

The Implementation of the Neurosequential Model of Therapeutics into a Complex System

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ChildTrauma Academy Fellow

Who We Are

Effective Behavioural and
Mental Health Services
for Kids and Families

- Hull Services is a non-profit, professional, human services organization.
- Hull touches the lives of nearly 3,500 kids, youth, young adults and families everyday.
- Hull helps those who may struggle with Adverse Childhood Experiences (ACE) or are at risk of developing multiple social issues due to childhood trauma.
- Hull believes that families are essential and that everyone we serve:
 - Has a voice and a choice;
 - Can take control of their lives and behaviours;
 - Can determine their own future; and
 - Is diverse.

What We Do

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Hull endeavours to provide safe, supportive and healthy environments for those we serve to heal, grow, learn and develop.

Hull provides a comprehensive range of 28 programs and services within six categories:

- Prevention and Early Intervention;
- Family-based care;
- School-based services;
- Adult services;
- Residential treatment; and
- Community Group care.

Hull's programs include 10 evidence-based intervention models.

Hull continually invests in ongoing training and development for all staff and volunteers.

Hull Services as Flagship

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Hull began the 2 year certification process in May 2011. In September 2013, Hull became a Flagship Site for the ChildTrauma Academy and NMT.

- Active involvement in training and research activities with the ChildTrauma Academy and its learning network of other clinicians and programs across the world.

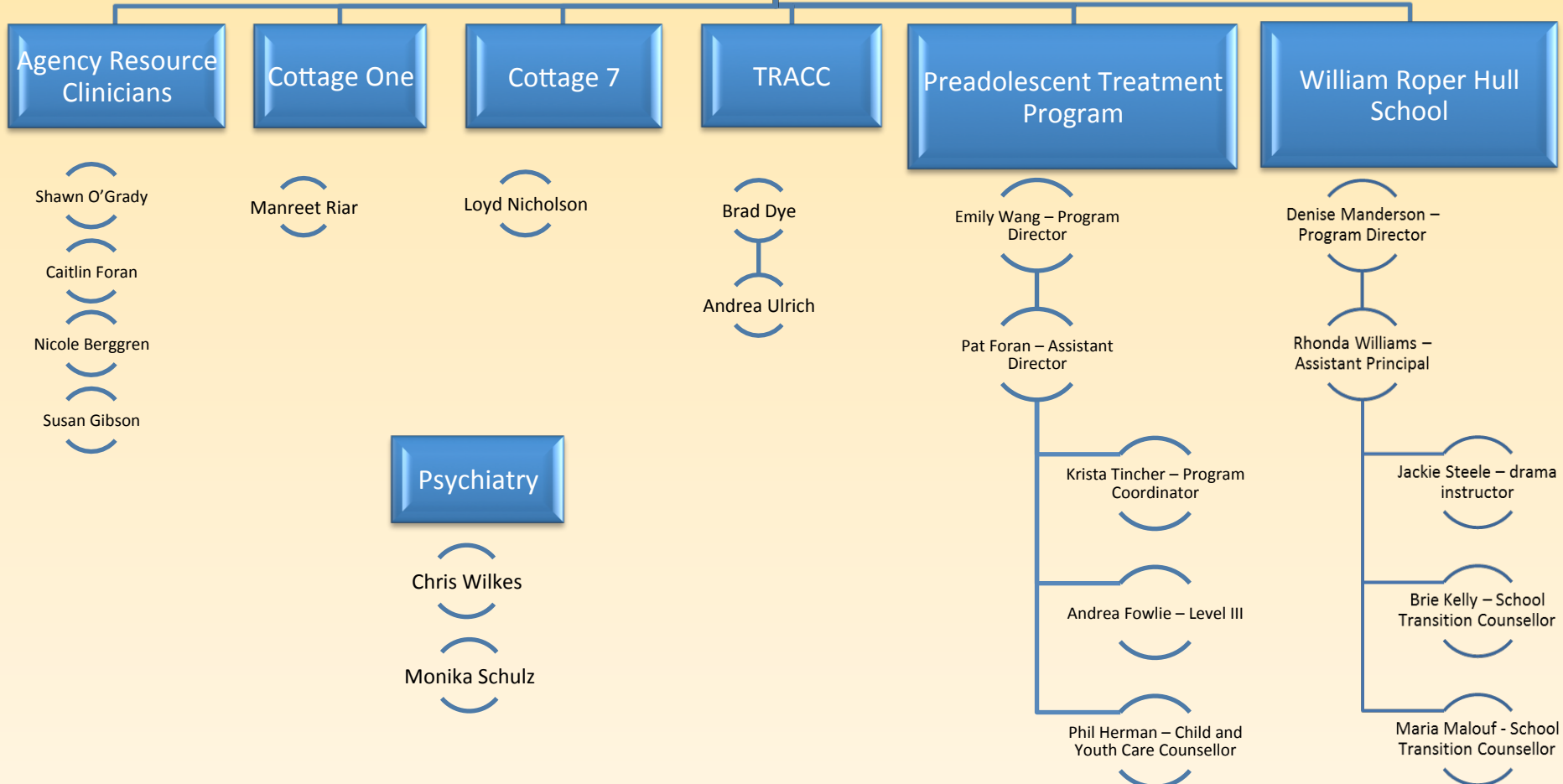
Getting Started with a little help from our friends...

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- Sandhill Child Development Center (February 2011)
 - Dr. Kurt Wulfekuhler
- Alexander Youth Network (June 2011)
 - Joe Heritage
 - Dr. Dawn O'Malley
- Participation in the NMT implementation calls.

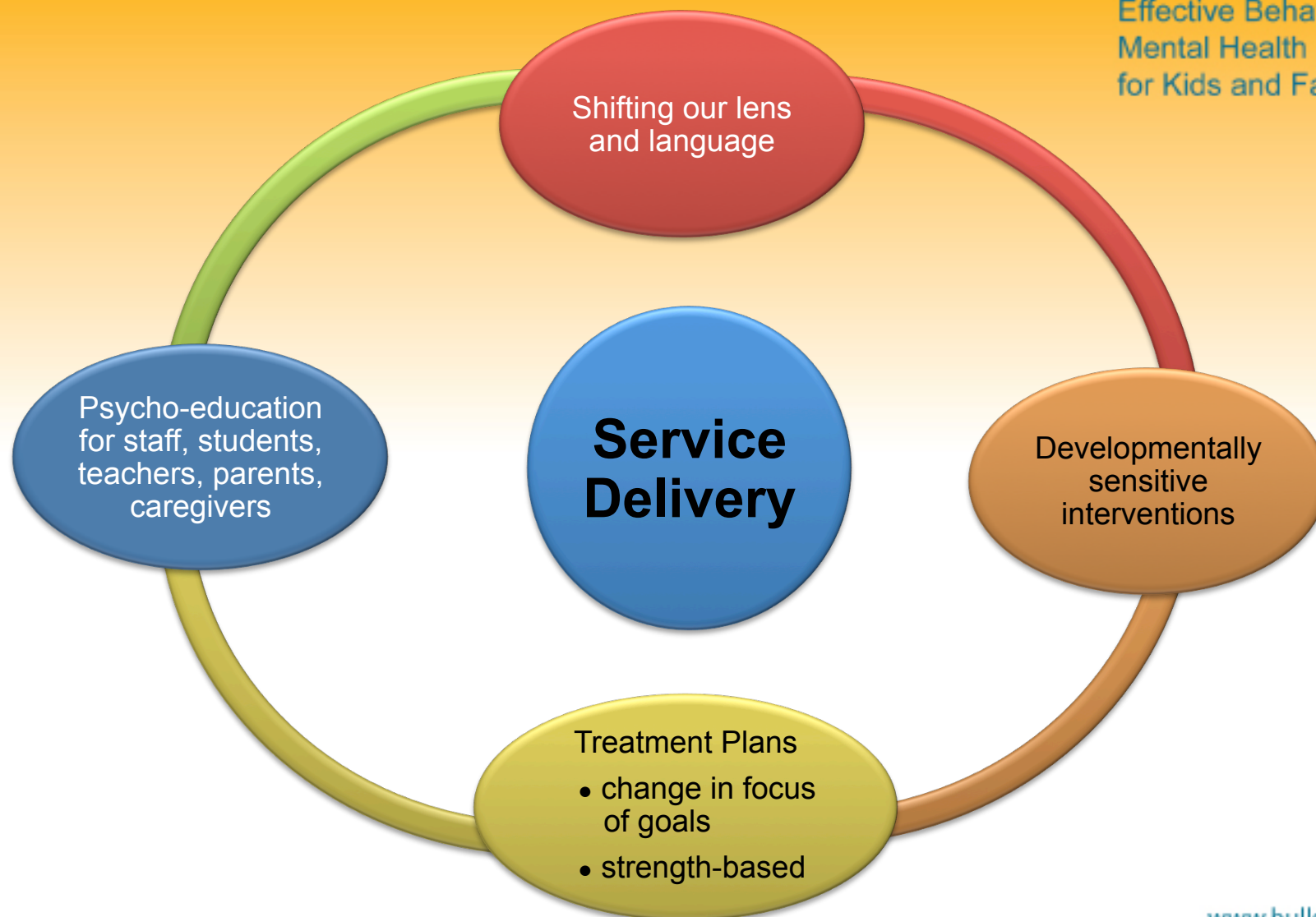
Thank you!

Hull Services



Informing and Shaping our Service Delivery

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Shifting the Lens

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- Shift to trauma informed/neurobiologically informed care lens.
- Fundamentally, we are changing the brain.
- Attachment and relationships rather than behaviour management.

Shifting the Lens

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Understanding the short term impact of “dosing” as well as the long term impact of dosing and subsequent self regulation.

Conversations around behaviour management vs. behavioral change.

Core elements of positive developmental, educational and therapeutic experiences:

- Relational (safe)
- Relevant (developmentally-matched)
- Repetitive (patterned)
- Rewarding (pleasurable)
- Rhythmic (resonant with neural patterns)
- Respectful (child, family, culture)

World Café using the 6 R's

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A world café was done with staff on all 6 R's to determine:

- What in their practice they were already doing
- What they might want to begin to do differently

World Café

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World Café

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relevant

colour
hidden curriculum
First Nation
life skills
meaningful
Chiese
manipulatives
modify
sharing
curriculum in pieces
independen
counselin
beading
eagle feather
voice level
pizza fractions
hockey
Dance
samples
HCS3000
environment
open technicians
school council
labs
Elders
technology
routines
sounds
explain
Circle healing
sweat lodge
activities
hands on
treaties
Saulteaux
adjusting
culture
interest
incorporate
longer units
flash cards
curriculum in pieces
independen
counselin
beading
eagle feather
voice level
pizza fractions
hockey
Dance
samples
HCS3000
environment
open technicians
school council
labs
Elders
technology
routines
sounds
explain
Circle healing
sweat lodge
activities
hands on
treaties
Saulteaux
adjusting

Developmentally Sensitive Interventions

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“Know the stage and watch the state” - Perry

Provide Regulatory Exercises based on
stage rather than age.

Is it relevant and rewarding?

Provide a relationally rich environment.

Treatment Plans

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- Individualized treatment.
- Programmatic treatment.
- Do all kids require OT assessments to make treatment decisions?
- Creating a therapeutic web.
- Are the treatment plans relevant, rewarding, relationally rich, rhythmic, repetitive and respectful?

Treatment Planning

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What is rewarding for the youth
that we serve?

Psycho-education

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Staff, students, teachers, caregivers provided with education about the neuroscience of brain

Development Counsellor Selection and
Orientation Training.

Utilize case studies pertinent to the programs to better understand our clients in the context of neuroscience and brain development.

Emphasis on CSOP

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OUTCOMES

(% of Participants who Demonstrate Knowledge, Demonstrate new Skills in a Training Setting, and Use new Skills in the Classroom)

TRAINING COMPONENTS	Knowledge	Skill Demonstration	Use in the Classroom
Theory and Discussion	10%	5%	0%
+ Demonstration in Training	30%	20%	0%
+ Practice and Feedback in Training	60%	60%	5%
+ Coaching in Classroom	95%	95%	95%

Building Relationships

Present, Attuned, Attentive, Responsive ~ It is more impactful to be focused on the child for 5-10 minutes than 1 full hour distracted, multitasking and unfocused.

Present – in the moment, not distracted, addressing the child.

Attuned – aware of the unique needs of the child.

Attentive – maintaining eye contact, physical proximity, non-verbal's (open body posture), actively engaged.

Responsive – understand what the child needs in order to demonstrate regulation and support them through the process.

___ Appropriate boundaries.

___ Engaging: asking get-to-know-you questions, proximity, voice tone, friendly, takes initiative to engage the child.

___ Active listening: maintaining eye contact, aware of non-verbal body language, allows child to talk.

___ Understands "state dependent" functioning.

___ Understands the need for "dosing" the child throughout the day for 5-7 minutes and implements somatosensory activities.

___ Understands the importance of providing 5-8 minutes of uninterrupted, focused attention to each assigned child each hour.

___ High level of ongoing praise.

___ Shows interest in child.

___ Maintains a high rate of interactions with the child (parallel & dyadic play).

___ Can attend to child's needs without giving directions and/or corrective feedback.

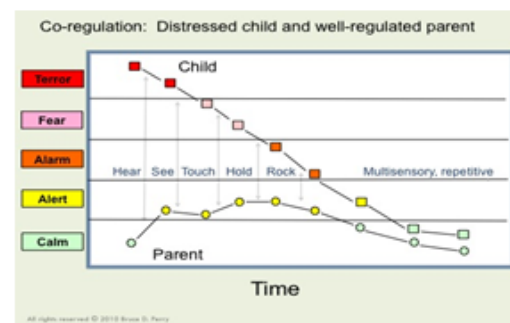
___ Encourages conversations.

___ Recognizes cooperative interactions and praise.

___ Recognizes age-appropriate behaviours.

___ Positive regard: compassionate, empathetic.

Comment:



State Dependent Functioning:
"Know the stage, watch the state."

Sense of Time	Extended Future	Days Hours	Hours Minutes	Minutes Seconds	Loss of Sense of Time
Primary secondary Brain Areas	NEOCORTICAL Sub cortex	SUBCORTICAL Limbic	LIMBIC Midbrain	MIDBRAIN Brainstem	BRAINSTEM Autonomic
Cognition	Abstract	Concrete	Emotional	Reactive	Reflexive
Mental State	CALM	ALERT	ALARM	FEAR	TERROR

Psycho-education

Celebrating 50 Years of
Helping Kids & Families

- Does the parent have the capacity to care for the child? – parent child interaction, child high needs, parent capacity are all factors
- Are additional resources/individuals necessary to support the child and primary caregiver?

Answering the Question: What does an NMT program look like?

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1. NMT Training (relevant).
2. Brain mapping (relevant).
3. Creating a Therapeutic Web (Relational, Rewarding).
4. Relationally healthy caregiver characteristics (Relational).
5. Safe, predictable, structured environment (Rhythmic, Repetitive).
6. Sequencing of interventions (Rhythmic, repetitive).

What does an NMT program look like? (cont.)

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7. Skills training (for self-regulation) (Rhythmic, Repetitive, Rewarding, Relational).
8. Preventative and responsive dosing of somatosensory activities; patterned, repetitive activities that support self-regulation (prompting use of NMT skills prior to stressful events, and caregiver recognition of distress/dysregulation) (Rhythmic, Repetitive).
9. Activity scheduling (planned dosing) (Rhythmic, Repetitive).
10. Parental assistance with regulation difficulties (Rhythmic, Repetitive, Relational, Relevant).
11. Relational permanence- life span mentor/friend/relative (Relational, Rewarding).

Some trauma Informed Practice Strategies

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- Provide sensory comfort, familiarity to help with settling in
- Empathize, connect, try to understand child's perspective but do not probe
- Support child's relationships and family connections
- Provide structure, control, inclusion, and predictability
- Advocate for child by advocating for personal support and training

-Portland State University, Center for Improvement of Child and Family Services

Hull's Ten Evidence-Based Models

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Community Parenting Education (COPE)

Promoting Alternative Thinking Strategies (Fast Track/PATHS)

Attachment Self-Regulation and Competency (ARC)

Stop Now And Plan (SNAP)

Positive Parenting Program (PPP)

High Fidelity Wraparound (HFWA)

Dialectical Behaviour Therapy (DBT)

Multidimensional Family Therapy (MDFT)

Cognitive Behavioural Therapy (CBT)

Applied Behaviour Analysis (ABA)

Review of Evidence Based Treatments you may be using

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- Which EBT models are repetitive?
- Which EBT models are regulating?
- Which EBT models are relationally rich?

The Preadolescent Treatment Program

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Pilot for the NMT approach
trauma informed,
attachment based residential treatment program
serves kids between 6 to 12 years.

Change in perspective at PTP

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Attachment based residential treatment centre

Change in status systems:

Safety

Building Trust

Trust

What we have Learned...

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1. Staff meetings begin with a “regulatory” activity or “dosing” activity so staff can practice.
2. Sensory “bins” are more effective than books with activities.

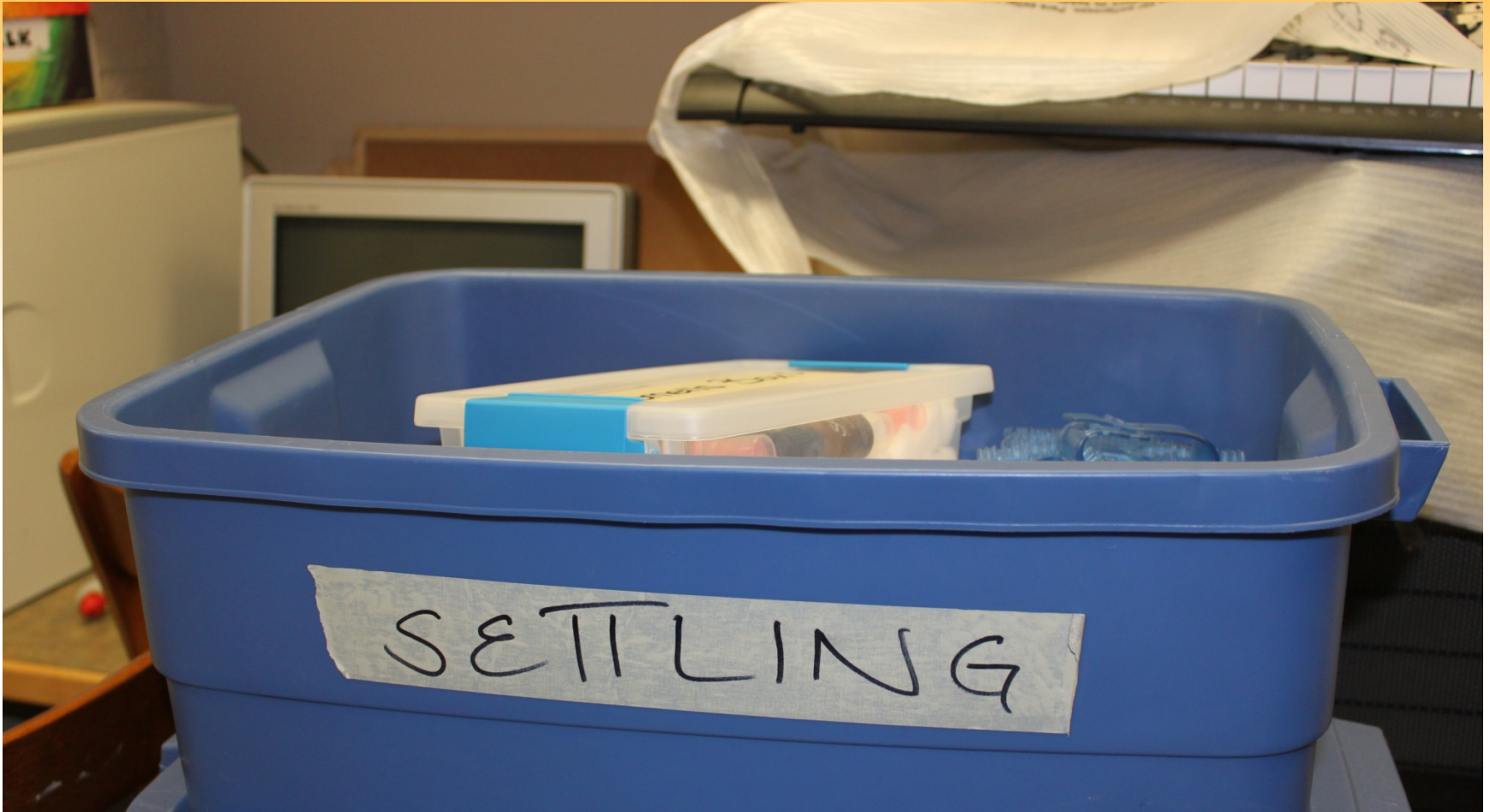
Sensory Bins



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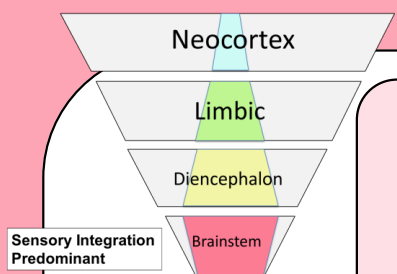
Settling in Residential

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Brain Booster Activity Cards

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Materials:

Full size blanket

Blanket Swaddle and Swing

Brainstem Builder:

- A minimum of 2 adults are required (more if the youth is larger) to ensure safety.
- Spread a blanket flat on the ground.
- Have the youth lay face down in the center of the blanket.
- Ensure the blanket stretches from shoulders to ankles to ensure the child's head is not inside the blanket (it can be folded if necessary).
- Pick up the four corners of the blanket and use them to lift the child a few inches above the floor to feel a desired sensation of being swaddled.

Change it up:

Swing the blanket back and forth to utilize both pressure and the swinging motion.

Bin Contents and Schedule

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Bin # 10

- * Felt colouring pages with markers
 - * 1 colouring book
- * 4 squishy ball faces – fidget toys
 - * Ball sorter toy
- * Mood Lamp with extra Gel beads – watch them grow
- * Guided imagery and relaxation books/CD's (from the library)

Schedule

Week 1 – Room 3 (Apr. 9 – 17)

Week 2 – Sherwood (Apr. 22 – 25)

Week 3 – Room 14 (Apr. 28 – May 2)

Week 4 – Room 4 (May 5 – 9)

Week 5 – Room 1 (May 12 – 15)

Week 6 – Room 2 (May 20 – 23)

3. Repetition, repetition, repetition.

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Staff communication books contain key points to remind staff of the NMT approach.

What we have learned (cont.)

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4. Psycho-education about NMT upon intake and all progress meetings (repetition)
5. Treatment goals based on four functional domains.
6. Engage the nurse.

7. Daily Activity Tracking

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- Daily tracking by front line staff include:
 - Time;
 - Activity;
 - Length of time engaged;
 - Relational: individually, in parallel, interactive?
- Clinicians interpret activity being tracked.

What we have learned (cont.)

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8. From the perspective of one of our Senior Direct Care workers, “on the floor” activities themselves have not really changed, what has changed is the conscious engagement of the staff in these activities- interactive, in parallel- and the clearer understanding of the value of the relationship, the intimacy barrier, and the state of arousal in the client.

Implementation helps to:

- Regulate children
- Build healthy relationships
- Access higher-order thinking skills
- Increase retention and learning potential
- Target meaningful, developmentally appropriate tasks and interventions

Elements of Programming

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- Relationally rich environment
- *Somatosensory diet throughout the day (dosing)
- Understanding the stress response system and how that impacts child's functioning
- Developmentally sensitive approach to treatment based on NMT metric
- Involvement with Occupational Therapy, sensory rooms, drums, treadmills
- Understanding the pairing of regulatory activities with relationships

Regulating Children

- Changed the structure of day to include SPARK and 5-7 minute body breaks between classes
- Resources in the classroom
- Engage in drumming sessions
- Sensory Room
- Psycho-education for students
- Occupational Therapist, Physical Therapist
- Fine Arts program:
 - Art
 - Woodworking
 - Music
 - Drama

Sensory Room at Hull School

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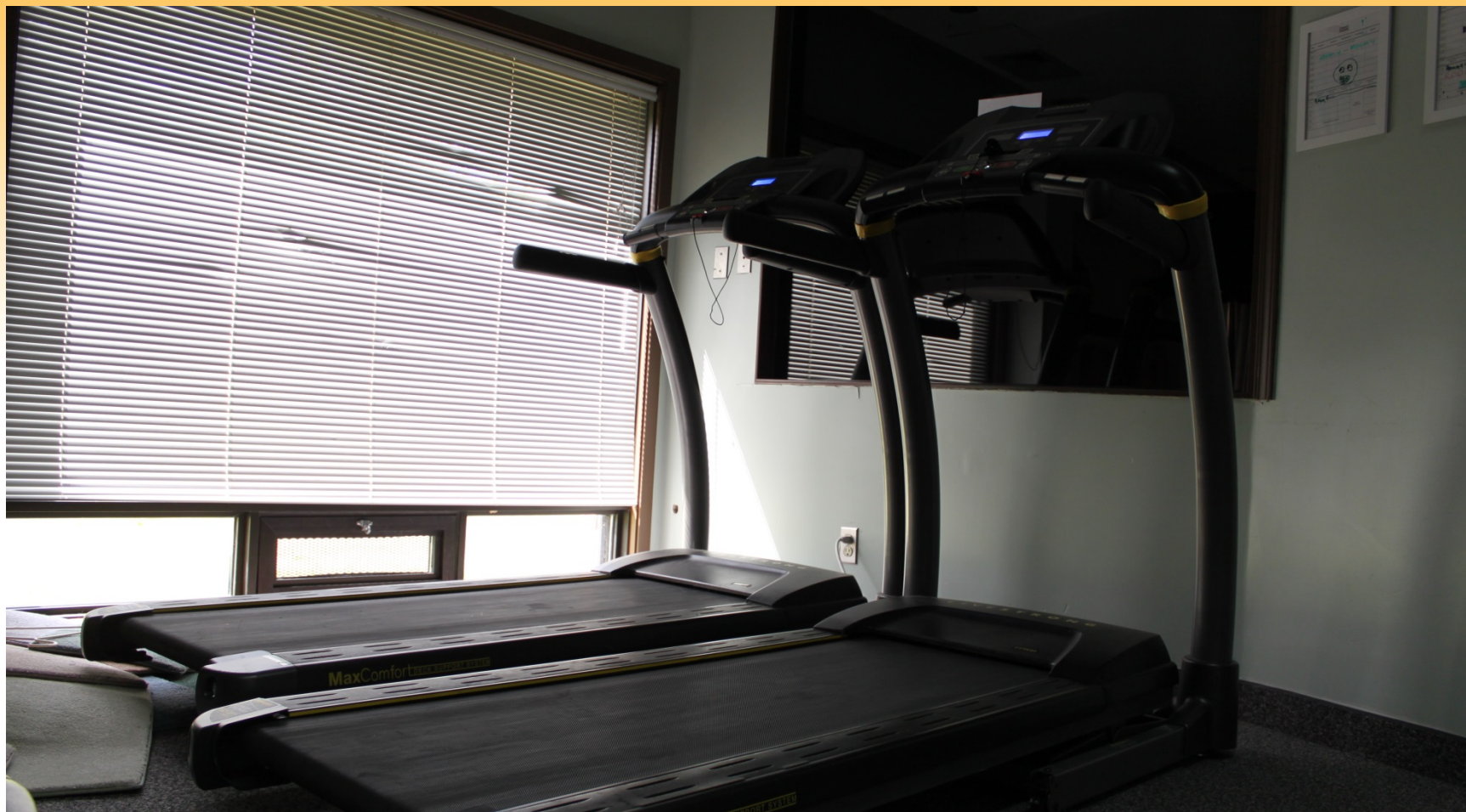
Drumming

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Somatosensory “in parallel”

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Self-Regulation between dosing



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9. Lunch buddies works:

- To build the relationship.
- To provide more opportunities for this child and the others in the program to have more present, attuned, attentive and responsive adults by decreasing the ratio.
- To build the community and have administration at Hull involved with the kids.

10. We need our Volunteers

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- Drumming,
- crafts,
- knitting,
- tutor,
- sports,
- reading,
- activities.

11. Our certification team learns from each other

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Use the certification team to “practice”
talking about the slides.

Developed a binder of slides for psycho-ed
to parents and case workers during
introduction to the programs or
during metric consultation.

We consult on cases.

12. Involve others

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- More collaboration between programs
- New Day Treatment Program

Secure Services

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Secure Services: Clients' area

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Cottage 7

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9:45-10:00	SWING IT OUT MR. WOLF ACTIVITY SHEETS	BASKET PASS GAMES WITH GUM WHAT'S THAT SMELL?	DANCE FREEZE BLOWN AWAY UNO	FOOSBALL YAHTZEE I SPY	CALM DOWN SIMON FLASH PASS IT	JUMP JUMP SENSORY BAG BOUNCE
1:00-1:15	PIECED TOGETHER PASS IT ICE CHOMP	PICTUREKA BUILD IT LET'S READ	COLOR CRAZE MIND BOTTLES BOP IT	SILLY STUFF YOU CAN DANCE BOWLING	PLAY WITH DOH YOYO YO FARKLE	BALANCE BALL FLEXIBLE FEET RUSH HOUR
3:40-3:55	HYPER DASH BALLIN AROUND MONKEYS	ROCKING I SPY MASSAGES JENGA	RING ROAD WALK SHAKE IT BUBBLE ART	PUNCHBALL PICTURE THIS BLURP	AIR HOCKEY AROMATHERAPY KEYBOARDING	SIMON SAYS SKIPPING MIND BODY & SOUL
6:40-6:55	DANCE DANCE COPY CAT	STRETCH IT OUT SPOT IT	CHARADES LIFT THIS	YOGA FIDGET FUN	RED LIGHT GREEN LIGHT BODY BREAKS	HULA HOOPING WARM UP

Choose your favorite
regulating activities
from this week

Kids choice!

*must be activities that
do not require
supplies from the bins

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:45 - 9:00	ENTRY & GOAL SETTING				
9:00 - 9:20	SPARK				
9:20 - 10:00	Life Skills	Journal	Language Arts	Life Skills	Gym
	NMT Activity				
10:00 – 10:40	Language Arts	Art	Drama	Library	Social Studies
10:40 – 10:55	MORNING BREAK (recess)				
10:55 – 11:30	Math	Math	Woodshop	Gym (prep)	Independent Study
	NMT Activity				
11:30 - 12:05	LITERACY				
12:05 – 12:50	LUNCH/SOCIAL SKILLS	LUNCH/SOCIAL SKILLS	LUNCH/SOCIAL SKILLS	11:50 – 12:00 GOALS	LUNCH/SOCIAL SKILLS
12:50 – 1:10	NATURE (silent reading)			EARLY DISMISSAL	NATURE
	NMT Activity				
1:10 - 1:50	Science	Science	Math		Social Interactives
	NMT Activity				
1:50 - 2:30	Gym (prep)	Drama	Computers		House Leagues OR Friday Fun
	NMT Activity				
2:30- 3:05	Daily Reflection (Free Time @ 2:45)	Daily Reflection (Free Time @ 2:45)	Daily Reflection (Free Time @ 2:45)		Daily Reflection (Free Time @ 2:45)
	NMT Activity				
3:05 – 3:15	HOMEROOM & GOALS				HOMEROOM & GOALS

Resources

- Exercise balls
- Standing desks
- Fidget toys
- Treadmills
- Drums
- Wii
- Theraband
- Weighted vests and blankets
- Zuma Rockers
- Visual timers
- Various bean bags, balls, etc.
- Activity cards
- Wake and Shake
- Quiet area to calm
- Emotional first aid kits

Body Break Activities

Support needs in the following functional domains:

- Sensory integration
- Self regulation
- Relational capacity
- Cognitive



Restrictive Interventions Reduction at Secure Services

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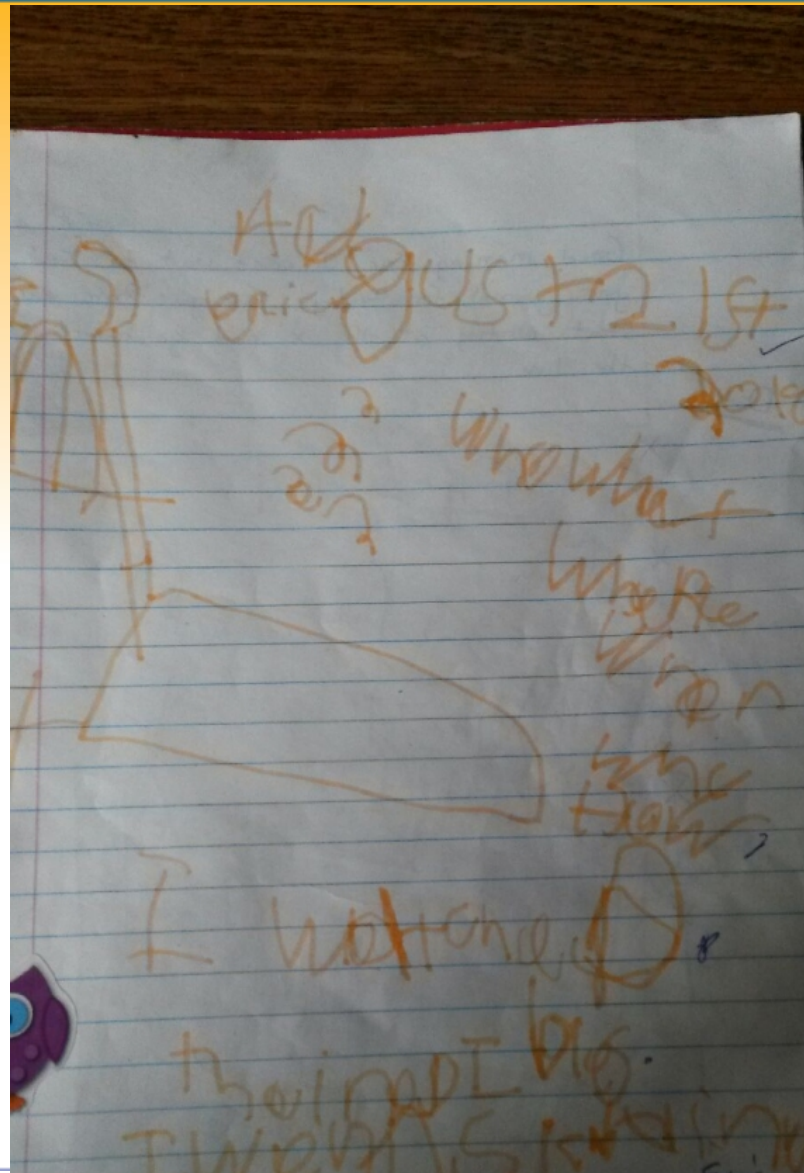
2012 - 2013	2013 - 2014
317	192
33% reduction in Restrictive Interventions	



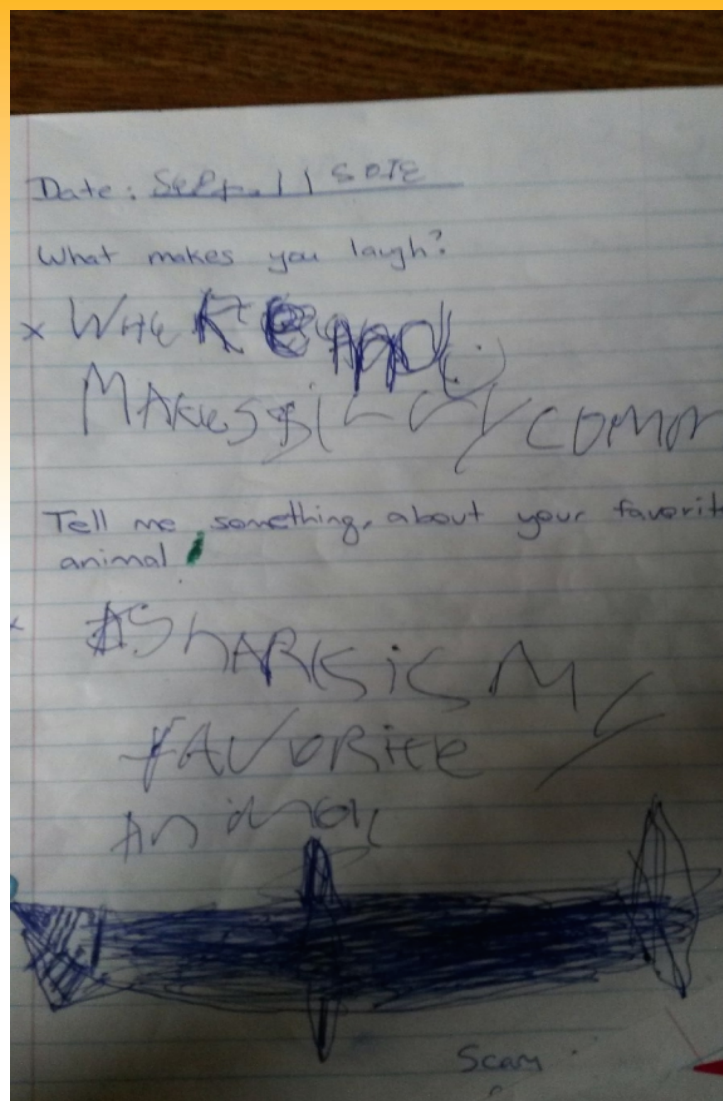
Total Critical Reduction at Secure Services

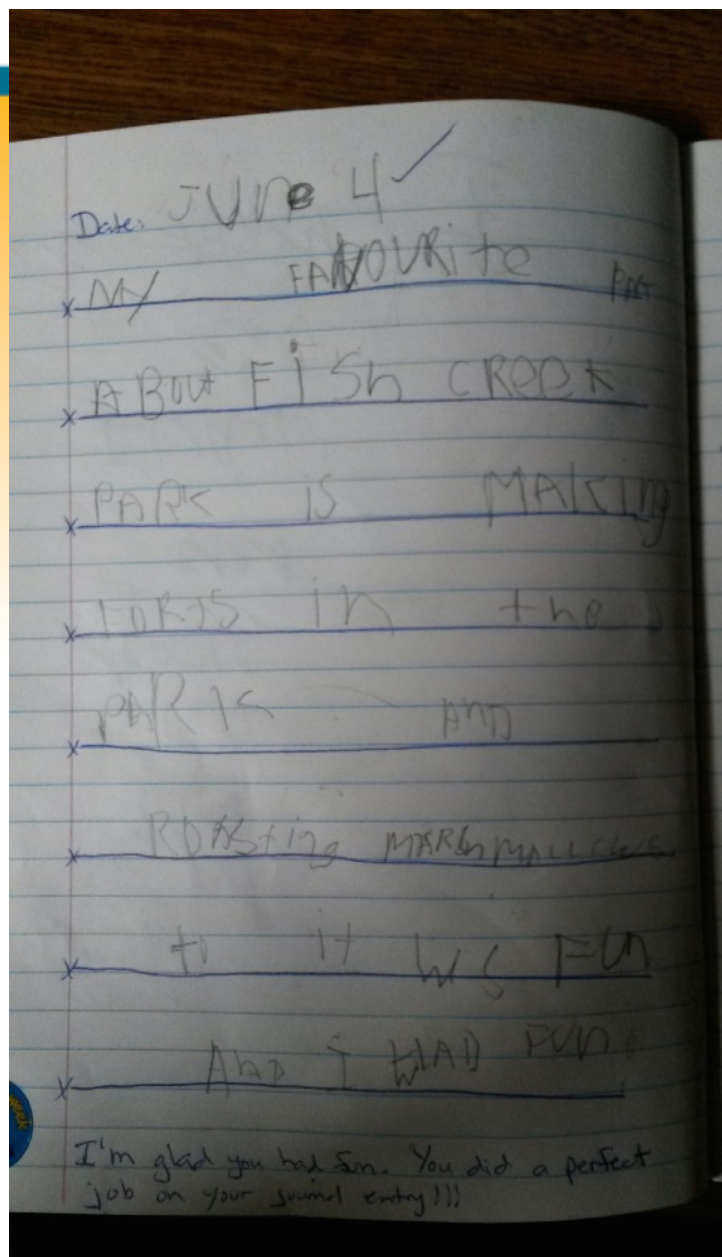
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2012 - 2013	2013 - 2014
607	476
22% reduction in total criticals	



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PTP client

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Client (7 years, 8 months) Report Date: 4/16/2013

3	5	3	5	5	2
6	8	6	4	5	5
6	8	7	5	6	4
	7	5	6	3	
	7	10	9	8	
		9	5		
		8	10		
		7	7		

Age Typical - 6 to 7

7	7	7	7	7	7
9	10	9	7	7	8
8	9	10	10	8	10
	10	9	9	10	
	9	11	10	8	
		12	10		
		12	12		
		11	12		

Client (7 years, 2 months) Report Date: 10/19/2012

3	5	3	2	4	2
5	8	6	2	5	4
5	6	5	5	2	4
	5	5	3	3	
	5	10	7	8	
		9	3		
		7	10		
		6	5		

Age Typical - 6 to 7

7	7	7	7	7	7
9	10	9	7	7	8
8	9	10	10	8	10
	10	9	9	10	
	9	11	10	8	
		12	10		
		12	12		
		11	12		

Client (5 years, 11 months) Report Date: 8/3/2011

1	3	3	1	3	1
3	3	3	1	3	2
3	2	3	2	1	3
	4	3	1	3	
	4	5	2	4	
		6	1		
		5	8		
		3	3		

Age Typical - 4 to 5

6	6	6	6	6	6
8	9	8	6	6	7
7	9	10	9	7	9
	10	9	9	9	
	8	10	10	7	
		11	10		
		12	12		
		11	12		

Functional Brain Map Value Key
DEVELOPMENTAL
Functional

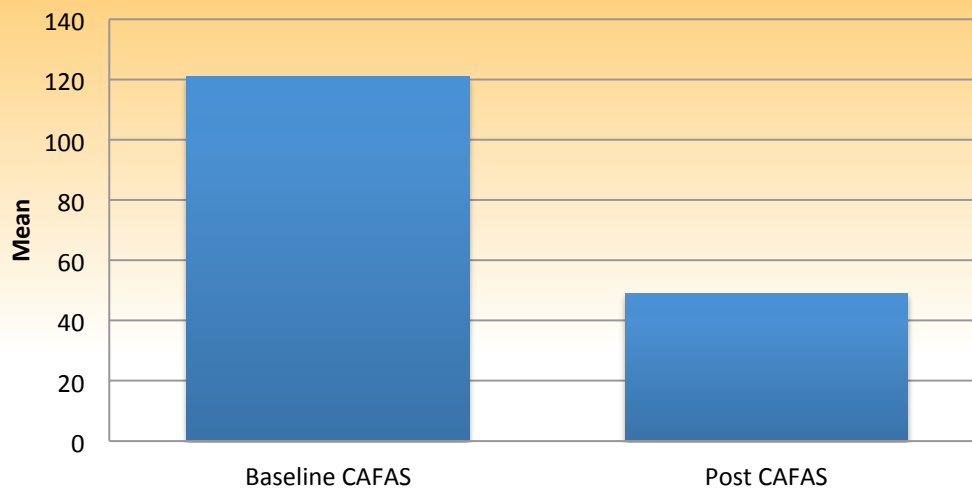
12	DEVELOPED
11	TYPICAL RANGE
10	
9	EPISODIC/EMERGING
8	MILD Comprmise
7	
6	PRECURSOR CAPACITY
5	MODERATE Dysfunction
4	
3	UNDEVELOPED
2	SEVERE Dysfunction
1	

CAFAS

N = 18

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CAFAS Paired Sample



Child and Adolescent Functional Assessment Scale

Paired Sample T tests

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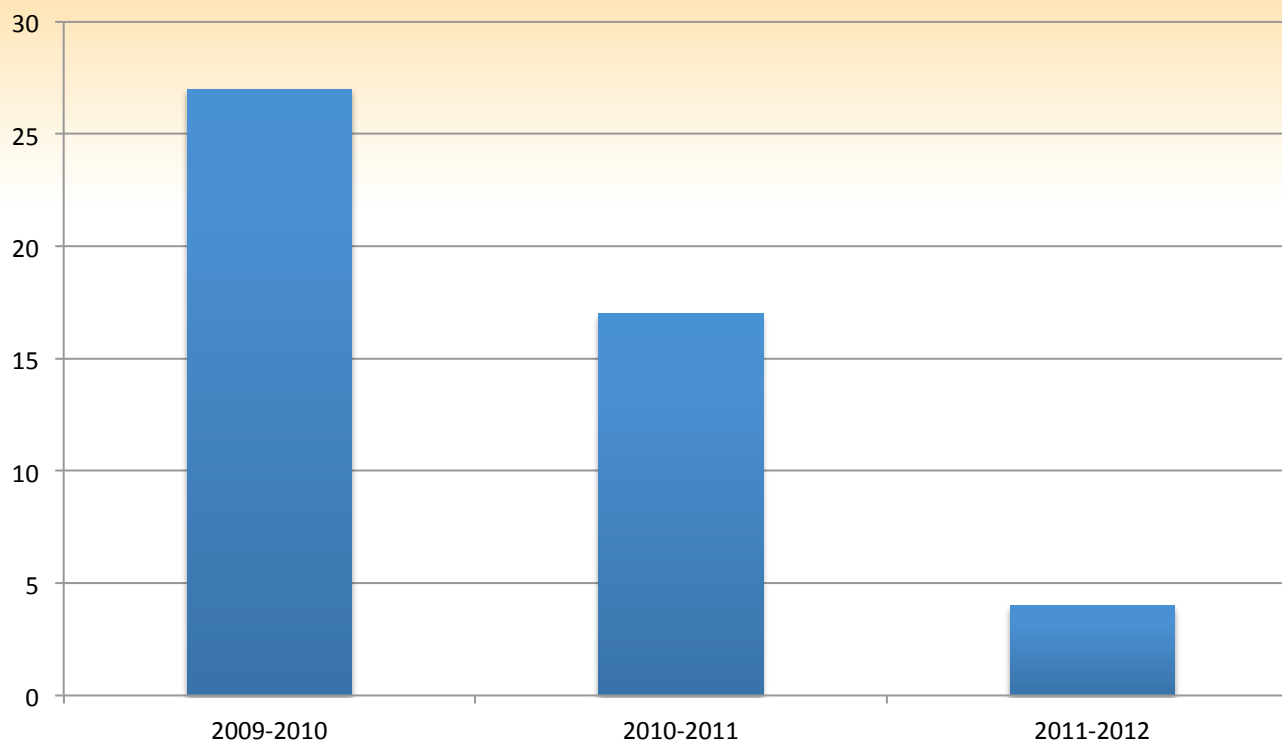
	t	df	Sig (2 tailed T test)
Baseline CAFAS- Post CAFAS	10.97	17	.0000000004
Baseline CMR- Post CMR	-8.51	12	.0000002

PTP Outcomes

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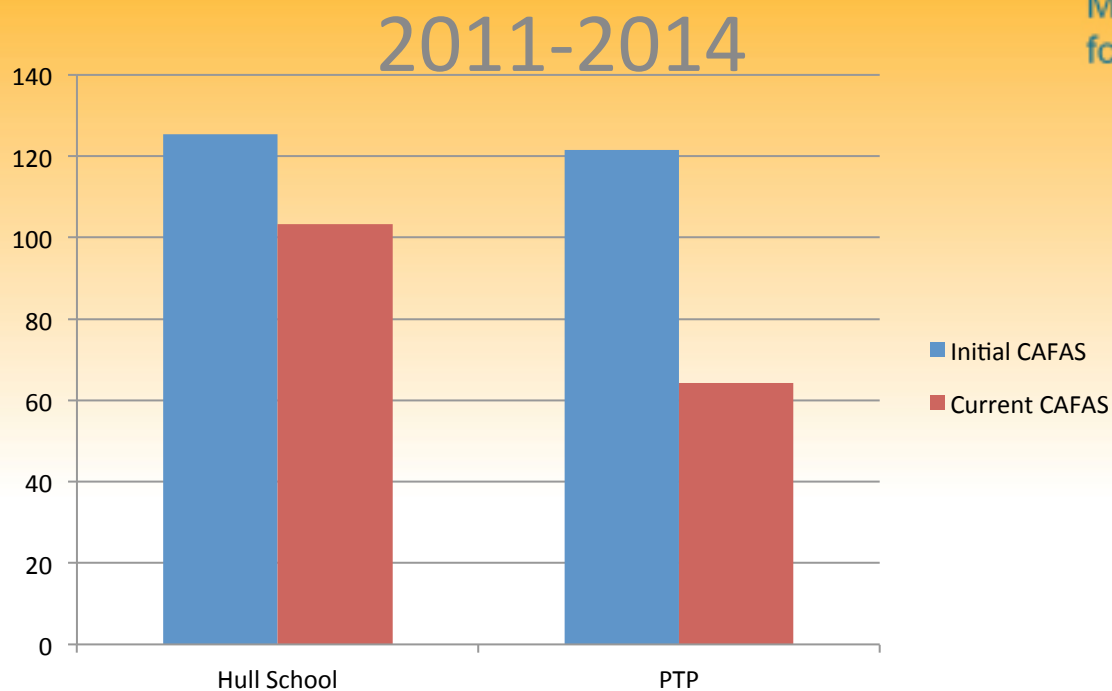
Pt > 20 incidents Total points

Pre NMT	2009-10	6	21	28.57%
Yr 1	2010-11	4	23	17.39%
Yr 2	2011-12	1	22	4.55%



CAFAS

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Brain Boosters

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“Activities designed to activate neural networks in multiple parts of the brain.”

These cards contain four broad categories of activities matched to the four functional domains of the Neurosequential Model of Therapeutics.

<http://www.hullservices.ca/news/brain-boosters-activity-cards>

nmt@hullservices.ca

