

# Child Outcomes

**Bob Stephens, Ph.D.**  
**Christine Walrath, Ph.D.**

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## The Approach

- Focuses largely on data gathered through the national evaluation
- Not a systematic literature review
  - Generally does not include dissemination efforts made at the local community level related to single-site data
  - Does not include content from Congressional Reports or findings from oral presentations without published proceedings papers
- Child outcomes reviewed by outcome domain
  - Mental health
  - Education
  - Justice
  - Substance use

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### Domain: Clinical/Mental Health

Primary Outcome Measure(s)	Design /Methodology	Analytic Approach		Highlight(s)
		Technique	Covariates	
■ CBCL Internalizing, Externalizing & Total Problems ■ CAFAS Total score  Stephens, Connor, Nguyen, Holden, Greenbaum & Foster, 2005	Quasi-experimental comparison study	Two level hierarchical linear model (HLM)	■ Treatment site (SOC vs. comparison) ■ Age ■ Gender ■ Income ■ Race ■ Missing data	Pair 1 (Stark County vs. Mahoning, OH) ■ White boys improve from baseline to 24 months on CAFAS at greater rate than nonwhite in SOC; nonwhite girls improve at greater rate in non-SOC  ■ Greater improvement in externalizing behavior in SOC from intake to 12 months, equivalent rates of improvement at 24 months  Pair 2 (Santa Cruz vs. Travis County) ■ Older & younger children had greater improvement from baseline to 24 months on CAFAS in SOC ■ Older children in SOC and younger in Non-SOC had greatest change in externalizing behavior  Pair 3 (East vs. West Baltimore, MD) ■ Children in non-SOC showed greater improvements from intake to 24 months on total problem behavior
■ CAFAS Total score  Laygo, Birim, & Stephens, 2005	Uncontrolled longitudinal outcome study  Children who received restrictive services between intake and 6-months	Two level HLM	Age; gender; race; comorbid disorder; history of physical & sexual abuse; suspension, detention & equitation; CBCL anxious/depressed	■ Impairment improved at an average rate of 25 points per year ■ Children with histories of physical abuse had slower rates of improvement

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### Domain: Clinical/Mental Health, continued

Primary Outcome Measure(s)	Design /Methodology	Analytic Approach		Highlight(s)
		Technique	Covariates	
■ CBCL Total Problems BERS overall strength quotient (deteriorated vs. improved)  Walrath, Ybarra, & Holden, 2006	Uncontrolled longitudinal outcome study	Logistic regression on Reliable Change Index (RCI)	■ Minority status ■ Substance use ■ Out-of-home placement ■ CAFAS ■ Falling academic performance ■ Caregiver global strain ■ Number & type of services	■ Minority status, a history of substance and out-of-home placement predicted deterioration at 6 months ■ Higher levels of functional impairment ■ Higher levels of caregiver strain, and poorer academic functioning = lower probability of deterioration
■ CBCL Total Problems ■ CAFAS Total score  Stephens, Holden, & Hernandez, 2004	Quasi-experimental comparison study	Multiple regression	■ System of Care Practice Review scores ■ Treatment site (SOC vs. comparison)	■ Children in SOC experienced consistently high levels of SOC principles in their services; their symptom severity and functional impairment did not vary as a function of their experiences ■ Children in comparison sites had more variable experiences of SOC principles in services; lower symptom and impairment scores associated with experience of SOC principles

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### Domain: Clinical/Mental Health, continued

Primary Outcome Measure(s)	Design /Methodology	Analytic Approach		Highlight(s)
		Technique	Covariates	
■ CAFAS Total score ■ CBCL Externalizing and Internalizing Problem scores  Foster, Stephens, Kirelyova, & Gyant (in review)	Quasi-experimental comparison study	Propensity score matching	■ Treatment site (SOC vs. comparison) ■ Gender ■ Age ■ Medicaid enrollment ■ Prior use of services ■ Child & family risk factors	■ Children at one of the two SOC sites showed greater improvement than did their matched counterparts. ■ For the other SOC site, no benefits of intervention were apparent. ■ Differences in the effectiveness of SOC between two pairs of sites may reflect differences in system implementation, especially service use.
■ CBCL internalizing & externalizing problems  Kirelyova, Matthews, Stephens, 2006	Quasi-experimental comparison study  Imbedded naturalistic comparison of youth with and without prior justice involvement	General Linear Model	■ Treatment site (SOC vs. comparison) ■ Age ■ Gender ■ Income ■ Prior JJ involvement	■ Youth with prior justice contact served in SOC had greater rates of improvement from intake to 18 months relative to youth with prior justice contact in non-SOC ■ Internalizing problems among non-SOC youth increased
■ CBCL total problems ■ YSR total problems ■ CAFAS total score  Holden, 1999	Uncontrolled longitudinal outcome study  Imbedded naturalistic comparison of sites	Descriptive using RCI	None	■ Nearly 1/3 of children display clinically significant improvement between intake and 12 months on either CAFAS or CBCL ■ For children 11 years and older, nearly 1/3 display clinically significant improvement between intake and 12 months on either CAFAS or CBCL ■ Site variation in clinically significant change exists

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### Domain: Clinical/Mental Health, continued

Primary Outcome Measure(s)	Design /Methodology	Analytic Approach		Highlight(s)
		Technique	Covariates	
■ CBCL Total Problems scores over 24 months  Gifford & Stephens, 2002	Uncontrolled longitudinal outcome study	Hierarchical linear modeling (HLM)	■ Gender ■ Age ■ Race ■ Custody status ■ Length of time in SOC ■ Income ■ Contacts with law ■ Custody status ■ Comorbidity ■ CAFAS Total score at intake ■ Suicidal ideation at intake	■ On average, children improved 6.47 points per six-month period ■ Longer duration of SOC services and suicidal ideation at intake predicted slower rates of improvement ■ Higher functional impairment at intake predicted faster rates of improvement
■ BERS overall strengths ■ CBCL total problems  Evaluation Brief, Volume 7(4); 2006	Uncontrolled longitudinal outcome study  Imbedded naturalistic comparison of youth in foster care vs. not	Chi-Square on RCI	None	■ Majority of children remained stable or improved from intake to 12 months with regard to functioning and strengths ■ More foster care children improve in overall strengths; more non-foster care remain stable
■ BERS overall strengths, five subscales  Evaluation Brief, Volume 2 (5); 2001	Uncontrolled longitudinal outcome study	Dependent t-tests	■ Age ■ Gender ■ Diagnostic differences	■ Overall strengths as well as intrapersonal, interpersonal, affective, and family strengths significantly increased from baseline to 6 months

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### Domain: Clinical/Mental Health, continued

Primary Outcome Measure(s)	Design /Methodology	Analytic Approach		Highlight(s)
		Technique	Covariates	
<ul style="list-style-type: none"> <li>CBCL total problems</li> <li>CAFAS total score</li> </ul> Evaluation Brief, Volume 1 (12), 2000	Uncontrolled longitudinal outcome study  Imbedded naturalistic comparison of three co-occurring disorder groups	Chi-square of RCI	None	<ul style="list-style-type: none"> <li>Children with co-occurrence that includes substance use demonstrate greatest improvement in functional impairment at 6 months.</li> </ul>
<ul style="list-style-type: none"> <li>CBCL Externalizing Problems over 18 months</li> </ul> Stephens & Liao, 2004	Uncontrolled longitudinal outcome study	Parallel processes general growth mixture modeling (PPGGMM) of changes in symptoms and number of services over time as simultaneous processes	<ul style="list-style-type: none"> <li>Gender</li> <li>Race / ethnicity</li> <li>Age</li> <li>Medicaid eligibility</li> </ul>	<ul style="list-style-type: none"> <li>PPGGMM indicated a 2-class solution best fit data. Class 1 = rapid initial improvement with later slowing and more rapid reduction in self-services. Class 2 = initial deterioration with later improvement and slower decrease in # of services</li> <li>For both Class 1 and Class 2, correlation of latent intercept for Externalizing Problems with latent intercept for number of different types of services was positive indicating that higher levels of symptoms at intake was associated with use of larger number of different types of services in first 6 months</li> <li>Children in Class 1 who had slower rates of initial improvement and more rapid later improvement (i.e., more like Class 2) used a larger number of different services in the first six months than others in Class 1</li> <li>Class 1 was more likely to be comprised of children with fewer symptoms at entry and who used fewer different types of services than Class 2. Also, Class 1 was also more likely to be comprised of children who were older and non-white.</li> </ul>

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### Domain: Clinical/Mental Health, continued

Primary Outcome Measure(s)	Design /Methodology	Analytic Approach		Highlight(s)
		Technique	Covariates	
<ul style="list-style-type: none"> <li>CBCL Total Problems score at 6 months</li> </ul> Huang, Chastang, & Connor, 2002	Uncontrolled longitudinal outcome study  Imbedded naturalistic comparison of youth with school referral vs. not	Multiple regression	<ul style="list-style-type: none"> <li>Gender</li> <li>Race / ethnicity</li> <li>Age</li> <li>School referral / not</li> <li>CBCL Total Problems at intake</li> <li>Cost of services</li> <li>Intensity of service use</li> </ul>	<ul style="list-style-type: none"> <li>Only significant predictors of symptom score at 6 months were baseline symptom score and ethnicity</li> <li>Neither intensity of service nor total cost of service predicted symptom score at 6 months.</li> </ul>

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- ### Domain: Clinical/Mental Health Summary
- Clinical/mental health outcomes dissemination focused more on CBCL and CAFAS than BERS
  - Findings indicate improvement over time for most children in SOCs
  - Some specific child characteristics associated with differential rates of improvement (demographic, risk factors, initial severity, presenting problems, placements)
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- ### Domain: Clinical/Mental Health Summary
- Some evidence of disparities in outcomes for racial/ethnic minorities
  - Relative effectiveness of SOCs compared to non-SOCs for improving clinical outcomes is equivocal
  - SOCs relatively more effective for older, non-minority males with externalizing problems and prior JJ involvement
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### Domain: Education

Primary Outcome Measure(s)	Design /Methodology	Analytic Approach		Highlight(s)
		Technique	Covariates	
<ul style="list-style-type: none"> <li>School Attendance</li> <li>School Achievement</li> </ul> Evaluation Brief, Volume 7(4)	Uncontrolled longitudinal outcome study  Imbedded naturalistic comparison of youth in foster care vs. not	Chi-Square on categorized change in school outcomes (improved, remained stable, deteriorated)	None	<ul style="list-style-type: none"> <li>Majority of children remained stable or improved from intake to 12 months with regard to attendance and achievement</li> <li>More foster care children remained stable in attendance and fewer deteriorated</li> </ul>
<ul style="list-style-type: none"> <li>School performance (pass/fail) at 6 months post-intake</li> </ul> Doucette, Hodges, & Liao, 1999	Uncontrolled longitudinal outcome study in one funded community	Logistic regression	<ul style="list-style-type: none"> <li>Gender</li> <li>Race / ethnicity</li> <li>Age</li> <li>Diagnosis</li> <li>School attendance</li> <li>CAFAS Total score at intake (excluding School Role)</li> <li>CBCL Total Problems at intake</li> </ul>	<ul style="list-style-type: none"> <li>Regular school attendance associated with 4 times greater likelihood of passing school performance at 6 months</li> <li>Mild or moderate CAFAS severity at intake associated with greater likelihood of passing performance at 6 months</li> </ul>

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### Domain: Education, continued

Primary Outcome Measure(s)	Design /Methodology	Analytic Approach		Highlight(s)
		Technique	Covariates	
<ul style="list-style-type: none"> <li>School performance</li> <li>School disciplinary action               <ul style="list-style-type: none"> <li>suspensions</li> <li>deterctions</li> <li>expulsions</li> </ul> </li> <li>Teacher-report of school functioning</li> </ul> Evaluation Brief, Volume 3(7), 2002	Uncontrolled longitudinal outcome study in one community with school-based focus	Descriptive	None	<ul style="list-style-type: none"> <li>Improved school performance from intake to 12 months</li> <li>Youth receiving school-based wraparound had fewer suspensions, detentions, and expulsions</li> <li>Improvements in 6 of 10 teacher-reported outcomes</li> </ul>

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## Domain: Education Summary

- No dissemination of education outcome findings from quasi-experimental comparison study
- Attendance and performance more often focus than disciplinary or other education outcomes
- Generally, education outcomes show improvement over time in SOC's
- Some specific child characteristics associated with differential rates of improvement (initial severity, placements)

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## Domain: Justice

Primary Outcome Measure(s)	Design /Methodology	Analytic Approach		Highlight(s)
		Technique	Covariates	
JJ contacts from MIS Foster, Qaseem, & Connor, 2004	Quasi-experimental comparison study	Cox regression proportional hazards model	<ul style="list-style-type: none"> <li>■ Treatment site (SOC vs. comparison)</li> <li>■ Pre vs. post entry</li> </ul>	<ul style="list-style-type: none"> <li>■ Mental health services in SOC relative more effective for reducing risk of subsequent juvenile justice involvement</li> </ul>
■ Arrest data (MIS) Connor, Phan, Stephens, 2003	Quasi-experimental comparison study	Cox regression Survival analysis	<ul style="list-style-type: none"> <li>■ Treatment site (SOC vs. comparison)</li> <li>■ Gender</li> <li>■ Race</li> <li>■ Age</li> <li>■ Income</li> <li>■ Prior offense history</li> </ul>	<ul style="list-style-type: none"> <li>■ Uncontrolled effect of treatment site on arrest indicated more children in SOC survived without an arrest for first 1000 days</li> <li>■ Treatment site effect disappeared upon entry of additional covariates (prior offense and age particularly strong)</li> </ul>

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## Domain: Justice, continued

Primary Outcome Measure(s)	Design /Methodology	Analytic Approach		Highlight(s)
		Technique	Covariates	
■ Post Entry Serious Offense Charges (MIS) Krivelyova, Matthews, Stephens, 2006	Quasi-experimental comparison study  Imbedded naturalistic comparison of youth with and without prior justice involvement	Logistic regression for serious offense charges	<ul style="list-style-type: none"> <li>■ Treatment site (SOC vs. comparison)</li> <li>■ Age</li> <li>■ Gender</li> <li>■ Income</li> <li>■ Baseline clinical characteristics</li> <li>■ Prior JJ involvement</li> </ul>	<ul style="list-style-type: none"> <li>■ Proportion of SOC children charged with serious crimes decreased over 18 months post intake</li> <li>■ Proportion of comparison children charged with serious crimes increased over 18 months post intake</li> </ul>
■ Contacts with law enforcement over 2 years Evaluation Brief, Volume 2(2), 2000	Uncontrolled longitudinal outcome study	Descriptive	None	<ul style="list-style-type: none"> <li>■ Youth with a history of law enforcement contacts prior to entering SOC substantially less likely to have contacts with law enforcement up to 2 years after intake</li> <li>■ Youth self-reports indicate relatively widespread involvement in high-risk delinquent behaviors, independent of involvement in juvenile justice</li> </ul>

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## Domain: Justice Summary

- Most dissemination of justice outcome findings come from quasi-experimental comparison study
- Consistent relative advantage of receiving services in SOC for reducing risk of subsequent JJ involvement

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## Domain: Substance Use

Primary Outcome Measure(s)	Design /Methodology	Analytic Approach		Highlight(s)
		Technique	Covariates	
■ Alcohol use Stephens, Phan & Greenbaum, 2003	Quasi-experimental comparison study	Latent Growth Curve Analysis  Growth Curve Mixture Modeling	<ul style="list-style-type: none"> <li>■ Treatment site (SOC vs. comparison)</li> <li>■ Gender</li> <li>■ Age</li> <li>■ Income</li> <li>■ Functional impairment at baseline</li> </ul>	<ul style="list-style-type: none"> <li>■ The latent classes identified                             <ul style="list-style-type: none"> <li>■ Low use no change</li> <li>■ Low use at intake increasing out to 18 months</li> <li>■ High use no change</li> </ul> </li> <li>■ Changes in alcohol consumption in the three classes unrelated to treatment site</li> <li>■ Income &lt; \$15,000 related to more rapid increase in alcohol consumption over time</li> </ul>

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## Summary

- Majority of dissemination on children's outcomes has focused on clinical / mental health outcomes
- Functional indicators receiving most dissemination attention are education and juvenile justice related
- Majority of findings based on analysis of data from uncontrolled longitudinal outcome study
- Improvement in outcomes varies as a function of characteristics of the children served

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## Next Steps

- Conduct a comprehensive systematic literature review
- Continued dissemination emphasis on analysis of data from quasi-experimental comparison studies
- Expand dissemination of findings from randomized controlled trials of effectiveness of evidence-based treatments in SOCs
- Identify and address under-investigated outcomes domains

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