Turning Data Into Action: Using Data to Drive Service, Program and Policy Decisions In Children's Behavioral Health Services In Maine

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Turning Data Into Action: The Goals

+ Review key state-level administrative data sources and strategies for developing and using data to evaluate specific service and system level questions and issues
+ Review three examples of collaborative studies that were used to examine service, cost, and individual child/family outcomes and discuss key findings and how the results were used to guide system/service change efforts
+ Discuss key ingredients for successfully using data to drive targeted service and system change efforts

Children's Behavioral Health Services In Maine

Highlights

Children's Behavioral Health Services: Guiding Principles

1. Services based on the family's and child's strengths
2. Families are full participants in all aspects of planning and delivery of services
3. Children have access to a comprehensive array of services that meet the child's physical, emotional, educational and social needs
4. Children receive individualized services guided by an individualized service plan (ISP)
5. Children receive services in the least restrictive, most normative environment that is clinically possible
6. Children receive integrated services with linkages between agencies
7. Early identification and intervention for children with emotional problems should be promoted
8. Children are ensured smooth transitions to adult service systems as they reach maturity
9. The right of children should be protected and effective advocacy efforts for emotionally disturbed children and youth be promoted
10. Children receive services without regard to race, religion, national origin, sex, physical disability or other characteristics and services should be sensitive and responsive to cultural differences

Children's Behavioral Health Services: Target Populations

+ Children with Emotional and/or Behavioral Disorders
+ Children with Developmental Disabilities or Severe Developmental Delays
+ Children with Mental Retardation or Autism

Children's Behavioral Health Services: The Service Array

+ Emergency/Crisis Resolution Services
+ Targeted Case Management
+ Outpatient Services
  - Outpatient Psychotherapeutic Assessment and Treatment
  - Outpatient Medication Assessment and Treatment
+ In-Home Treatment Services
  - Home and Community-Based Treatment
  - Children's Assertive Community Teams (ACT)
+ Day Treatment Services
+ Children's Habilitation Services
+ Out of Home Residential Treatment Services (PNMI)
+ Inpatient Psychiatric Hospital Treatment
  - Community Hospital Psychiatric Units
  - Psychiatric Inpatient Hospitals
**Study 1: The Big Picture**

Examining Public Mental Health Service Use and Costs Among Children & Adolescents in Maine

**Study Purpose**

- Develop methodology to accurately identify and extract MaineCare paid claims for children and youth diagnosed with mental health and/or substance abuse challenges and specifically members that used one or more of the identified Core Children's Mental Health Services.
- This analysis specifically focuses on the characteristics of children and youth receiving Children's Behavioral Health Services and examines MaineCare (Medicaid) service use patterns and expenditures over a two-year study period.

**Children and Youth: Age and Gender**

- Age: Male 54.0% 55.1%, Female 46.0% 44.9%
- Years: 8.4% 6.5%
- Substance Abuse: ADH Related 23.0%
- Mood Related: 68.17, 68.20

**Children and Youth: Diagnosis by Gender**

- Gender: Child Welfare 46.0%, Non-Child Welfare 44.9%
- Age: 8.3% 3.2%
- Other Psychotic 2.1% 4.9%
- Major Mood 12.3% 12.3%
- Substance Abuse: 5.0% 5.6%
- P < .05

**Children and Youth: Comparison of Children With and Without Child Welfare Experience**

- Gender: Child Welfare 46.0%, Non-Child Welfare 44.9%
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Children and Youth: Service Array and Utilization

Mental Health Service Use: Comparison of Children with and without Child Welfare Experience

Summary of Results

Study II: Results of a Pre-Post Study of Service and Cost Outcomes

Study Purpose
HCT and ACT Study Users: Pre-Post Average Costs

<table>
<thead>
<tr>
<th>Services</th>
<th>ACT (n=1,396)</th>
<th>ACT (n=1,396)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Tx</td>
<td>Post-Tx</td>
</tr>
<tr>
<td></td>
<td>Cost per User</td>
<td>Cost per User</td>
</tr>
<tr>
<td></td>
<td>(6 mos.)</td>
<td>(12 mos.)</td>
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<tr>
<td></td>
<td>(n=1,396)</td>
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<tr>
<td></td>
<td>(n=1,396)</td>
<td>(n=1,396)</td>
</tr>
<tr>
<td>HCT Services</td>
<td>$47</td>
<td>$195</td>
</tr>
<tr>
<td></td>
<td>$16,394</td>
<td>$11,345</td>
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<td>$12,430</td>
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<td>$19,571</td>
<td>$11,345</td>
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</tbody>
</table>

ACT/HCT Study Users: Cost of Services

Results: ACT/HCT Mental Health Service Use

- Compared to HCT participants, ACT service users were significantly more likely to:
  - Crisis Resolution and Support Services
  - Residential (PNMI) Services
  - Inpatient Psychiatric Services
  - Emergency Rooms for MH Reason
  - Medication Assessment and Treatment Services

ACT/HCT Results: ACT/HCT Pre-Post Service Use

- Among ACT users, the use of:
  - Inpatient Psychiatric Treatment, Crisis Intervention, and Emergency Rooms decreased between pre and post study periods, while
  - Use of residential treatment did not decrease significantly between pre-post study period

- Among HCT users, similar to ACT, the use of:
  - Inpatient Psychiatric Treatment, Crisis Intervention and Emergency rooms decreased between pre and post study periods, while
  - Use of residential treatment did not decrease significantly between pre-post study period

Study Results:

Cost of Services

ACT Cost Summary

- Overall ACT service costs for ACT study users (n=136) for the 12-month post treatment period was $3,456,099 with an average per child cost of $102,020
- Overall mental health service costs (including ACT) for ACT study users over the 12 months post treatment period was $10,179,164 with a per user cost of $2,702 per 6 mos. – nearly 3.4 times the annual cost of the overall CBHS service group at $81,775

HCT Cost Summary

- Overall HCT service costs for HCT study users (n=1,972) for the 12-month post treatment period was $5,658,680 with an average per HCT user cost of $2,830
- Overall mental health service costs (including HCT) for HCT Study users over the 12-month post treatment period was $15,385,000 with a per user cost of $2,422 – nearly 2x the annual cost of the overall CBHS service group at $81,775

Study Hypotheses

- Child and youth trauma survivors will be more likely to:
  - Use and will use more high-cost psychiatric inpatient, crisis stabilization, and residential treatment services
  - Use and will use more public mental health services and supports at higher expense
  - Use and will use more general health/medical services at higher expense
  - Exhibit less functional improvement as a result of services received

Study III: Exploring Services, Costs, and Outcomes

Influence of Trauma on Service Use, Costs and Outcomes for Children with Emotional and Behavioral Challenges
**Study Sample: Selection Criteria**

- Sample of 452 children and adolescents enrolled in Targeted Case Management Services in FY 2000 and FY 2001
- Study sample was divided into two groups:
  1. Identified trauma experience group (n=227)
  2. Non-trauma experience group (n=225)
- All study participants were enrolled in Targeted Case Management Services for at least 12 months with functional and/or behavioral assessments completed at baseline at 6 months and 12 months
- All study participants were active Medicaid recipients with at least some mental health service use during FY 2000 or FY 2001

**Children and Youth: Comparison of Children With and Without Trauma Experience**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Trauma</th>
<th>Non-Trauma</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females</td>
<td>32.8%</td>
<td>20.6%</td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>67.4%</td>
<td>70.3%</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Under 10 years</td>
<td>27.3%</td>
<td>17.7%</td>
</tr>
<tr>
<td></td>
<td>10 to 11 years</td>
<td>26.2%</td>
<td>20.3%</td>
</tr>
<tr>
<td></td>
<td>12 to 13 years</td>
<td>29.1%</td>
<td>22.8%</td>
</tr>
<tr>
<td></td>
<td>15 to 16 years</td>
<td>19.6%</td>
<td>31.1%</td>
</tr>
<tr>
<td></td>
<td>Mean Age (Years)</td>
<td>11.78</td>
<td>12.34</td>
</tr>
</tbody>
</table>

**Diagnostic Category**

- Adjustment Related Disorders: 6.8% vs. 4.6%
- Conduct/Disruptive Disorders: 29.7% vs. 24.6%
- Anxiety Disorders (not PTSD): 0.8% vs. 5.3%
- Post Traumatic Stress Disorder: 0.1% vs. 0.0%
- ADHD/ADD: 16.3% vs. 27.6%
- Bipolar/Affective Psychosis: 10.7% vs. 11.5%
- Depression: 13.7% vs. 18.1%
- Psychosis: 1.9% vs. 3.9%
- Substance Abuse: 0.6% vs. 7.8%
- Other: 1.9% vs. 1.8%

**Trauma and Non-Trauma Groups:**

### Comparison of Baseline Behavioral/Functional Profiles - CAOUCUS Subscales

<table>
<thead>
<tr>
<th>Category</th>
<th>Trauma (n=227)</th>
<th>Non-Trauma (n=225)</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crisis Outreach</td>
<td>46.4%</td>
<td>46.3%</td>
<td>1.00</td>
</tr>
<tr>
<td>Crisis Residential</td>
<td>14.7%</td>
<td>13.5%</td>
<td>1.00</td>
</tr>
<tr>
<td>Inpatient Psychiatric Services</td>
<td>61.2%</td>
<td>59.3%</td>
<td>1.00</td>
</tr>
<tr>
<td>Residential Group Treatment Services</td>
<td>37.5%</td>
<td>39.6%</td>
<td>1.00</td>
</tr>
<tr>
<td>Out-of-House Treatment</td>
<td>14.6%</td>
<td>15.8%</td>
<td>1.00</td>
</tr>
<tr>
<td>Community/Clinical Services</td>
<td>78.1%</td>
<td>78.7%</td>
<td>1.00</td>
</tr>
<tr>
<td>Medication Management</td>
<td>34.7%</td>
<td>34.9%</td>
<td>1.00</td>
</tr>
<tr>
<td>Substance Abuse Treatment</td>
<td>19.6%</td>
<td>22.8%</td>
<td>1.00</td>
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<tr>
<td>Behavioral Health Pharmacy</td>
<td>83.1%</td>
<td>82.6%</td>
<td>1.00</td>
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<tr>
<td>Targeted Case Management</td>
<td>19.7%</td>
<td>39.3%</td>
<td>1.00</td>
</tr>
<tr>
<td>Intensive Behavioral Services</td>
<td>18.6%</td>
<td>18.7%</td>
<td>1.00</td>
</tr>
<tr>
<td>Intensive Integrated Services</td>
<td>78.0%</td>
<td>78.6%</td>
<td>1.00</td>
</tr>
<tr>
<td>Community Support Services</td>
<td>35.5%</td>
<td>31.2%</td>
<td>1.00</td>
</tr>
<tr>
<td>Day Treatment Services</td>
<td>3.2%</td>
<td>4.6%</td>
<td>1.00</td>
</tr>
<tr>
<td>I//E Unit Services</td>
<td>1.9%</td>
<td>3.8%</td>
<td>1.00</td>
</tr>
</tbody>
</table>

### Comparison of Behavioral/Functional Change Between Baseline and 12 Months

**Results Summary: Service Use, Expenditures, Outcomes**

**Child and Youth Trauma Survivors:**

- Were significantly more likely to use high-end mental health services, including: inpatient psychiatric hospitalization, residential/group treatment, and crisis intervention services at significantly higher cost
- 1.5 times more likely to use outpatient mental health treatment services
- 1.2 times more likely to use medication management services
- 1.2 times more likely to use and used more emergency department services
- Used more targeted case management services at significantly higher expense
- Used outpatient clinical and medication management services at significantly higher cost
- Had 75% higher health service expenditures and 51% higher overall treatment expenditures
- Were significantly less likely to exhibit behavioral/functional stability or improvement over the study period

**Than children and youth without a trauma history**
**Key Ingredients: Turning Data into Action**

- Access to data and analytic capacity to use it effectively
- Ability to link administrative data sets, for example:
  - Child welfare data
  - Medicaid and claims data
- Child functional outcome data
- Standard methods for extracting data and identifying service populations, grouping services/procedures, etc.
- Understanding stakeholders' needs and the service system context
- Partnerships with state child serving offices, family and/or stakeholder organizations, and policy makers
- Involve stakeholders in all aspects of the evaluation, such as:
  - Planning/design
  - Analysis
  - Interpretation of the results
- Create multiple forums/venues for feedback, review and discussion of data focused topics
- Provide consultation and technical assistance on the appropriate use and interpretation of the data to drive quality improvement
- Organizational support and culture for using data

**Children's Behavioral Health Services: Data Driven Policy & Service System Initiatives**

- Contract established with Administrative Services Organization for MaineCare Behavioral Health Services since December 2007
- Development and implementation of a Trauma-Informed System of Care (THRIVE Initiative) and implementation system of Care Principles statewide
- Implementation of two trauma-specific evidence-based treatments in THRIVE SOC, including: TF-CBT and Child Parent Psychotherapy
- Target resource to increase the use of effective, intensive community-based treatments and reduce the use of high cost, out-of-home treatment
- Initiation of Child Steps, an evidence-based mental health research project in three Maine clinics to evaluate the effectiveness of manualized clinical interventions and use of “family partners” for children ages 8 to 14
- Mental health screening of all children who have contact with Child Welfare System
- Enhance the role of families and youth at all levels of CBHS program operations, including: policy development, quality improvement activities and training

**Contact Information**

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