

Impact case study (REF3b)

Institution:	University of Birmingham
Unit of Assessment:	Psychology, Psychiatry and Neuroscience
Title of case study: 2: The benefits of early detection and intervention in psychosis	
<p>1. Summary of the impact (indicative maximum 100 words)</p> <p>Schizophrenia affects 1.1% of the adult population. It is one of the most debilitating of the psychiatric disorders, leading to costs of approximately £12Bn/year in the UK. Historically one of the major gaps in service provision has been any approach to prevention, whether primary or secondary. University of Birmingham pioneered the concept and practice of early intervention in psychosis, which is a key feature and indication of schizophrenia. This has gone on to have national and international impact on mental health care. This approach has been recommended in NICE Guidance, the Mental Health Strategy and is a requirement of the NHS Operating Framework for 2011/12. It has resulted in improved outcomes. Evaluation of this approach has found that is preferred by clients, reduces the suicide rate, reduces lost productivity due to illness and over three years the long term benefit of early intervention is between £17,427 and £36,632 per patient compared to standard care. In addition the success of early intervention in schizophrenia has impacted on wider mental health policy and practice, resulting in the development of similar approaches in other areas of mental health.</p>	
<p>2. Underpinning research (indicative maximum 500 words)</p> <p>Under the leadership of Professor Max Birchwood, (<i>Honorary Professor of Youth Mental Health, University of Birmingham from 1985, returned as Cat C in 2008; Clinical Director Youthspace Mental Health Services, Birmingham and Solihull Mental Health Foundation Trust; research undertaken at UoB</i>) Birmingham has pioneered the concept and practice of early intervention in psychosis. Founding research, intervention and evaluation in regional trials began in the 1990s and is ongoing, leading to both outputs and impact over an extended timescale. At the heart of this research is the ‘critical period’ hypothesis that the early phase of psychosis exerts a disproportionate influence upon the long term trajectory of schizophrenia. It follows that targeted intervention during this phase can lead to long-term improvement illness course and reduction in disability (1,2) and that reducing treatment delay at the first episode of psychosis should be a priority.</p> <p>This hypothesis is now widely accepted and is referred to in all reviews of long term outcome following the first psychotic episode. The Birmingham group developed the UK’s first dedicated service to young people with a first episode of psychosis (1), which was awarded ‘Beacon Status’ by the then government and led to independent trials. Subsequently they: demonstrated that these services transform the level of engagement among young people and show high levels of acceptability (3); conducted the first trial to reduce treatment delay by focusing on GP early recognition (4); partnered in a EU study to examine the transition rate to psychosis of those fulfilling criteria for ‘ultra high risk ‘ of psychosis (5); evaluated a Cognitive Behavioural Therapy intervention for this group at high risk (6). These findings from the Birmingham group have also been supported by independent trials.</p> <p>Professor Birchwood has led a series of National Evaluations of these services in their routine practice (the NIHR ‘National EDEN series, 2003-2015). The Department of Health implementation guidance framework for these services was written by the Birmingham group in 2001 (2), which has led to this service being replicated, with currently over 150 teams across the country. These services feature in the latest NHS ‘Operating Framework for 2001/2’—see section on impact below.</p> <p>Prof Birchwood was recently awarded two NIHR programme grant (‘SUPEREDEN’ and PARTNERS2) to develop the evidence basis for the ‘next generation’ of early intervention services and integration within primary care; and a NIHR CLAHRC theme in Birmingham to develop improved access to these services and to reduce treatment delay, laying the foundation for continued impact beyond the REF period.</p>	
<p>3. References to the research (indicative maximum of six references)</p> <p>1. Birchwood M, McGorry P, Jackson H. (1997) EDITORIAL. Early intervention in schizophrenia.</p>	

- British Journal of Psychiatry; 170 (1):2-5. DOI 10.1192/bjp.170.1.2
2. DH Policy Implementation Guide (chapter on early intervention written by Prof Birchwood http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4009350)
 3. Lester HE, Birchwood M, Bryan S, Rogers H. (2009) Development and implementation of early intervention services for young people with psychosis. British Journal of Psychiatry;194:446-50. DOI 10.1192/bjp.bp.108.053587
 4. Lester HE, Birchwood M, Freemantle N, Michail M, Tait L. (2009) REDIRECT: Cluster randomised controlled trial of general practitioner training in first episode psychosis. British Journal of General Practice. British Journal of General Practice; 59: 403–408. DOI 10.3399/bjgp09X420851
 5. Morrison, A. P., Paul French, Suzanne L. K. Stewart, Max Birchwood, David Fowler, Andrew I. Gumley, Peter B. Jones, Richard P. Bentall, Shon W. Lewis, Graham K. Murray, Paul Patterson, Kat Brunet, Jennie Conroy, Sophie Parker, Tony Reilly, Rory Byrne, Linda M. Davies, and Graham Dunn, (2012) "Early Detection and Intervention Evaluation for People at Risk of Psychosis: Multisite Randomised Controlled Trial." *British Medical Journal* 344. DOI: <http://dx.doi.org/10.1136/bmj.e2233>
 6. Ruhrmann S, Schultze-Lutter F, Salokangas RK, Heinimaa M, Linszen D, Dingemans P, Birchwood M, Patterson P, Juckel G, Heinz A, Morrison A, Lewis S, von Reventlow HG, Klosterkoetter J. (2010) Prediction of psychosis in adolescents and young adults at high risk: results from the prospective European prediction of psychosis study. *Archives of General Psychiatry*, Mar; 67(3):241-51 DOI: 10.1001/archgenpsychiatry.2009.206.

SELECTED RESEARCH GRANT SUPPORT

1. MRC COMMAND : A multi-centre RCT of CBT to reduce compliance with harmful command hallucinations (01/06/06 - 31/05/10), Birchwood, Peters, Wykes, Tarrier, Dunn £1.6M
2. Department of Health, PRP A National Evaluation of Early Intervention Services for psychosis: National EDEN. (01/04/05 - 31/06/2010). Birchwood, Lester, Marshall, Lewis, Fowler, Jones.
4. MRC, EDIE2: Early Detection and psychological Intervention using Cognitive Therapy for individuals at high risk of psychosis (01/04/06 - 31/03/10) . Morrison, French, Birchwood, Lewis, Jones, Fowler, Gumley £1.6M.
3. MRC CRIMSON. Study: RCT of Joint Crisis Plans to Reduce Compulsory Treatment of People with Psychosis. Thornicroft, Birchwood, Marshall, Lester Schmuckler (Jan 2007-Oct 2011) £2.3M
4. NIHR/CLAHRC(Birmingham):Reducing treatment delay in psychosis in Birmingham:a public health project (Oct 2008-March 2013). Birchwood, Singh, Lester, Freemantle, England £1.2M
5. NIHR Programme grant SUPEREDEN—developing the next generation of early intervention in psychosis services. 2010-2015 £2.1M (C.I.)

4. Details of the impact (indicative maximum 750 words)

Changes to National Mental Health Policy.

Following the founding research, and regional trials of Early Intervention (EI) the NHS has invested over £150m in making these services available throughout the country and now all young people with a first episode of psychosis are required to receive services from them, based upon the service and implementation framework developed in Birmingham for the Department of Health [2]. Since 2008, the number of such services has increased and National Institute for Clinical Excellence (NICE) have now recommended these for future mental health service provision in the UK and form part of national mental health policy [1].

Early intervention in psychosis has remained a priority through the change in Government, and in June 2010 the Minister of State for Care Services stated in 2010 that:

“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 that we prevent these sort of problems.” [2]

The NHS operating framework for 2011/2 [3] requires early intervention services to be routinely provided as part of the core set of mental health services. While the Coalition’s Mental Health

Strategy in 2011 [4] confirms early intervention as a core part of mental health services to be developed into other disorders. Early intervention was also discussed in parliament in November 2011 [5], with the Minister of State for Care Services arguing that

“...patients with early onset psychosis benefit from early intervention services, and assertive outreach engages with severe and persistent mental disorder such as schizophrenia. That shared approach in system delivery is already beginning to show results, because 10,300 new patients with early diagnosis of psychosis were engaged with early intervention in psychosis services this year, which is the highest ever recorded figure”.

In recognition of this work, and to assist with its continued implementation in the UK mental healthcare system, Prof Birchwood was invited to become a member two NICE guideline committees for schizophrenia in 2012. The first is the guideline group for Schizophrenia and Psychosis in Young People; the second is the revision of the adult Schizophrenia guideline. These will issue their final reports in 2014. Professor Birchwood is a member of this committee of senior UK clinicians and academics in his expert capacity in CBT and early intervention in psychosis.

Improved outcomes following early intervention in psychosis

1. Clinical benefits. NICE concluded that Early Intervention in psychosis approach has been shown to reduce the severity of symptoms, improve relapse rates and significantly decrease the use of inpatient care, in comparison to standard care from community mental health teams [1]. These improved outcomes for psychosis arising from the early intervention in psychosis teams have been reported in a NHS Confederation Mental Health Network Briefing in 2011 [6]. They reported that EI services have quickly demonstrated improved clinical outcomes combined with considerable cost savings through reduced use of hospital beds. In the longer term, reducing the number of young people remaining in mental health services with lifelong disability has the potential to save even more. Without the pioneering research in Birmingham and the acclaimed progenitor early intervention service, the later trials and transformation of care would not have happened.

2. Patient and carer acceptability. Our UK national evaluation of EI services [7] reported clients' and carers' experience, finding that early intervention in psychosis: offered activities and services that were youth friendly and made sense; helped them come to terms with their illness and understand why they had become unwell; and worked with them over time to identify triggers and early warning signs. This study found that the family and carer approach fostered by EI has received overwhelming endorsement from service users. Many felt their families were supportive in the care process, for example, advocating on their behalf, helping them cope with symptoms and helping develop and use relapse plans. These benefits continue to have impact as EI services are extended.

3. Economic benefits. With the current UK population, approximately 500,000 individuals will be affected by schizophrenia in their lifetime, meaning that cost savings are very significant. The overall costs of an early psychosis service are considerably less compared to standard Community Mental Health Team care, mainly as a result of reduced readmission rates. The recent study by McCrone, Park and Knapp [8,9] explored EI services and standard care focusing on the impact of vocational outcomes, homicide costs, suicide costs and the long-term economic impact of EI.

- Thirty six per cent of people receiving EI are in employment compared to 27 per cent in standard care. Using a minimum wage rate, the saving (averaged over the entire EI cohort, whether employed and unemployed) is £2,087 per person, in addition to healthcare savings.
- With EI the annual costs due to homicide are reduced by 93% compared with those for standard care.
- Suicide rates and the associated costs are reduced by 67% under EI compared with standard care.
- The long-term impact of EI is dependent on what happens to readmission rates after discharge from the EI team. If the readmission rates remain constant then the expected saving over eight years is £36,632. If the rates immediately become equal to standard care after EI team discharge the figure is £17,427. Finally, if the rates converge gradually the expected saving is £27,029 per individual.

Impact on wider mental health policy and practice.

During 2012/3 the success of early intervention in psychosis has inspired change in policy and practice in the wider arena of mental health. In November 2012, the National Schizophrenia Commission [10], in reviewing the state of care for schizophrenia in general, argued that “*EI has been the most positive development in mental health services since the beginning of community care*” and that “*We have seen what can be achieved with innovative and creative solution focused approaches to care and treatment through early intervention in psychosis services. Today, instead of a life sentence, young people in early intervention services are given hope. They are supported to recover, with many returning to college or the workplace to live an ordinary life like everyone else. We want these outcomes for everyone living with schizophrenia and psychosis*”. The commission goes on to recommend that the specialized model of care adopted in early psychosis needs to be adopted in schizophrenia more generally. The Birmingham team have been at the forefront of proposing that the logic of EI applies to all mental health problems most of which arise in youth [11]. In the recent Mental Health Policy Implementation guidance [12] commissioners are urged, “*Health services should intervene in the early stages of psychosis...and public services recognize that people at risk of mental health problems take appropriate, timely action using innovative service models*”. Such innovative service models have been developed only in Birmingham, Australia and Ireland [11].

International Impact

This research has been taken up internationally with services in Australia, USA, Holland, Denmark, Canada, and this impact has led to international awards including the prestigious Richard Wyatt award to Professor Birchwood in 2006. Professor Birchwood has been invited to lecture extensively in these countries on the ‘UK model’ of early intervention and its implementation. They have visited Birmingham services on several occasions; in Holland for example, he advised on the set-up of services in Amsterdam and in middle Holland (‘Rivierduinen’ Midden Holland) between 2008-2013, and received staff on exchange to Birmingham.

5. Sources to corroborate the impact (indicative maximum of 10 references)

1. [NICE clinical guideline 82, Schizophrenia: Core interventions in the treatment and management of schizophrenia in adults in primary and secondary care, March 2009.](#)
2. Paul Burstow, Minister of State for Care Services, All in the Mind, Broadcast on Radio 4, 21:00 on 29th June 2010.
3. The Operating Framework for the NHS in England 2011/12
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_122738
4. [No Health without Mental Health: a cross-government mental health outcomes strategy for people of all ages, Department of Health February 2011.](#)
5. Parliamentary Debate on mental health care, 21st November 2011:
<http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm111121/debtext/111121-0004.htm>
6. Mental Health Network Briefing Issue 219, *Early intervention in psychosis services*, May 2011. <http://www.nhsconfed.org/Publications/briefings/Pages/psychosis-services.aspx>
7. Birchwood M, Lester H, 2009: National EDEN: a national evaluation of early intervention for psychosis services: DUP, Service Engagement and Outcome. UKCRN
8. Park, A-La, McCrone, Paul R. and Knapp, Martin (2011) Multiple economic evaluation of Early Intervention (EI) for young people with first-episode psychosis. *Psychiatrische praxis*, 38 (S 01). ISSN 0303-4259
9. McCrone P, Park A and Knapp M, 2010: *Economic evaluation of early intervention (EI) services, phase IV report*. PSSRU discussion paper 2745
10. [The Schizophrenia Commission \(Nov 2012\)](#)
11. McGorry, P., Birchwood, M and Bates, T (2013) Designing Youth Mental Health Services for the 21st century: Examples from Australia, Ireland and the UK. *British Journal of Psychiatry Special supplement, Youth mental Health Service: matching the service to the need* (Eds Singh, S and Birchwood, M)
12. DH (July 2102) No Health Without Mental Health, Implementation Framework
<http://www.dh.gov.uk/health/2012/07/mentalhealthframework/>