Outcome Evaluation Data from Evidence-Based Practice Implementations Supported by CiMH

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Senior Associate, CiMH
Overview of Workshop

• Describe CiMH’s approach to ‘program performance and outcome evaluation’ for evidence-based practice implementations

• Present recent data from program performance and outcome evaluation ‘dashboard’ reports
  – Highlight outcomes

• Discuss future directions
CiMH’s Current Evaluation Protocols

• EBP implementations vary with regard to evaluation requirements
  – Some practices have required outcome evaluation that is built in to the clinical service delivery
  – Some practices have required web-based data entry for their clinical service delivery
  – Some practices have required data collection as part of the funding for implementation
  – Some practices have no requirements
CiMH’s Current Evaluation Protocols

• Evaluation protocols are developed separately for each practice
  – In collaboration with the developers/clinical experts and with the implementation leads
• CiMH develops data collection materials, conducts training, and provides ongoing technical assistance
• Implementation sites are responsible for data entry
• Sites submit data, upon request, to CiMH for analysis and reporting
CiMH’s “Dashboard” Reports

• Program Performance and Outcome Evaluation Reports
  – Data tables, to conserve space
    • Sites can easily make pie charts or bar graphs for presentations to various stakeholders
  – Three primary domains
    • Characteristics of clients served
    • Description of services provided
    • Outcomes achieved
CiMH’s “Dashboard” Reports

– Aggregate Report
  • Pools together all data submitted

– Site-Specific Reports
  • Each agency submitting data receives a site-specific report
  • “Site” could be a county agency or an organizational provider
  • Agencies and providers can receive more than one site report if they choose (i.e., reflecting implementation at different physical locations or for different funding streams)
CiMH’s “Dashboard” Reports

– Limitations

• Quality of the data included in the reports is only as good as the quality of data entered

• CiMH does not have the ability to go to the primary source(s)
  – Cannot verify accuracy

• Current data submission intervals do not allow for “real-time” reporting
  – Goal is to turn reports around within two months of the data submission
CiMH’s “Dashboard” Reports

– Benefits

• The first level of program performance reflected in the dashboard reports is the extent to which data are being collected and entered accurately and completely
  – Does the report accurately reflect the implementation of the EBP
  – Are some (or many) data elements missing
  – Technical assistance is available to assist sites in investigating inconsistencies or questions
CiMH’s “Dashboard” Reports

– Benefits

• Agencies are encouraged to compare their site-specific report with the aggregate report, examining the extent to which a particular program is performing “on par” with the average

• Questions one might ask about their site report:
  – Is the entry rate low?
  – Is the dropout rate high?
  – Is the distribution of demographic characteristics reflective of clients in need of services and/or for whom the EBP is intended?
  – Are outcome measures being collected pre-treatment?
  – Does the service delivery information reflect what is intended from this EBP?
  – Is this program achieving the expected outcomes?
CiMH’s “Dashboard” Reports

– Benefits

• Routine data collection and reporting on program performance and outcome evaluation demonstrates the extent to which an EBP implementation is…

  – Serving the population for whom the practice/program is intended
  – Providing a level of service delivery similar to what has been reported in the literature for this practice/program
  – Achieving outcomes similar to those that have been achieved in the literature and in other implementations
CiMH’s “Dashboard” Reports

– Benefits

• **It’s not just for EBPs!**
• Routine data collection and reporting on program performance and outcome evaluation demonstrates the extent to which any program, practice, or service is…
  – Serving the population for whom program, practice, or service is intended
  – Providing a level of service delivery similar to what one would expect
  – Achieving outcomes as intended
## Recent CiMH Dashboard Reports

<table>
<thead>
<tr>
<th>Evidence-Based Practice*</th>
<th># of Sites that Submitted Data</th>
<th>Overall N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggression Replacement Training (ART)</td>
<td>10</td>
<td>2,108</td>
</tr>
<tr>
<td>Functional Family Therapy (FFT)</td>
<td>39</td>
<td>11,760</td>
</tr>
<tr>
<td>Trauma Focused Cognitive Behavioral Therapy (TF-CBT)</td>
<td>91</td>
<td>19,069</td>
</tr>
<tr>
<td>Positive Parenting Program (Triple P)</td>
<td>46</td>
<td>5,909</td>
</tr>
</tbody>
</table>

*Not an exhaustive list of EBPs supported by CiMH*
Clients Served

• Common data elements on clients served included in CiMH dashboard reports
  – Age
  – Gender
  – Ethnicity

• Some EBPs also collect and track
  – Primary language
  – Primary Axis I diagnosis
  – Referral source
## Clients Served

<table>
<thead>
<tr>
<th>EBP</th>
<th>Average Age</th>
<th>Gender</th>
<th>Ethnicity</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>Male</td>
<td>African American</td>
<td>Asian/ PI</td>
<td>Caucasian</td>
<td>Hispanic/Latino</td>
<td>Other</td>
</tr>
<tr>
<td>ART</td>
<td>16.0</td>
<td>12%</td>
<td>88%</td>
<td>19%</td>
<td>1%</td>
<td>19%</td>
<td>57%</td>
<td>4%</td>
</tr>
<tr>
<td>FFT</td>
<td>15.2</td>
<td>37%</td>
<td>61%</td>
<td>21%</td>
<td>1%</td>
<td>19%</td>
<td>49%</td>
<td>7%</td>
</tr>
<tr>
<td>TF-CBT</td>
<td>11.3</td>
<td>56%</td>
<td>44%</td>
<td>15%</td>
<td>1%</td>
<td>9%</td>
<td>72%</td>
<td>4%</td>
</tr>
<tr>
<td>Triple P</td>
<td>8.6</td>
<td>34%</td>
<td>66%</td>
<td>9%</td>
<td>1%</td>
<td>10%</td>
<td>76%</td>
<td>4%</td>
</tr>
</tbody>
</table>
Services Provided

• Common data elements on service delivery information included in CiMH dashboard reports
  – Duration of Treatment
    • Usually in Weeks, sometimes in Days
    • Range, Average, Standard Deviation
  – Number of Sessions or Groups
    • Range, Average, Standard Deviation
• Some EBPs also collect and track
  – Service delivery information by Phase or Component
## Services Provided

<table>
<thead>
<tr>
<th>EBP</th>
<th>Average Length of EBP</th>
<th>Average Number of Sessions or Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART</td>
<td>10 weeks</td>
<td>24.7</td>
</tr>
<tr>
<td>FFT</td>
<td>37 weeks</td>
<td>14.3</td>
</tr>
<tr>
<td>TF-CBT</td>
<td>32 weeks</td>
<td>25.3</td>
</tr>
<tr>
<td>Triple P</td>
<td>21 weeks</td>
<td>14.4</td>
</tr>
</tbody>
</table>
Outcomes Achieved

• The majority of EBPs use standardized questionnaires, or measures of functioning, to assess outcomes
  – These vary by program/practice
    • Sometimes required as part of the routine clinical service delivery for an EBP
    • Sometimes optional, recommended by the EBP developers/clinical experts and/or CiMH
  – Some outcome measures are general, broad
  – Some outcome measures are focused on a specific treatment target
Outcomes Achieved

• **Outcome Indicator: Percent Improvement**
  – The percent change from the average pre-score to the average post-score is reported for each outcome measure
  – Change is always reported in terms of improvement
  – Interpreting percent change can be difficult
    • It is influenced by the range of scores – a measure with a smaller range of scores is likely to show a greater percent change than a measure with a larger range of scores
    • It does not translate to clinically meaningful change
  – It is an overall reflection of treatment success
    • Do our clients get better after participation in this treatment?
Outcomes Achieved

• Outcome Indicator: Reliable Change
  – We can look at two scores and see that they are different; but, how do we know that the difference we’re observing isn’t simply due to measurement error? How much difference do we need to observe to know that it is a reliable amount of change?
  – A fairly complex formula is used that takes into account the variability of the pre- treatment group and measurement error, resulting in our ability to categorize pre/post change for each measure into three groups:
    • Reliable Positive Change, Reliable Negative Change, and No Reliable Change
Outcomes Achieved – ART

• Three components to the ART group intervention; three different target-specific measures
  – Skill Streaming Checklists (skill streaming)
    • Staff Report and Youth Self-Report
    • Range 1 – 5
    • Not standardized, no clinical cutpoint
  – Aggression Questionnaire [AQ] (anger control)
    • Youth Self-Report
    • Range 34 – 170
    • Clinical cutpoint 110 and higher
  – How I Think Questionnaire [HIT] (moral reasoning)
    • Youth Self-Report
    • Range 1 – 6
    • Clinical cutpoint 2.77 and higher
Outcomes Achieved – ART Skill Streaming Component

Staff Report 17%* improvement in youth Pro Social Skills

Youth Self-Report 11%* improvement in their Pro Social Skills
Outcomes Achieved – ART Anger Control Component

Aggression Questionnaire

ART Anger Control Outcomes

Youth Self-Report 5%* improvement in their anger management

Solid line indicates clinical cutpoint

Pre

AQ

n=356

Post
Outcomes Achieved – ART Anger Control Component

Reliable Change on AQ Total Score
ART Anger Control Outcomes

<table>
<thead>
<tr>
<th>Youth (n=356)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Change</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>No Change</td>
<td>175</td>
<td></td>
</tr>
<tr>
<td>Negative Change</td>
<td>79</td>
<td></td>
</tr>
</tbody>
</table>

Percentage Distribution:
- Positive Change: 0%
- No Change: 40%
- Negative Change: 20%
Outcomes Achieved – ART Moral Reasoning Outcomes

How I Think Questionnaire
ART Moral Reasoning Outcomes

Youth Self-Report 6%* improvement in their thought processes
Outcomes Achieved – ART Moral Reasoning Outcomes

Reliable Change on HIT Total Score
ART Moral Reasoning Outcomes

<table>
<thead>
<tr>
<th>Youth (n=151)</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>53</td>
<td>61</td>
<td>37</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Positive Change
- No Change
- Negative Change
Outcomes Achieved – FFT

• General Measure of Youth Mental Health Functioning
  – Youth Outcome Questionnaires (YOQ and YOQ-SR)
    • Parent/Caregiver Report and Youth Self-Report
      – FFT collects data from two Parental Figures
    • Range -16 – 240
    • Clinical Cutpoint 47/46 and higher
Outcomes Achieved – FFT

Youth Outcome Questionnaires
Total Score
FFT Aggregate Data

Parents Report an average of 28%* improvement in youth mental health and overall functioning.

Youth Self-Report 24%* improvement in their mental health and overall functioning.

<table>
<thead>
<tr>
<th>Solid lines indicate clinical cutpoints</th>
<th>Parental Figure 1</th>
<th>Parental Figure 2</th>
<th>Youth</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=3,673</td>
<td>61</td>
<td>64</td>
<td>50</td>
</tr>
<tr>
<td>n=643</td>
<td>44</td>
<td>50</td>
<td>39</td>
</tr>
<tr>
<td>n=4,138</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pre Post
Outcomes Achieved – FFT

Reliable Change on YOQ Total Score
Pre-FFT to Post-FFT: Aggregate Data

Parental Figure 1 (n=3,673)
- Positive Change: 1,772
- No Change: 1,530
- Negative Change: 371

Parental Figure 2 (n=643)
- Positive Change: 264
- No Change: 299
- Negative Change: 80

Youth (n=4,138)
- Positive Change: 1,561
- No Change: 2,126
- Negative Change: 451

Legend:
- Green: Positive Change
- Tan: No Change
- Red: Negative Change

Youth (n=4,138)
Parental Figure 2 (n=643)
Parental Figure 1 (n=3,673)
Outcomes Achieved – TF-CBT

• Target-Specific Measure Focused on Symptoms of Trauma Exposure
  – UCLA Post Traumatic Stress Disorder Reaction Index (PTSD-RI)
    • Parent Report and Child Self-Report
    • Range 0 – 68
    • Clinical cutpoint 38 and higher

• General Measures of Youth Mental Health Functioning, YOQ and YOQ-SR are also collected
  – Not reported in this presentation
Outcomes Achieved – TF-CBT

Post-Traumatic Stress Disorder
Reaction Index
Total PTSD Severity Score
TF-CBT: Aggregate Data

Parents Report 41%* improvement in children’s post traumatic stress symptoms

Children Self-Report 43%* improvement in their post traumatic stress symptoms
Outcomes Achieved – TF-CBT

Reliable Change on PTSD-RI Total Score
Pre-TF-CBT to Post-TF-CBT:
Aggregate Data

Parent/Caregiver (n=3,572)
- Positive Change: 1,144
- No Change: 2,293
- Negative Change: 135

Youth (n=3,947)
- Positive Change: 1,574
- No Change: 2,261
- Negative Change: 112
Outcomes Achieved – Triple P

• Target-Specific Measure Focused on Disruptive Behaviors
  – Eyberg Child Behavior Inventory (ECBI)
    • Parent/Caregiver Report
    • Intensity Score Range 36 – 252
      – Clinical cutpoint 131 and higher
    • Problem Score Range 0 – 36
      – Clinical cutpoint 15 and higher

• A variety of other measures of child behavior and family functioning are used by Triple P sites across the state
  – Not reported in this presentation
Outcomes Achieved – Triple P

Parents Report:
- 28%* improvement in the intensity of children’s disruptive behavior; and,
- 50%* improvement in how problematic those behaviors are to them.
Outcomes Achieved – Triple P

Reliable Change on ECBI Raw Score
Triple P Parenting Level 4/5 Aggregate Data

Intensity (n=1,482)
- Positive Change: 925
- No Change: 485
- Negative Change: 72

Problem (n=1,458)
- Positive Change: 868
- No Change: 531
- Negative Change: 59

0% 20% 40% 60% 80% 100%
Summary

• CiMH receives varying amounts of data for program performance and outcome evaluation reporting across EBP implementations

  – Dependent on the number of implementing agencies/sites; and, the extent to which data collection for outcome evaluation purposes is required
Summary

• Outcome data consistently reflect positive gains after participation in EBPs
  – Improvements are reported in children’s general mental health functioning as well as in target-specific areas, such as skills acquisition, anger management, depression, disruptive behavior, and trauma symptoms
Future Directions

• **Exciting News!!**
  
  – As of next fiscal year, CiMH will officially merge with the Alcohol and Drug Policy Institute (ADPI)

  Creating the:

  CENTER FOR

  BEHAVIORAL HEALTH SOLUTIONS
Future Directions

- CiMH/Center for Behavioral Health Solutions is transitioning to a web-based solution that will simplify and reduce errors in data submissions, and automate analysis and reporting
  - “eBHSolutions”
- The goal is to provide real-time feedback of data to drive decision-making at multiple levels
  - Client
  - Program
  - Agency/Organization
  - County
  - State
Questions
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