

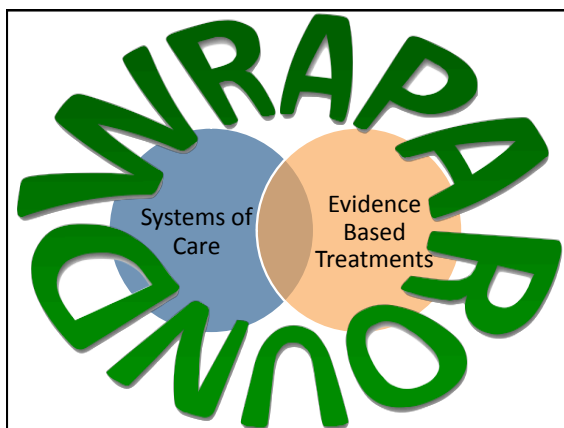
Effectiveness of the wraparound process for children with emotional and behavioral disorders: A meta-analysis

Jesse C. Suter University of Vermont
Eric J. Bruns University of Washington

The 22nd Annual Research Conference A System of Care for Children's Mental Health: Expanding the Research Base
March 3, 2009

Rationale for Review

- Many youth with emotional and behavioral disorders not receiving needed services & supports
- Two major responses from children's mental health:



Wraparound Principles

1. Family voice & choice
2. Team based
3. Natural supports
4. Collaboration
5. Community based
6. Culturally competent
7. Individualized
8. Strengths based
9. Unconditional
10. Outcome based

Hasn't this been done?

Evidence based

Best practice

- "In summary, the existing literature does not provide strong support for the effectiveness of wraparound." (Bickman et al., 2003)
- "Overall, the research base on Wraparound remains undeveloped in comparison to many child and family interventions; nonetheless, significant evidence supports wraparound's effectiveness." (Burchard et al., 2002)

Promising

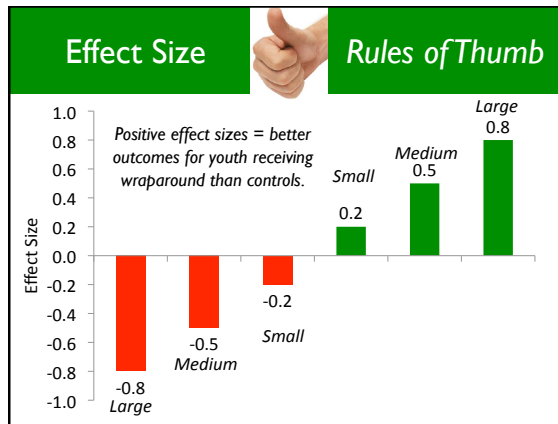
Emerging

Current Study

- *Do youth with EBD participating in wraparound achieve better outcomes than youth who do not?*
- Represents first systematic quantitative review of controlled wraparound studies
- Review examined:
 - Study Characteristics
 - Intervention Characteristics
 - Analysis of overall effects and outcome domains

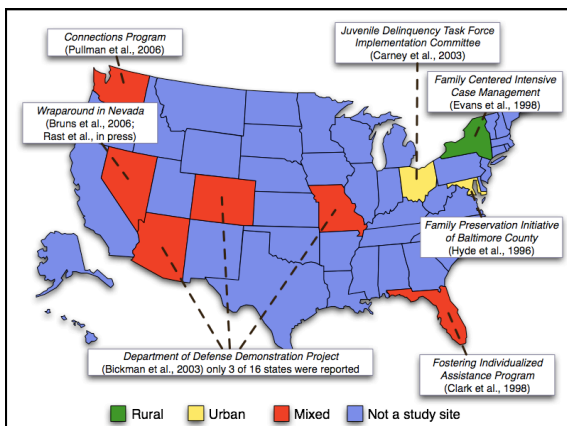
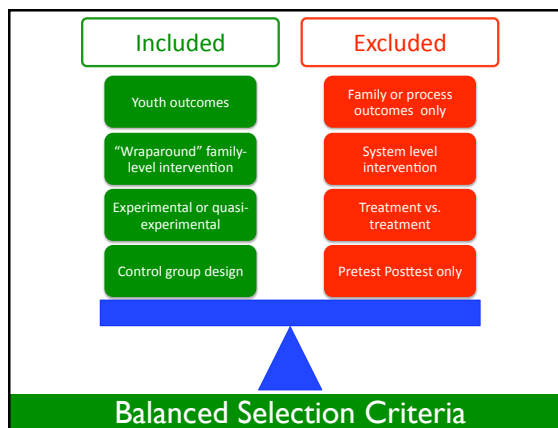
Why Meta-Analysis?

- Traditional reviews often do not provide clear information on how conclusions were drawn
- Meta-analysis uses empirical findings from studies to calculate (or estimate) effect sizes
- Effect sizes provide a standard metric for different outcomes, so they can be compared



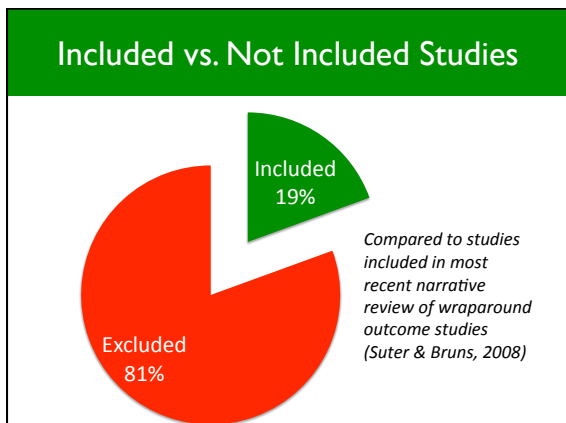
Goals for Selection Criteria

1. Capitalize on *best available evidence*
2. Avoid comparing:



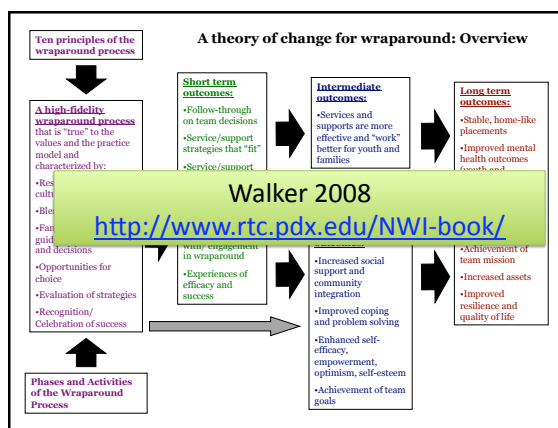
Study & Participant Characteristics

First Author (year)	Target population	Design	N	Mean age (years)	female	Posttest (months)
Bickman (2003)	Mental health	Quasi experimental	111	12.2	42%	10
Carney (2003)	Juvenile justice	Experimental	141	14.8	38%	18
Clark (1998)	Child welfare	Experimental	131	11.5	40%	42
Evans (1998)	Mental health	Experimental	42	9.0	10%	12
Hyde (1996)	Mental health	Quasi experimental	106	17.3	25%	12
Pullman (2006)	Juvenile justice	Quasi experimental	204	15.2	31%	26
Rast (2008)	Child welfare	Quasi experimental	67	11.9	49%	18

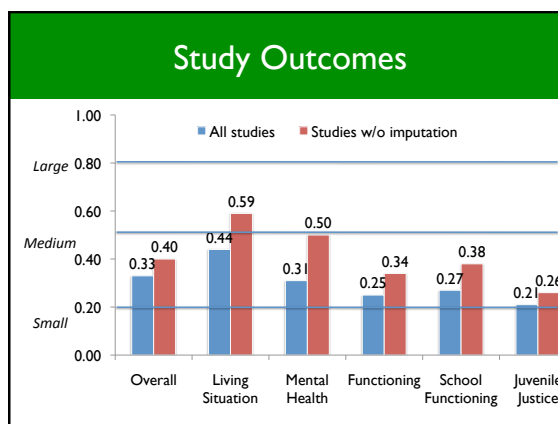


- ### Intervention Characteristics
- Majority of studies described principles and process consistent with wraparound
 - Control groups all received conventional services (rather than no treatment control) from same service sections
 - Department of Defense (DoD, Bickman et al., 2003) study contradicted some principles
 - Only one study used wraparound fidelity measure (Rast et al., 2008)

- ### Outcome Analyses
- 66 youth outcomes were identified
 - Effect sizes calculated for each outcome at furthest posttest ($M = 19.8$ months, $SD = 11.3$)
 - Note: Two studies required imputation of effect sizes (Bickman et al., 2003; Evans et al., 1998)
 - Effect sizes averaged to create single mean effect size for each study



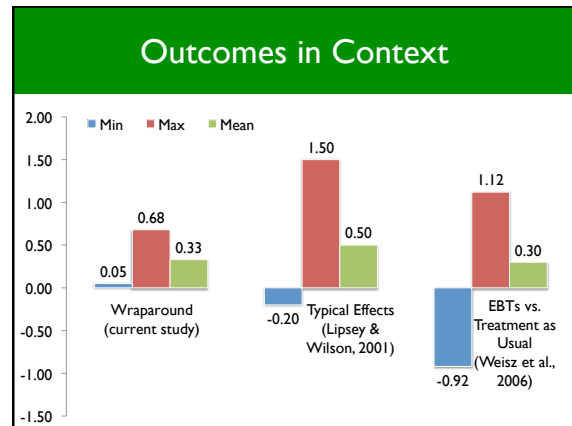
- ### Outcome Domains
- Domains coded by authors ($\kappa = .81$)
1. Living Situation ($n = 8$)
 2. Mental Health ($n = 12$)
 3. Overall Functioning ($n = 41$)
 - a) School Functioning ($n = 15$)
 - b) Juvenile Justice Related Functioning ($n = 17$)
 4. Assets & Resiliency ($n = 4$; imputed only)



Proceedings Correction

Outcome Domain	All Studies			Studies Without Imputation ^a		
	ES <i>M</i>	95% CI	Studies Involved	ES <i>M</i>	95% CI	Studies Involved
Overall effect size	0.33*	0.14 – 0.53	1, 2, 3, 4, 5, 6, 7	0.40*	0.18 – 0.63	2, 3, 5, 6, 7
Living situation	0.44	-0.03 – 0.92	1, 3, 7	0.59	-0.32 – 1.50	3 & 7
Mental health	0.31*	0.01 – 0.61	1, 3, 4, 7	0.50	-0.11 – 1.11	3 & 7
Youth functioning	0.25*	0.04 – 0.46	1, 2, 3, 4, 6, 7	0.34*	0.10 – 0.58	2, 3, 6, 7
School functioning	0.27	-0.04 – 0.58	1, 2, 3, 7	0.38	-0.01 – 0.74	2, 3, 7
Juvenile Justice	0.21	-0.02 – 0.44	1, 2, 3, 6, 7	0.26*	0.01 – 0.51	2, 3, 6, 7
Assets and resiliency	0.00		1 & 4			

Note: Study numbers refer to: 1 = Bickman et al., 2003; 2 = Carney et al., 2003; 3 = Clark et al., 1998; 4 = Evans et al., 1998; 5 = Hyde et al., 1996; 6 = Pullman et al., 2006; and 7 = Rast et al., 2008
 CI = confidence interval; ES = effect size; * *p* < .05
^a Does not include Bickman et al., 2003 and Evans et al., 1998

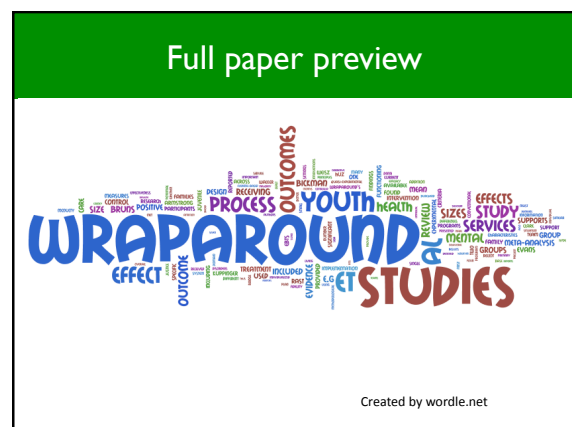


Beyond the Means

Moderator	<i>n</i>	Effect Size
Design		
Experimental	3	0.17
Quasi-experimental	4	0.46
Lead agency		
Child welfare	2	0.32
Juvenile justice	3	0.39
Mental health	2	0.29
Publication year		
1990s	3	0.31
2000s	4	0.35

- ### Limitations
- Small number of studies with range of methodological rigor
 - Needed to impute effect sizes for two studies further reduced number
 - Fidelity measure with only one study, so cannot conclude all programs offered equivalent wraparound
 - DoD program may have been mislabeled as wraparound

- ### Conclusions
- Wraparound can yield more positive outcomes for youth with EBD when directly compared to youth receiving conventional services
 - Wraparound may achieve more positive outcomes related to stable living placements than other types of outcomes
 - Wraparound has shown modest evidence of both *efficacy* and *effectiveness*
 - Review provides a foundation for future outcome studies to build wraparound as an *evidence based process*



Thank you!

*This work was supported in part by the Child,
Adolescent and Family Branch of the Center for
Mental Health Services, U.S. Substance Abuse
and Mental Health Services Administration.*