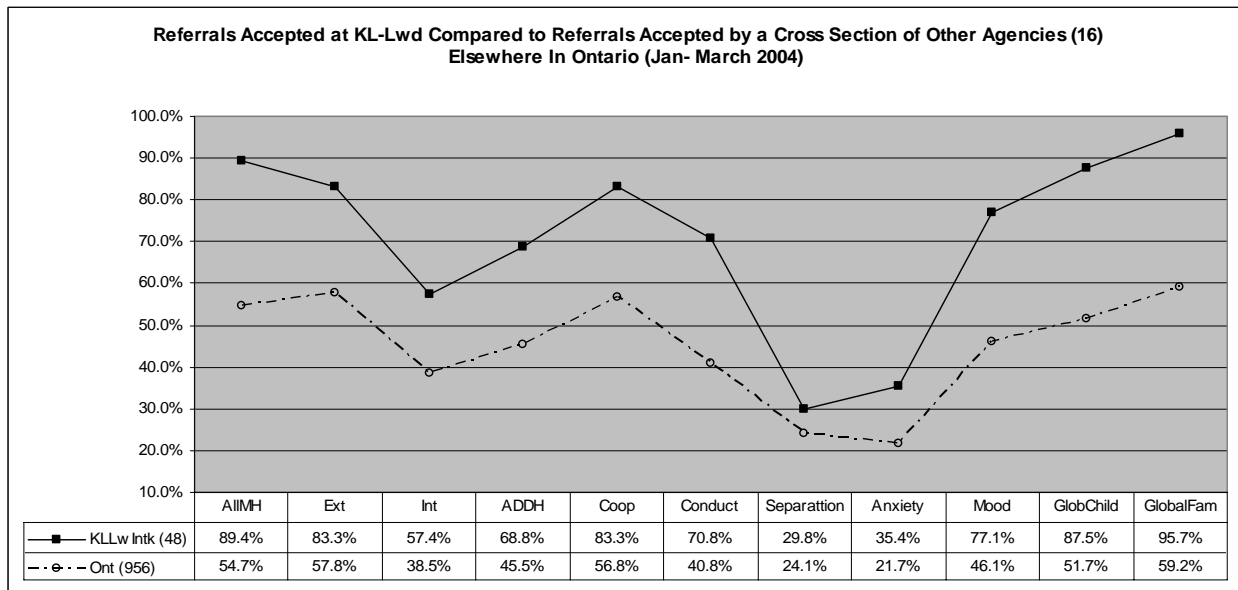


# Overview of Initial Outcomes Data re 3 Intensive Services

## 1 Are More Severe Cases Being Accepted and Less Severe Cases Diverted?

- KidsLink – Lutherwood (KL-Lwd) intends to focus its CMH efforts for 6 – 18 year olds on higher severity referrals, and divert less severe cases to the community.<sup>12</sup>
- The solid line below shows the prevalence of referrals with scores =>70<sup>3</sup> amongst referrals accepted by KL-Lwd. The dotted line is the average prevalence of scores =>70 amongst accepted referrals, for a sample of 17 other agencies in Ontario which target a broader range of severity. This data was gathered January 1 - March 31, 2004

The agency does appear to be accepting higher severity referrals, as intended.



### 1.1 The Agency is Providing Intensive Services for These Referrals

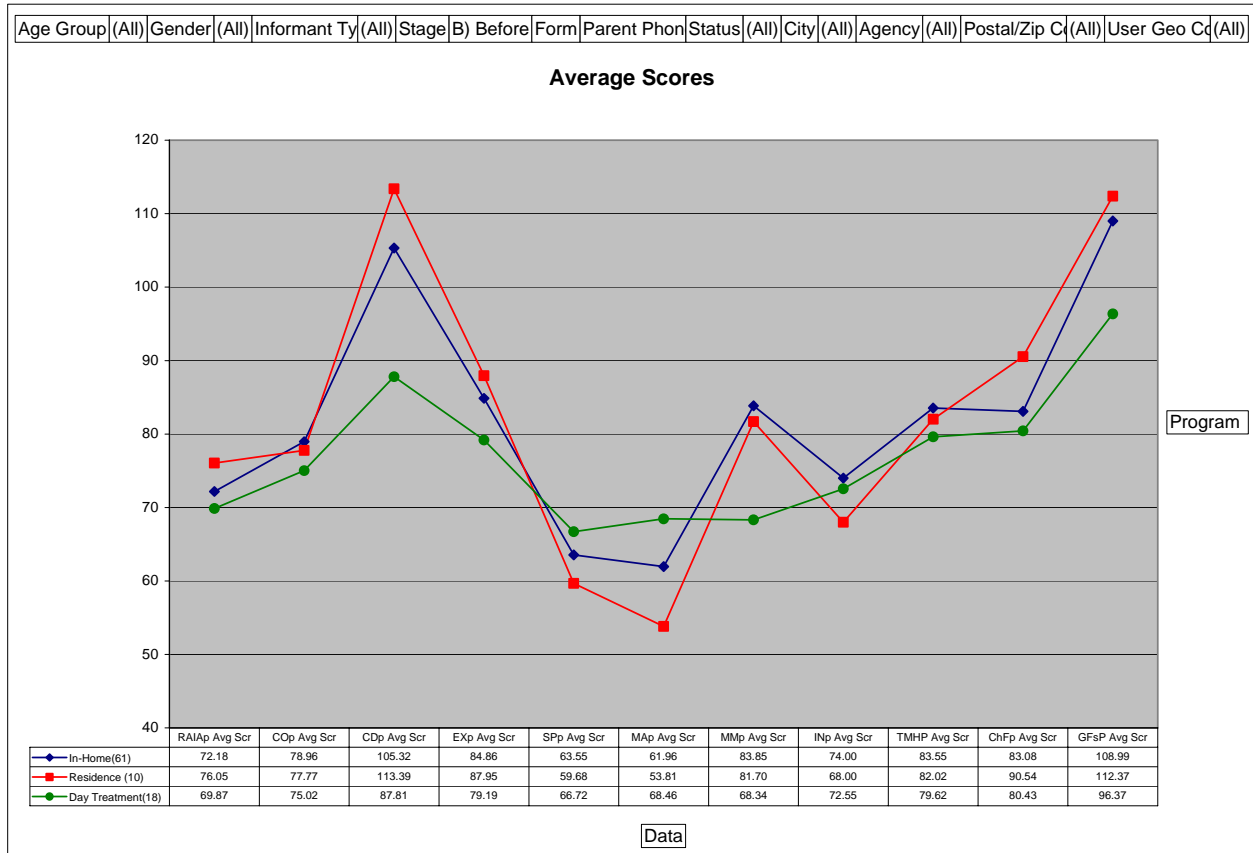
High intensity services are provided in Residence, Day Treatment and Intense in-Home treatment programs. Exact costs of these services are not provided here, but are typically about \$120,000, \$12,000 and \$12,000 respectively, over the typical 4 – 18 months stay on these intensive programs.

<sup>1</sup> This decision involved input from staff, funder, board and community.

<sup>2</sup> See [www.bcfpi.com](http://www.bcfpi.com) \Triaging |Papers| 'How an Agency Selects and Prioritizes Severe Referrals'

<sup>3</sup> Such scores would only be found in the most severely symptomatic 2% of the general child population, examined in the Ontario Child Health study

## 2 Do the Cases Attending Different Services have Different Problem Profiles and Severities?



- The graph above plots average 'Before' BCFPI scores for **all** cases accepted for each of these programs, Nov 2003 – Oct 2004.
- All Externalizing averages are at or above the 'clinical' threshold of 70 (scores =>70 would only be expectable in the 2% of the general population).
  - Residence cases have the highest average Conduct scores (113, then In-home (105) and then Day Treatment (88)).
- Average scores re managing Separation and Anxiety are lower (but section 5 will show that there are cases in each program with high scores in these areas).
- Average Mood scores are over 80 for In-Home and Residence cases, and 68 for Day Treatment cases.
- 'Total Mental Health' (TMHP) scores are very similar for all referrals accepted by all 3 programs (84, 82 and 80).
- Averages for Child functioning range between 80 and 90.
- The highest average scores are for Global Family Adjustment. This combines the impact of the child's problems on the family's capacity for normal day-day functioning, and the family's anxiety regarding their child's difficulties.

These programs are all serving cases with very high symptomatology, very impaired functioning and very distressed families.

### 3 Have Cases Improved by End of Service?

- This section takes a descriptive approach to this question, plotting average referral and discharge scores for all successive discharges from each of these services between Nov 2003 and Oct 2004 which have both 'Before' and 'After' data. These include cases referred since October 2001. Each of these cases were in 1 of these programs only.

Gender[(All)]City[(All)]Postal/Zip Code[(All)]User Geo Code 1[(All)]Program[Residence]												
<b>Average Scores, Before and at End of Residence</b>												
	RAI Ap	COp	CDp	EXp	SPp	M Ap	MMp	INp Avg	TMHP	ChFp	GFsP	Form Count
-- □ --	Avg Scr	Avg Scr	Avg Scr	Avg Scr	Avg Scr	Avg Scr	Avg Scr	Scr	Avg Scr	Avg Scr	Avg Scr	
Residence - A) After	61.0811	68.15	69.0689	67.7878	55.8833	57.4978	60.1456	59.8467	65.8922	62.32	83.2443	9
Residence - B) Before	73.2655	71.6967	92.0083	79.2383	60.7582	56.3533	71.0317	65.7267	75.8958	78.5683	88.24	12
[Data]												
Gender[(All)]City[(All)]Postal/Zip Code[(All)]User Geo Code 1[(All)]Program[Partners]												
<b>Average Scores, Before and at End of In-Home</b>												
	RAI Ap	COp	CDp	EXp	SPp	M Ap	MMp	INp Avg	TMHP	ChFp	GFsP	Form Count
-- ◆ --	Avg Scr	Avg Scr	Avg Scr	Avg Scr	Avg Scr	Avg Scr	Avg Scr	Scr	Avg Scr	Avg Scr	Avg Scr	
In-Home - A) After	65.5058	68.5727	78.6406	71.746	59.3798	59.686	69.4432	65.9116	71.388	66.8721	85.2055	50
In-Home - B) Before	73.9429	78.4278	108.999	86.7132	62.0311	56.3642	78.3414	69.0852	80.9732	82.1059	113.583	68
[Data]												
Gender[(All)]City[(All)]Postal/Zip Code[(All)]User Geo Code 1[(All)]Program[STP-Community]												
<b>Average Scores, Before and at End of Day Treatment</b>												
	RAI Ap	COp	CDp	EXp	SPp	M Ap	MMp	INp Avg	TMHP	ChFp	GFsP	Form Count
-- ● --	Avg Scr	Avg Scr	Avg Scr	Avg Scr	Avg Scr	Avg Scr	Avg Scr	Scr	Avg Scr	Avg Scr	Avg Scr	
Day Treatment - A) After	62.165	64.81	60.325	65.526	62.039	65.324	62.849	66.702	68.265	62.793	78.583	11
Day Treatment - B) Before	71.426	77.946	99.665	83.551	73.362	68.065	85.555	82.081	87.575	84.215	112.64	14
[Data]												

- Current 2003-4 residence referrals (see sec.2) have higher initial Externalizing and Functional symptoms than the 'before' scores of these 2003-4 Residence discharges. (new cases are 'tougher')
- All average discharge scores improve, and all except Family adjustment end below the clinical threshold (70) at discharge.

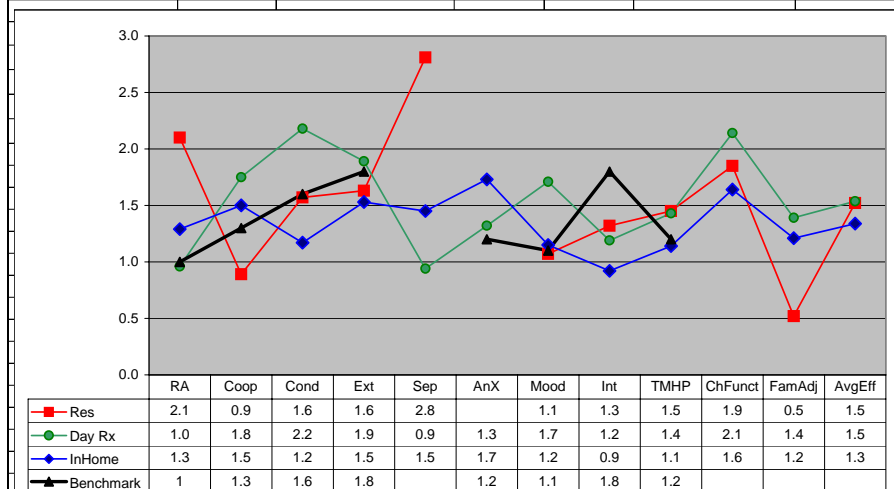
- Initial scores of current discharges, seen here, have similar severity to 2003-4 referrals (sec. 2).
- All initial scores >70 improve by discharge
- Conduct and Family Adjustment are still >70 upon discharge .

- Current 2003-4 Day Treatment \ referrals (see sec. 2) have lower initial Internalizing symptoms than the 'before' scores of these 2003-4 Day Treatment discharges. (new cases less 'depressed')
- All average discharge scores improve, and all except Family adjustment are below the clinical threshold (70) at discharge.

## 4 Within and Between Program Effect Sizes

Effect size, Pairs with 'Before =>65						
Intense In-Home Alternative to Residence						\$12,500
Problem Area	# of pairs	Pooled SD	Avg Bef	Avg Aft	Effect Size	Benchmark
Reg Attention	41	8.0	78.7	68.5	1.3	1.0
Cooperativeness	33	8.1	79.5	71.0	1.5	
Conduct	47	31.8	118.2	80.8	1.2	1.6
Externalizing	44	10.7	90.1	73.7	1.5	1.8
Seperation	21	13.6	83.4	64.5	1.5	
Anxiety	13	8.8	78.6	63.4	1.7	1.2
Mood	34	14.7	89.5	72.7	1.2	1.1
Internalizing	34	12.0	80.2	69.2	0.9	1.8
Total Mental Health	42	10.3	85.0	73.3	1.1	1.2
Child Functioning	40	11.1	86.0	67.8	1.6	
Family adjustment	42	24.7	116.3	86.5	1.2	
				AvgEff	1.3	
Residence						\$120,000
Problem Area	# of pairs	Pooled SD	Avg Bef	Avg Aft	Effect Size	Benchmark
Reg Attention	8	5.8	74.1	62.0	2.1	1.0
Cooperativeness	7	7.3	74.9	68.3	0.9	
Conduct	9	16.6	95.2	69.0	1.6	1.6
Externalizing	9	7.0	79.2	67.8	1.6	1.8
Seperation	5	6.7	76.8	58.1	2.8	
Anxiety	3					1.2
Mood	6	15.0	79.7	63.7	1.1	1.1
Internalizing	5	10.4	76.7	65.0	1.3	1.8
Total Mental Health	9	7.7	77.0	65.9	1.5	1.2
Child Functioning	8	11.3	83.5	62.7	1.9	
Family adjustment	6	14.3	87.4	79.9	0.5	
				AvgEff	1.5	
Day Treatment (no Residence)						\$12,000
Problem Area	# of pairs	Pooled SD	Avg Bef	Avg Aft	Effect Size	Benchmark
Reg Attention	8	9.1	75.5	66.7	1.0	1.0
Cooperativeness	10	8.3	79.1	64.5	1.8	
Conduct	9	21.8	108.0	60.5	2.2	1.6
Externalizing	10	10.0	85.3	66.3	1.9	1.8
Seperation	7	15.4	82.9	68.4	0.9	
Anxiety	5	12.3	83.2	66.9	1.3	1.2
Mood	8	15.6	93.6	66.7	1.7	1.1
Internalizing	8	10.1	90.3	71.2	1.2	1.8
Total Mental Health	9	14.4	89.9	69.2	1.4	1.2
Child Functioning	9	11.3	88.4	64.3	2.1	
Family adjustment	9	26.6	118.2	81.3	1.4	
				AvgEff	1.5	

Effect sizes, Residence, Day Rx, InHome



- 'Effect size' = (average 'pre-score' for a domain – average 'post' score for a domain) / (pooled standard deviation for the domain) Within each program, we selected pairs with pre-scores > 65 for that domain, and calculated the effect size amongst such cases for that domain.

- This was repeated for each domain, in each program.

- This is then compared to the best benchmark effect sizes reported in valid published studies (RH Column, 'Benchmark')

- E.g., top row... Intense In- Home Alternative to Residence (typically \$12,500 per cases); 41 cases with available 'after' Attention Management scores had 'pre' scores >65. The pooled SD for these pairs was 8.0. The average 'pre' and 'post' scores were 78.7 and 68.5. The program effect size for attention management was 1.3. The published benchmark of 'good' interventions tackling this problem is 1.0. The program is exceeding the benchmark.

- All program effect sizes are 'large' (>0.8) and all compare reasonably to published effect sizes. The figure at left compares these effect sizes, to published benchmarks, almost all are =>1.0. there is no clear 'winner'.

## 5 Comments re Results, Effect Sizes, Benchmark and Implications

### 5.1 Validity and Accuracy of Results

- These results are preliminary, and may change...
  - sample sizes are generally very small... 10 or fewer pairs based on a sample of successive referrals for Residence and Day treatment, and 44 or fewer for Intense In-Home services. The latter seems reasonable to support conclusions.
  - We have not yet confirmed that these encompass most discharges from these programs since Nov/1 2003. This will be required to support any conclusion that these excellent results are typical of the programs, as opposed to 'happy camper' results often found in convenience samples.

The following comments assume these results are accurate and valid, and are thus tentative, given the preceding cautions.

### 5.2 Effect Sizes

- All of the effect sizes are 'large' (greater than 0.8) except for Family adjustment amongst Residential cases.
- They generally are similar to effect sizes for published studies

### 5.3 Average Scores at Discharge

- most (sec. 3) were below the clinical threshold of 70 at discharge. This is an excellent result, given high initial severity!

**Taken together 5.2 and 5.3 suggest strong effects and good results for these intense programs, serving highly symptomatic children.**

### 5.4 Follow-up data is pending

This is discharge data, as opposed to follow-up data. This data shows the situation immediately upon conclusion of service. Follow-up data will sought to determine the extent to which these very significant improvements persisted after end of service (6 and 12 months)

### 5.5 Implications and Issues

1. These interventions have large effect sizes, comparing well to those reported in published studies. This effect size data does **not** 'demand' a shift to from these seemingly successful KL services to evidence-based services.
2. The 3 intensive programs are seeing cases of similar severity and yielding similar effect sizes. Residence, @ ~10X the cost of Intense In-Home or day Treatment, is seeing similar cases and having similar effects to Day Treatment and Intense In-Home services.
  - The system should carefully examine cases seeming to need residence, and be very clear re reasons why its Intense In Home or Day Treatment, perhaps supplemented, with Respite should not suffice, and release large amounts of resources for other equally needy and deserving cases. Follow-up data may shed further light on this issue, especially if longer term outcomes do not favour residence.
3. Client satisfaction data is pending
4. Cost analysis is pending... how do the costs of these treatments, which compare favourably to benchmarks, compare to the costs of the benchmark services?

## **6 Next Steps**

1. Gather and analyze satisfaction data.
2. Gather and analyze 6 and 12 month follow-up data.
3. Compare costs of these services to estimated costs of benchmark services.