Evidence In-Sight:
Day treatment classrooms for children

Date: April, 2013
This report was researched and written to address the question:

- *Is day treatment the best model for meeting the needs of children with highly aggressive and explosive behaviours?*
- *If not, what evidence informed approaches might better meet the needs of these children?*

We prepared the report given the contextual information provided in our first communications (see Overview of inquiry). We are available at any time to discuss potential next steps.

We appreciate your responding to a brief satisfaction survey that the Centre will e-mail to you within two weeks. We would also like to schedule a brief phone call to assess your satisfaction with the information provided in the report. Please let us know when you would be available to schedule a 15-minute phone conversation.

Thank you for contacting Evidence In-Sight. Please do not hesitate to follow up or contact us at evidenceinsight@cheo.on.ca or by phone at 613-737-2297.
1. **Overview of inquiry**

This report on day treatment was requested by an agency that provides a continuum of mental health treatment, prevention and promotion services for children, youth and families. Services are offered in both official languages and in a First Nations cultural context depending on client needs.

The agency provides day treatment (DT) classrooms as a school-based intervention for children (4 – 18 years old) with significant behavioral problems and who meet the criteria for admission to a Section 23 school based therapeutic intervention. The agency partners with four local schools and provides services in day treatment classrooms (19 classrooms with 14 at the elementary level) located within the schools. The intervention includes individual treatment plans with clinical and academic components to suit the needs of each child. The goal of the program is to successfully reintegrate children into their regular classrooms.

The agency has been struggling to meet the needs of some children admitted to day treatment. These children are presenting with high externalizing and explosive behaviours, to the degree that the day treatment teachers and mental health staff cannot provide a therapeutic space for all students. The children are subsequently suspended from school for lengthy periods of time. As a result of this challenge, the agency is reflecting on their model of delivery and has formed a community table to discuss these issues. For the purpose of this request, they would like to look at the evidence for DT in meeting the needs of these children.

**Question statements:**

1. Is day treatment the best model for meeting the needs of children with highly aggressive and explosive behaviours?
2. If not, what evidence informed approaches might better meet the needs of these children?

2. **Summary of findings**

- Despite methodological limitations in the literature, the research indicates that day treatment can help treat externalizing mental health difficulties.
- Day treatment can meet the needs of children with more complex and severe externalizing mental health problems.
- There is no single best practice day treatment model, but certain components of day treatment models are useful (e.g., multi-modal, family-based, cognitive behavioural and behavioural interventions/management, etc.).
- Program evaluation is essential to determine what works and to allow for funding to be directed to the most cost-effective and beneficial programs.
- There are a variety of treatment approaches supported by evidence for children with externalizing mental disorders (e.g., Collaborative Problem Solving, Parent-Child Interaction Therapy, Positive Behavioural Supports, Positive Parenting Program, Problem Solving Skills Training, Therapeutic Foster Care, etc.).

3. **Answer search strategy**

- Search Tools: PsychINFO, AMED- Allied and Complementary Medicine, Ovid MEDLINE ®, Ovid MEDLINE ® In-process & Other Non-Indexed Citations, PubMed, Scolars Portal, Cochrane Library, Google Scholar, EBSCO Host.
4. Findings
We found a range of literature on day treatment (DT) settings for children with externalizing mental health difficulties, but it was difficult to find literature on particular practices within day treatment for children with severe or complex behavioural problems. The literature is further limited by a lack of research on multi-modal treatment and younger children, a lack of longitudinal data, and a lack of research looking at the most effective DT components (Jerrott, Clark & Fearon, 2009; Grizenko et al., 1997). Kotsopoulos et al. (1996) discuss the methodological flaws in outcome studies of DT programs, including the use of retrospective studies, the lack of standardized questionnaires and the lack of comparable data or control groups.

Despite these limitations, DT is becoming widely accepted as an effective therapeutic intervention although the ideal structure of these programs has not been entirely determined (Kotsopoulos et al., 1996).

4.1 The effectiveness of day treatment
Research in DT settings has found that these programs can help reduce challenging externalizing behaviours (Bennett et al., 2001), including for more severe or complex forms of externalizing problems. Jerrott, Clark and Fearon (2009) suggest that children with severe disruptive behaviour disorders can be treated using multi-modal, intensive and evidence-based treatment techniques. Grizenko (1997) showed the effectiveness of DT for 33 children (5 – 12 years old) with severe behaviour problems in their evaluation of the long term outcomes of a multimodal DT program. The authors suggested that DT is a very intensive therapeutic intervention and appears to show a great deal of promise in a lasting therapeutic benefit. More specific examples of DT effectiveness can be found in Appendix A.

In addition to studies on DT effectiveness, there is some research that focuses on factors contributing to the success of DT programs. Some factors that contribute to a child’s progress or outcome in DT programs include parental involvement, age, intelligence levels and aggression subtypes (Bennett et al., 2001). Children who are younger and who score higher on intelligence tests have been found to have more positive outcomes in some DT studies (Bennett et al., 2001). Two subtypes of aggression exist: proactive (i.e., an unprovoked aversive means of influencing or coercing another person) and reactive (i.e., an angry, defensive response to frustration or perceived provocation, and stems from frustration-aggression models of antisocial behaviour; Bennett et al., 2001). Bennett et al. (2001) studied these aggression subtypes as predictors of response to DT and they found that children high on proactive or proactive/reactive aggression made significantly less improvement in externalizing problems at discharge in comparison to children high on reactive aggression only.

DT fits into a continuum of services ranging from low intensity to high intensity and DT can be conceptualized as any program that falls in the middle of the continuum of care between inpatient and outpatient treatment (Jerrott, Clark, & Fearon, 2009). DT is similar to residential care because both often treat children with disruptive behaviour problems, use milieu and individual treatment modalities and have similar efficacy (Bennett et al., 2001). Research comparing the effectiveness of DT to residential treatment has found that for some clients it is equally effective as residential treatment in reducing problem behaviours (Jerrott, Clark, & Fearon, 2009; Kotsopoulos et al., 1996). Furthermore, DT
programs are often seen as a positive alternative to residential placement because they are less costly, less restrictive and maintain the child’s contact with their home environment, peers and community (Jerrott, Clark, & Fearon, 2009; Grizenko, 1993; Kotsopoulos et al., 1996). DT also limits the child’s total dependence on services (Kotsopoulos et al., 1996).

DT can be an appropriate therapeutic modality for children with severe psychiatric disorders, particularly behaviourally and emotionally disturbed children (Kotsopoulos et al., 1996). However, DT for children is challenging for mental health professionals involved in care because the greatest proportion of children referred to these services have disruptive behaviour disorders and these disorders may not respond readily to treatment (Kotsopoulos et al., 1996).

4.2 Core day treatment practices
Based on the literature consulted, it appears as though there is no single best practice model for DT programs targeting children with externalizing mental health difficulties. However, the literature does discuss treatment components and examples of DT programs.

Treatment components
Day treatment requires an environment where psychiatric, psychosocial and academic problems are addressed by multidisciplinary teams (Kotsopoulos et al., 1996). McClellan & Werry (2003) suggest that family-based interventions, systems of care interventions, cognitive behavioural and behavioural interventions are effective in treating children with externalizing mental health difficulties. For oppositional defiant disorder (ODD) in particular, treatment should be multimodal, extensive and culturally-informed involving individual and family psychotherapeutic approaches, and possibly include medication (Steiner & Remsing, 2007).

Steiner and Remsing (2007) suggest the following practice parameters for working with young people with ODD:

- Develop individualized treatment plans targeting domains assessed as dysfunctional. In the treatment plans, there should be an emphasis on parental/caregiver education and training for preschool aged children, and family-based treatment with occasional individual treatment for school aged children.
- Intensive and prolonged treatment may be required in severe/persistent cases.
- Use parent interventions based on one of the empirically tested interventions (e.g., parent management training).

Topp (1991) suggests that the following should be distinctive features of DT programs, although the research focus was on children and youth with internalizing concerns:

- The use of regular community resources: Children’s successful participation in mainstream community activities fills a dual function of providing children and youth coordinated services and integrating youth into the community. These activities can be therapeutic in their own right and successful participation in these activities may be valued above formal therapy.
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- Service coordination: This is a critical issue and a DT program must be willing to take on the responsibility of coordinating the efforts of all participants in a child’s life (e.g., family, caretakers, social service personnel, education staff, and treatment staff).
- Family involvement: This is generally recognized as an important indicator of positive treatment outcome.
- Behaviour management: Many children and adolescents are referred for mental health treatment primarily due to deviant or acting out behaviour. Interventions must be targeted at the individual and community level.
- Crisis intervention: To keep clients living in the community, DT programs must respond to crises that occur.
- Use of isolation and restraint: Isolation serves only to stabilize when the child is completely out of control to help the child regain control. Treatment does not occur in isolation, and thus, the child must quickly return to the regular environment to resume treatment once stabilized.
- Successful educational experiences: Treatment is provided through the accomplishment of normal, regular activities. By learning, the child experiences success in a life otherwise characterized by repeated failure. Learning how to learn is therapeutic and provides the child with skills needed to function in their community.

Sample day treatment programs

Vanderploeg et al. (2009) discuss an extended day treatment model (EDT) that incorporates component practices supported by evidence including DT, family therapy and after school programs. EDT is an innovative, intermediate-level service for children and adolescents (5 – 17 years old) with serious emotional and/or behavioural disorders. It is delivered during after school hours and keeps clients in their homes, schools and communities. EDT is centre-based, multi-component and family-centred using a combination of developmental theories (e.g., attachment, ecological, positive youth development). Core services include:

- comprehensive assessment
- treatment planning
- structured therapeutic milieu
- psychiatric evaluation and medication management
- family therapy and parent training
- group therapy
- individual therapy
- 24 h crisis services
- therapeutic recreation and expressive therapies
- positive youth development activities
- discharge planning.

Goals of the EDT model are to (1) reduce youth mental health symptoms, (2) enhance youth strengths and competencies, (3) promote better family functioning, and (4) prevent restrictive clinical placements, such as inpatient hospitalization and residential services. Other components to the model include different levels of care, a focus on evidence-based practices, workforce composition and training (i.e., four staff on site including direct care staff members, clinicians, site director and psychiatrist), and data collection and reporting for assessing quality of service and outcomes.

Jerrott, Clark and Fearon (2009) evaluated the effectiveness of the short-term Child and Family Day Treatment program at IWK Health Centre in Nova Scotia. This day treatment program provides assessment and management for children (5
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– 12 years old) with severe disruptive behaviour disorder and their families. The treatment team consists of youth care workers, a psychologist, an occupational therapist, a registered nurse, a social worker and a teacher. Treatment is based on best practice parameters for working with children with disruptive behaviour disorders, including:

- Parents are required to be involved in the treatment process and use behavioural parental strategies at home.
- Program maintains daily contact with the school and recommends behaviour strategies to the school.
- The program incorporates cognitive behavioural strategies using token economy and skill building groups focusing on social skills training, anger management, processing school difficulties, hygiene and relaxation training.

Grizenko et al. (1997) evaluated the Lyall Preadolescent Day Treatment program for children with severe behaviour problems. The program is located in the children’s section of a psychiatric university hospital with a team of psychiatrists, psychologists, occupational therapists, social workers, nurses, child care workers and teachers. This program uses multimodal treatment with the following goals in mind: (1) to try to teach the child to express his or her feelings verbally instead of through disruptive behaviours, (2) to set limits, (3) to improve self-esteem by adjusting expectations of child’s abilities, (4) to improve peer relationships through group processes, and (5) to work with the family to look at family influences on behaviour. Clients attend DT daily between 9:00 a.m. and 3:00 p.m. with 2.5 hours per day of special education (5 children per class), 3 hours per day of therapeutic intervention, and 1 hour per week of individual psychodynamic play therapy, psychodrama, pet therapy, art therapy, social skills training, occupational therapy and daily group therapy. The academic program is administered by a teacher and is individualized to meet the needs of the client. Weekly family therapy is incorporated into the DT program using a combination of systemic, educational and behavioural approaches. The program works to reintegrate the child into the community school by working with school to establish appropriate programs to help the client upon their return.

Bennett et al. (2007) evaluated a Philadelphia based DT program that uses cognitive behavioural interventions for children with behavioural problems. This program is housed in a medical school hospital as part of the division for child and adolescent psychiatry and includes inpatient and outpatient services. Personnel include a teacher, teaching assistant, recreation therapist, art therapist and trainees (e.g., social work interns, psychology practicum students and interns, psychiatry residents, creative arts interns). DT consists of 6 hours of treatment for five days a week with 4 to 5 hours of education per day in a classroom of 10 to 12 students. The DT program also includes daily recreation therapy groups, weekly individual therapy and art therapy groups, and social skills and anger control groups using cognitive problem-solving exercises 1-2 times per week. This DT program does not seem to place as big of an emphasis on the family component as they only attempt to meet with parents once a month for parent training and/or family therapy.

McCarthy et al. (2006) discuss the development of a new DT program, The GoZone, for children (8 – 11 years old) with behavioural problems. The treatment team (clinical nurse specialist, day unit staff nurse, therapy assistant, clinical psychologist, child psychiatrist, special education teacher, and educational support assistant) works collaboratively with families and schools to address a child’s difficulties in a safe and structured environment. The program is located at a child and adolescent mental health unit and children attend the program for one academic term in groups of six for two days a week. Day 1 involves 2 hours and 45 minutes of education, a 30 minute individual session, and 1.5 hours for breaks, lunch and games. Day 2 involves 2 hours and 15 minutes of education, 1 hour group session, a 30 minute
individual session and 1 hour for breaks and lunch. The treatment setting is classroom-based and multimodal with: (1) therapeutic input focused on improving functioning in relation to a number of developmental processes known to be linked to the development of problem behaviour and (2) educational input incorporating interactive and minimally didactic learning. The program helps to support children in practicing newly acquired emotional, cognitive and behavioural skills at home and in mainstream school.

We contacted an agency in Ontario to learn about their day treatment program for school-aged children who have externalizing mental health difficulties. The agency uses Dr. Bruce Perry’s brain development and trauma theory (e.g., Perry & Hambrick, 2008) to assist them in delivering their DT services. They have found that some practice elements have worked particularly well in helping their clients:

<table>
<thead>
<tr>
<th>Best practice information embedded into their programming</th>
<th>What they feel works well at their agency</th>
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<tbody>
<tr>
<td>- Environmental focus on skill building and readiness for learning</td>
<td>- Reframing child’s view of self and education</td>
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<tr>
<td>- Community based</td>
<td>- Differentiated instruction</td>
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<td>- Small class size with a high staff ratio (6-8 children, 1 child and youth worker and 1 teacher)</td>
<td>- Flexibility</td>
</tr>
<tr>
<td>- Group programming (social skills, emotion regulation)</td>
<td>- Relationship with student (engagement)</td>
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<td>- Participation in the community</td>
<td>- Literacy</td>
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<td>- Family involvement</td>
<td>- Attendance (connecting the family)</td>
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<tr>
<td>- Engagement</td>
<td>- School connectedness:</td>
</tr>
<tr>
<td>- Time limited, part days</td>
<td>- Healthy environment with focus on physical and mental health of students</td>
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<td>- Focus on transition</td>
<td>- Developmentally appropriate</td>
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<td>- Peer mentoring</td>
<td>- Teachers skilled in areas they teach</td>
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<td></td>
<td>- Good classroom management of behaviours</td>
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<tr>
<td></td>
<td>- School size (smaller allows for more connectedness)</td>
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<tr>
<td></td>
<td>- Community connected</td>
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</table>

We contacted another agency that operates a school-based day treatment service with five classrooms in two schools providing a combination of education and treatment for children needing additional skills to function successfully in a regular school setting. Classrooms run from 8:45 am to 2:15 pm with a ratio of three staff to 12 children and with children grouped by age (i.e., 6-8 year olds and 9-12 year olds). The main focus is on the treatment aspect as opposed to the academics. The education component focuses on helping the children meet the necessary requirements and uses a no-suspension policy. The central treatment approach is collaborative problem solving (CPS) and the agency found that their use of restraints with children with highly aggressive and explosive behaviours has been reduced significantly since adopting CPS.

4.3 Treatment approaches and their evidence
Despite the extensive research on the treatment of externalizing disorders in children, no single intervention is the recommended best practice (Eyberg et al., 2008). Treatment should be multimodal, intensive and evidence-based
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(Jerrott, Clark & Fearon, 2009) with the following treatment practices supported by the literature (refer to Table 2 in Appendix A for more detailed information):

- Anger control training
- Collaborative Problem Solving (CPS)
- Coping Power Program
- Incredible Years (parent training and child training versions; IY)
- Parent-Child Interaction Therapy (PCIT)
- Parent Management Training Oregon Model (PMTO)
- Positive Behavioural Supports (PBS)
- Positive Parenting Program (Triple P)
- Problem-Solving Skills Training (PSST), PSST + Practice, PSST + Parent Management Training
- Therapeutic Foster Care

Applied behavioural analysis (ABA) may be a useful treatment approach for externalizing mental health disorders due to the fact that it is a validated approach to understanding behaviour and how it is affected by environmental influences. However, the literature on ABA has primarily focused on individuals with intellectual and developmental disabilities. There has been some research on ABA within school-wide positive behavioural interventions and supports (PBIS). PBIS may be an overarching school-wide behavioral management model that is an alternative to existing models of supporting individuals with challenging behaviours (McClean et al., 2005). Evidence In-Sight has written a report on PBIS with a focus on community mental health settings and found that research in schools suggests positive behavioural supports are a very promising approach to addressing behavioral problems among children.

Beyond these treatment approaches, there are broader models and processes supported by evidence. Stop Now And Plan (SNAP®) and Wraparound are examples of these broader interventions that target children with externalizing mental health difficulties.

SNAP® is a Canadian, evidence-based, community-based, multi-faceted, multi-systemic and gender sensitive model for young children in conflict with the law (Augimeri, Walsh & Slater, 2011). The SNAP® Under 12 Outreach Project (SNAP® ORP) version is designed to meet the needs of children under the age of 12 who are engaging in antisocial activities such as physical aggression or assault, break and enter, vandalism, and shoplifting or theft (Augimeri, Walsh & Slater, 2011). SNAP® uses a cognitive behavioural strategy that is intended to help children control their impulsivity, think about the consequences of their behaviour and develop a socially appropriate plan (Augimeri, Walsh & Slater, 2011). The model uses components from a variety of established interventions including skills training (e.g., social skills training), cognitive problem solving, self-control and anger management strategies, cognitive self-instruction, family management skills training and parent training (Augimeri, Walsh & Slater, 2011). This approach also encompasses a science-practitioner approach, which helped to build the foundation for establishing SNAP® as an evidence-based program with ongoing research activities taking place (Augimeri, Walsh & Slater, 2011). SNAP® has been validated for its efficacy in improving problem behaviours (Augimeri, Walsh & Slater, 2011). In general, SNAP lowers aggression and bullying in the short term with evidence that these effects can be sustained over the intermediate term (Augimeri, Walsh & Slater, 2011).
Wraparound is a team-based service planning and coordination process for developing and implementing individualized care plans (Suter & Bruns, 2009). These plans are intended to improve outcomes for children and youth with serious emotional and behavioural disorders and support them in their homes, schools and communities (Suter & Bruns, 2009). Wraparound is community-based and involves family voice and choice, a team approach, natural supports, collaboration, culturally competent and individualized services, strengths based interventions, and is outcome based (Suter & Bruns, 2009). Wraparound is not exactly a treatment, but a method for enhancing the effectiveness of the services and supports that a child and family receives (Bruns et al., 2010). It is one of the growing service enhancements currently being developed in children’s mental health (Bruns et al., 2010). Wraparound shows modest evidence for efficacy and effectiveness, but does not meet the criteria for evidence based treatment (Suter & Bruns, 2009).

5. **Next steps and other resources**

Knowing what works and receiving training on an evidence-informed practice or program is not sufficient to actually achieve the outcomes that previous evaluations indicate are possible. A program that has been shown to improve mental health outcomes for children and youth but that is poorly implemented will not achieve successful outcomes (Fixsen et al, 2005). In order for a program to be evidence-informed, it needs to be applied with fidelity to the design and it needs to be implemented using supportive “drivers” related to staff competency, organizational leadership and organizational capacity. These drivers include assessing and monitoring the outcomes of your practice using evaluation or performance measurement frameworks, which are particularly important when there is insufficient evidence in the literature to guide clinical decisions. Choosing a practice is an initial step toward implementation, but the implementation drivers are essential to ensure that the program reaches appropriate clients, that outcomes are successful and that clinical staff members are successful in their work.

The Ontario Centre of Excellence for Child and Youth Mental Health has a number of resources and services available to support agencies with implementation, evaluation, knowledge mobilization, youth engagement and family engagement. For more information, visit:

http://www.excellenceforchildandyouth.ca/what-we-do or check out the Centre’s resource hub at http://www.excellenceforchildandyouth.ca/resource-hub.

For general mental health information, including links to resources for families:

http://www.ementalhealth.ca
References


