Behavioral Health Outcome Management Tools across the Life Span

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“Mental Health is part of overall health.”
(Surgeon General, HHS, 1999)

- “Mental illness …. refers collectively to all diagnosable mental disorders.”

- “Mental Health is a state of successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and to cope with adversity.”
Mental Illness can Impact Anyone

• Nearly half of all Americans have or will experience a mental illness in their lifetime

• Mental Illness on track to surpass all chronic disease as the major cause of disability worldwide in the next decade

• Costly (SAMSHA, 2012):
  • Treatment for MH & Substance use is approaching $239 billion
  • Economic cost of mental illness in the US is substantial, ~$300 billion in 2002
**Across the Life Span in Indiana**

- **Infants to Older Adults**

  - > 5%, (260,783) adults mental health needs & functional impairments
  - 20% (321,000) children with mental health needs
  - 9% to 13% have significant functional impairments
  - 5% to 9% experience severe functional impairments
  - In SFY 2010, 42,387 youth (birth to 21) received behavioral health services through DMHA community mental health centers & addiction providers.
Treatment Works!

RECOVERY Is POSSIBLE!

- Early identification & effective intervention is essential.
- Otherwise, consequences led to functional impairments:
  - Developmental delays
  - Poor social functioning
  - Poor academic success
  - Behavioral disorders
  - Employment problems
  - Disability
  - Risk of criminal justice involvement
  - Poor physical health, shortened lifespan
Outcome Performance Measures

Monitor Progress

- Outcome Measures often **Process Measures**
  - How many people served?
  - % of completed reassessments?
  - % of individuals who are seen in OP setting within 7 days of discharge from an acute psychiatric inpatient setting
  - # of billable hours
  - Bed census

- Need to measure **recovery based outcomes** for **individuals** who receive services
Rural Communities

In 2000, 29.2% of Hoosiers lived in rural areas.

Rates of childhood mental health problems similar between rural & urban settings (Lambert, 2008; Howell, 2008)

Nationally, in 2010, 19.3% of Americans lived in rural communities (US Census).

Accessing needed services is more problematic in rural settings (Lenardson, 2010)

- Children in rural areas are 20% less likely to have a mental health visit than urban children (Howell, 2008)

- Stigma toward use of mental health services many limit acceptance of treatment by rural parents (Star. 2002)

- Often less resources are available within rural communities (Weiner, 2011)
Outcome Management Tools

Child & Adolescent Needs & Strength (CANS, Lyons, 2009)

- 2007 Behavioral Health Providers Statewide
  [Division of Mental Health & Addiction, (DMHA)]
- 2008 Child Residential Providers
  [Department of Child Services, (DCS)]
- 2008 Adult Needs & Strength Assessment (ANSA) (DMHA)
- 2008 Integrated into Medicaid Demo Grant (DMHA, OMPP)
- 2010 Linked to Medicaid Rehabilitation Option
  [Office of Medicaid Policy & Planning (OMPP)]
- 2010 Child Welfare Family Case Managers (DCS) use
  information to refer to MRO providers (CMHCs)
- 2012 Linked to foster care rates (DCS)
Opportunity

- 9 state 5-year Medicaid Grant for Youth with Behavioral Health Needs and Severe Functional Needs

- To demonstrate that Youth & their Families with complex needs could be effectively served through intensive community based treatment and support

- Information from multiple service systems available

- [http://www.in.gov/fssa/dmha/6643.htm](http://www.in.gov/fssa/dmha/6643.htm)
Introduction

• Research highlights the disparities between access and quality of behavioral health services in urban as compared to rural areas.

  (Human & Wasemen, 1991; Rost, Fortney, Fischer, & Smith, 2002; Smalley, Yancey, Warren, Naufel, Ryan, & Pugh, 2010)

• Research identifies social support structures, community-based services, and the need for more highly trained professionals as key components to bridging the gap with urbanized communities.

  (Bauer, Batson, Hayden, & Wilburn, 2005; Kelleher, Taylor, & Rickert, 1992; Letvak, 2002; McCabe & Macnee, 2002)
Research Design

• This exploratory study evaluated Indiana’s involvement with the Community Alternatives to Psychiatric Residential Treatment Facilities (CA-PRTF) Medicaid demonstration grant.

• Researchers assessed whether intensive community-based services are effective in improving child mental health functioning and other variables in both urban and rural areas.

• Specifically, researchers analyzed reliable change to baseline functioning, youth and family satisfaction scores, and the relationship between practice model fidelity.
Methodology

• Sample
  – $n = 1,061$ (71% Male, 71% White, 18% African American, 4% Multi-racial, 1% Native American, 1% Asian, 5% Other, and 4% Hispanic)
  – Mean age = 13.66
  – Split file into urban and rural categories*
    • Urban: $n = 826$
    • Rural: $n = 235$

* Researchers split the file using urban and rural definitions provided by the United States Census Bureau.
Methodology, continued

- Measurement Tools
  - Child and Adolescent Needs and Strengths Assessment (CANS, Lyons, 2009)
  - Youth Satisfaction Survey (Brunk & Innes, 2003)
  - Youth Satisfaction Survey – Families (Brunk & Innes, 2003)
  - Wraparound Fidelity Index 4.0 (Bruns, Suter, Morce, Sather, & Leverentz-Brady, 2007)
Methodology, continued

- Data Analysis
  - Descriptive statistics
  - Independent samples $t$-test
  - Hierarchical multiple regression (stepwise method)
CANS Baseline Needs and Strengths

~ Youth Needs = Mean Rating for BH + Functioning + Risks

* $p < 0.05$
Youth Satisfaction Scores

* $p < 0.05$
There were no significant differences between groups.
There were no significant differences between groups.
## Amount Spent on Services

<table>
<thead>
<tr>
<th></th>
<th>Grant</th>
<th>PRTF</th>
<th>Medical</th>
<th>Behavioral Health</th>
<th>State Plan</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>20,797</td>
<td>13,136</td>
<td>4,281</td>
<td>45,461</td>
<td>49,742</td>
<td>70,562</td>
</tr>
<tr>
<td>Rural</td>
<td>23,900</td>
<td>14,730</td>
<td>4,245</td>
<td>46,644</td>
<td>50,890</td>
<td>74,876</td>
</tr>
<tr>
<td>Difference</td>
<td>3,103</td>
<td>1,594</td>
<td>36</td>
<td>1,183</td>
<td>1,148</td>
<td>4,314</td>
</tr>
</tbody>
</table>

There were no significant differences between groups.
Predicting Reliable Change

• Hierarchical multiple regression
  – Dependent variable: Change in youth needs
  – Independent variables:
    • WFI items (10 items)
    • Baseline youth needs (37 items)
    • Baseline strengths (1 item)
    • Baseline caregiver (14 items)
    • Services received (6 items)
    • Demographics (7 items)
Final Regression Model

- Dependent variable: Change in youth needs
- Independent variables:
  - WFI items (total score)
  - Baseline youth needs (11 items)
  - Baseline caregiver (3 items)
  - Services received (6 items)
  - Demographics (7 items)
The multiple regression revealed the following independent variables (combined total WFI, conduct, depression, social functioning, substance abuse, legal, adjustment to trauma, oppositional, and school achievement) are significant predictors of change in youth needs ($F [df = 13, 539] = 17.678, p < 0.001$). Exactly 29.9% of the variance in change in youth needs is accounted for by these collective independent variables.
## Results: Urban, continued

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Standardized β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Total WFI</td>
<td>0.141</td>
<td>3.802</td>
<td>&gt; 0.001</td>
</tr>
<tr>
<td>Conduct</td>
<td>0.177</td>
<td>4.182</td>
<td>&gt; 0.001</td>
</tr>
<tr>
<td>Depression</td>
<td>0.092</td>
<td>2.261</td>
<td>0.024</td>
</tr>
<tr>
<td>Social Functioning</td>
<td>0.157</td>
<td>3.946</td>
<td>&gt; 0.001</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>0.094</td>
<td>2.528</td>
<td>0.012</td>
</tr>
<tr>
<td>Legal</td>
<td>0.070</td>
<td>1.600</td>
<td>0.110</td>
</tr>
<tr>
<td>Adjustment to Trauma</td>
<td>0.088</td>
<td>2.312</td>
<td>0.021</td>
</tr>
<tr>
<td>Oppositional</td>
<td>0.140</td>
<td>3.362</td>
<td>0.001</td>
</tr>
<tr>
<td>School Achievement</td>
<td>0.088</td>
<td>2.333</td>
<td>0.020</td>
</tr>
</tbody>
</table>
Results: Rural

- The multiple regression revealed the following independent variables (combined total WFI, social functioning, anxiety, conduct, substance use, pharma_psych, and total grant) are significant predictors of change in youth needs ($F_{[df = 12, 177]} = 12.187, p < 0.001$). Exactly 32.5% of the variance in change in youth needs is accounted for by these collective independent variables.
### Results: Rural, continued

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Standardized $\beta$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Total WFI</td>
<td>0.160</td>
<td>2.557</td>
<td>0.011</td>
</tr>
<tr>
<td>Social Functioning</td>
<td>0.200</td>
<td>2.860</td>
<td>0.005</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.390</td>
<td>5.670</td>
<td>&gt; 0.001</td>
</tr>
<tr>
<td>Conduct</td>
<td>0.237</td>
<td>3.418</td>
<td>0.001</td>
</tr>
<tr>
<td>Substance Use</td>
<td>0.143</td>
<td>2.182</td>
<td>0.030</td>
</tr>
<tr>
<td>Pharma_psych</td>
<td>-0.196</td>
<td>-2.972</td>
<td>0.003</td>
</tr>
<tr>
<td>Total Grant</td>
<td>0.143</td>
<td>2.204</td>
<td>0.029</td>
</tr>
</tbody>
</table>
Discussion and Implications

- This research produced findings that illustrate how intensive community-based services help bridge the gap between mental health functioning of children living in both urban and rural areas.

- The lack of multiple significant findings illustrates that community-based services worked as effectively in urban as compared to rural areas of Indiana.
For additional information, contact:

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