Institution: University College London

Unit of Assessment: 4 - Psychology, Psychiatry and Neuroscience

Title of case study: Identifying the evidence base to support the development and implementation of psychological interventions for schizophrenia

1. Summary of the impact

Schizophrenia, a severe and disabling mental disorder, affects about 285,000 people in the UK. It is associated with a progressive course, poor social and occupational functioning, a high suicide rate, premature death from physical illness and high use of health services including in-patient beds. Medication is the preferred treatment but response is limited. Prior to the publication of research carried out by Professor Stephen Pilling and colleagues at UCL there was uncertainty about the effectiveness of psychological interventions. This work established the case for psychological interventions in NICE guidelines and psychological interventions for schizophrenia are now widely available and used in the NHS.

2. Underpinning research

Research undertaken by Pilling and colleagues published in 2002 **[1]** represents the first high quality systematic review and meta-analysis of a wide range of psychological interventions for schizophrenia, based solely on randomised controlled trials that had been robustly assessed for study quality. It, along with a sister paper from the same group **[2]**, provided the first authoritative and comprehensive reviews of psychological interventions in schizophrenia. Crucially, they assessed the relative importance of different psychological interventions, identifying cognitive behavioural and family interventions as likely to bring benefits, whereas other interventions such as social skills training or cognitive remediation were shown to be less clinically effective.

The comprehensive systematic review covered 8 trials of cognitive behaviour therapy (CBT) including 528 participants and 18 of family interventions including 1,467 participants. It examined the effectiveness of cognitive and behavioural interventions and family interventions against a range of comparators and was the first to properly characterise the nature and magnitude of the effect of psychological interventions in schizophrenia. The work considered a comprehensive range of outcomes including positive and negative symptomatology, relapse and remission, treatment compliance, the impact on families, suicidality and other harms, and personal and social functioning. Importantly the research pointed to possible differential effects of cognitive behavioural and family interventions in the treatment of schizophrenia.

This underpinning research strongly suggested (and this was confirmed by subsequent research), that cognitive behavioural interventions were effective in reducing the severity of persistent psychotic symptoms that were unresponsive to medication whereas the impact of family intervention was more likely to be on the prevention of relapse.

The work also provided information on the nature, duration, and intensity of the psychological interventions likely to be associated with positive outcomes. For example, it raised important questions about the possible detrimental effects of group-based approaches to family treatment (which were gaining popularity with clinical services at the time of the review). It clarified that the role of psychological interventions in the treatment of schizophrenia was most effective when combined with medication but did suggest that the likely impact of the interventions was not mediated simply by improved adherence to medication. Importantly, it also demonstrated that no significant associated harms were associated with either with cognitive behavioural or family interventions (concern had been expressed about increased suicidality for those patients in receipt of family interventions).

The underpinning research also raised a number of specific questions about the future direction of research in addition to the modality of delivery of treatment, including the involvement of patients in

family treatment, the sub-groups of those with schizophrenia who may benefit from treatment and, as noted above, the possible differential benefits of cognitive behavioural and family interventions. Finally, we developed a method for the analysis of a range of complex psychological interventions and its application to the formulation of clinical guidelines.

3. References to the research

[1] Pilling S, Bebbington P, Kuipers E, Garety P, Geddes J, Orbach G, Morgan C. Psychological treatments in schizophrenia: I. Meta-analysis of family intervention and cognitive behaviour therapy. Psychol Med. 2002 Jul;32(5):763-82. http://dx.doi.org/10.1017/S0033291702005895

[2] Pilling S, Bebbington P, Kuipers E, Garety P, Geddes J, Martindale B, Orbach G, Morgan C. Psychological treatments in schizophrenia: II. Meta-analyses of randomized controlled trials of social skills training and cognitive remediation. Psychol Med. 2002 Jul;32(5):783-91. http://dx.doi.org/10.1017/S0033291702005640

4. Details of the impact

Our research provided a firm and detailed evidence base for what works best in treatments for schizophrenia. This work underpinned the development of NICE guidance in 2002 and the revision of this guidance in 2009. The primary impact arising from this has been a major shift in service provision towards these types of treatments, and a resulting reduction in hospital admissions.

NICE guideline on schizophrenia

Until the publication of our review, the relative effectiveness of the various existing psychological interventions for schizophrenia was not well understood. We established that the most clinically effective psychological interventions were family interventions (FIs) and cognitive behavioural therapy (CBT) but not social skills training (which was commonly in use) or cognitive remediation. The paper provided the evidence base for the NICE schizophrenia guideline published in 2002 and its update in 2009 **[a]**. As a facilitator of the guideline Pilling led on the interpretation of the evidence for the guideline development group in 2002 and also advised the 2009 guideline development group on the revision and interpretation of the review in light of any new evidence that emerged.

Impact on services

This in turn has had a considerable impact on commissioning. NICE Guidance for Commissioners now recommends psychological interventions for schizophrenia in accordance with our recommendations **[b]**. Family and CBT interventions for psychosis are now an integral part of all mental health services and are central to the delivery of Early Interventions Services for psychosis where greater emphasis is placed these interventions. The increased availability of CBT and FIs, supported in significant part by the implementation of the guideline has seen, over the past five years, FIs and CBTs offered to an estimated minimum of 150,000 patients in the UK with an estimated uptake of around 100,000 **[c]**.

The update to the guidance in 2009 included a health economic assessment of the recommended interventions. If this model is applied to a (conservative) estimate of schizophrenia cases in the period 2008-13, it shows that the recommendations may have led to 9,000 fewer relapses and 4,200 fewer hospital admissions attributable to the use of FIs, and 6,000 fewer relapses and 3,200 fewer hospital admissions attributable to the use of CBT.

Economic impacts

The costs of schizophrenia are considerable – an estimated £11.8 billion in England for the period 2008-13. Based on the modelling produced by NICE's health economic assessment (2009 guidance) the estimated cost saving from reduced hospital bed use associated with

implementation of these guidelines is over £28 million.

Government policy

Our work has prompted significant interest and sustained debate including a review by the Healthcare Commission (2008) and the All Party Parliamentary Mental Health Group (2010) report on the implementation of the NICE schizophrenia guideline **[d]**. Most recently the Schizophrenia Commission (2012) again re-stated the need to fully implement the recommendations of the NICE Schizophrenia Guideline based on the review by Pilling and colleagues **[e]**.

Professional training

NICE guidelines provide the evidence for the Improving Access to Psychological Therapies (IAPT) programme of the Department of Health, which is the world's largest implementation programme for psychological therapies and which has trained over 3,000 psychological therapists in a range of NICE recommended psychological interventions.

The guideline, based on the review, has also supported the development of a range of specialist training programmes, e.g. at the Institute of Psychiatry (KCL), in cognitive behavioural interventions for schizophrenia, as a core element of clinical psychology training and four national pilot programmes of psychological interventions in psychosis. The review has provided evidence to support the development of an IAPT competence framework for psychosis commissioned from Pilling and colleagues by the Department of Health and which provides the basis for the national curriculum and all national training programmes for psychological interventions for schizophrenia in England **[f]**.

International impacts

In addition to its impact on NICE the review had a major impact internationally, supporting an increased emphasis on psychological interventions in schizophrenia guidelines including clinical guidelines on schizophrenia in Australia and New Zealand, Spain and Italy **[g]**.

The NICE (2002) schizophrenia guideline was rated by the WHO (Gabel et al, 2005) as the most methodologically superior of 24 national schizophrenia guidelines, a rating that was re-affirmed in 2011 (Gabel et al, 2011) **[h]**.

5. Sources to corroborate the impact

[a] NICE Clinical Guideline 82. Schizophrenia. Core interventions in the treatment and management of schizophrenia in primary and secondary care (update) http://guidance.nice.org.uk/CG82/Guidance/pdf/English

[b] NICE (2009) Service for the treatment and management of schizophrenia in adults: Commissioning Guide Implementing NICE Guidance London: National Institute for Clinical Excellence. http://www.nice.org.uk/usingguidance/commissioningguides/schizophrenia/specifying.jsp

[c] Data on effect sizes and costs taken from NICE (2009) Schizophrenia Guideline; percentage offered a psychological intervention (34%) taken from the Report of the National Audit of Schizophrenia (NAS) from RCPsych (http://www.hqip.org.uk/national-audit-of-schizophrenia-report-2012/). Calculations were made cautiously, assuming per year that just 15% of these were offered family interventions or CBT, and around 70% of offers of treatment were taken up.

[d] Health and Social Care Reform: Making it work for mental health. Mind. 2012/13. Available from MIND and copy available on request: http://www.mind.org.uk/assets/0001/8974/APPGMH_Report_Health_and_Social_Care_Reform_Making_it_work_for_Mental_Health.pdf. e.g. see p. 4, which outlines the new recommendations to enable implementations of the new guidelines, "*based on NICE quality*

standards and Joint Commissioning Panel guidance."

[e] The Abandoned Illness; A Report by the Schizophrenia Commission. Rethink Mental Illness. 2012. http://www.rethink.org/media/514093/TSC_main_report_14_nov.pdf e.g. see p. 7, which recommends "*increasing access to psychological therapies in line with NICE guidelines*."

[f] Roth T, Pilling, S. (2013). A competence framework for psychological interventions with people with psychosis and bipolar disorder. University College London: London http://www.iapt.nhs.uk/smi-/competency-frameworks/

[g] International guidelines:

- **Australia and New Zealand**. Referencing our two studies, this guideline recommends that "*specific psychosocial interventions, particularly family interventions, can reduce the risk of relapse*" (p.20).
  McGorry, P; Killackey, E; Lambert, T; Lambert, M; Jackson, H; Codyre, D; James, N; Pantelis, C; Pirkis, J; Jones, P; Durie, MA; McGrath, J; McGlashan, T; Malla, A; Farhall, J; Hermann, H; Hocking, B. (2005) Royal Australian and New Zealand College of Psychiatrists clinical practice guidelines for the treatment of schizophrenia and related disorders. Australian and New Zealand Journal of Psychiatry, 39(1-2); 1-30 http://dx.doi.org/10.1111/j.1440-1614.2005.01516.x
- **Spain**. This guideline notes that it took our review into account when considering recommendations for CBT (p.38), social skills (p.38) and cognitive rehabilitation (p.70). Guideline development group of the Clinical Practice Guideline on Psychosocial Interventions in Severe Mental Illness. Clinical Practice Guideline on Psychosocial Interventions in Severe Mental Illness. Quality Plan for the National Health System, Ministry of Health and Social Policy. Aragon Health Sciences Institute – I+CS; 2009. Clinical Practice Guidelines in the Spanish NHS: I+CS No 2007/05. http://www.guiasalud.es/egpc/traduccion/ingles/TMG/completa/index.html
- **Italy** SNLG 14 Early intervention in schizophrenia Guidelines English language publication date: September 2009: http://www.snlg-iss.it/cms/files/LG_en_schizophrenia.pdf

[h] Gaebel W, Riesbeck M, Wobrock T. Schizophrenia guidelines across the world: a selective review and comparison. Int Rev Psychiatry. 2011 Aug;23(4):379-87. http://dx.doi.org/10.3109/09540261.2011.606801