Using Encounter and Outcome Data to Guide Management of Health Services in Ontario

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A System of Care for Children’s Mental Health: Expanding the Research Base
March 6th 2007
Tampa Florida

Ontario’s System of Care

- Use of CAFAS mandated in 2000 in 120 CMHCs
- First ever standardized system-wide information about the global level of functioning outcomes for Ontario children & youth who receive MH services
- Date collected quarterly
- Nearly 100% uptake
- Progress needed:
  - Program level data
  - Integration of IT
  - Use of data for system management

CAFAS in Ontario

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Data Export

Clients ages 6-17 years who receive (certain) MH services in participating CMHCs:
Practitioners must have sufficient knowledge about the client in order to rate CAFAS reliably

What do CHMCS Export?
- Open & closed cases
- Use a selection filter that captures CAFAS variables that are part of the Ontario Common Data Set
Data Limitations

- Data represent a subgroup of children/youth receiving treatment in Ontario; there are an estimated 210 organizations across the province.
- CMHCs do not necessarily rate all their clients.

Data Limitations...cont’d

4 Exceptions to CAFAS use in Ontario:
1) Clients receiving services for which no detailed screening or assessment occurs (e.g., prevention, outreach, parent education groups, support groups)
2) Clients receiving services that are delivered in 1-3 sessions (e.g., crisis, early intervention, single-session intervention)
3) Clients seen in one organization primarily for redirection to a more appropriate service;
4) Clients receiving services for problems other than psychological, emotional, behavioural, or substance use related (e.g., developmental impairment).

Data Limitations...cont’d

- Outcome data is not linked to type of service
- No information about treatment dose or fidelity to a treatment model

Client Characteristics Age at Admission

(m=9,634)
**CAFAS Total Score**

A total score of:
- **0-30** means the client was likely referred to qualified health professional
- **40-70** likely receives outpatient services
- **80-100** likely receives outpatient care with additional services of a supportive or intensive nature
- **110-130** likely receives intensive, community-based services, although some youths may need acute residential services at some point
- **>140** very intensive services would be required; may be in residential or inpatient settings at some point

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**Severity at Entry to Treatment**

(n=9,634)

- **0-30**: 22.0%
- **40-70**: 33.9%
- **80-100**: 19.4%
- **110-130**: 11.6%
- **>140**: 7.4%

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**Severity Intervals at Entry CAFAS in Ontario & Regions**

- **0-30**
- **40-70**
- **80-100**
- **110-130**
- **>140**

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**CAFAS Subscales**

- School
- Home
- Community
- Behavior Towards Others
- Moods / Emotions
- Self Harm
- Substance Abuse
- Thinking

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**Youths Rated as Severely or Moderately Impaired on 0 to 8 of the 8 CAFAS Subscales at Entry to Treatment**

(n=9,634 cases with at least some subscale data, not necessarily on all subscales)
Youth Functioning by CAFAS Subscales at Entry CAFAS (n varies between 9220 and 9237)*

* Sample cases differ by subscale

CAFAS Tiers®
- Thinking (thinking subscale)
- Maladaptive Substance Use (substance use subscale)
- Self-Harmful Potential (self harm and mood/emotions)
- Delinquency (community subscale)
- Behavior Problems with Moderate Mood Disturbance (school, home, or behavior towards others & mood/emotions)
- Behavior Problems without Mood (school, home, or behavior towards others)
- Moderate Mood / Mild Behavior

Percentage of Youths in Each of the CAFAS Client Types at Entry CAFAS Mutually Exclusive and Hierarchically arranged (n=9,634)

CLIENT LEVEL OF FUNCTIONING AT EXIT FROM TREATMENT
1. Outcomes from Entry to Exit CAFAS
   a) Includes cases (open and closed) with an Entry and Exit CAFAS (T14)
   b) n= # of cases with two or more CAFAS evaluations, excluding CAFAS where it was indicated that no treatment was delivered (n=2,164)
2. Three Ways of Viewing Outcome
   a) Change in average scores
   b) Proportion of youths improved (combining all youths)
   c) Proportion of youths improved (breakdown by CAFAS Client Types)

Outcome: Change in Average CAFAS Total Score from Entry to Exit CAFAS

Outcome change is statistically significant (95% CI) n=2164:

Outcome: Change in Average Score on CAFAS Subscales from Entry to Exit CAFAS (n=2,164)
Absolute Change in CAFAS* *(n=2,164)

- 13.6% showed no change: the graph shows a general improvement (more positive values than negative ones).

Youths Improved on Various Outcome Methods

<table>
<thead>
<tr>
<th>Outcome Method</th>
<th>(out of n)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved on at least one of the three outcome indicators</td>
<td>1371 2,019</td>
<td>67.9</td>
</tr>
<tr>
<td>Clinically meaningful reduction in total CAFAS Score- Reliable Improvement (Restricted to youths with Entry CAFAS &gt; 20)</td>
<td>1228 2,009</td>
<td>60.1</td>
</tr>
<tr>
<td>No Severe impairments at exit (Restricted to youth with one or more severe impairments at Entry)</td>
<td>440 838</td>
<td>53.5</td>
</tr>
<tr>
<td>Improving from SED to Non SED (Restricted to youths with Entry CAFAS &gt;=40)</td>
<td>648 1,344</td>
<td>48.2</td>
</tr>
</tbody>
</table>

Improved on at Least One of Three Outcome Indicators

<table>
<thead>
<tr>
<th>Client Types</th>
<th>% of clients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking Problems</td>
<td>64.5</td>
</tr>
<tr>
<td>Maladaptive Sub物质-use</td>
<td>40.8</td>
</tr>
<tr>
<td>Self-Harmful Potential</td>
<td>71.9</td>
</tr>
<tr>
<td>Delinquency Behavior Problems</td>
<td>76.4</td>
</tr>
<tr>
<td>Problems With Moderate Mood</td>
<td>66.4</td>
</tr>
<tr>
<td>Behavior Problems Without Mood</td>
<td>62.9</td>
</tr>
</tbody>
</table>

Change Towards Less Impairing Client Type

<table>
<thead>
<tr>
<th>Change in CAFAS Tiers®</th>
<th>% of youths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking Problems</td>
<td>64.6</td>
</tr>
<tr>
<td>Maladaptive Substance Use</td>
<td>40.6</td>
</tr>
<tr>
<td>Self Harmful Potential</td>
<td>71.9</td>
</tr>
<tr>
<td>Delinquency Behavior Problems</td>
<td>76.4</td>
</tr>
<tr>
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</table>

Clinically Meaningful Reduction in Total Score (>=20pts)
No Severe Impairments at Exit CAFAS (Restricted to Youths with 1 or More Severe Impairments at Entry CAFAS)

Improving from SED to No SED (Defined Here as Total CAFAS Score of 40 or Less at Exit)

Caregiver Information

Material Needs Subscale Decrease in Caregiving Environment (Primary Family) (n=1,967)

Material Needs Subscale Non-Custodial Caregivers at Entry and Exit (n=317 at Entry; n=267 at Exit)

Family/Social Support Subscale Primary Family Score at Entry and Exit CAFAS (n=2,031 at Entry; n=2,070 at Exit)
Family/Social Support Subscale
Decrease in Caregiving Environment
(Primary Family)  (n=1,973)

Other
62.7% No Change (Entry and Exit score was 10, 20 or 30)
Worse
21.3%
Improved
27.3%
Stayed at No Dysfunction (0)
41.5%

Case Management

Case Management (cont.)

Percent of Cases: Open vs Closed*
(n=9,004)

Open
71.5%
Closed
28.5%

* Open and Closed refer to status in the CAFAS Software only

Are the Client Records Up-to-Date so that Outcome can be Continuously Evaluated?
- Monitoring of Records for Outcome Documentation While Family is Still Receiving Services (this sample is restricted to cases with an Entry CAFAS)
- Open and Closed refer to status in the CAFAS Software only
- A case can have unlimited treatment episodes
- A closed case can be “reopened” if prematurely closed

Cases with No CAFAS – there is no CAFAS evaluation for any time point 9
Cases with Multiple CAFAS – overdue CAFAS (days since last CAFAS >=100) and there is more than one CAFAS evaluation 3,498
Cases with Single CAFAS – overdue CAFAS (days since last CAFAS >=100) and there is only one CAFAS evaluation 164
Cases with CAFAS to Close – there is no assessment date completed for T14 (cases that need to be closed) 443

Youths Who Could be Categorized as Qualifying for Intensive Services at Entry CAFAS (n=9,004)

Case Management

Case Management n
Cases SED* (CAFAS Total Score >=50) 8,049
Cases SED Plus (Total score >=50 & there is at least one subscale with severe or moderate impairment) 6,009
Cases Qualifying for Intensive Services (Total Score>=80, and there are at least 2 subscales scored with severe or moderate impairment) 3,650
Cases that have both an Entry and an Exit CAFAS 2,218

* SED = Serious Emotional Disturbance
Youths who could be regarded as SED or SED “PLUS” at Entry (n=9,004)

![Bar chart showing distribution of SED and SED PLUS clients at entry.]

Outcome for Closed Cases

<table>
<thead>
<tr>
<th>Outcome</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Not Needed</td>
<td>84</td>
</tr>
<tr>
<td>Not Improved:</td>
<td>509</td>
</tr>
<tr>
<td>Improved:</td>
<td>3037</td>
</tr>
<tr>
<td>Likely Drop-Outs:</td>
<td>120</td>
</tr>
<tr>
<td>Treatment Not Needed</td>
<td>702</td>
</tr>
</tbody>
</table>

Youth who could be regarded as SED or SED “PLUS” at Entry (n=9,004)

Outcome for Cases Closed During January 1st - December 31st, 2005 Period (n=2,368)

<table>
<thead>
<tr>
<th>Outcome Indicators</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliable Improvement (20 pts) on CAFAS - Entry to Exit</td>
<td>1,055</td>
</tr>
<tr>
<td>No Severe Impairments at Exit</td>
<td>626</td>
</tr>
<tr>
<td>Improving from SED* to Non SED</td>
<td>468</td>
</tr>
</tbody>
</table>

* SED = Serious Emotional Disturbance

Youths Improved of Three Outcome Indicators for Closed Cases Which had Outcome Data (20 pts reduction n=1,546; No Severe Impairments at Exit n=628; Improving from SED to No SED n=1,013)

What you really need to know about our Ontario journey into outcome measurement:

Whatever outcome tool you care to use, count on the training piece to take you only 1/10th of the way toward implementation... and then relive that over and over. The other 9/10ths of the time... the next 9 years, you will spend wrestling with the following issues:

1. Outcome measurement vs. outcome management
2. Create fora for knowledge sharing: communities of practice
3. Closing the loop: make sure organizations get something back for their efforts
4. Connecting outcome data to other key databases: the IT Monster is under the bed
5. Educate leadership, not only clinicians: Supervisors and managers will need to be on side AND knowledgeable
6. At a system level, keep one step ahead: Now that we have a common metric in place, what will we roll out next? Think of your overall infrastructure plan.
Thank you

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