



Centre for
Mental Health



Investing in recovery

**Making the business case for effective interventions
for people with schizophrenia and psychosis.**

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Who we are

Rethink Mental Illness is a charity that believes a better life is possible for millions of people affected by mental illness. For 40 years we have brought people together to support each other. We run services and support groups across England that change people's lives and we challenge attitudes about mental illness.

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Making the business case for effective interventions for people with schizophrenia and psychosis

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April 2014

Acknowledgements

We thank the Department of Health and Rethink Mental Illness for financial support for the work set out in this report, and to the Personal Social Services Research Unit reserve account for additional resources. A number of people helped us with advice, data, editing assistance and other important inputs.

We are very grateful to at least the following people for this help, and apologise if we have missed anyone:

Barbara Barrett	(Institute of Psychiatry, King's College London)
Max Birchwood	(University of Warwick)
Victoria Bleazard	(Rethink Mental Illness)
Antonia Borneo	(Rethink Mental Illness)
Alison Brabban	(Tees, Esk and Wear Valleys NHS Trust)
Jane Dennett	(PSSRU, University of Kent)
Andrew van Doorn	(Housing Associations' Charitable Trust)
Sara Evans-Lacko	(Institute of Psychiatry, King's College London)
Claire Henderson	(Institute of Psychiatry, King's College London)
Louise Johns	(Institute of Psychiatry, King's College London)
Karen Jones	(PSSRU, University of Kent)
John Larsen	(Rethink Mental Illness)
Eric Latimer	(McGill University, Montreal)
Anthony Morrison	(University of Manchester)
Rory O'Connor	(Institute of Health and Wellbeing, University of Glasgow)
Emmanuelle Peters	(Institute of Psychiatry, King's College London)
Steve Wright	(Institute of Psychiatry, King's College London)

This report presents independent research commissioned from the Personal Social Services Research Unit at the London School of Economics and Political Science. The views expressed in this report are those of the authors and not necessarily those of the Department of Health or Rethink Mental Illness.

Foreword

In 2012, the Schizophrenia Commission report *'The Abandoned Illness'* highlighted major problems with the state of care for people with psychosis across the country.

It revealed the true extent of how many people are missing out on crucial and effective treatments, that mental health wards are dangerously over-stretched and that people with serious mental illnesses are dying on average 15-20 years younger than the general population, mainly from preventable physical health conditions.

Improvements in our understanding and treatment of psychosis mean that this should no longer have to be the case. We know which techniques and services are effective in helping people recover from psychosis, and which offer commissioners the best in terms of value for money and health outcomes. In straitened times, it is more important than ever to recognise that human and economic value, prioritise those services and ensure that they are consistently available for everyone that could benefit from them.

That's why we are delighted to present this important new research by the London School of Economics, which offers up-to-date evidence about the most effective services for treating psychosis, both in terms of helping people recover, and giving commissioners the best value for money.

But now we need local and national decision-makers to act on this evidence by putting these essential services in place in their local communities. Failing to do so makes no sense – the human and economic costs are too great.

We are calling on commissioners to take urgent action now, so that we start to make high quality treatment for psychosis a reality for everyone who needs it.



Mark Winstanley

Acting Chief Executive of Rethink Mental Illness

Executive summary

The health service spent £2.0 billion on services for people with psychosis in 2012/13. Over half (54%) of this total was devoted to inpatient care. This means that spending is currently skewed towards the more expensive parts of the system, at £350 average cost per day for inpatient care compared with £13 per day in some community settings.

There is a strong business case for investing in the early intervention and community-based interventions proven to generate savings or value-for-money gains through reduced inpatient admission, or through other routes.

This report provides the most up-to-date economic evidence to support the business case for investment in effective, recovery-focused services. Drawing on a wide range of data, evidence for the cost-effectiveness of recovery-focused interventions is set out:

- Early Detection (ED) services
- Early Intervention (EI) teams
- Individual Placement and Support (IPS)
- Family therapy
- Criminal justice liaison and diversion
- Physical health promotion, including health behaviours
- Supported housing
- Crisis Resolution and Home Treatment (CRHT) teams
- Crisis houses
- Peer support
- Self-management
- Cognitive Behavioural Therapy (CBT)
- Anti-stigma and discrimination campaigns
- Personal Budgets (PBs)
- Welfare advice

Many of these interventions are shown to be cost-effective, in some cases due to the role they play in preventing or delaying relapse, or reducing the need for the most expensive care. Some have much wider benefits related to wider recovery outcomes, such as employment, settled housing and better physical health. There is particularly clear evidence for interventions such as EI teams, IPS for employment, CBT and CRHT teams. However, there is evidence to suggest that all of the above interventions contribute to recovery outcomes, reduced costs and/or better value for money. Illustrative examples of the savings incurred through particular interventions include:

- **Early Intervention:** net savings of £6,780 per person after four years. Over a ten-year period, £15 in costs can be avoided for every £1 invested.
- **Smoking cessation:** £1,255 to gain an extra Quality-Adjusted Life Year (QALY), which lies well below the upper threshold of £30,000 recommended by National Institute for Health and Care Excellence (NICE).
- **Peer support:** £4.76 can be gained for every £1 invested.
- **CBT:** Cost per QALY gained of £27,373 for CBT compared to usual care, which is below the upper threshold used by NICE.

Local and regional commissioning and pathway development should draw on this evidence, since these interventions are both clinically effective and many will contribute to savings to be reinvested in care. While the scope of this report is primarily at intervention level, the intention is to inform local implementation.

1. Introduction

In December 2013, following discussions with the Department of Health and NHS England, Rethink Mental Illness commissioned a study that would build on previous work – including the Schizophrenia Commission. The aim of this new piece of work was to prepare new economic analyses of interventions and care pathways for people with schizophrenia and psychosis. Findings from this study are described in this report.

We briefly summarise our approach to the task in this section. Section 2 then sets out the national context for a business case for recovery-focused interventions. In section 3 we set out the economic evidence on a range of interventions and services. For each of these interventions we describe the context, the nature of the intervention, the evidence on effectiveness and cost-effectiveness, and the policy and practice implications.

The study was undertaken by a team from the Personal Social Services Research Unit (PSSRU) at the London School of Economics and Political Science (LSE), the Centre for Mental Health, and the Centre for the Economics of Mental and Physical Health (CEMPH) at King's College London. It was funded by a grant from the Department of Health via Rethink Mental Illness and from PSSRU reserves. The intended outcome is to establish a clear business case to inform transformation in local leadership and the commissioning of services for people with schizophrenia and psychosis.

A wide range of interventions for people with schizophrenia and psychosis are analysed in the report. We focus particularly on those interventions which the available evidence suggests are not only effective, but also good value for money, including having the potential to generate cost savings in the NHS.

The analysis is based on a review of the published research relating to each intervention, supplemented in some cases by new economic modelling undertaken specifically for this report.

The choice of interventions for analysis was agreed in discussion with Rethink Mental Illness:

- To include a broad spectrum of interventions, ranging from the detection and treatment of severe mental illness in its early stages through to the promotion of long-term recovery, including not only the management of symptoms but also

the achievement of personal goals which are held important by service users (e.g. improved educational and employment opportunities, stable housing and financial security.)

- Not to include interventions in the form of medication alone. The use of effective drug therapies is of course important in treatment regimes for schizophrenia and psychosis, but this is a large and complex area which is already very fully covered in the new NICE guideline on schizophrenia and psychosis published in February 2014.
- Not to include interventions relating in particular to the treatment of drug and alcohol problems. This decision was based on the relative lack of evidence on the cost-effectiveness of interventions in this area that relate specifically to people with schizophrenia and psychosis.

Technical details of the methodology used in the analysis are described in a separate technical annex which will be made available on the Personal Social Services Research Unit website at the LSE (www.pssru.ac.uk).

Key points to note here are that all costs and benefits are measured at 2012/13 prices, with past values adjusted using the health service pay and prices index produced by the Department of Health. Costs drawn from studies conducted outside the UK are converted using the Organisation for Economic Co-operation and Development (OECD) purchasing power parity indices. And economic impacts arising in future years are converted to present values using the public sector discount rate of 3.5% a year.

The individual analyses in Section 3 – some quantitative, some narrative – provide more detail on the methods used in those particular intervention areas.

Our economic findings for those 16 interventions are summarised under each intervention heading.

2. The business case for recovery-focused interventions for schizophrenia and psychosis

According to the NHS programme budget published by the Department of Health (2014), the health service spent £2.0 billion on services for people with psychosis in 2012/13. Aggregation of data relating to psychosis given in another Department of Health source, the National Schedule of Reference Costs (Department of Health, 2013), produces a very similar estimate of £1.9 billion.

The second of these sources provides the following breakdown of expenditure according to the various psychosis-related patient groupings or clusters used for mental health.

Table 1. NHS expenditure on psychosis by cluster, 2012/13

		Cluster days million	Expenditure £ million
Cluster 10	First-episode psychosis	6.7	187.2
Cluster 11	Ongoing or recurrent psychosis (low symptoms)	25.4	355.2
Cluster 12	Ongoing or recurrent psychosis (high disability)	16.1	369.6
Cluster 13	Ongoing or recurrent psychosis (high symptoms and disability)	9.6	374.9
Cluster 14	Psychotic crisis	2.0	205.4
Cluster 15	Severe psychotic depression	1.1	61.7
Cluster 16	Dual diagnosis	2.7	97.2
Cluster 17	Psychosis and affective disorder (difficult to engage)	4.3	218.6
Total		67.8	1869.8

Spending on first-episode psychosis (cluster 10) and on psychotic crises (cluster 14) each account for around 10% of total psychosis-related expenditure, with most of the remainder going on the treatment of ongoing or recurrent psychosis of varying degrees of severity (clusters 11-13).

Further analysis of the reference costs data shows that, spending on inpatient care for people with psychosis continues to account for more than half (54%) of all secondary mental health service spending on this group. The proportion of expenditure devoted to inpatient care ranges from 35% for cluster 11 (ongoing or recurrent psychosis, low symptoms) to 76% for cluster 14 (psychotic crisis). The national average cost of inpatient care is estimated at £350 a day in 2012/13. In comparison, the national average cost of a non-inpatient cluster day works out at £13.

Planning for the future

Compared with some other spending programmes, health has fared relatively well in recent public expenditure settlements, but it remains the case that living within the constraints of a flat budget for health is a major challenge when set against the scale of demand and cost pressures facing the NHS. Such a requirement was embodied in the Quality, Innovation, Productivity and Prevention (QIPP) challenge announced in 2010 which required the NHS to make efficiency savings of £15-20 billion by 2015, and it is now clear that further savings of broadly this magnitude will be required over the next five years as well. There is no precedent in the history of the NHS for sustained improvements in productivity on this scale.

Severe financial restraint is almost certain to persist into the medium term, which calls for a strategic approach to commissioning and service planning. Among other things, this means avoiding cuts in effective service provision which increase costs later on. Such cuts may bring temporary relief but make little sense when budgets will be as tight tomorrow as they are today.

There is some evidence that short-termist measures are occurring in commissioning. For example, a recent report by Rethink Mental Illness has found that 50% of services providing Early Intervention for Psychosis (EIP) have experienced budget cuts in the past year, some by as much as 20% (Rethink Mental Illness, 2014). This is despite evidence that, even on a relatively short time horizon, many services are cost-saving from an NHS perspective in addition to generating wider benefits such as increased employment.

A number of other interventions analysed in this report show evidence of high returns, including financial savings in the NHS, and should therefore be incorporated in care pathways where this is not already the case. Many of these are relatively low cost, while in other cases the costs of implementation may be met by cutting back on related services which yield lower returns, e.g. introducing Individual Placement and Support in place of traditional vocational rehabilitation services such as sheltered workshops.

The high unit cost of inpatient care – and the fact that such care accounts for over 50% of spending on psychosis – highlights the continuing importance of interventions which help to reduce bed use, particularly through the prevention of relapse. An approach which may also in time offer the biggest scope for cost savings in mental health care is to promote and expand co-production, drawing on the resources of people who are currently using mental health services, for example in peer support roles, and on those of non-mental health agencies in the local community (education services, faith groups, hobby and leisure activities, friends, family etc.) which in many cases may already be helping people with severe mental health problems, but could do much more if actively supported by mental health services.

The cultivation of these resources as a means of addressing capacity problems in the statutory sector is often not seen as the business of mental health services, still less as a priority. Co-production is a key element of the recovery approach, which provides a valuable overarching framework for the development of strategic commissioning and service planning at a time of spending restraint.

Commissioning cost-effective interventions for recovery

The term ‘recovery’ can be used in many ways. For clinicians it is associated with the treatment of symptoms and the concept of cure. But for many people with psychotic symptoms, cure is at best partial and often intermittent. Hence the term ‘personal recovery’ (Slade, 2009) has emerged to refer to the process of learning how to live a meaningful and rewarding life, with or without enduring symptoms or vulnerabilities.

It is concerned with maintaining hope, finding meaning, and gaining purpose and a sense of control over those important life choices that are personally most valued by people with severe mental illness. These ideas have been drawn from a careful study of the experiences of service users and what they have found most helpful in supporting them to live their lives.

The principles of recovery provide a new rationale for the organisation and delivery of mental health services which now underpins mental health service development in many countries, including the United States, Australia, New Zealand, Ireland and Scotland.

In this country, the second objective of the Government's mental health strategy *No Health without Mental Health* (Department of Health, 2011) is that "More people with mental health problems will recover". This is defined as follows: "More people who develop mental health problems will have a good quality of life – greater ability to manage their own lives, stronger social relationships, a greater sense of purpose, the skills they need for living and working, improved chances in education, better employment rates and a suitable and stable place to live".

More recently, in the Government's *Closing the Gap* document (Department of Health, 2014b), the first priority is that "High quality mental health services with an emphasis on recovery should be commissioned in all areas".

The challenge for local commissioners, providers and practitioners is to develop ways of working which most effectively support and facilitate personal recovery. This will require changes to the way professionals practice, the types of services delivered and the culture running through organisations. These issues are being taken forward in a national programme part-funded by the Department of Health called Implementing Recovery through Organisational Change (ImROC) (Shepherd et al., 2010).

Evidence on the effectiveness and cost-effectiveness of a wide range of interventions for recovery in psychosis is provided in this report. In other cases the evidence base is limited, mainly because the application of recovery principles to service design and recovery is still relatively new. This applies, for example, to 'recovery colleges', an educational model which uses co-production by professional staff and service users to develop and deliver courses to students who may also be a mixture of service users and staff.

Changing the balance of the workforce to include more experts by experience may be considered in a wide range of recovery-oriented interventions. Recovery is about helping people with severe mental illness to live ordinary lives, including assistance with the central elements in all our lives – housing, employment, money and so on. In many of these areas there is now good evidence on which interventions are most effective in helping people with severe mental illness: for example, Housing First for housing, Individual Placement and Support for employment and specialist welfare advice for financial stability.

In all these cases there is no reason why workers in these specialist services should not include people with relevant skills who also have lived experience of mental health problems. Given appropriate training and support to deliver services according to evidence-based models, they are likely to have significant advantages in terms of effectiveness and cost-effectiveness.

Work is in hand in the ImROC context on developing a full specification of a service model for a recovery-oriented service.

3. The economic evidence

3.1 Early Detection services

A-La Park, Paul McCrone, Martin Knapp

Context

Many serious mental illnesses start before the age of 24. The largest gap between rates of serious mental illness in the general population and actual service utilisation is found in the 16-24 age group (Lennox, 2014). Early detection services may play an important role in bridging unmet needs for services between child and adolescent mental health teams and adult community mental health teams by enhancing continuity of care. It is also important because the longer the time between the onset of psychosis and the start of treatment (known as the Duration of Untreated Psychosis – DUP), the worse the prognosis can be (McGorry et al., 1996). Delayed treatment can lead to significant impairments in function and social outcomes. It can also have substantial economic costs not only for health but also for education, employment and criminal justice.

Intervention

It is not uncommon to see that terms such as Early Detection (ED) and Early Intervention (EI) are used interchangeably in the literature. What we mean by early detection services here are services that shorten DUP. They aim to target young people in the prodromal period: this means their symptoms are not yet clinically visible. These interventions can include a combination of low-dose antipsychotics/antidepressants and Cognitive Behavioural Therapy (CBT), family intervention, assertive community treatment, GP education, increased contacts with psychiatrists, and vocational and educational support to encourage early recovery. Usual care refers to GP and counsellor care alone.

Evidence on effectiveness

There is evidence that it is possible to identify people who are at risk of developing psychosis (NCCMH, 2014). A recent systematic review and meta-analysis of 11 studies indicates a number of early detection interventions that can be effective (Stafford et al., 2013). CBT is effective in reducing transition to psychosis at 12 months. Omega-3 fatty acids and integrated psychotherapy are also related to decreases in transition to psychosis at 12 months (Stafford et al., 2013). According to work for

the most recent NICE guideline on psychosis and schizophrenia, two studies for multi-focus public awareness campaigns in Norway and Singapore show significant reductions in DUP (National Collaborating Centre for Mental Health, 2014). However, GP education campaigns are not very effective (Lloyd-Evans et al., 2011).

Evidence on cost-effectiveness

In spite of an increasing number of studies on clinical effectiveness, very few economic evaluations have been performed. In the UK, there has been modelling of the cost effectiveness of early detection services in people having an at-risk state of psychosis based on the Outreach and Support in South London (OASIS) programme (Valmaggia et al, 2009). During the first year, although the costs for the ED were £2,088 higher than usual care from a health and social care perspective, the difference in costs narrowed to £1,072 at two years by considering the costs associated with productivity losses (i.e. unemployment).

McCrone and colleagues (2011) performed multiple economic evaluations for ED services by broadening the scope of the analysis to look at costs beyond the health care system (including costs to criminal justice systems, and the economic costs of suicide and unemployment). From this broad perspective the costs avoided by use of ED services would be greater than the costs of delivering ED services.

Over two to five years cost-savings of £3,299 per person per annum and £51.95 million at the national level in the UK were reported.

In Australia, economic evaluations for early detection services comparing three interventions (CBT alone, medication alone, and the two in combination) found lower yearly costs to the health care system and to the economy as a whole compared to usual care. One reason is because they help reduce negative impacts on employment.

In addition, in this analysis relative to usual care, the cost of preventing one additional case of psychosis was £4,011 with CBT alone, £8,036 with medication alone, and £6,539 with CBT and medication in combination.

Policy and practice implications

Bridging the gaps in services for young people at the key transitional period between childhood and adulthood can lead to cost savings in the long term, especially taking into account greater participation in employment and education. More empirical studies with longer-term follow-up periods are needed to confirm the effectiveness and cost-effectiveness for different interventions following detection of risk.

Conclusion

The longer the duration of untreated psychosis, the worse the prognosis can be. Investing in Early Detection and support services to reduce the risks of developing psychosis can have positive long term economic benefits.

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3.2 Early Intervention services

A-La Park, Paul McCrone, Martin Knapp

Context

Most first episodes of psychosis occur in adolescence or young adulthood. It is important to detect and treat these early as delayed action can lead to poor clinical and social outcomes, with potential consequences over the lifetime. Although there are a number of studies of Early Intervention (EI) that have looked at clinical effectiveness, there have been relatively few studies looking at economic impacts, particularly looking beyond the health and social care sectors.

Intervention

Our definition of EI was based on that of the Lambeth Early Onset (LEO) team in London. This consists of a team of mental health professionals including a consultant psychiatrist, trainee psychiatrists, clinical psychologists, community psychiatric nurses, occupational therapists and health care assistants. Individuals have access to services 365 days a year, with care including low-dose atypical antipsychotics, Cognitive Behavioural Therapy, family counselling and vocational therapies (Craig et al., 2004).

Standard care was assumed to be a community mental health service which did not include any component particularly targeted at people with early psychosis (Craig et al., 2004; McCrone et al., 2010).

Evidence on effectiveness

There is a growing body of literature on the effectiveness of EI services demonstrating positive outcomes in terms of clinical symptoms and vocational and social functioning (NCCMH, 2014). This builds on observed improvements in outcomes that have been reported in some EI services in England. For instance, one study looking at the impact on recovery rates within two years following the introduction of an EI service in Norfolk reported recovery rates of 52% compared with just 15% who had received support from traditional community mental health teams (Fowler et al., 2009).

Evidence on cost-effectiveness

Economic evaluations identified by a comprehensive systematic literature review (NCCMH, 2014) on economic aspects of EI include two studies in the UK (McCrone et al., 2009; McCrone et al., 2010), two Italian studies (Cocchi et al., 2011; Serretti et al., 2009), two Danish OPUS studies (Bertelsen, 2008; Hastrup et al., 2013) and one in Australia (Mihalopoulos et al., 2009).

Most studies demonstrate that EI services save costs and may also be more effective than standard care. A recent economic evaluation based on the OPUS study in Denmark shows that EI has a 97% chance of being cost-effective over five years (Hastrup et al., 2013). A study with an eight-year follow-up in Australia showed that EI was less costly and more effective than standard care from a health service provider's viewpoint (Mihalopoulos et al., 2009).

Our models (shown in Table 1) indicate that from a health and social care perspective, cost-savings of £5,738 in year one can be produced. From a broader societal viewpoint, early intervention generates cost savings of £2,234 per person over three years from improved employment and education outcomes. There are also annual savings of £1,024.40 per person for early intervention compared to standard care as a result of a longer-term reduced risk of suicide.

Table 2: Net savings per person for Early Intervention services

	Year 1 (£)	Years 1-3 (£)	Years 4-10 (£)
Health care services	5,738		
Employment		2,234	
Homicide			514
Suicide			6,266
Total	5,738	2,234	6,780

Source: updated figures from Park et al. (2014) using 2012-2013 prices

Policy and practice implications

Our analysis supports the economic case for investing in EI services, particularly when impacts beyond health service use such as employment, education, homicide and suicide are considered. There are potentially both short and long-term savings to be gained relative to standard care.

Early intervention to manage symptoms of psychosis might also lead to more significant cost-savings for the economy as a whole through better coordinated approaches involving relevant public sector bodies beyond the health sector. Other areas for careful evaluation could be exploring the impacts on housing, homelessness and concordance to intervention.

The potential benefits to be realised through early intervention mean that local Clinical Commissioning Groups (CCGs) should work to provide sufficient resources to enable enough local EI teams to be established to fully meet anticipated levels of first episodes of psychosis, as well as meet the needs of individuals having brief psychotic experiences, symptoms of depression, anxiety and loss of personal function, that can precede the onset of psychosis.

Conclusion

Early Intervention services for people experiencing a first episode of psychosis can help improve clinical outcomes. Not only does this help avoid substantial costs to the health and social care system but there are also further benefits through greater rates of

participation in employment, as well as lower rates of suicide and homicide. Over a ten-year period, £15 in costs can be avoided for every £1 invested in early intervention.

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3.3 Employment support

David McDaid

Context

Rates of employment in the UK for people with schizophrenia remain very low, with only 5% to 15% in paid employment (Schizophrenia Commission, 2012). This is not because people living with schizophrenia are incapable of working, but rather that they face challenges in finding opportunities to enter into paid employment, particularly but not only when economic conditions are tough. Workplaces may also not make sufficient adaptations to help individuals make the transition back into work. Negative attitudes, both among employers and employees, can also be a barrier to participation.

While paid employment will not be suitable for everyone, for most people participation in employment can be one key element of recovery. Not only does work reduce the risk of poverty, but it also helps promote social inclusion and self-esteem. It can have a positive impact on mental health status, which in turn may also help protect physical health.

Exclusion from work incurs cost to the welfare system. Exclusion from work may also lead to higher use of health and social care services compared to people living with schizophrenia who remain in employment.

Intervention

There are a number of different actions that can form part of a strategy to help more people with schizophrenia obtain paid employment, but they can broadly be divided into two types of support: train and place and place and train. The former focuses on the provision of training and often opportunities for sheltered employment with a view to building up the skills to obtain future competitive employment. Here we focus on place and train, using an approach known as Individual Placement and Support (IPS) where the aim is to help service users obtain competitive employment as quickly as possible and then offering them support and on the job training to help them to maintain employment.

The IPS approach is based on a number of principles: competitive employment is the key objective; anyone with a mental health problem can participate; job searches are based on individual preferences; the job search is rapid, beginning within a month of contact; employment specialists are integrated into clinical teams; individualised time-unlimited support, continuing after employment is obtained, for both employees and employer; and welfare benefits counselling through the transition from benefits to work.

Implementation may be helped by the addition of IPS trainers whose role is to improve awareness and understanding among clinicians about the benefits of IPS, to help local employment specialists engage with clinical colleagues and also with employers.

Evidence on effectiveness

There is a growing body of evidence that IPS leads to greater rates of long-term competitive employment than other approaches. Randomised Controlled Trials (RCT) report that IPS leads to higher rates of competitive employment, duration of employment and hours worked compared to different forms of place and train supports (Kinoshita et al., 2013). However, outcomes appear to be more positive in US-based evaluations that those outside the US, (Bond et al., 2012). Programmes are effective not only for young people (Rinaldi et al., 2010) but also

for middle-aged and older people with schizophrenia (Twamley et al., 2012). One multi-country European trial found that use of IPS was also associated with improved clinical outcomes, including rates of rehospitalisation, compared to place and train programmes (Burns et al., 2009; Kilian et al., 2012). They can be embedded successfully into Early Intervention in Psychosis (EIP) teams (Abdel-Bakri et al., 2013).

Evidence on cost-effectiveness

There is consistent evidence that IPS can be cost-effective compared to traditional place and train models. The six-country EQOLISE study, including England, which looked at the costs and health and social care outcomes of IPS and traditional vocational services, reported both lower costs and better employment outcomes for IPS services (Knapp et al., 2013).

Including IPS services within an EIP team is also cost-effective, with the improved employment-related outcomes strengthening the case for investing in these teams (Park et al., 2014). Given that a key challenge is the effective implementation of IPS, we have looked at the economic case for incorporating IPS trainer support into an IPS programme. Assuming an annual cost of £50,000 per annum for the provision of the IPS trainer, with modest levels of additional success in achieving competitive employment this also promises to be cost-effective.

Policy and practice implications

IPS is a cost-effective intervention, with better outcomes and with costs that are the same or even lower than traditional vocational support services. However, access to IPS services is variable in England, and the approach may not be fully implemented, meaning that lower levels of improved employment are achieved (Boardman and Rinaldi, 2013). This appears to have been the case in one two-year evaluation which did report improved employment rates compared to usual support, but at much lower levels than seen in international studies (Heslin et al., 2011; Latimer 2010).

Employing IPS trainers could potentially help improve implementation and improve awareness in both mental health professionals and service users of the benefits of employment in general and the approach offered by IPS. This would help in justifying increased investment in these employment supports. Only

modest levels of improvement are required to justify such an investment, but more evaluations of the use of IPS trainers on the success of local IPS services are needed to confirm this.

Conclusion

Potentially, employing IPS trainers to work with mental health professionals and service users could help implementation. While evidence on their impact is limited only modest levels of improvement in employment rates would be required to justify such an investment.

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3.4 Family therapy

Alison Andrew

Context

Family and friends of a person with schizophrenia are often hugely affected by the condition and may be vitally involved in any road to recovery. However, they can often feel isolated by mental health services and lacking in the knowledge they need to help a relative with schizophrenia (Schizophrenia Commission, 2012). The aims of family therapy are jointly to improve the wellbeing of those close to the person with psychosis, and to support them to play a part in the person's recovery.

Intervention

'Family therapy' refers to a range of psychosocial interventions for people who have a significant emotional connection to someone with schizophrenia. Interventions involve providing information about schizophrenia, discussing ways of supporting a relative or friend with the condition, and resolving practical problems. A central aim of family therapy is to reduce the level of 'expressed emotion' within the family. In practice, this refers to decreasing levels of criticism, hostility and emotional over-involvement that individuals with schizophrenia may be subjected to within family contexts.

Evidence on effectiveness

A systematic review of Randomised Controlled Trial (RCT) evidence suggests that family therapy could reduce the probability of hospitalisation by around

20%, and the probability of relapse by around 45% (Pharoah et al., 2010). The primary mechanism by which these effects occur seems to be better adherence with medication: poor adherence is estimated to fall by 40% as a result of family therapy. The review also suggests there is evidence for improved social functioning (being able to live independently), which in turn relieves pressure on family. However, the sample sizes are small and the quality of evidence is low for both these outcomes.

Evidence on cost-effectiveness

An economic model was built to weigh up the costs associated with providing family therapy against the savings associated with this intervention. Evidence on the impact of family therapy on hospital admission rates is drawn from the most recent systematic review of the impacts of family therapy (Pharoah et al., 2010) and used to update baseline probabilities of being admitted to hospital. Different assumptions are made on both the length of admissions and the cost per day of admissions to help determine how likely family therapy is to be cost-effective.

Even with a relatively large margin of error, the estimated mean economic savings to the NHS from family therapy are quite large: £4,202 (95% confidence interval (CI): £569, £6,943) per individual with schizophrenia over a three-year period. There is a 97% chance that family therapy will be cost-saving: that is, the costs of providing family therapy will be more than outweighed by savings made in the health care system.

It is likely that the model underestimates savings from family therapy since it only considers those arising from a reduction in hospitalisation rates. Other areas for savings may include: decreased service use from family members, increased employment rates among family members, an increase in the ability to live independently, and shorter hospital stays. In addition, this economic analysis does not place any monetary value on improvements in mental health or wellbeing for either the individual with schizophrenia or family members. If such benefits were quantified, the cost-effectiveness argument for providing family therapy would be even stronger.

Policy and practice implications

Although family therapy (or 'family intervention') is recommended in both the 2009 and 2014 NICE

guidelines, it is often not available to many service users. The economic evidence presented here supports the case that such interventions could lead to cost saving for the NHS. They are cost-effective even before the benefits of the intervention for recovery are taken into account. This, on top of a strong case for supporting those people who love and care for someone with schizophrenia, provides support for the idea that access to family therapy should be expanded.

Conclusion

Family and friends of people with schizophrenia are deeply affected by the condition and can also be key to aiding recovery. Current evidence suggests that offering family therapy, specifically designed to help family and friends support the individual with schizophrenia, is likely to result in cost savings for the NHS as well as improved outcomes for both those receiving the intervention and the service user.

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3.5 Criminal justice liaison and diversion

Michael Parsonage

Context

Many people in the criminal justice system have complex mental health needs which are often poorly recognised and inadequately managed. Large numbers end up in prison, a high-cost intervention which is inappropriate as a setting for mental health care and ineffective in reducing subsequent re-offending. The overall size of the prison population has more than doubled in the last 20 years, and prevalence studies suggest that up to 90% of all prisoners have some kind of mental health problem, including up to 10% with probable psychosis (Harding et al., 2007; Singleton et al., 1997; Stewart, 2008).

Intervention

Mental health liaison and diversion services aim to identify people with mental health problems coming into contact with the police and courts and direct them towards appropriate mental health care, rather than prison. For the relatively small number

of offenders with psychosis who have committed serious offences, the most appropriate alternative to prison is placement in an NHS secure hospital. However, about three-quarters of all people sent to prison each year receive sentences of less than 12 months. For those in this group affected by psychosis, the most appropriate form of diversion is to a suspended sentence or community order instead of prison, combined with a package of community-based mental health support.

The concept of liaison and diversion for mentally disordered offenders is not a new one, having first been endorsed by the Home Office in 1990, but the provision of services remains patchy in coverage and highly variable in scale and quality. Only about a third of all police custody suites and courts are served by any kind of liaison and diversion service.

Evidence on effectiveness and cost-effectiveness

The underlying evidence base on the effectiveness and cost-effectiveness of this intervention is relatively slight. Most work on liaison and diversion is descriptive rather than evaluative. Only a handful of studies use high-quality research methods including the use of control groups, a longitudinal element, proper costings and quantified measures of outcomes (Kane et al., 2013; Scott et al., 2013). Little is known about the longer-term impact on key outcomes such as mental health and re-offending.

Despite these limitations, the overall balance of evidence and expert opinion is that mental health liaison and diversion has a number of positive impacts. These include cost and efficiency savings in the criminal justice system, improved identification of offenders with mental health problems, and better access to appropriate mental health care. The case for liaison and diversion is further strengthened when set against the alternative of imprisonment. Prison is not only costly at around £10,000 per person for a 12-week stay, but is also a very poor therapeutic environment, likely to exacerbate rather than improve a mental health problem.

Because of limitations in the quantity and quality of the available evidence, it is not possible at this stage to quantify or model the costs and benefits of liaison and diversion for offenders with psychosis.

Policy and practice implications

The Government has allocated around £25 million for the development of existing liaison and diversion services, including 10 pilot sites which will be testing a 'core model' of provision. This will include an all-ages service covering young offenders (those aged 10-18) as well as adults. Evaluation of the pilot sites will be undertaken to support a business case for the roll-out of a national network of liaison and diversion teams serving every police custody suite and court in the country by 2017.

From an NHS perspective, the planned expansion of liaison and diversion services is likely to result in some increase in costs in the short term. The longer-term impact on costs is, however, much less clear-cut. In particular, it is important to note that the peak age for offending is very much the same as the peak age for first onset of psychosis (around ages 15-25), and liaison and diversion services may well be able to play a role in the quicker identification of psychosis in a group otherwise hard to engage.

Conclusion

The bulk of cost savings are likely to arise in the criminal justice system. In the light of this, there is a good case for saying that these services should be commissioned on the basis of joint funding from mental health and criminal justice agencies.

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3.6 Physical health interventions

A-La Park, Paul McCrone, Martin Knapp

Context

People with schizophrenia are at high risk of physical morbidity and premature mortality, including from cardiovascular disease and type 2 diabetes, compared with the general population. Life expectancy is reduced by up to 20 years compared with the general population (Rethink Mental Illness, 2013). More than half of those with early psychosis are smokers (Myles et al., 2012). In addition, young people experiencing a first episode of psychosis may be vulnerable to rapid weight gain, due to the effects of medication.

It is also important to consider older people with chronic schizophrenia and enduring comorbid physical conditions. They are likely to be exposed to elevated risks of having metabolic disorders that increase the risk of cardiovascular disease and diabetes, partly due to poor lifestyles and long-term use of multiple medications. Obesity can contribute to self/social stigma and may lead to lower rates of contact with health services and voluntary withdrawal from drug regimens, which could in turn result in increased relapse rates and other health problems.

Intervention

Several different interventions are examined here:

- **Smoking cessation model** – a ten-week combination of pharmacological treatment including bupropion, Cognitive Behavioural Therapy (CBT) and Nicotine Replacement Therapy (NRT) was compared to ten weeks of CBT and NRT alone.
- **Weight-management model** – the intervention is a combination of psycho-education, nutritional and/or exercise counselling, compared with usual care where a minimum level of advice on lifestyle is offered over three months.
- **Body Mass Index (BMI) management model** – the intervention was the delivery of 12 90-minute group-sessions of a manualised healthy lifestyle programme over a six-month period. Modules of the programme included advice and counselling on diabetes risk, healthy eating habits and levels of physical activity. Self-monitoring was an important element of the programme and participants received pedometers to encourage them to monitor the number of steps walked. Raffles provided rewards to participants to help encourage continued participation. Usual care refers to GP visits and referrals to dieticians.

Evidence on effectiveness

Smoking cessation: A review of eight RCTs of psychological interventions and/or medications to reduce smoking shows moderate effects but significant effect sizes (Banham and Gilbody, 2010). The authors indicate that smoking cessation strategies for the general population can be equally effective for people with severe mental illness.

Weight management: A number of systematic reviews have looked at the effectiveness of non-pharmacological interventions. The common

finding is to recommend a combined intervention to promote the level of physical activity and better nutrition. There is good evidence on benefits from non-pharmacological interventions (Alvarez-Jimenez et al., 2008; Caemmerer et al., 2012). The most recently updated NICE guidance also suggests a good evidence base for behavioural interventions in the short term in terms of their impacts on abdominal obesity/waist circumference, intermediate metabolic risk factors such as BMI, glucose levels, blood pressure, and quantity and quality of life (NICE, 2014).

BMI management: According to a systematic review, lifestyle interventions can also be effective in reducing BMI for middle-aged adults (mean age 53) adults with chronic schizophrenia and type 2 diabetes, regardless of whether delivered in inpatient or outpatient care settings (Cimo et al., 2012).

Evidence on cost-effectiveness

Smoking cessation model: At base case, from the NHS perspective, the costs of intervention per quitter are £6,697 at 12-month follow-up in the intervention group and £23,453 in the control group. The difference in costs between the intervention and control group is £1073 for one additional year of life. It costs £1,255 to gain an extra Quality-Adjusted Life Year (QALY), which lies well below the threshold of £20,000 to £30,000 recommended by NICE. Even when model assumptions on the cost of intervention, cost of death and the risks of having physical health problems are varied the results are robust: the intervention remains cost-effective (Winterbourne et al., 2013).

Weight gain model: A dynamic model was constructed based on a hypothetical cohort of 1000 young people with first-episode psychosis. At base case, the model resulted in a cost of intervention of £1,016 per QALY gained, which is again well below the NICE recommended willingness-to-pay for cost-effectiveness. When exploring uncertainty, all parameters are robust except the intervention effects. When using 12-month follow-up data, compared with usual care, the intervention was no longer cost-effective compared to usual care (Winterbourne et al., 2013).

BMI model: From the NHS perspective, in the base case analysis, a Group-based Lifestyle (GL) intervention for middle-aged adults with chronic schizophrenia and type 2 diabetes is more effective

for modest costs in achieving an additional case of BMI loss and gaining an extra QALY compared with usual care. The incremental cost per QALY gained is less than £700. This calculation assumes that each group session will be attended by eight people and that they will complete a 12-session course of therapy. However, even with a lower rate of attendance the intervention will remain cost-effective in most circumstances.

Policy and practice implications

Overall, these interventions for people with first-episode psychosis can be cost-effective strategies, at least in the short term.

There are also opportunities to promote the physical health of specific population groups, including middle-aged adults living with psychoses. A group-based lifestyle intervention is a promising option for middle-aged adults with chronic schizophrenia and comorbid type 2 diabetes, taking into account BMI loss achieved and QALYs gained. Refresher sessions may help prolong the beneficial effects accrued over time, but little is known about the long-term benefits or about the level of continued participation in these sessions. More empirical studies are also needed to confirm the impact of these physical health interventions on outcomes and costs over a longer time period.

Conclusion

These economic analyses show that interventions to help people living with schizophrenia to quit smoking and to prevent weight gain have a high probability of being cost-effective, relative to standard care.

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3.7 Supported housing

A-La Park, David McDaid and Martin Knapp

Context

People with severe mental illness are at high risk of becoming homeless (Herman et al., 1998), and those with a history of homelessness tend to go through a vicious and costly circle of psychiatric hospitalisation and unstable housing status (Rog et al., 2014). Supported housing interventions seek to help those

with complex needs in achieving independent living in the community and prevent the damaging spiral of hospitalisation and homelessness.

Intervention

An integrated supported housing intervention is modelled. This refers to a service which helps people with severe mental illness develop life-skills through time-limited supported housing with different levels of intensity of support. Key workers co-ordinate support from other relevant public organisations, including the NHS and criminal justice system.

The supported housing option, described as Dispersed Housing, consists of scattered accommodation in the local community with support for 12 months. This is compared with Congregated Housing, which offers 24/7 staffed accommodation over the same period. In both cases, service users are expected to gradually move on to more independent living arrangements in the community.

Evidence on effectiveness

Internationally, there are studies reporting positive effects of successful supported housing programmes. In the USA, a study of chronically homeless adults with severe mental illness in California receiving an integrated programme providing housing and health care services reported fewer days spent homeless with better quality of life, compared to usual care (Gilmer et al., 2010).

Housing First, a Canadian programme providing scattered-site apartments plus assertive community treatment for people with high needs over 12 months, shows a wide variety of positive outcomes. These include better housing status, better quality of life in various domains (living situation, safety, leisure, finances, family/social relations), community ability (social skills, adaptation) and improved psychiatric symptoms (Patterson et al., 2013; Tsemberis, 2013). The findings are consistent with systematic reviews (Coldwell & Bender, 2007; de Vet et al., 2013). Most participants in Housing First at the four-year follow-up point were able to sustain permanent independent housing status (Stefancic and Tsemberis, 2007).

The Housing First model as seen in North America is not seen in England in full, although some elements of the Housing First approach are being implemented. For example, the Next Step project

by the Manchester Methodist housing association provides independent accommodation with some support services made available, e.g. help and support on managing benefits and paying bills. This study reported 17 out of 19 service users achieved independent living after participating in the supported housing programme (Department of Health, 2011).

Evidence on cost-effectiveness

Recent international evidence on supported housing programmes suggests reductions in participants' use of inpatient care and Accident and Emergency (Russolillo et al., 2014). One study found that increased numbers of outpatient visits were offset by reductions in the use of more costly inpatient and emergency services and in contacts with the criminal justice system (Gilmer et al., 2010). Economic modelling was used to explore the implications of supported housing in a UK setting, with intervention costs based on programmes implemented in Manchester for Congregated and Dispersed Housing. At base case, the results show that Dispersed Housing is both more effective and less costly than Congregated Housing. The dispersed independent living option is therefore a dominant strategy that should be considered for recommendation.

Policy and practice implications

There is some international evidence that suggests that there is a good economic case for using this approach for people with severe mental illness. Further work is needed to confirm the case in this country taking into account local contextual factors such as the nature of the housing market and the housing benefit system. Nevertheless, initial findings are positive.

A co-ordinated approach across different sectors is critical for successful outcomes. A stepped care approach can include time-limited independent housing, as well as intense levels of floating support for perhaps six to eight weeks when individuals move to fully independent accommodation.

Conclusion

Clinical Commissioning Groups (CCGs) and local authorities should consider how they can ensure the availability of housing support services for their populations.

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3.8 Crisis Resolution and Home Treatment teams

Valentina Iemmi

Context

Schizophrenia usually results in at least one inpatient stay and a high probability of readmission (Allardyce and Os, 2010). Fourteen per cent of the 220,000 people living with schizophrenia in England receive inpatient care each year, including 5% who are compulsorily admitted under the Mental Health Act (Schizophrenia Commission, 2012).

The average cost of an inpatient bed in England is £350 a day (Department of Health, 2013), while the median length of stay for schizophrenia is 38 days, giving a total cost per typical admission of £13,300. Compulsory admissions are longer and more expensive (Andrew et al., 2012). The high costs of inpatient care mean that crisis care interventions aimed at reducing the need for admission have the potential to produce important savings.

Intervention

Crisis Resolution and Home Treatment (CRHT) teams aim to reduce inpatient admissions and readmissions. Multi-disciplinary teams working 24 hours a day, seven days per week provide assessment and subsequent intensive treatments at home for people undergoing a severe mental health crisis with the aim of avoiding hospitalisation (NCCMH, 2014). They also work to reduce any hospital stay by facilitating earlier discharge by ensuring that ongoing support can be provided at home. The intervention lasts for a few weeks, until the crisis has resolved and the service user is discharged to other services for long-term support.

CRHT teams were introduced in the NHS following recommendations in the 1999 National Service Framework for mental health (Department of Health, 1999). While their provision is no longer mandatory, teams are to be found across England.

Evidence on effectiveness

A Cochrane review of six RCTs CRHT teams were found to be effective in reducing hospital admissions in people with severe mental health conditions, reducing family burden, improving some clinical outcomes, and increasing both patient and carer satisfaction (Murphy et al., 2012). A more recent

review of 37 trials and other types of less rigorous reported a modest positive impact on hospital admissions and lengths of stay (Carpenter et al., 2013).

Evidence on cost-effectiveness

A review of the economic evidence on schizophrenia (Andrew et al., 2012) and the recent NICE guideline on schizophrenia (Department of Health, 2013) identified two economic studies on CRHT teams, both suggesting likely savings. In the first, a prospective controlled trial comparing service costs before and after the implementation of a CRHT team found a reduction in the mean total cost of services of 17% over six months, although this was not statistically significant (McCrone et al., 2009a).

In the second, a Randomised Controlled Trial (RCT) of a CRHT team compared to standard care showed a statistically significant reduction in the mean total cost of services of 30% over six months (McCrone et al., 2009).

Policy and practice implications

The Mental Health Crisis Care Concordat (Department of Health, 2014) sets out four core principles of care for people in mental health crisis: support before the crisis, emergency access to crisis care, treatment when in crisis, and recovery and prevention of future crisis. The Concordat expects local commitment and partnership of health, criminal justice and local authority agencies.

A National Audit Office report (2007) estimated that £14.3 million (at today's costs) could be saved each year if all CHRTs were in contact with just over 50% of all people at risk of admission, and that £61.6 million a year in costs might be avoided if contact rates increased to 90%. Among innovative crisis services, mental health telephone triage in psychiatric crisis has been introduced in other countries (Sands et al., 2013) and is currently being piloted and evaluated in this country.

Conclusion

CRHT teams can help reduce the need for hospital admission, and can therefore generate savings. The costs of services for people with psychosis can be reduced by up to 30% through this service model.

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3.9 Crisis houses

Valentina Lemmi and David McDaid

Context

Over the last decade, alternative residential care services in community settings have been developed, with the aim of helping people with schizophrenia onset of crisis, and therefore the need to be admitted to hospital.

Intervention

Crisis houses offer a community-based residential alternative to acute psychiatric wards for people with schizophrenia. Crisis houses are staffed 24 hours a day by trained mental health staff or support workers, helping with treatment planning and day-to-day activities. While all are outside the hospital setting, the term 'crisis house' can cover very diverse models of practice using short-term residential stay: clinical crisis houses, specialist crisis houses, crisis team beds, recovery houses, and other non-clinical alternatives mainly managed by the third sector with few staff with professional qualifications (JCPMH, 2014).

Evidence on effectiveness

Two studies from the UK have reported improvements in symptoms and functioning. One of these focused on a crisis house for women, but only 20% of the service users had a diagnosis of schizophrenia (Howard et al., 2010). The other study looked at the experiences of 43 people who used a crisis house in Liverpool, but no information on the clinical diagnoses of these people was provided (Ryan et al., 2011).

Another recent evaluation of a Rethink Mental Illness Crisis House reported improved recovery outcomes, including better management of mental health, identity and self-esteem, trust and hope, and self-care, although only 7% of service users in this study had a diagnosis of schizophrenia (Larsen and Griffiths, 2013).

Adopting a broader definition of crisis houses to include different types of non-hospital crisis beds, one study in England compared five residential alternatives to standard acute inpatient care (clinical crisis houses, short-stay wards, crisis team beds and two non-clinical alternatives). About 40% of service users had symptoms or a formal diagnosis

of psychosis. This study reported a significant improvement in severity and functioning at discharge (Slade et al., 2010). A significant increase in satisfaction with treatment was also found for these residential alternatives to psychiatric inpatient care (Osborn et al., 2010).

Evidence on cost-effectiveness

In England, an RCT of women's crisis houses compared with standard inpatient care showed a decrease in symptoms, an increase in functioning and quality of life, and a decrease in mean total cost of 14% over three months (Howard et al., 2010). However, this difference in cost was not statistically significant. Only 20% of service users in this study had a diagnosis of psychosis. Looking at the economic analysis of the English study of five residential alternatives to standard acute inpatient care (clinical crisis houses, short-stay wards, crisis team beds and two non-clinical alternatives), on average costs were 22% lower than traditional services, although this difference in costs was not statistically significant.

Policy and practice implications

The evidence base is very limited, with little evidence in a UK context focusing on the experiences, outcomes and costs of people with schizophrenia. The diversity in the types of service that can be labelled as crisis houses also makes assessment of effectiveness and cost-effectiveness difficult.

Conclusion

Potentially, crisis houses and other similar alternatives to inpatient care may be equally effective, but delivered at lower cost. Crisis houses are also viewed more favourably by service users.

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3.10 Peer support

Valentina Lemmi and Michael Parsonage

Context

Recovery from schizophrenia is not only about symptom remission. It also relates to improvement in a range of personal or social outcomes such as employment or educational involvement, independent

living, reduced dependency on welfare support, and better social networking (Lieberman et al., 2002).

Intervention

Peer support has been defined as ‘social emotional support, frequently coupled with instrumental support, that is mutually offered or provided by people having a mental health condition to others sharing a similar mental health condition to bring about a desired social or personal change’ (Solomon, 2004). Peer support workers receive training and supervision and may be employed in a variety of ways in mental health services, either in addition to traditional staff or instead of them in certain specific roles. Peer support may have a therapeutic value not only for the mental health service users who are supported but also for the peer workers themselves.

Evidence on effectiveness

The evidence base remains limited and inconclusive. A Cochrane review, drawing on 11 Randomised Controlled Trials, found little evidence of any significant impact on outcomes (Chien, 2013) and a similar conclusion is reported in the new NICE guideline on psychosis (NCCMH, 2014). Other reviews, drawing on a wider range of evidence, have come to more positive conclusions across a range of outcomes (Repper et al., 2013), but findings are not replicated across all studies and the overall quality of the evidence is poor.

Evidence on cost-effectiveness

Analysis by the Centre for Mental Health of six published studies with relevant data suggests that the economic case for the use of peer support workers in mental health teams is promising. They can help generate a reduction in costs because of reduced use of psychiatric inpatient care, with shorter admissions and fewer readmissions (Trachtenberg et al., 2013).

In all six studies, peer support resulted in improved or unchanged health benefits. The value of bed-days saved per peer support worker ranged from £42,653 to £146,330 over six months, and from -£44,578 to £245,515 over 12 months. Using a weighted average across all studies would suggest that £4.76 would be gained for every £1 invested. However, the authors noted that this evidence is limited both in quantity and quality. Furthermore, all the studies used for these calculations were from the US and Australia,

which may restrict the applicability of their findings to the UK context.

Other RCTs show either no difference in hospital rates over 12 months, possibly due to peer support workers adopting the attitudes of other colleagues (Schmidt et al., 2008), or inconclusive findings (Simpson et al., 2014).

Policy and practice implications

The employment of peer support workers in statutory mental health services is a relatively recent development in this country, and their overall numbers are still limited (Repper et al., 2013). However, the peer support role was recognised in the Government’s 2011 mental health strategy for England (Department of Health, 2011) and highlighted as one possible intervention in the implementation framework that followed (Department of Health, 2012). Similarly, the Schizophrenia Commission (2012) recommended that ‘all mental health providers should review opportunities to develop specific roles for peer workers’, emphasising the need to assure appropriate training and workplace support for peer support workers to guarantee their effectiveness and safety.

Conclusion

There is some limited evidence that peer support for people with schizophrenia and psychosis may decrease hospitalisations and service use, and increase recovery, quality of life, and satisfaction in the short term. Initial modelling work suggests a potential £4.76 in costs averted for every £1 invested. This is promising enough to invest in more peer support workers and then carefully evaluate their costs and effectiveness.

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3.11 Self-management

Valentina Iemmi and Michael Parsonage

Context

Recovery in people with schizophrenia results in management of symptoms, participation in employment or education, independent living, reduced dependency on welfare support, and peer relationships (Lieberman et al., 2002). Recovery is associated with

better health and social care outcomes (Helldin et al., 2007) and reduced costs (Hjortsberg et al., 2011). Interventions supporting recovery are likely to produce better health and social outcomes and help avoid some health and social care costs.

Intervention

Self-management programmes aim to improve an individual's ability to manage symptoms, treatment, physical and psychosocial consequences and lifestyle changes inherent with living with a chronic condition. Efficacious self-management encompasses the ability to monitor one's condition and to affect the cognitive, behavioural and emotional responses necessary to maintain a satisfactory quality of life' (Barlow et al., 2002).

They may include different elements, including psycho-education, relapse prevention, management of medication, symptoms management, setting individual recovery goals, and development of life skills (National Collaborating Centre for Mental Health, 2014).

Evidence on effectiveness

A literature review found 25 Randomised Controlled Trials suggesting that self-management for people with schizophrenia may reduce symptoms of psychosis and increase quality of life and functioning at the end of the intervention (NCCMH, 2014). Evidence on the impact on hospitalisation and service use was inconclusive. However, due to the low quality of the studies, caution is required.

E-mental health self-management interventions are developing rapidly (van der Krieke et al., 2014). The recent review of 28 studies suggested that self-management interventions compared to standard care have a large effect on medication management, and a small effect on knowledge and satisfaction. However, the interpretation of the results needs to be cautious due to the diversity in interventions reviewed.

Evidence on cost-effectiveness

There is some evidence that self-management may help avoid some costs through a reduction in relapse and readmissions. A meta-analysis of self-management interventions for schizophrenia found evidence of a significant reduction in relapse and readmissions, and an improvement in symptoms and adherence to medication (Zou et al., 2013). However,

these results need cautious interpretation because only one study was from the United Kingdom – Glasgow (Atkinson et al., 1996).

A pilot study comparing service costs before and after a peer support self-management intervention for people with severe mental illness in Wales found that mean total service costs increased over six months, but decreased over 12 months, although the differences were not statistically significant. Wellbeing and functional living skills improved at both six and 12 months (Iemmi et al., 2014). However, the lack of a control group requires caution in interpretation.

Policy and practice implications

Overall, the evidence suggests that self-management is associated with better outcomes and potential savings in the short term. Better management of schizophrenia may have important long-term effects and budget implications not only on health and social care costs but also on employment and educational gain.

Conclusion

There is some limited evidence from outside the UK that self-management can reduce symptoms of psychosis and increase quality of life, as well as reduce the rate of relapse and readmission to inpatient care. More work is needed to evaluate cost effectiveness.

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3.12 Cognitive Behavioural Therapy

Martin Knapp, Paul McCrone and David McDaid

Context

Many people can potentially benefit from psychological therapies. The Improving Access for Psychological Therapies (IAPT) programme has considerably widened access to psychological therapies for many people with mental health needs, but to date has primarily focused on people with common mental disorders such as depression and anxiety. The IAPT for Severe Mental Illness project (IAPT-SMI) is aiming to increase access to a range of NICE-recommended therapies, including CBT for people with psychosis, bipolar disorder and personality disorders.

Intervention

Cognitive Behavioural Therapy (CBT) is a short-term talking therapy that focuses on thinking patterns and behaviour, often breaking down problems into small components so that straightforward interventions can be identified to address them. CBT tends to be more widely used than other psychological therapies. CBT has been shown to be beneficial in the treatment of depression, anxiety disorders and other conditions, but has been less widely offered or evaluated with people with schizophrenia and psychoses.

Two national IAPT-SMI demonstration sites have been set up to deliver an IAPT service for psychosis – Lancashire and South London and Maudsley Foundation Trust (SLaM). The SLaM IAPT-SMI service comprises three clinical teams – early intervention, specialist recovery, and psychological therapy – providing specialist community mental health care for people with psychosis. The service offers NICE-recommended, evidence-based interventions for people with psychosis. CBT involves weekly or fortnightly individual one-hour sessions over 6-9 months (Johns, 2014).

Evidence on effectiveness

A review of evidence of CBT for people with schizophrenia, concluded that the severity of psychiatric symptoms can be reduced, with an average effect size of 0.4 for patients taking antipsychotic medications (Wykes et al 2008). Morrison et al (2014) looked at cognitive therapy for people with schizophrenia spectrum disorders who were not taking their antipsychotic medications, and found a similar effect size, although there has been subsequent discussion of the robustness of the findings.

The review undertaken for the recent NICE guidelines found consistent evidence from 19 controlled trials that CBT for people with schizophrenia was effective compared to care as usual in reducing hospitalisation rates for a period of up to 18 months. Time spent in hospital was also an average of eight days shorter. At 12 months people who had received CBT were more likely to have reduced depressive symptoms and improved social functioning. Individual-level CBT had more robust positive impacts than group-based CBT.

Evidence on cost-effectiveness

Two economic evaluations were identified by NICE in their recent review and appraisal on the cost-effectiveness of CBT for people with schizophrenia (Kuipers et al., 1998; Startup et al., 2005). Both studies were undertaken in the UK. The first focused on people with medication-resistant psychosis, with the economic analysis reporting better outcomes, and no significant difference in health and social care costs compared to standard care alone. The later study looked at CBT plus treatment as usual compared to treatment as usual alone in 90 people hospitalised for an acute psychotic episode in Wales. CBT had better clinical outcomes, with no statistical difference in health and social care costs. NICE also modelled the economic impacts of individualised CBT plus usual care compared to usual care alone. This model was found to be cost saving because of the reduction in the rates of future hospitalisation achieved. There was an overall net saving to the health and social care system of £989 per person with schizophrenia.

Drawing on data collected in the SLaM IAPT-SMI service for people with psychosis (Johns 2014), we carried out new analyses of the impact of CBT on health-related quality of life. We compared these findings with the impact of 'usual treatment' for a similar group of people (Patel et al., 2013). The comparison allows us to offer a preliminary indication of the potential impact of the IAPT-SMI service. The estimated QALY accrual was 0.067 higher in the CBT group than for the comparison sample. The average number of CBT sessions was 13.7, for which the estimated cost was £134 per hour, giving a mean treatment cost of £1,834 per patient. This gives an approximate incremental cost per QALY of £27,373 for CBT compared to usual care, which is below the upper threshold used by NICE, and which therefore suggests that CBT may be considered cost-effective.

A study of CBT for people with schizophrenia who were not taking prescribed antipsychotic medications found that the mean number of inpatient days during the treatment period was 1.3 for the CBT group and 4.1 for the treatment as usual group (Morrison et al., 2014). Applying the mean NHS Reference Cost for clusters relating to psychosis (£349 per bed-day) to these figures would bring the incremental cost-effectiveness ratio down to £12,731.

Policy and practice implications

The IAPT programme is trialling CBT and other psychological therapies in two demonstration sites. Our preliminary analysis suggests that there may be an economic case for widening access to psychological therapies to include people with schizophrenia and psychosis. This is supported by the economic analyses carried out to support development of the recent NICE guidelines. Although the evidence is quite tentative at this stage, it provides economic encouragement for CBT as part of the treatment pathway for people with schizophrenia.

Conclusion

Our preliminary analysis of data from the Improving Access for Psychological Therapies (IAPT) Severe Mental Illness project suggests an economic case for widening access to psychological therapies to include people with schizophrenia and psychosis. This is supported by the economic analyses carried out to support development of the recent NICE guidelines.

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3.13 Anti-stigma and discrimination campaigns

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Context

The stigma experienced by many people with schizophrenia and psychosis can affect many aspects of their lives, limiting access to employment and housing, harming social relationships, reducing self-esteem and reducing the likelihood that they seek treatment. Social marketing campaigns have been suggested 'as a way to reach the public, to modify health or pro-social behaviours and to promote specific health issues' (Evans-Lacko et al 2013). The Time to Change programme was launched in England in early 2009 in an attempt to change attitudes to mental health problems, and in particular to reduce discriminatory behaviour.

Intervention

The Time to Change programme included an anti-stigma social marketing campaign that made use of the mass media, including participation in mass social events.

Evidence on effectiveness

The evaluation of the Time to Change social marketing campaign to reduce stigma and discrimination in relation to people with mental illness in England 2009-2011 (Evans-Lacko et al., 2013) compared knowledge, attitudes, and intended behaviours before and after each period of campaign activity. The analysis showed a modest but significant positive impact in the general adult population with an improvement in intended behaviours, but not consistent improvement in knowledge or attitudes after phase one of the Time to Change campaign. Awareness of the campaign was associated with better knowledge, attitudes and intended behaviour. However, the results should be treated cautiously because of the absence of a control group, the lack of measurement of actual behaviour, and the small sample size among some black and minority ethnic (BME) groups.

Evidence on cost-effectiveness

This study includes an economic evaluation (Evans-Lacko et al., 2013). Adapting the methodology used by McCrone et al. (2010), the economic analysis estimates the impact of reduced stigma and discrimination on service utilisation and employment for people suffering from depression under different scenarios (increased service use but unchanged employment rates, unchanged service use but increased employment rates, increased service use and employment rates).

The campaign was found to be potentially cost-effective and low cost, with economic benefits outweighing the financial costs. Under the conservative assumption that the campaign is responsible for 50% of the change, the cost per person with changed intended behaviour was at most £3.86, the cost per person with changed knowledge was at most £8.56, and the cost per person with changed attitudes was at most £10.94.

Moreover, the cost of the entire Time to Change programme as a percentage of the total cost of mental health problems was low (0.04%) when compared with other public health programmes in the UK (e.g. 0.37% for obesity and 0.17% for stroke).

However, results may need to be interpreted with caution due to the focus on depression only, the lack of a control group, the lack of measurement of the actual behaviour, and the lack of long-term data.

Policy and practice implications

The population-level improvements in attitudes and intended behaviour that flowed from the Time to Change programme should encourage both national and local efforts to address the persistence of negative attitudes to mental illness, particularly to serious mental illnesses such as schizophrenia and other psychoses. The evidence from the economic evaluation of Time to Change shows that an anti-stigma social marketing campaign can also be potentially cost-effective. Similar results were found by McCrone et al (2010) in a less detailed evaluation of the Scottish See Me campaign.

Conclusion

Population-level improvements in attitudes and intended behaviour that flowed from the Time to Change programme should encourage national and local efforts to address the persistence of negative attitudes to mental illness, particularly to serious mental illnesses such as schizophrenia and other psychoses.

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3.14 Personal Budgets

Martin Knapp

Context

Personal Budgets (PBs) were central to the aims to 'modernise' social care in England, and sat at the heart of the 'personalisation' agenda. In social care, the personal budget policy emphasis built on some years of experience with direct payments and on the more recent 'In Control' projects for people with learning disabilities. The aim was to give service users who were eligible for state support more direct control over the resources they have been assessed as needing.

In recent years, we have also seen a pilot to examine how well Personal Health Budgets (PHBs) might perform, putting patients at the centre of decisions about their care. In both cases, it was expected that care and support systems would be more responsive to individual circumstances and preferences, and that empowering people who use services would contribute to their better health and wellbeing, whilst being cost-effective.

Intervention

Two interventions can be considered here: PBs for social care, which can be taken in the form of a direct payment or a personal care account managed by the local authority; and PHBs. The focus is on people with mental health problems.

Evidence on effectiveness and cost-effectiveness

Personal Budgets: The IBSEN study of what were at the time called individual budgets recruited almost 1000 users of adult social care services into a Randomised Controlled Trial (RCT) and studied process, effectiveness, cost-effectiveness, workforce, provider and broader implementation challenges (Glendinning et al., 2008), 4% of the 959 people recruited into the trial sample were aged under 65 and using mental health services. This is therefore a relatively small sample from which to draw conclusions.

For mental health service users, those in PB group reported significantly higher quality of life than the comparison group at six-month follow-up (Netten et al., 2012). Many of these people had not found the services available under conventional arrangements to their liking, and saw a PB as an opportunity for them to access more appropriate support. Although not significant statistically, the study data also suggested some tendency for psychological wellbeing to be better for those in the PB group. The assessment process for allocating PBs appeared to better at recognising individual needs than previous resource allocation mechanisms (Jones et al., 2012). The economic evaluation found that PBs were more cost-effective than standard arrangements, for people using mental health services. Overall the economic case was strong (Glendinning et al., 2008).

Personal Health Budgets: In this study of 2000 people using a range of health services, people assigned to the PHB group were compared with people who received conventional service delivery, and followed up at 12 months (Forder et al., 2012). As with the evaluation of personal (social care) budgets, the people with mental health needs appeared to respond particularly well to the opportunity to take more responsibility for managing their care and support.

PHBs were cost-effective compared to the standard services received by the control group at the 90% confidence level. They were also cost-effective for the NHS continuing healthcare groups. One reason is that indirect costs were lower for PHB holders with mental health needs than they were for the comparison group (Forder et al., 2012). This led the research team to recommend that the offer of personal health budgets should initially be focussed on people with mental health needs or continuing healthcare needs as their primary condition.

Policy and practice implications

It is now a requirement that adults eligible for state-brokered social care should be offered the opportunity to hold a PHB. On the NHS side, the policy position is that from April 2014 people with continuing health needs – which would presumably include many people with mental health needs – have a right to ask for a PHB, and from October 2014 they have the right to hold one.

There are implications for resource allocation principals and procedures, staff skills and therefore training, the availability of ongoing brokerage and related support, safeguarding against financial and other risks, the use of proportionate monitoring of expenditure, and local care service markets.

Conclusion

For people with mental health needs, PHBs – whether social care or health – have been found to generate better outcomes than standard care arrangements. They are also more cost-effective for this group of service users. Individuals who wish to take more direct control over how their care or continuing health needs are to be met should receive appropriate encouragement and support.

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3.15 Welfare advice

Michael Parsonage and David McDaid

Context

Stressful life events are a common cause of relapse (Norman and Malla, 1993). These may take a variety of forms and include crises associated with welfare

problems such as benefits, debt and housing. People with severe mental illness are at particularly high risk of experiencing such problems, often in multiple forms (Balmer et al., 2010). The combination of severe mental illness and persistent low income often results in extreme social isolation and many people in this situation lack the network of family and friends that would otherwise be a source of help when financial or other problems arise.

Severe mental illness may also compromise the capacity of individuals to deal with everyday problems. Relatively minor difficulties such as an unpaid debt can rapidly escalate, leading to highly stressful experiences, such as visits from bailiffs and threats of legal action or eviction, which may serve to trigger relapse. The scale of such problems is increasing as a result of insecurity and income losses that have been associated with current reforms of the benefit system.

Intervention

High Street services may lack knowledge of the particular difficulties faced by people with severe mental illness, including problems of communication and social interaction, while clinical staff lack expertise in complex welfare rights problems, particularly when these raise legal issues such as housing repossessions or evictions.

These limitations suggest the need for a specialist advice service which combines expertise in welfare rights with understanding of severe mental illness. A small number of mental health trusts already use such a service and one example, the Sheffield Mental Health Citizens Advice Bureau, has been described in detail in a recent report (Parsonage, 2013). This is a dedicated service available to all mental health service users in Sheffield and supports around 600 clients a year who are referred by clinical staff because of the complexity or severity of their welfare problems. The average cost of support is around £260 per client.

Evidence on effectiveness

The general literature on welfare advice provides plenty of evidence that advice services can substantially increase the take-up of social security benefits and so deliver significant financial gains for clients (Adams et al., 2006). Low take-up of benefits has long been a problem for people with severe

mental illness, with one study finding that only a third of a sample of service users were getting their correct entitlement and all of the other two-thirds were under-claiming (Frost-Gaskin et al., 2003). Disruption, as well as low uptake of benefits, increased the risk of falling into debt.

In the case of debt, there is evidence that contact with face-to-face advice services is associated with a 56% likelihood of debt becoming manageable (Williams and Sansom, 2007), while telephone services achieve a success rate of 47% (Pleasence and Balmer, 2007). In comparison, only around a third of debt problems will be resolved without any intervention. There is also some evidence of good outcomes resulting from advice on housing problems for people with mental health problems (Balmer and Pleasence, 2012).

Such findings indicate that welfare advice can achieve a significant measure of success in helping clients resolve the immediate problems on which they are seeking help. As yet, however, there is little evidence that such success has a strongly beneficial impact on mental health, though in large measure this is because of shortcomings in the design of most research studies in this area.

Evidence on cost-effectiveness

Existing economic modelling indicates that under nearly all scenarios a not-for-profit debt advice service that reaches people at risk of having mental health problems has better outcomes and lower costs to the health and legal systems over a two-year period than no action (Knapp et al., 2011).

The report on the Sheffield advice service referenced above identified three main ways in which specialist advice for mental health service users can reduce the costs of health care: (i) reductions in inpatients' lengths of inpatient stay (e.g. by resolving a complex benefits or housing problem and so enabling a service user to be discharged more quickly); (ii) prevention of homelessness (e.g. by directly negotiating with landlords in cases of rent arrears); and (iii) prevention of relapse (not only by directly acting on an immediate cause of acute stress which threatens to trigger relapse but also by reducing the vulnerability of clients to future problems through the development of improved coping mechanisms).

A small number of successful interventions are needed for an advice service to generate sufficient savings to be good value for money. This is because the unit cost of advice is very low compared with the unit cost of crisis care. As seen, the cost of advice in the Sheffield service is £260 per client. In comparison, the cost of relapse is over £19,000 per episode, while the cost of homelessness to the public sector including the NHS is estimated at £24,000 to £30,000 a year per case (DCLG, 2012).

Policy and practice implications

People with schizophrenia and psychosis are at high risk of experiencing a range of welfare problems such as unmanageable debt and homelessness, likely to have damaging and costly impact on their mental health. The current round of benefit reforms is adding a further layer of insecurity and stress. Specialist welfare advice is a low-cost intervention which offers some prospects of mitigating these adverse effects, though at present the evidence how best it can be delivered to reach as many people as possible as well as on its cost-effectiveness is best described as suggestive rather than conclusive.

Conclusion

There is a case for investing in specialist welfare advice and debt management services. Research is needed on their effectiveness in reducing relapse, but only a small number of successful interventions would be needed to generate sufficient savings to be considered good value for money.

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4. Addressing the evidence gaps

While the economic case for investing in many of the interventions in this report is strong, some of the interventions that we have analysed need further careful evaluation to confirm their effectiveness and cost-effectiveness for local clinical commissioning groups. This is particularly the case for interventions where the majority of the evidence on effectiveness is drawn from work outside the UK. In addition, there are other areas where more work is still needed to understand what works in order to help inform commissioning decisions, and we have already discussed the limits of the evidence on recovery colleges.

Another area where there are gaps in knowledge concerns support to remain in or return to education. Early adulthood, the late teens and early twenties are key years for obtaining education and training that increase earnings and wellbeing throughout life, but they are also the peak years for first experiencing psychosis. Evidence from other developed countries suggests that people with schizophrenia have, on average, far fewer educational qualifications and many report difficulties with basic skills such as reading and writing (Kessler et al., 2005; Waghorn et al., 2012).

These adverse educational outcomes compound the impacts that symptoms of schizophrenia have on economic opportunities (Trajkovic, 2007). Both lower educational achievement and the poor labour market outcomes it contributes to also have a detrimental impact on clinical outcomes (Geddes et al., 1994; Kilian et al., 2012).

The importance of education for both employment and clinical outcomes for people with schizophrenia and psychosis should be the basis for examining the economic case for interventions and care pathways that put a serious value on improving educational attainment. However, much of the evidence on the effectiveness of supported education is dated, methodologically weak or limited in the outcomes considered (Rogers et al., 2010; Ellison et al., 2013). Indeed, one systematic review of the literature – by Rogers et al. (2010) – found only four studies, each of them well over a decade old.

One small uncontrolled UK-based study looking at educational support services built into an Individual Placement and Support employment programme

for individuals with first episode psychosis has positive results (Rinaldi et al 2010). It was successful at integrating individuals into open employment and mainstream education and training.

Ellison and colleagues (2013) report some ongoing studies too. So, while empirical evidence on supported education is very limited due to a lack of experimental studies, small sample sizes and other methodological problems, there is a clear theoretical case for a focus on keeping young people with psychosis and schizophrenia in contact with the education system.

Attention has also begun to focus more on trying to prevent the onset of mental health problems; this report has already highlighted the benefits that can be realised if Early Detection services for first episode psychosis can reduce the risk of developing psychosis. Earlier in the report it has also been noted that there are cost-effective strategies to prevent the onset of physical health problems in people with schizophrenia. However, there are other preventive strategies that can also be explored.

Stress and depression are significant risk factors for psychosis. More needs to be known about how investing in measures that successfully promote mental wellbeing, as well as preventing depression may also impact on new cases of schizophrenia. The report has already discussed the case for the use of CBT to help prevent psychosis; one recent review looked at drugs, behavioural therapies and nutritional supplement – Omega3 fatty acids – to prevent psychosis (Stafford et al 2013), but large well-conducted studies are required to build on this promising work.

The economic case for investing in many mental health promotion interventions to reduce the risk of depressive disorders is compelling (Knapp, McDaid & Parsonage 2011), but it may be even more so if the benefits to the health sector of psychoses avoided are also factored in. It has also been argued that early identification and treatment of psychotic symptoms in people living with depression may be associated with reduced severity of psychosis, but again longer term follow up studies are needed to look at whether addressing psychotic symptoms in people living with other mental health problems does lead to better outcomes (van Os and Murray 2013).

Other areas where the evidence base was relatively limited and that would benefit from further investigation include the treatment of drug and

alcohol problems, and psychological therapies other than CBT. Wykes et al. (2007) analysed the effectiveness of Cognitive Remediation Therapy (CRT) for cognitive difficulties experienced by people with schizophrenia, finding improvements in working memory as well as some improvement in cognitive flexibility. In an accompanying cost-effectiveness study, Patel et al. (2010) found no differences in health and social care costs or societal costs between the two groups over the follow-up period, but concluded that CRT would be seen as cost-effective compared to usual care given reasonable assumptions about decision-makers' willingness to pay. Early evidence on adherence therapy suggested a possible cost-effectiveness advantage (Healey et al. 1998), but a more recent European trial did not confirm this benefit (Gray et al., 2006; Patel et al., 2013).

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