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Alternatives to inpatient mental health care for children and young people: Evidence and implications for public health

Review on which this evidence summary is based:
Shepperd, S., Doll, H., Gowers, S., James, A., Fazel, M., Fitzpatrick R., & Pollock, J. (2009). **Alternatives to inpatient mental health care for children and young people**. *Cochrane Database of Systematic Reviews*, Issue 2, Art. No.: CD006410.

Review Focus

P Children or adolescents five to 18 years of age with a serious mental health condition (e.g. mood disorders)

I Mental health services providing specialist, outpatient care

C Mental health services in an inpatient or equivalent setting

O *Primary Outcomes:* disease-specific symptoms, general psychological functioning, acceptability and cost
Secondary Outcomes: admission rates to inpatient care, completion of treatment, use of out-of-home placement, length of stay, behavioural problems (measured using a validated scale), deliberate self harm, suicide, patient satisfaction, family functioning, satisfaction, acceptability and cost, return to school and school attainment (where applicable), delinquency and substance abuse

Review Quality Rating: 8 (strong) *Details on the methodological quality are available here.*

Considerations for Public Health Practice

Conclusions from Health Evidence	General Implications
This high quality review is based on primary studies of mostly moderate methodological quality. Home-based multi-systemic therapy (i.e. follows standard protocol, uses ecologically orientated therapy, and includes an aftercare and comprehensive crisis plans), for children with non-specific emotional/behavioural disorders, compared to inpatient care reduces: • symptoms such as aggression and hyperactivity reported by teachers • days spent out-of-school • self-reported alcohol use Intensive home treatment (i.e. uses a problem- solving approach) or intensive home-based crisis intervention, for children with non-specific emotional/ behavioural disorders, *does not* lead to better outcomes on: • symptom severity • number of symptoms • family cohesion Specialist outpatient treatment, for youth with anorexia nervosa, *does not* lead to better outcomes on: • the number of post-discharge nights spent at an inpatient facility • outpatient appointments • day patient contacts	Based on this review, public health programs *should* include and/or support: • **home-based multi-systemic therapy** for children with non-specific emotional/behavioural disorders *should not* include/support: • **intensive home treatment** for children with non-specific behavioural/emotional disorders • **specialist outpatient services** for youth with anorexia nervosa Public health decision makers should be aware that the interventions presented were based on limited evidence and small sample sizes. Decision makers should continue to advocate for the conduct of randomized controlled trials to evaluate the effectiveness of intensive day treatment, intensive case management, therapeutic foster care or residential + inpatient care.

No RCTs were found in this review assessing the impact of intensive day treatment, intensive case management, or therapeutic foster/residential care with inpatient care.	

Evidence and Implications

What's the evidence?	Implications for practice and policy
1. Home-based Multi-systemic Therapy (MST) (2 trials) • In treating psychosis, at four months, fewer *teacher-reported* symptoms (e.g. aggression and hyperactivity) **SMD -0.52** 95% CI -0.90 to -0.14); fewer days spent out-of-school (**SMD -0.47**, 95% CI -0.85 to -0.09); and less self-reported alcohol use (**SMD -0.49**, 95% CI -0.87 to -0.11) were reported. • A study of low methodological quality reported MST for emotional-behavioural difficulties resulted in reduced self-reported minor delinquency (SMD -2.72, 95%CI -3.71 to -1.72), Youth Risk Behaviour scores (SMD -0.90, 95% CI -1.64 to -0.16), and fewer days of psychiatric hospitalization (0.53 days/month vs. 3.88 days/month) compared to intensive community care (e.g. therapeutic foster care, or group home treatment). • No impact for child and family on symptom severity, caregiver-reported symptoms (e.g. aggression, hyperactivity, social withdrawal, self-injury, etc.), marijuana use, arrests, caregiver satisfaction, self-reported total drug use, family adaptability, and cohesion.	**1. Home-based Multi-systemic Therapy** • Public health decision makers may consider supporting/encouraging MST as opposed to inpatient care for psychosis given positive impact on some outcomes may be realized. However, for many additional outcomes, for both the child and family, positive improvements should not be expected.
2. Specialist Outpatient Services (1 trial) • No impact on the number of post-discharge nights spent at an inpatient facility, outpatient appointments, or day patient contacts for youth with anorexia nervosa receiving cognitive behavioural therapy, motivational interviewing, and parent counselling compared to inpatient care.	**2. Specialist Outpatient Services** • Public health decision makers should not promote specialist outpatient services over inpatient treatment for youth with anorexia nervosa, while acknowledging evidence is limited to a single study.
3. Intensive Home Treatment (2 trials) • A greater proportion of children with emotional/behaviour disorders lived at home up to 3 years post-intervention (72% vs. 50%) compared to inpatient care. • No impact on number of symptoms for children with behavioural/emotional disorders between groups at two-five years, or overall parent satisfaction compared to inpatient psychiatric admission.	**3. Intensive Home Treatment** • Public health decision makers should not promote intensive home treatment as an alternative to inpatient treatment.
4. Intensive Home-based Crisis Intervention (1 trial) • Intensive home-based crisis intervention for emotional/behavioural disorders found small improvements in social competency (**SMD -0.34**, 95%CI -0.67 to -0.01*)* compared to case management*.* ***Case management*** led to improved self-concept 6 months post-intervention. • No impact at six months on child behaviour or family cohesion.	**4. Intensive Home-based Crisis Intervention** • Public health decision makers should promote intensive home-based crisis intervention to improve social competency in children with emotional/behavioural disorders. • But should not promote intensive home-based crisis intervention over case management if the aim is to improve self concept, behaviour, and level of family cohesion.

Legend: P – Population; I – Intervention; C – Comparison group; O – Outcomes; CI – Confidence Interval; OR – Odds Ratio; RR – Relative Risk; SMD – Standardized Mean Difference

***For definitions please see the healthevidence.org glossary http://www.healthevidence.org/glossary.aspx*

Why this issue is of interest to public health in Canada

Child and youth mental health is an area of growing concern and priority in Canada, given that mental health is central to children's social and emotional development.[1,2] An estimated 14% of children (over 800,000 in Canada) experience clinically significant mental disorders.[2] However, fewer than 25% of these children receive specialized treatment services.[2] Offering mental health services beyond an intensive, inpatient milieu may better suit the needs of some children, youth, and/or their

families and will likely reach underserviced areas. Given that a majority of mental health disorders emerge in childhood/adolescence, effective primary prevention and treatment of mental disorders in childhood will enhance quality of life in the present, as well as reduce related impairment and distress in adulthood. In fact, the lifetime prevalence of mental disorders is approximately 46%, and nearly 75% of all cases start by the age of 24. A 2005 report[2] notes that "Canada currently invests little in children's mental health prevention programming at either federal or provincial levels... In 2002, Canada spent less than $300 per capita on public health, compared with total health care expenditures of approximately $3900 per capita." Increased attention to preventive mental health interventions is certainly warranted given that the direct and indirect costs of mental disorders are estimated to exceed $14 billion annually in Canada.[4]

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2. Waddell, C., McEwan, K., Shepherd, C.A., Offord, D.R., & Hua, J.M. (2005). A public health strategy to improve the mental health of Canadian children.*Canadian Journal of Psychiatry, 50*¸ 226-233.
3. The Canadian Association of Paediatric Health Centres, The National Infant, Child, and Youth Mental Health Consortium Advisory, and The Provincial Centre of Excellence for Child and Youth Mental Health at CHEO. (October 2010). *Access & wait times in child and youth mental health: A background paper*. Retrieved from http://www.caphc.org/documents_programs/mental_health/2011_11%2009_final_access_wait_times_en.pdf
4. Schwartz, C., Waddell, C., Barican, J., Zuberbier, O., Nightingale, L., & Gray-Grant, D. (2009). The economics of children's mental health.*Children's Mental Health Research Quarterly,3*(1), 1-16.

Other quality reviews on this topic are available on http://www.healthevidence.org

Suggested citation

McRae, L., Tirilis, D., & Dobbins, M. (2011). Alternatives to inpatient mental health care for children and young people: Evidence and implications for public health. Hamilton, ON: McMaster University. Retrieved from http://www.healthevidence.org/documents/byid/19286/Shepperd2009_EvidenceSummary_EN.pdf