

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
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CAFAS in Ontario

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SickKids

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- 5 Implications
- 6 Next Steps



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

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.

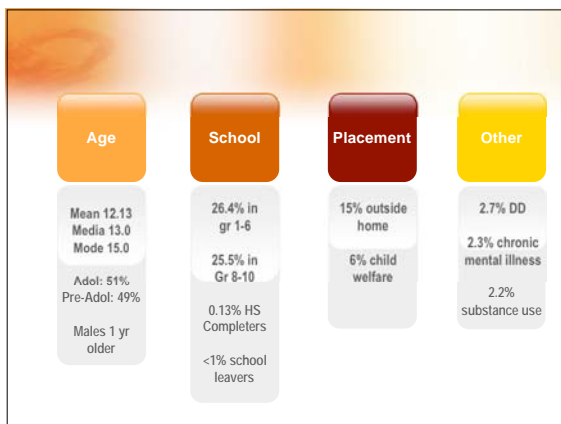
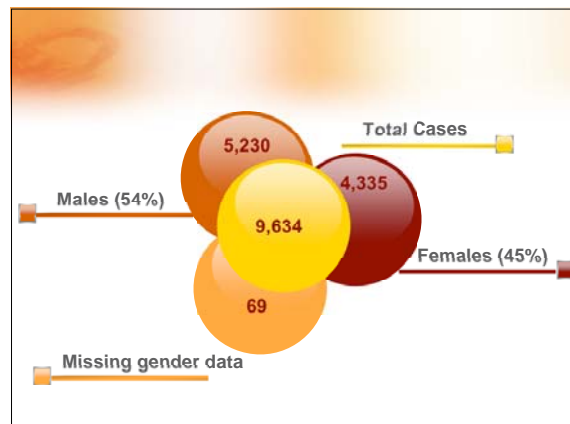
Data Limitations..cont'd

4 Exceptions to CAFAS use in Ontario:

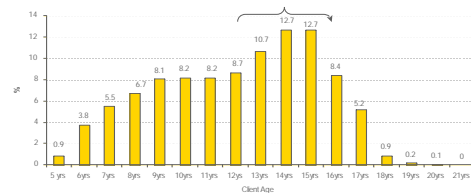
- 1) Clients receiving services for which no detailed screening or assessment occurs (e.g., prevention, outreach, parent education groups, support groups)
- 2) Clients receiving services that are delivered in 1-3 sessions (e.g., crisis, early intervention, single-session intervention)
- 3) Clients seen 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

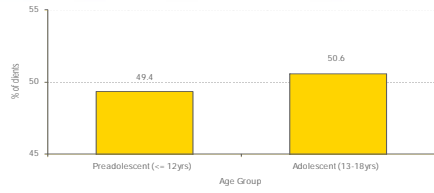
- Outcome data is not linked to type of service
- No information about treatment dose or fidelity to a treatment model



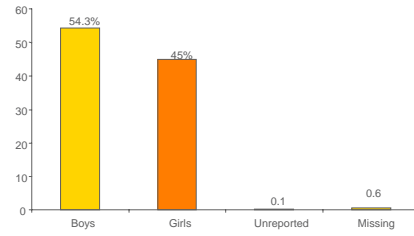
Client Characteristics Age at Admission (n=9,634)



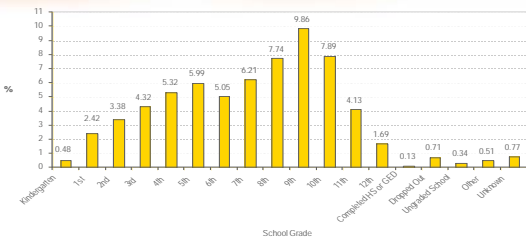
Age Groups (n=9,634)



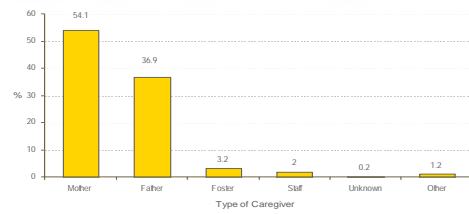
Gender (n=9,634)



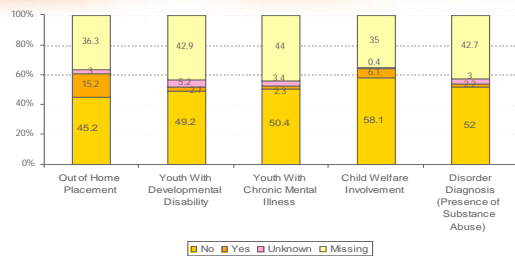
Youth School (n=6,980 missing data n=2,980)



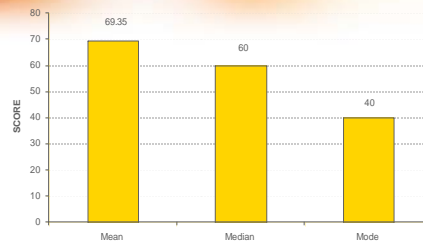
Caregiver Information (n=9,004)



Other Demographics (n=9,004)

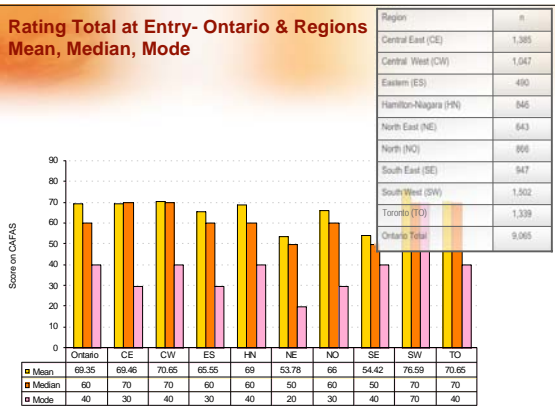


Rating Total at Entry CAFAS (valid: n=9,065; missing CAFAS total score at entry n=569)*



*If a subscale is left unrated, a total CAFAS score cannot be generated

Rating Total at Entry- Ontario & Regions Mean, Median, Mode

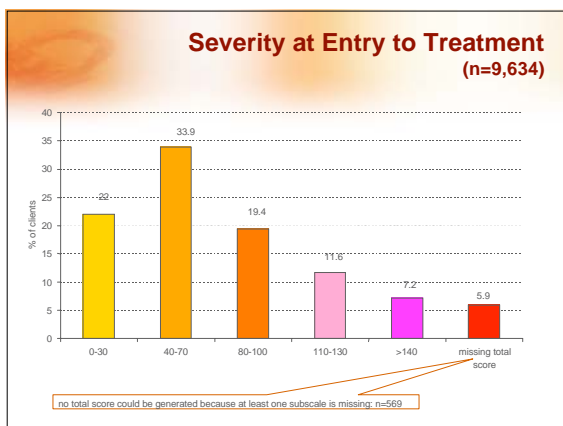


CAFAS Total Score

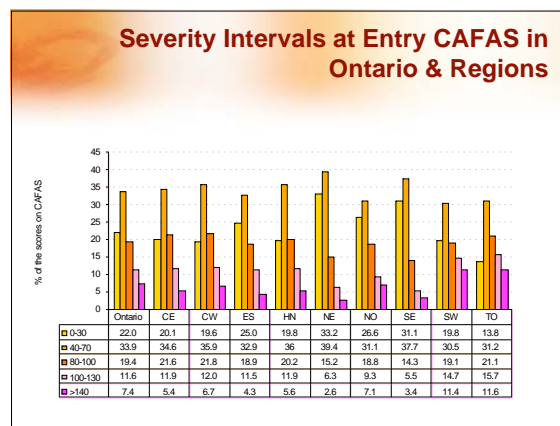
A total score of: Means the client was:

- 0-30 professional 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

Severity at Entry to Treatment (n=9,634)



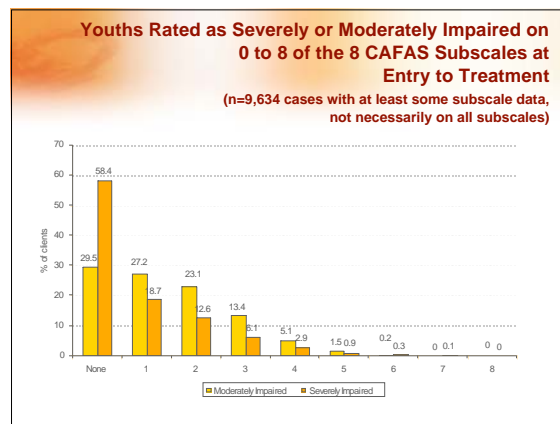
Severity Intervals at Entry CAFAS in Ontario & Regions



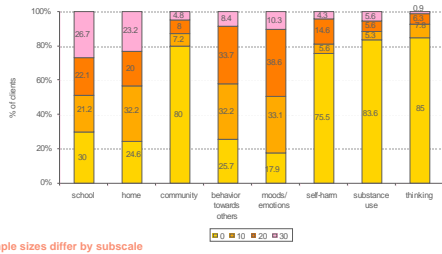
CAFAS Subscales

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

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)*

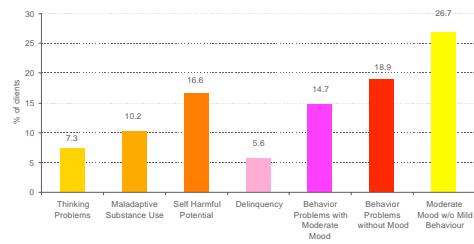


* Sample sizes differ by subscale

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)

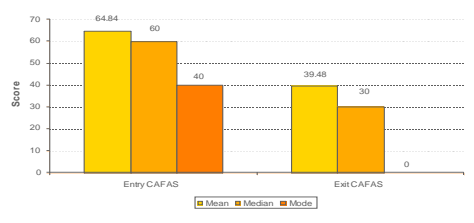


CLIENT LEVEL OF FUNCTIONING AT EXIT FROM TREATMENT

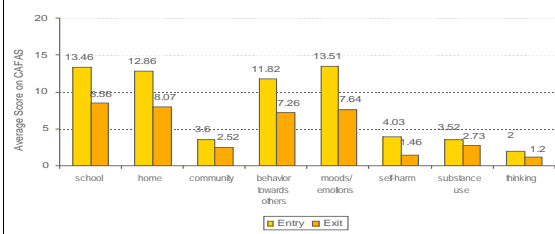
1. Outcomes from Entry to Exit CAFAS
 - a) Includes cases (open and closed) with an Entry and Exit CAFAS (T14)
 - b) n= # of cases with two or more CAFAS evaluations, excluding CAFAS where it was indicated that no treatment was delivered (n=2,164)
2. Three Ways of Viewing Outcome
 - a) Change in average 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

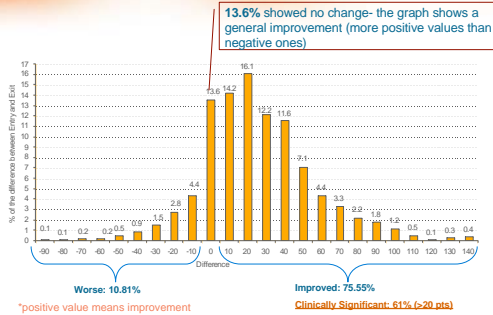
Outcome change is statistically significant (95% CI) n=2164;



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



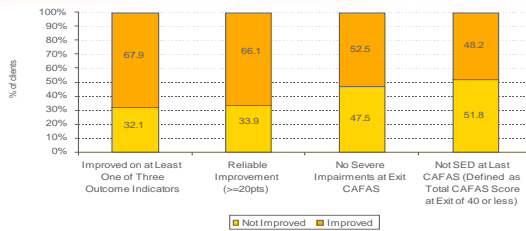
Absolute Change in CAFAS* (n=2,164)



Youths Improved on Various Outcome Methods

Outcome Method	n showing improvement	out of n (valid sample size)	%
Improved on at least one of the three outcome indicators	1371	2,019	67.9
Clinically meaningful reduction in total CAFAS Score- Reliable Improvement (Restricted to youths with Entry CAFAS >= 20)	1328	2,009	66.1
No Severe impairments at exit (Restricted to youth with one or more severe impairments at Entry)	440	838	52.6
Improving from SED to Non SED (Restricted to youths with Entry CAFAS >=40)	648	1,344	48.2

Improved on at Least One of Three Outcome Indicators

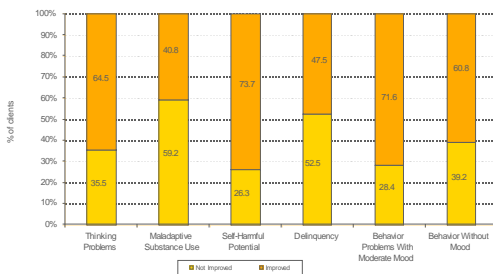


Outcome method – Client Types Change to Less Impairing Client Type on CAFAS Tiers®

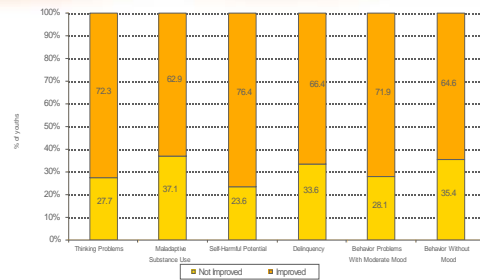
Categories	n
Thinking	138
Substance Use	228
Self Harmful Potential	354
Delinquency	122
Behavior Problems With Moderate Mood Disturbance	264
Behavior Problems Without Mood	413

Change Towards Less Impairing Client Type

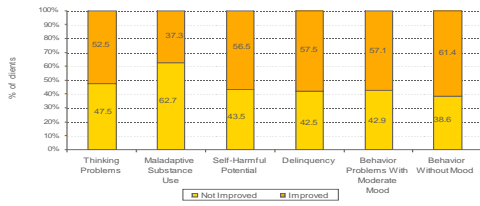
The % above the bar labeled "delinquency" is the % of youths placed in the Delinquent client type at entry that changed toward being assigned to a less impairing client type (e.g., behavior problems) at last CAFAS



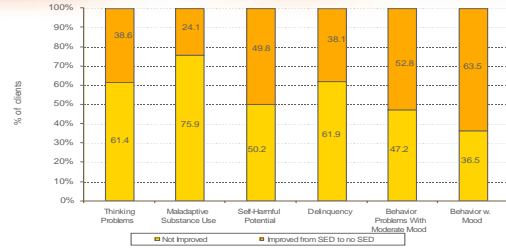
Clinically Meaningful Reduction in Total Score (>=20pts)



**No Severe Impairments at Exit CAFAS
(Restricted to Youths with 1 or More Severe Impairments at Entry CAFAS)**



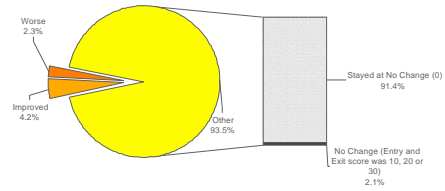
**Improving from SED to No SED
(Defined Here as Total CAFAS Score of 40 or Less at Exit)**



Caregiver Information

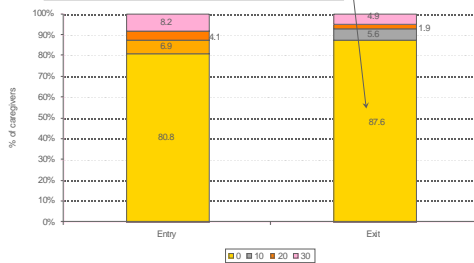
Family Material Needs subscale	n at Entry	n at Exit
Primary Family	2047	2096
Non-Custodial Caregiver	317	267
Surrogate Caregiver	92	84
Family Social Support subscale	n at Entry	n at Exit
Primary Family	2031	2070
Non-Custodial Caregiver	301	261
Surrogate Caregiver	87	77

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



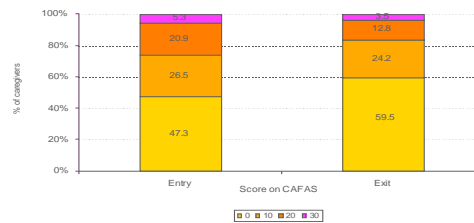
**Material Needs Subscale
Non-Custodial Caregivers at Entry and Exit
(n=317 at Entry; n=267 at Exit)**

Improvement from Entry to Exit: shown by smaller percentages for higher scores vs. greater percentages for 0 score shows improvement from Entry to Exit.

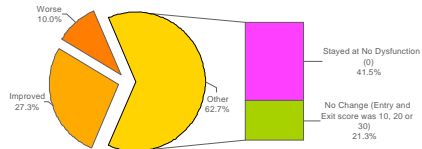


**Family/Social Support Subscale
Primary Family Score at Entry and Exit
CAFAS
(n=2,031 at Entry; n=2,070 at Exit)**

Overall improvement from Entry to Exit: shown by smaller percentages for higher scores vs. greater percentages for 0 score shows improvement from Entry to Exit



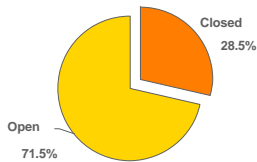
**Family/Social Support Subscale
Decrease in Caregiving Environment
(Primary Family) (n=1,973)**



Case Management

Case Management	n
Cases submitted where	
•The age is between 6-18	9,004
•There is a Total Score for CAFAS at Entry	
•Sex value is not missing	
Excluding admission date not in range -cases open or closed:	9,004

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



* 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 Multiple CAFAS - overdue CAFAS (days since last CAFAS >=100) and there is more than one CAFAS evaluation	164
Cases with Single CAFAS - overdue CAFAS (days since last CAFAS >=100) and there is only one CAFAS evaluation	3,498
Cases with CAFAS to Close -there is no assessment date completed for T14 (cases that need to be closed)	443
Cases with No CAFAS -there is no CAFAS evaluation for any time point	0

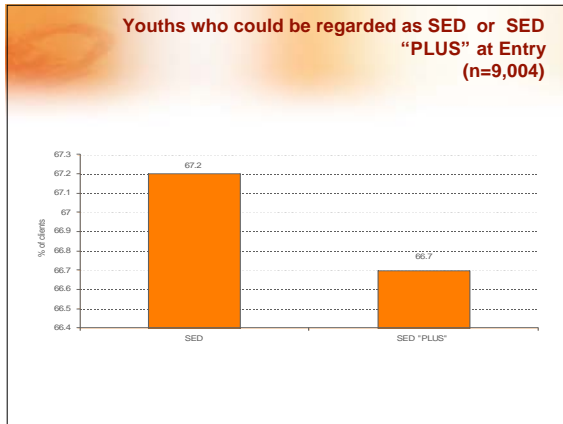
Case Management (cont.)

Case Management	n
Cases SED* (CAFAS Total Score >=50)	6,049
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

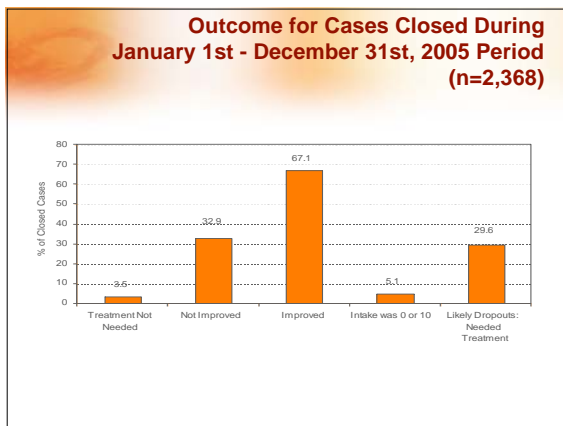
**Youths Who Could be Categorized as
Qualifying for Intensive Services at Entry
CAFAS (n=9,004)**





Outcome for Closed Cases

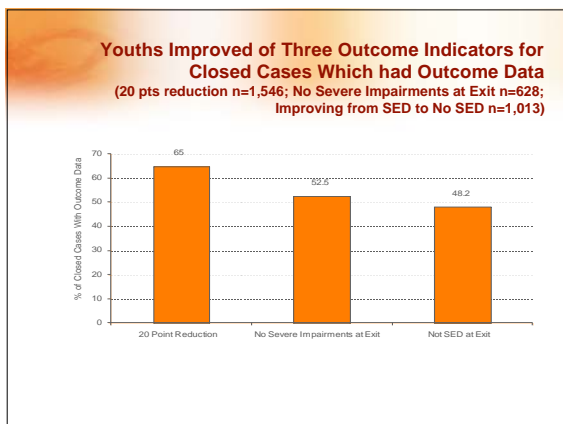
Outcome	n
Treatment Not Needed: Only one CAFAS evaluation was done and there was a good reason for not providing treatment (i.e., evaluation only, no treatment needed, or referred to other service). This information is provided when case is closed	86
Not Improved: Did not improve on any of 3 outcome indicators	509
Improved: Improved on 1 or more of 3 outcome indicators	1037
Entry Was 0 OR 10: Outcome can not be evaluated because the entry CAFAS was a 0 or 10. Since the least "ambitious" outcome indicator requires a reduction of 20 points or more, it is not possible to evaluate outcome if the entry score is less than 20	120
Likely Drop-Outs, Needed Treatment: There was an entry CAFAS but no subsequent CAFAS evaluations, and the case appeared to be appropriate for treatment (i.e., case was not coded as "evaluation only," "no services needed," or "referred to other services" when case was closed)	702



Three Outcome Indicators

Outcome Indicators	n
Reliable Improvement (20 Pts) on CAFAS – Entry to Exit	1,005
No Severe Impairments at Exit	330
Improving from SED* to Non SED	488

* SED = Serious Emotional Disturbance



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 9/10th 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 you overall infrastructure plan.

Thank you

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