

ResearchSummary

NHS
National Institute for
Health Research



Alternatives to inpatient care for children and adolescents with complex mental health needs

In recent years the focus of current policy in the UK and elsewhere has emphasised the provision of mental health services in the least restrictive setting, whilst also recognizing that some children will require inpatient care. As a result a range of mental health services are being provided to manage young people with serious mental health problems in community or outpatient settings.

To improve our understanding of the types of services being offered and how they compare to inpatient care, or a service of equivalent intensity, we conducted a systematic review of the international research evidence to identify the different organizational structures and therapeutic approaches described in the literature as alternatives to inpatient mental health services for children and young people, and assessed the evidence of effectiveness, acceptability and cost of these alternatives.

We also conducted a UK wide survey to identify the range and prevalence of the different models of service being provided to young people with complex mental health needs.

This research summary, based on research led by Dr Sasha Shepperd at the University of Oxford, commissioned by the NIHR Service Delivery and Organisation

Key findings

- Eight distinct models of care providing an alternative to inpatient care, or a service of equivalent intensity, were described in the systematic review of the international research:
 - multisystemic therapy (MST) at home,
 - day hospital, case management,
 - intensive specialist outpatient service,
 - home treatment,
 - family preservation services,
 - therapeutic foster care, and
 - services provided in residential care.
- The evidence base in relation to these services is of poor quality with outcomes being measured by a number of difference scales.
- The UK wide survey found seven distinct service models are prevalent in this country:
 - day services,
 - intensive outpatients,
 - home treatment,
 - therapeutic foster care,
 - intensive outreach,
 - crisis intervention, and
 - early intervention for psychosis (EIP).
- Given the current concerns about the scale and management of mental health problems in young people a high priority should be attached to improvements in the quality of the evidence base which currently provides very little guidance for the development of services.

Programme reports on the results of the systematic review and survey. It is relevant to those who commission and provide services to young people with complex mental health needs, young people with complex mental health needs and their families, and to those planning research in this area.

Background

Approximately 2,100 young people in England and Wales are admitted to specialist child and adolescent mental health units each year (Worrall A, 2004). Although the actual number of young people being admitted is relatively small, the impact of these conditions on the young person can be severe and prolonged and the accompanying use of resources high, particularly for 16/17 year olds (Goodman R, 2005). This has implications for a system where there is a shortage of specialised beds (Gowers S, 2005), with young people being admitted to general psychiatric or paediatric wards when specialist care is not available (Worrall, 2004).

A range of mental health services, in the community or in an outpatient setting, has been developed to manage young people with serious mental health problems who are at high risk of being admitted to an inpatient unit (Department of Health, 2004b). These alternative services may prevent young people developing a dependency on the hospital environment or being stigmatised. In addition these services may facilitate the transfer of any therapeutic gains to the young person's every day environment, thus maximising the potential for improved health outcomes to be sustained (Katz L, 2004) and for educational attainments to be less severely affected (Milin R, 2000). Examples include early intervention services in the community for young people with first episode psychosis, assertive outreach (McGorry P, 2002), dialectical behaviour therapy (Miller, 2002), family therapy (Lock J, 2005) and multi-family therapy for anorexia nervosa (Scholz M, 2001). The way services are organised also varies. Service configurations include the provision of multi-agency integrated home care or intensive outpatient therapy for young people with severe mental health problems (Department of Health, 2004a) and therapeutic units based in a day centre (Street C, 2003).

A wide range of services providing an alternative to inpatient care are being delivered across different settings and to different groups of young people with complex mental health needs. Differences in public policy between countries are reflected in the location of care for this group of young people and in the way different agencies, for example mental health, education and welfare, integrate the care they provide. Exactly how these alternative services relate and compare to inpatient care, and which are the most promising types of service, is not known. We conducted a systematic review of the effectiveness of alternatives to inpatient mental health care for children and young people alongside a survey of the types of services that seek to avoid inpatient care for children and young people in the UK (Shepperd S, 2008).

Practical findings



Main findings – systematic review

We identified eight distinct models of care providing an alternative to inpatient mental health care for children and young people: multisystemic therapy (MST), family preservation/wraparound services, intensive outpatient services (which could include rapid outreach and crisis intervention), day hospitals, intensive home treatment, case management, therapeutic foster care and short term residential care. No randomised evidence was identified comparing intensive day treatment, intensive case management, residential care or therapeutic foster care with inpatient care or another alternative type of care.

Two randomised controlled trials evaluated the effectiveness of MST in the community as an alternative to inpatient or intensive community treatment (Henggeler S, 1999; Rowland M, 2005). In both trials a number of different outcomes were measured using self, caregiver and teacher reported data. The majority of differences were not significant. Henggeler *et al*, reported improved functioning in terms of externalising symptoms for young people receiving home based MST. They also spent fewer days out of school and reported greater consumer satisfaction with their treatment programme. At short term follow up the control group had a greater improvement in terms of adaptability and cohesion, though this was not sustained at four months follow-up. Rowland *et al*, reported small significant differences in fewer days spent in out of home placement for the MST group. A Cochrane systematic review of intensive MST for families and youth with social, emotional and behavioural problems across a range of settings found no evidence to support the use of this type of treatment compared with other interventions. However, this reflects the poor quality of the research evidence rather than the actual effectiveness of individual alternative services (Littell J, 2005).

Evidence for family preservation services as an alternative to inpatient care came from one RCT (Evans M, 2003) and two non randomised comparisons (Pecora P, 1991; Wilmshurst L, 2002). Although no differences were observed in both groups for number of days in

out of home placement, small improvements favouring the control group were reported at short term follow up for behaviour, and favouring those receiving family preservation services in terms of adaptability and cohesion (Evans M, 2003). At six month follow up those receiving family preservation services had a greater improvement in social competency compared with the control group. However the control group had a greater improvement in self concept. The non randomised studies reported fewer out of home placements for those receiving the family preservation service.

Evidence for intensive home treatment came from two RCTs (Mattejat F, 2001; Winsberg B, 1980) and two non randomised comparisons (Sherman J, 1988; Schmidt M, 2006). No differences at follow up were reported between inpatient and home-treated children for the randomised controlled trials. One non randomised study (Schmidt M, 2006) reported a greater improvement in symptoms and behaviour for the control group at long term follow up. These findings do not differ from a systematic review of home treatment for patients with mental health problems, where the majority of participants were over the age of 18 years, which concluded that the evidence base for the effectiveness of this service was weak (Burns T, 2001).

Two RCTs evaluated the effectiveness of intensive outpatient services and both reported no differences in behavioural or psychological outcomes for those receiving this form of care compared with children receiving no treatment (Silberstein R, 1968), or inpatient care or generic outpatient care (Byford S, 2007; Gowers S, 2007). Gowers *et al*, concluded that intensive outpatient services for young people with anorexia nervosa are as effective as inpatient care.

Cost effectiveness

An analysis of costs was attempted by one of the trials evaluating intensive home based MST as an alternative to inpatient treatment (Sheidow A, 2004). However, the costs of the MST intervention and any outliers were omitted, therefore limiting the degree to which these results can be generalised. A second trial, reporting the results of the first economic evaluation of specialist outpatient care vs. inpatient care vs. generic outpatient care for adolescents with anorexia nervosa, reported no difference in costs between the three groups at 2 year follow-up (Byford S, 2007). Interestingly, observed non significant differences were due to the length of time spent in hospital, with the general outpatient group spending almost as much time in hospital as the inpatient group. This lack of evidence on cost effectiveness is consistent with a recent report on the limited evidence from economic evaluations of early intervention services for psychosis (McCrone P, 2007).

Main findings – mapping study

In the UK the predominant models of care are early intervention in psychosis services, intensive day services, intensive outpatient treatment and intensive home treatment, with day hospitals being the longest running service. Services are provided across urban, rural and remote rural areas. Variation in service provision between areas may reflect the different rationales for setting up these services. In some areas these alternative services were providing support to inpatient units and in others they were part of a general trend to reduce the use of inpatient beds.

In Wales and Northern Ireland current developments of alternative services are focussed on intensive community teams. In Wales there is ongoing discussion within one day unit about developing the kind of community intensive teams that are operating in other areas. The day service in Northern Ireland exists to support inpatient care and it is not clear how this will run with the planned expansion of inpatient care. Elsewhere in Northern Ireland, the focus is on developing intensive community teams. One service in Scotland redeployed staff from a day service to intensive outpatient care as this provided more flexible care. Intensive day services were the most frequent type of service provided by the independent sector, and two of these were for the treatment of eating disorders. There was variation in the provision of CAMHS in secure settings. Responses highlight how, if mental health provision is suitably robust, the care given to a young person in a secure setting can be of a similar intensity as Tier 4 services provided in the community – albeit in a residential setting.

Although intensive community based services do provide an alternative to inpatient care for young people with complex mental health needs, responses to the survey highlighted the continued need for access to inpatient care. There will always be a small number of young people for whom inpatient treatment would be most appropriate. In addition, several studies included in the systematic review reported that young people receiving an alternative to inpatient care were hospitalised while receiving the alternative service.

Conclusions



Given the current concerns about the scale and management of mental health problems in children and adolescents, a high priority should be attached to improvements in the quality of the evidence base which currently provides very little guidance for the development of services.

- The evidence from both the systematic review and the mapping study highlights the need to move beyond monitoring, and identifying variation, in the types of services that are delivered across the country. What is needed is the collection of robust data on the profile and outcomes of users of these alternative services. Although creating an additional burden for service providers, capitalising on systems such as the Mapping Study run by the University of Durham could provide a mechanism to collect this data.
- Conducting research in this area is difficult on many levels and may provide an explanation for the lack of an evidence base supporting these alternative models of care. Designing a study and obtaining ethical approval to recruit young people with complex mental health problems is not straightforward. Even if this is achieved it is likely that the majority of young people would decline to consent to a randomised controlled trial where one of the alternatives is inpatient care. In addition researchers have to deal with problems in compliance and treatment fidelity.

Recommendations for future research

- We suggest studies should be designed to compare different models of alternative services in terms of effectiveness and cost, focusing on those services that are most prevalent across the country. For example comparing intensive day treatment with home treatment or intensive outpatient treatment. It might be simpler in the first instance to design studies for services of specific disorders or symptoms (e.g., eating disorders, early onset psychosis) in order to be able to best compare data across sites.
- If it is not feasible to conduct randomised controlled trials of these interventions an alternative is to implement prospective comparative systems of audit. By this we mean the prospective collection of data across several centres, which will include baseline measurement at admission along with demographic data. Outcomes should be measured using a few standardised robust instruments, for example the HoNOSCA system which has both clinical (Gowers S, 1999) and user rated versions (Gowers S, 2002). This would allow comparisons to be made of the differential effect of these services for children compared with adolescents, and between the different diagnostic categories.
- Interestingly few of the studies included in the review mentioned whether they consulted with service users and their parents, or the professionals treating them. This has made it difficult to establish the acceptability of the various alternative interventions included in this systematic review. Only two randomised controlled trials included any measure of patient or care giver satisfaction. This has important implications for understanding the compliance and attrition problems associated with the delivery of mental health interventions. The evidence base could be improved by obtaining service users' views on any alternative service through qualitative research.



About the study



There were two parts to this study:

1. A systematic review identified the different organizational structures and therapeutic approaches described in the literature as alternatives to inpatient mental health services for children and young people, and assessed the evidence of effectiveness, acceptability and cost of these alternatives. We systematically searched electronic databases and hand searched the contents of relevant journals to identify studies evaluating or describing alternatives to inpatient mental health care for young people. All types of study design in all languages were eligible for inclusion. We appraised, extracted and summarised data for each study and developed a framework for categorizing the types of services.
2. A survey to identify the range and prevalence of the different models of service that seeks to avoid inpatient care for children and young people in the UK. We developed a questionnaire asking about Tier 3 and 4 services aimed at managing young people with serious mental health problems outside an inpatient setting who would otherwise be admitted to inpatient care, or an equivalent. We collaborated with the Child and Adolescent Mental Health (CAMH) Mapping team at the University of Durham which provided us with a unique database of CAMH providers. The questionnaire was sent out by email from Durham to all NHS child and adolescent mental health providers in England. We sent a similar questionnaire to CAMH providers in Wales, Scotland and Northern Ireland. We contacted health care and service managers of secure settings in England to obtain details of in-reach mental health services in case these were missed by the main survey. We sent a shorter version of the main survey to independent child and adolescent mental health providers in England.

Members of the research team

Sasha Shepperd, Louise Harris, Helen Doll,
Leona Bull and Ray Fitzpatrick
University of Oxford

Simon Gowers
University of Liverpool

Tony James and Mina Fazel
Department of Psychiatry (Child & Adolescent
Psychiatry), Warneford Hospital, Oxford

Jonathan Pollock
University of the West of England



References

- Burns T, Knapp M, Catty J, Healey A, Henderson J, Watt H, Wright C. 2001. Home treatment for mental health problems: a systematic review. *Health Technol Assess* 15(5):1-139.
- Byford S, Barrett B, Roberts C, Clark A, Edwards V, Harrington R, Smethurst N, Gowers S. 2007. Economic evaluation of a randomised controlled treatment trial for adolescent anorexia nervosa. *British Journal of Psychiatry* 191:436-40.
- Department of Health. *Child and Adolescent Mental Health Services Mapping*. 2004a.
- Department of Health. *National Service Framework for Children, Young People and Maternity Services*. 2004b.
- Evans M, Boothroyd R, Armstrong M, Greenbaum P, Brown E, Kuppinger A. 2003. An experimental study of the effectiveness of intensive in-home crisis services for children and their families: program outcomes. *Journal of Emotional and Behavioral Disorders* 11(2):92-121.
- Goodman R. 2005. *Child and adolescent mental health services: reasoned advice to commissioners and providers*. Maudsley Discussion Paper 4.
- Gowers SG, Clark A, Roberts C, Griffiths, A, Edwards, V, Bryan C, Smethurst N, Byford S, Barrett B. 2007. Clinical Effectiveness of treatments for anorexia nervosa in adolescents. *British Journal of Psychiatry* 191: 427-435.
- Gowers SG, Rowlands L. 2005. In patients services. *Current Opinion in Psychiatry* 18(4):445-8.
- Henggeler S, Rowland M, Randall J, Ward D, Pickrel S, Cunningham P, Miller S, Edwards J, Zealberg J, Hand L, Santos A. 1999. Home-based multisystemic therapy as an alternative to the hospitalisation of youths in psychiatric crisis: clinical outcomes. *Journal of the American Academy of Child and Adolescent Psychiatry* 38(11):1331-1339.
- Katz LY, Cox BJ, Gunasekara S, Miller AL. 2004. TI – Feasibility of dialectical behavior therapy for suicidal adolescent inpatients. *Journal of the American Academy of Child and Adolescent Psychiatry* 43(3):276-82.
- Littell JH, Popa M, Forsythe B. 2005. Multisystemic Therapy for social, emotional, and behavioral problems in youth aged 10-17. *Cochrane Database of Systematic Reviews* Issue 4. Art. No.: CD004797. DOI: 10.1002/14651858.
- Lock J, Stewart Agras W, Bryson MA, Kraemer HC. 2005. A Comparison of Short- and Long-Term Family Therapy for Adolescent Anorexia Nervosa. *Journal of the American Academy of Child and Adolescent Psychiatry* 44:632-9.
- Mattejat F, Hirt B, Wilken J, Schmidt M, Remschmidt H. 2001. Efficacy of inpatient and home treatment in psychiatrically disturbed children and adolescents. *European Child & Adolescent Psychiatry* 10: 71-79.
- McCrone P, Knapp M. 2007. Economic evaluation of early intervention services. *The British Journal of Psychiatry* 191:s19-s22.
- McGorry PD, Yung AR, Phillips LJ, Yuen HP, Francey S, Cosgrave EM, Germano D, Bravin J, McDonald T, Blair A, Adlard S, Jackson H. 2002. Randomized controlled trial of interventions designed to reduce the risk of progression to first-episode psychosis in a clinical sample with subthreshold symptoms. *Archives of General Psychiatry* 59(10):921-8.
- Miln R, Coupland K, Walker S, Fisher-Bloom E. 2000. Outcome and follow-up study of an adolescent psychiatric day treatment school program. *Journal of the American Academy of Child and Adolescent Psychiatry* 39:320-328.
- Miller AL, Glinski J, Woodberry KA, Mitchell AG, Indik J. 2002. Family therapy and dialectical behavior therapy with adolescents: Part I: Proposing a clinical synthesis. *American Journal of Psychotherapy* 56(4):568-84.
- Pecora P, Fraser M, Bennett R, Haapala D. 1991. *Placement rates of children and families served by intensive family preservation services program*. (eds) Fraser M, Pecora P, Haapala D. 'Families in Crisis' Aldine: New York.
- Rowland M, Halliday-Boykins C, Henggeler S, Cunningham P, Lee T, Kruesi M, Shapiro S. 2005. A randomised trial of multisystemic therapy with Hawaii's Felix class youth. *Journal of Emotional and Behavioral Disorders* 13(1):13-23.
- Schmidt M, Lay B, Gopel C, Naab S, Blanz B. 2006. Home treatment for children and adolescents with psychiatric disorders. *European Child & Adolescent Psychiatry* 15:265-276.
- Scholz M, Asen E. 2001. Multiple family therapy with eating disordered adolescents: concepts and preliminary results. *European Eating Disorders Review* 9:33-42.
- Shepperd S, Harris L, Doll, H, Bull L, Gowers S, James A, Fazel M, Fitzpatrick R, Pollack J. 2008. *Systematic review and mapping study of alternatives to inpatient care for children and adolescents with complex mental health needs*. Report for the NIHR Service Delivery and Organisation of Care Programme. London: NIHR SDO.
- Sheidow A, Bradford W, Henggeler S, Rowland M, Halliday-Boykins C, Schoenwald S, Ward D. 2004. Treatment costs for youths receiving multisystemic therapy or hospitalisation after a psychiatric crisis. *Psychiatric Services* 55(5):548-554.
- Sherman J, Barker P, Lorimer P, Swinson R, Factor D. 1988. Treatment of autistic children: relative effectiveness of residential, out-patient and home-based interventions. *Child Psychiatry and Human Development* 19(2):109-125.
- Silberstein R, Mandell W, Dalack J, Cooper A, Island S. 1968. Avoiding institutionalisation of psychotic children. *Archives of General Psychiatry* 19:17-21.
- Street C, Svanberg J. 2003. *Where next? Different models of provision for young people: facts and figures*. London: YoungMinds.
- Wilmshurst L. 2002. Treatment programs for youth with emotional and behavioural disorders: an outcome study of two alternative approaches. *Mental Health Services Research* 4(2): 85-96.
- Winsberg B, Bialer I, Kupietz S, Botti E, Balka E. 1980. Home vs hospital care of children with behaviour disorders. *Archives of General Psychiatry* 37:413-418.
- Worrall A, O'Herlihy A, Banerjee S, Jaffa T, Lelliott P, Hill P, Scott A, Brook H. 2004. Inappropriate admission of young people with mental disorder to adult psychiatric wards and paediatric wards: cross sectional study of six months' activity. *British Medical Journal* 328(7444):867.

Further information

The full report, this research summary and details of current SDO research in the field can be downloaded at: www.sdo.nihr.ac.uk

For further information about anything included in the report, please contact lead researcher Sasha Shepperd (sasha.shepperd@dphpc.ox.ac.uk)

Feedback

The SDO Programme welcomes your feedback on this research summary. To tell us your views, please complete our online survey, available at: www.sdo.nihr.ac.uk/researchsummaries.html

About the SDO Programme

The Service Delivery and Organisation Programme (SDO) is part of the National Institute for Health Research (NIHR). The NIHR SDO Programme is funded by the Department of Health.

The NIHR SDO Programme improves health outcomes for people by:

- commissioning research and producing research evidence that improves practice in relation to the organisation and delivery of health care; and
- building capacity to carry out research amongst those who manage, organise and deliver services and improve their understanding of research literature and how to use research evidence.

This summary presents independent research commissioned by the National Institute for Health Research Service Delivery and Organisation Programme. The views expressed in this publication are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health.

For further information about the NCCSDO or the NIHR SDO Programme visit our website at www.sdo.nihr.ac.uk or contact:

NCCSDO, London School of Hygiene & Tropical Medicine
99 Gower Street
London WC1E 6AA

Tel: +44 (0)20 7612 7980
Fax: +44 (0)20 7612 7979
Email: sdo@lshtm.ac.uk



Disclaimer

This report presents independent research commissioned by the National Institute for Health Research (NIHR). The views and opinions expressed therein are those of the authors and do not necessarily reflect those of the NHS, the NIHR, the SDO programme or the Department of Health

Addendum

This document was published by the National Coordinating Centre for the Service Delivery and Organisation (NCCSDO) research programme, managed by the London School of Hygiene and Tropical Medicine.

The management of the Service Delivery and Organisation (SDO) programme has now transferred to the National Institute for Health Research Evaluations, Trials and Studies Coordinating Centre (NETSCC) based at the University of Southampton. Prior to April 2009, NETSCC had no involvement in the commissioning or production of this document and therefore we may not be able to comment on the background or technical detail of this document. Should you have any queries please contact sdo@southampton.ac.uk