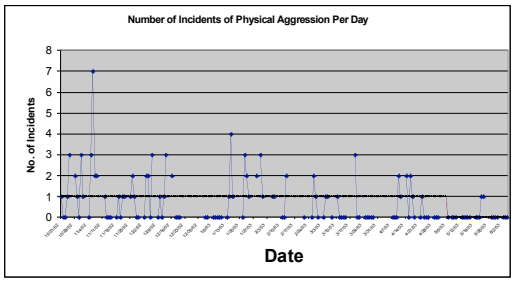
% Complete _____ YES _ NO _

Comments:

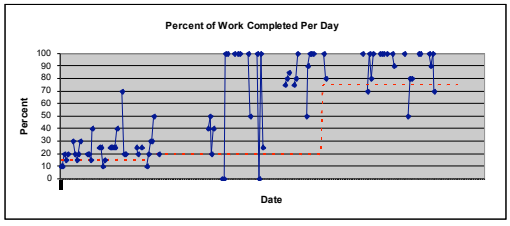
_____ Teacher's Signature

_____ Date

1st Grade Student



Same 1st Grade Student



Treatment Utilization and Potency

Daily Report Card Summary Data

- 67% of treated children had a successful DRC
- On average, teachers complied with DRC procedures on 77% of school days
  - Range 10% - 100%

Frequency and Potency of Direct Contact

Type of Contact	M (SD)	Range
Number of Parent Sessions	18.18 (10.80)	3.00 – 63.00
Number Devoted to Topics from EBPT Protocol [a]	9.70 (8.03)	0 – 29.00
Number of Teacher Consultations	25.66 (15.07)	4.00-74.00

60% of families attended 5 or more sessions; 30% attended 11 or more

Satisfaction Data

Teacher Satisfaction Survey

Survey Item	Not Sure	Strongly Disagree	Disagree	Agree	Strongly Agree
Interventions were useful	6.7%	1.5%	4.4%	59.3%	28.1%
Consultation from clinicians was helpful	4.4%	0.7%	4.4%	41.2%	49.3%
Clinician seen as part of school culture	0.7%	0.7%	5.1%	48.5%	44.9%
Intervention allowed more time to teach	7.5%	4.5%	20.9%	54.5%	12.7%
Program improved child's behavior	5.1%	3.6%	18.2%	49.6%	23.4%
Program improved child's academics	8.8%	4.4%	33.1%	42.6%	11.0%
Communication with parents increase d	5.3%	7.6%	34.1%	41.7%	11.4%
Benefits outweigh time costs	8.3%	2.3%	10.6%	53.0%	25.8%
Classroom as a whole benefited	0.0%	1.5%	20.3%	60.9%	17.3%

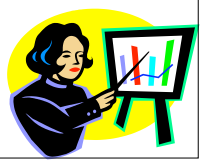
Parent Satisfaction Surveys

Survey Item	Not Sure	Strongly Disagree	Disagree	Agree	Strongly Agree
Communication with the teacher increased	4.9%	0.0%	19.4%	37.9%	37.9%
Clinician was responsive to my concems	1.0%	0.0%	1.0%	69.6%	28.4%
I was treated with respect by program s taff	3.9%	1.0%	2.0%	65.7%	27.5%
Interventions improved classroom behavior	10.7%	0.0%	4.9%	45.6%	38.8%
Interventions improved academics	10.7%	1.9%	3.9%	35.9%	47.6%
Interventions improved home behavior	6.9%	3.9%	19.6%	21.6%	48.0%
I felt included in decisions about services	6.1%	0.0%	4.1%	61.2%	28.6%
I learned new ways of coping	6.2%	1.0%	7.2%	41.2%	44.3%

Parent Preferences

- **A subset of parents reported that they preferred school-based services to clinic-based services**
  - 46% because of more frequent appointments
  - 47% because of more flexible appointment times
  - 38% because of fewer transportation difficulties
  - 22% because school meeting are less embarrassing

Summary & Implications



Documented Benefits of SMH Programming

- SMH reaches families who otherwise may not receive in services
  - Nearly 70% were not connected to services at intake
- Early identification
  - 69% of treated children were 3rd grade or below
- SMH may reduce stigma and increase parent engagement
- Interventions can be embedded in the child's daily routine; enhances ecological validity

Summary of Primary Treatment Outcome Indicators

- EBTs can retain their effectiveness when transported to rural, underserved communities
- Significant reductions in symptoms and significant improvement in relationships with adults, in setting-specific functioning, and in overall functioning.

Understanding Context

- Transporting EBTs…More challenging than we thought?
- Effect sizes are small to moderate, and smaller than that found in tightly-controlled trials. WHY?
- Our sample was of significantly lower SES than typical treatment outcome studies
  - Greater case complexity
  - Greater family stress
  - Less treatment engagement/participation
- More research: Need to understand modifications necessary to enhance cultural sensitivity and parent engagement

Implications

- SMH works. We need to build an infrastructure to sustain it
- Examine factors associated with partnership development & infrastructure development
- Children with co-occurring problems need intensive mental health services AND intensive academic services

Implications

- Documenting outcomes in school service delivery models may be different than in clinic-based models
  - Teacher referrals
    - Parents may be less invested in treatment
    - Parents may not report (or underreport) problems
    - Treatment-related improvement associated with greater parent stress
  - Early identification
    - Difficult to document change when symptoms are mild to moderate

Implications

- Teachers are co-providers of behavioral interventions and must receive training (at both pre-service and in-service) to better understand the disorders and the EBTs for the disorders.

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Thank You!

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