The National Institute for Health and Clinical Evidence in its 2009 review of Schizophrenia concluded that "early intervention can be effective with benefits lasting at least 2 years" (NICE, 2009, p66).

However the review went on to say "Despite the fact that CMHT’s remain the mainstay of community mental health care (for psychosis), there is surprisingly little evidence to show that they are an effective way of organising services (for psychosis)." (NICE, 2009, p261)

This paper highlights the key arguments for service planners in deciding the most appropriate service model for supporting individuals with first episode psychosis.
Early Intervention in Psychosis

Why a specialised EIP service model is preferable to a CMHT model

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Introduction

Decision makers are under severe pressure to reduce expenditure, exemplified by an editorial in the Lancet (July 2010) which highlighted an Oxfordshire planning document which detailed cuts in frontline mental health services and foresaw a “Possible reduction in the quality of service with less clinical resource available”. We have become informally aware of a number of proposals being examined currently in parts of England which have in common the idea of collapsing down relatively newer and discrete EIP services into adjoining larger, and long established CMHTs as an easy way to reduce costs. We believe this is folly as the consequences will be perverse – an increase in NHS costs, a reduction in quality and poorer patient outcomes.

EIP service developments in England are now widely regarded as some of the best in the world. However, if these proposals go ahead they will threaten to undo ten years of progress in improving the care of young people experiencing a first episode of psychosis and for their families. The appraisal by NICE (CG 82 2009) makes it clear there can be no clinical justification for reverting to a CMHT model for treating people with early psychosis. Nor will this save money – indeed, the reverse, as ‘late intervention’ comes at a heavy price with unnecessary hospital admissions and poorer outcomes. Thus, these proposals blatantly disregard an increasingly robust evidence base for both the effectiveness of EIP and its significant cost-benefit. At a UK commissioning event Professor Patrick McGorry, an international leader in EIP in Australia, concluded:

“Early intervention in psychosis is the most evidence-based reform in the mental health arena. With 15 years of accumulating evidence behind it, this service reform is taking shape in many parts of the world.”

Extract from short podcast of Prof McGorry Birmingham 2009

The fact that EIP has been a remarkable success within the NHS, being a vehicle for transformation of adult mental health services, was supported by the previous Mental Health Tsar. Professor Louis Appleby (29th April 2009 Birmingham “Track” conference) in a reflection on the achievements of the National Service Framework described EIP as the “jewel in the crown of the NHS mental health reform” because:

1) Service users like it
2) People get better
3) It saves money

This paper examines some of the evidence for EIP in order to support commissioning and service planning decisions that need to be taken in the current, difficult financial climate. We have laid out what we consider to be the key issues, and also summarised the current cost-effective evidence into an appendix. We are clear that the active ingredients of EIP comprise functions, interventions and a therapeutic culture of respect and recovery; in principle, the service model used to deliver these is secondary. However, we are also clear that CMHTs have not and cannot deliver these interventions as effectively as can specialist EIP Services that were created for precisely that reason.
Key issues

1. Care for early psychosis provided through CMHTs is unacceptable to people with psychosis and their families, especially those from BME communities.

   a) "the [NICE] Guideline Development Group (GDG) recognised that the rationale for an early intervention service is powerful, both ethically (helping people with serious mental health problems at an early stage to reduce distress and possibly disability) and in terms of flexibility and choice (service users and carers want help sooner than is usually available). New evidence from the clinical review clearly demonstrates that early intervention can be effective with benefits lasting at least 2 years" (NICE, 2009, p66).

   b) The Rethink campaign 'Getting help early' used a consumer survey to highlight negative attitudes held by people with early psychosis and their carers towards traditional CMHTs. The survey revealed how contact with people with long term schizophrenia in CMHTs and admission units was potentially demoralising and stigmatising to these young people and was a major cause of the high rate of disengagement from these services (McGovern and Cope, 1995; Craig et al, 2005).

   c) Generic CMHTs are responsible for at least a third of the delay in receiving treatment for a first episode psychosis (Norman et al, 2004; Brunet et al 2007). Over the last decade a strengthening consumer voice typified by RETHINK's campaign Getting help early lobbied about unacceptable treatment delays averaging 12 months from traditional CMHTs which lead to unnecessary distress and long term damage in terms of markedly poorer outcomes (Marshall et al, 2005).

   d) Generic CMHTs lack the focus and flexibility to respond quickly to an emerging psychosis. Under the CMHT model ten years ago, almost 40% of individuals experiencing a first episode psychosis (FEP) were detained under the Mental Health Act (Morgan et al, 2005; this rate being even higher for young Black men with a first episode psychosis(>50%). This is a significant factor breeding treatment reluctance and high service disengagement (See Craig et al, 2005).

**Conclusion** Dissolution of EIP services now would provoke a strong consumer backlash, rallying around the evidence of clinical effectiveness and cost benefits.
2. The early phase of psychosis is a ‘critical period’ affecting long term outcome. This requires a model which can guarantee sustained early treatment and engagement.

a) A systematic appraisal of the evidence for EIP was published in the Cochrane Database (Marshall et al 2006). The reviewers analysed research on Duration of Untreated Psychosis (DUP) and its relationship to outcomes. They found strong evidence that the longer the DUP period, the worse the outcomes. It is noteworthy that more than a third of the DUP period can be attributed to the typically slow engagement process of CMHTs (Norman et al, 2004; Brunet et al 2007).

b) Outcome after three years strongly predicts outcome 25 years later (Harrison et al, 2001). It is essential that young people with FEP are assertively followed up in low stigma settings to ensure consistent engagement in treatment. For people with early psychosis EIP services guarantee high levels of engagement in treatment which CMHTs are unable to match (Craig et al 2005; Birchwood et al 2010).

c) The first 5 years following a first episode psychosis is a period of high risk, where for example there is a threefold increased risk of suicide (Wiersma et al 1998). Encouraging evidence suggests EIP can reduce the risk of suicide (Power & Robinson, in press, Bertelsen et al, 2007). However early reductions in suicide rates in the initial 3 years of an EIP service can be lost over the next few years that follow (Harris et al 2008). This highlights deficiencies in the subsequent traditional service approaches young people receive once they leave EIP and indeed provides an argument for lengthening their exposure to those successful elements of EIP.

3. EIP services achieve higher levels of engagement and improved outcomes compared to CMHTs. NICE in its recent review of the evidence for treating schizophrenia (NICE, 2009) could find little to commend in a CMHT model of care for treating early psychosis.

a) Value base of EIP service model versus traditional CMHT: Inherent in the EIP model is an approach based on active engagement of young people, youth friendly service delivery, supportive of families, therapeutic optimism and expectations of recovery for young people with FEP. The culture of a traditional CMHT may veer towards a ‘one size fits all’ style of service delivery with a high threshold for accepting referrals, early diagnostic categorisation rather than accepting ambiguity and evolution of psychotic presentation, over-reliance on medication, and therapeutic pessimism in relation to the experience of psychosis. This culture is a major difficulty for the majority of young people with FEP who find CMHTs demoralising and stigmatising. Service configuration should always be secondary to the interventions delivered and there may be several models that may deliver the same treatment programme. However, it is inconceivable that most EIP practitioners, if located within a CMHT, could avoid eventually being drawn into the dominant culture of the wider CMHT in which they were based.
b) Two large-scale RCTs have focused on providing intensive assertive outreach-based care to young people (16-30yrs) during the 'critical period'. These have followed the 'EIP Policy Implementation Guide’ model and compared them with CMHT based care.

i. In the UK, Lambeth Early Onset (LEO) study evaluated the effectiveness of an EIP service compliant with the 2001 Policy Implementation Guide recommendations. They discovered that an EIP service delivering specialised care for patients with early psychosis was superior to standard care for maintaining contact with services and reducing hospital readmissions (Craig et al 2004; Garety et al, 2006).

ii. In Denmark, the OPUS study (Nordentoft et al, 2002) found decisive advantages in terms of lower readmission rates, symptoms and improved quality of life for an EIP service delivering integrated, sustained treatment compared to standard CMHT based care.

c) A trial from the Early Psychosis Prevention and Intervention Centre (EPPIC) in Melbourne compared outcomes for young people with an early psychosis who were assigned to specialist early psychosis care or standard CMHT care (Yung et al 2003). The CMHT care group had longer Duration of Untreated Psychosis, were more likely to be admitted, with police involvement being more common.

d) The results from the ‘TIPS’ trial in Norway (Melle et al, 2005; Larsen et al, 2006) shows that reducing DUP can be achieved through a co-ordinated and focussed community awareness campaign which in turn has benefits in terms of both improving outcome and reducing suicide risk. This requires an integrated response across a whole population base and would be difficult if not impossible to deliver through CMHT sectors.

e) A recent study from Norfolk (Fowler et al 2009) examined the evolution over ten years of a comprehensive stand alone EIP service out of a CMHT service. Only 15% of individuals made a full or partial functional recovery at two years under the care of a traditional generic CMHT in 1998. This compared with 52% of the cases in 2007 who were making a full or partial functional recovery under the care of a comprehensive EIP service. A large reduction in inpatient admissions was a further measured benefit from EIP. Moreover, partial implementation of EIP, using specialist EIP workers in collaboration with traditional CMHT care, achieved an intermediate impact where only 24% made a partial or full recovery.

f) Recent research indicates that detection and treatment of those young people who are at very high risk of developing psychosis may delay or prevent the transition to psychosis. (Morrison et al 2002) This reinforces the importance and potential value of a youth sensitive early intervention approach.

**Conclusion:** there is NO EVIDENCE that a standard or enhanced CMHT model can match the outcomes achieved by a specialised EIP service model.
4. Specialised EI teams pay for themselves because they reduce hospital admission and use of the Mental Health Act compared with CMHTs.

In the first UK study to specifically analyse the economic impact of EIP, Knapp and McCrone modelled the costs associated with Early Intervention and standard CMHT care over a one-year and a three-year period. They found that the participants in the specialised EIP programme group had more contacts with psychiatrists, psychologists, healthcare assistants, community mental health nurses and day-care services. They had less need for in-patient services, and their in-patient costs were two-thirds of the cost for the standard CMHT care group. The overall costs strongly favoured the Early Intervention care group. Over three years the cost per case was calculated at £26,568 for EIP and £40,816 for CMHT care, a saving of £14,248 per case (McCrone, 2009 and 2010). These savings reflect mainly reductions in admission and readmission rates achieved by EIP impacting on more traditional pathways into mental health services by:

- earlier detection, education and collaboration with primary care and community agencies
- stronger engagement and more age/phase appropriate intervention with individuals and families.

The Kings Fund report, ‘Paying the Price’ (McCrone et al, 2008) predicted potential savings (per year) from full EIP service coverage in England over the next 20 years (McCrone et al, 2008) in excess of £60 million per year (on 2008 prices). Furthermore, when the added impact of improvements in employment and educational attainment are factored in, a suggested additional saving of about £2000 per client per year (McCrone personal communication July 2010) widens the gap in cost-effectiveness yet further.

**Early detection of those at risk of developing psychosis:** Building on the already substantial gains from treating people with an early psychosis it has been estimated that further cost benefits can be achieved by detecting
and treating those at particularly high risk of developing psychosis, with further savings in the order of £960 per case by 24 months. (Valmaggia et al 2009).

“Early intervention services for psychosis have demonstrated their effectiveness in helping to reduce costs and demands on mental health services in the medium to long-term, and should be extended to provide care for people as soon as their illness emerges.”

‘Paying the Price’ (Kings Fund, 2008)

Currently, a more detailed analysis of the cost economic impact of early detection intervention is underway where initial findings strongly support a preventative model of service delivery (McCrone personal communication July 2010)

Conclusion: CMHT models of care for early psychosis are more expensive over time. Savings from EIP can be expected within the first year and will continue through the three years of the DH recommended EIP service model. The majority of this saving is gained by reduced hospital admission, but there is also substantial cost benefit from improved social outcomes. Without an EIP service, the opportunity to reduce hospitalisation will be lost.

SEE APPENDIX FOR SUMMARY OF CURRENT EVIDENCE FOR COST EFFECTIVENESS

5. Traditional CMHTs and Child & Adolescent Mental Health Services (CAMHS) are disconnected whereas coordination at this developmental stage is crucial for young people with serious mental illness:

“The shock of my second son developing psychosis at the age of 15, as his elder brother had fifteen years earlier, pushed me into a deep depression. Our eldest son is still unable to work because of his health and ...has never been well enough yet to achieve his potential...So how did we get to today, three years on, where hope is back? ...he is about to start University after managing to achieve A grades in his GCSEs and A Levels despite his illness, long absences from school and side effects of medication. Earning a place on a Masters Degree in Physics with Particle Physics and Cosmology at the University of Birmingham is pretty hard evidence that EI and family therapy has been worth any extra initial cost to the NHS” (Gladden 2008)

One of the key problems with the traditional CAMHS / CMHT approach is its failure to work effectively across the transition age of 17-18. Using this age boundary is flawed because it does not reflect the social, biological or personal reality of the developmental period during which psychosis emerges. It exemplifies how traditional CMHT and CAMHS structures have been driven by a ‘service-led’ approach as opposed to the ‘person-led’ approach which is integral to EIP.
1. For 20% of adult sufferers, their onset is aged 19 or less; and for 5%, aged under 16yrs.

2. These young people have a relatively poorer outlook, leading to recurrent illness and markedly impaired social functioning (Hollis, 2003).

3. In areas where no EIP services exist studies of first episode psychosis suggest young people under age 18yrs might expect admission rates as high as 80%: (eg Scottish study – Boeing et al 2007)

A feature of the EIP model is how it works with people from as young as 14 yrs. Moreover this younger age group often have the poorest outcomes, an even greater incentive for getting the service model right for this younger age group.

**Conclusion:** only EIP services have the flexibility to work across the transition from Child & Adolescent to adult mental health services. Collapsing EIP services into CMHTs will expose those young people with the poorest outlook to the weakest service pathway, an example of the *inverse care law* where those with the greatest need are least likely to receive the help they need.

6. **Early Intervention Services are the most clearly specified and evidence-based area of mental health care delivery making them transparent to commissioners, GPs, service users and their families**

The NHS Plan and the Policy Implementation Guide drew upon the evidence base to specify, bottom-up (ie on the basis of population and individual need), team case loads, the full range of effective interventions for psychosis to be provided, and the service configurations necessary to deliver them. Furthermore, an aspect common to many EIP services is a strong theme of service evaluation and reflection orientated towards quality outcomes. This contrasts with most aspects of specialist mental health care that are commissioned in an opaque fashion and without ongoing evaluation. Details of interventions delivered by services and the evidence base for these interventions or service delivery models are rarely included in the commissioning process. This type of black-box commissioning model all too often undermined “World Class Commissioning”, in its ambition to improve the quality of mental health care provision. Encouragingly, EIP shares with more recent innovations in mental health care, such as IAPT (improving access to psychological treatments), a fresh, open, evidence-based and outcome-orientated approach to commissioning. Such transparent approaches will be attractive to GP commissioners under financial pressure, when they have to decide how to allocate specialist mental health investment.
Summary

Minister Rt Hon Paul Burstow summed-up succinctly the arguments for EIP:

‘The evidence is pretty compelling that by intervening early you can make a real difference; you can avoid someone being admitted into acute hospital care so this is really a no brainer. It makes sense to invest in early interventions to go back upstream and make sure we prevent these sorts of problems’.

Rt Hon Paul Burstow Radio 4 All in the Mind June 2010

The evidence base for specialised EIP services is overwhelming:

- The service reform in EIP has been demanded by and informed from the experience of young people with psychosis and their families.
- The early phase is now understood to be a ‘critical period’ which provides a clear rationale for a specialist, intensive focus over this key time period;
- In treating young people with early psychosis EIP services are superior to CMHT based care on every outcome, including cost.
- Cost-effectiveness (summarised in Appendix) is of sufficient magnitude to strongly influence strategic commissioning of an evidence-based model of practice based on the EIP Policy Implementation Guidance (DH 2001)

It would be unethical to revert to a CMHT model without a sound evidence-based rationale for doing so. Moreover EIP services provide a positive response to the current need to reduce the mental health spend. Mental Health Trusts or local commissioners contemplating changes to EIP services should be prepared to justify how this would enhance care for young people with psychosis and their families, and indeed respond to the question: “Why as tax-payers should their money be used to purchase a more expensive and less effective service option?”

Glossary

EIP = early intervention in psychosis
CMHT = community mental health team
FEP = first episode of psychosis
DUP = duration of untreated psychosis
CAMHS = Child & Adolescent Mental Health Service
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APPENDIX – SUMMARY OF COST EFFECTIVENESS OF EIP

Economic impact of services for first-episode psychosis: a decision model approach  Paul McCrone, Martin Knapp, Sujith Dhanasiri

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Abstract

Aim: To assess the impact of early intervention (EI) services on service costs for people with first-episode psychosis. Methods: A decision model was constructed to map the care pathways following input from EI services and from standard care. A Markov process was used to run the model over 18 2-month cycles. Probabilities and costs for the model of admissions, readmissions and use of community services were obtained from the literature, routine sources and expert opinion. One-way and probabilistic sensitivity analyses were conducted to address uncertainty around the parameter estimates. Results: The model estimated 1 year costs to be £9422 for EI and £14 394 for standard care. The respective figures over 3 years were £26 568 and £40 816. One-way sensitivity analyses revealed that the results were robust to changes in most parameters with the exception of the readmission rate. A relatively small decrease in the readmission rate for standard care patients would eliminate the cost saving. The probabilistic sensitivity analyses also showed that the results were robust to parameter changes. Conclusions: This study suggests cost savings associated with EI. However, caution is required as the model is relatively simple and relies on a number of assumptions.


Comment in:


Abstract

BACKGROUND: There is concern that delaying treatment for psychosis may have a negative impact on its long-term course. A number of countries have developed early intervention teams but there is limited evidence regarding their cost-effectiveness. AIMS: To compare the costs and
cost-effectiveness of an early intervention service in London with standard care. METHOD: Individuals in their first episode of psychosis (or those who had previously discontinued treatment) were recruited to the study. Clinical variables and costs were measured at baseline and then at 6- and 18-month follow-up. Information on quality of life and vocational outcomes were combined with costs to assess cost-effectiveness. RESULTS: A total of 144 people were randomised. Total mean costs were 11,685 pounds sterling in the early intervention group and 14,062 pounds sterling in the standard care group, with the difference not being significant (95% CI -8128 pounds sterling to 3326 pounds sterling). When costs were combined with improved vocational and quality of life outcomes it was shown that early intervention would have a very high likelihood of being cost-effective. CONCLUSIONS: Early intervention did not increase costs and was highly likely to be cost-effective when compared with standard care.


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Abstract

OBJECTIVE: This study assesses the long-term cost-effectiveness of a comprehensive model of mental health care for first-episode psychosis. The study is an extension of a previous economic evaluation of the Early Psychosis Prevention and Intervention Centre (EPPIC) that assessed the first-year costs and outcomes of treatment. METHOD: The current study used a matched, historical control group design with a follow-up of approximately 8 years. Complete follow-up data were available for 65 of the original 102 participants. Direct public mental health service costs incurred subsequent to the first year of treatment and symptomatic and functional outcomes of 32 participants initially treated for up to 2 years at EPPIC were compared with a matched cohort of 33 participants initially treated by generic mental health services. Treatment-related resource use was measured and valued using Australian published prices. RESULTS: Almost 8 years after initial treatment, EPPIC subjects displayed lower levels of positive psychotic symptoms (P = .007), were more likely to be in remission (P = .008), and had a more favorable course of illness (P = .011) than the controls. Fifty-six percent of the EPPIC cohort were in paid employment over the last 2 years compared with 33% of controls (P = .083). Each EPPIC patient costs on average A$3445 per annum to treat compared with controls, who each costs A$9503 per annum. CONCLUSIONS: Specialized early psychosis programs can deliver a higher recovery rate at one-third the cost of standard public mental health services. Residual methodological limitations and limited sample size indicate that further research is required to verify this finding.

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Abstract

BACKGROUND: Despite the increasing development of early intervention services for psychosis, little is known about their cost-effectiveness. We assessed the cost-effectiveness of Outreach and Support in South London (OASIS), a service for people with an at-risk mental state (ARMS) for psychosis. METHOD: The costs of OASIS compared to care as usual (CAU) were entered in a decision model and examined for 12- and 24-month periods, using the duration of untreated psychosis (DUP) and rate of transition to psychosis as key parameters. The costs were calculated on the basis of services used following referral and the impact on employment. Sensitivity analysis was used to test the robustness of all the assumptions made in the model. RESULTS: Over the initial 12 months from presentation, the costs of the OASIS intervention were £1872 higher than CAU. However, after 24 months they were £961 less than CAU. CONCLUSIONS: This model suggests that services that permit early detection of people at high risk of psychosis may be cost saving.