rethink

The next lap:

Taking Mental Health to the finish line

rethink

Summary

Mental health services have improved in the last decade, but the job is only half done. Britain is not investing sufficiently in people with mental illness, though a new review of evidence by the London School of Economics reveals that cost-effective interventions exist (see Appendix 1).

Mental health services lag behind physical health services, even though mental health problems are set to increase. Depression, for example is set to be the second biggest health problem in developed countries by 2020.[1] Yet, England spends just £7.58 billion on mental health care, compared with £22.51 billion on physical health care. [2] An individual experiencing mental illness can currently expect to receive health care worth roughly 10 times less than an individual experiencing cancer,[3] even though people in the UK lose more years of their lives to mental health problems than to cancer.[4] Such discrepancies in health care spending cannot be explained solely in terms of differing treatment costs, as present funding levels deny people with mental illness access to NICE recommended cost effective treatments (put in ref).

Mental health is not being adequately addressed across Government, which is leading to avoidable, negative costs due to economic inactivity and social exclusion. Mental health is costing the economy over £23bn a year in England alone due to economic inactivity and social exclusion[5], though cost-effective solutions exist to diminish this burden on the economy and to individuals. It could cost just £3.70 to change one person's attitudes to mental illness and people affected.

The next spending round needs to address both these problems in order to achieve a fair and prosperous Britain by

- ensuring that ***any increase in health spending includes an above-average increase for spending on mental health***
- establishing a ***cross-Government PSA target on reducing the social exclusion associated with mental illness***

Background

In 2006, Rethink commissioned the London School of Economics to review the evidence on cost-effectiveness of interventions for people with mental illness and to develop a model to assess the cost-effectiveness of anti-stigma campaigns. The LSE report forms the Appendix to Rethink's submission to the Comprehensive Spending Review. Appendix 2 shows the human cost of the lack of investment in mental health, through the stories of people with severe mental illness and their families.

A fair deal for mental health: health spending

[1] WHO Mental health – new understanding, new hope 2001

[2] Healthcare Commission, State of Healthcare 2006. In 2004/5, DH figures show that £22.51 billion was spent on care for people with circulation problems, cancer, musculo-skeletal disorders, gastrointestinal, genito-urinary and respiratory care.

[3] In 2004/5, England spent £7.58bn on mental healthcare and £3.67bn on cancercare (DH, Reference costs information, 2005). 1 in 6 people experience some form of mental health problem (Nicola Singleton et al, Psychiatric Morbidity Survey, 2000, ONS), which approximates to 8,400 000 people in a population of 50.4m (ONS, Mid-year population estimates, 2006). 0.07% of the English population have some form of cancer (The Information Centre, QOF achievement data: Disease prevalence at SHA and England level 2005/6, 2006). This equates to a spend of approximately £900 per person with a mental health problem, but £10,000 per person with cancer. NB QMAS data for mental health only includes severe mental illness, hence a direct comparison of QOF cancer and mental health prevalence is inadequate.

[4] World Health Organisation Global Disease Project, Estimates of DALYs for United Kingdom, 2002. Disability Adjusted Life Years are calculated as the sum of the years of life lost due to premature mortality (YLL) in the population and the years lost due to disability (YLD) for incident cases of the health condition:

[5] Sainsbury Centre for Mental Health, Economic and Social Costs of Mental Illness in England, 2003

Mental health services suffered underfunding during much of the twentieth century. Over the last decade, this record has started to be reversed, with significant increases in spending on mental health in recent years. This has made an impact:

- Services have improved at local level[6], with significant increases in frontline staffing levels[7], which are resulting in improved satisfaction levels[8]
- Service provision has moved from inpatient care to the community, with the emergence of early intervention and crisis services.[9]
- This model of community service provision has been supported by people with severe mental illness and their families[10] and policy makers[11]
- Suicide rates have fallen[12]

So far, increases in mental health have not matched increases in the rest of the health service. Increases in mental health services from 2001/2 to 2004/5 were about 1.3% behind the rest of the health services.[13] As a result, mental health still lags behind physical health provision, whatever comparative measure is used:

- Access – only half of people who need cost-effective treatment recommended by NICE are able to access them;[14] waiting lists are not even kept for many mental health interventions; one in four people are turned away when trying to access treatment[15]
- Infrastructure – mental health premises are dirtier[16] and older[17] than physical healthcare facilities; IT is basic[18]
- Safety – 28% of safety issues reported to the Healthcare commission come from mental health trusts and a further 43% from mental health and learning disability trusts,[19]
- Quality – more than a third of people with schizophrenia are prescribed dangerous amounts of combinations of drugs[20]

[6] 49% per cent of carers say that standards of mental health care in their local area have improved for service users during the past three years (Rethink, Who Cares, 2003)
[7] From 1999 to 2003, the number of psychotherapists, clinical psychologists and psychistrists increased 73%, 42% and 25% respectively (DH medical and dental workforce census June 2004)
[8] 64% of people said they had sufficient time with their psychiatrist in 2006, up from 63% in 2005 and 60% in 2003 (Healthcare Commission Survey of service users – Mental health services 2006, 2006)
[9] DH, National Service Framework for Mental Health – Five Years On, 2004
[10] Rethink, Future Perfect, 2005. Service Users and carers want accessible community resource centres which enable people to self-manage their condition and give carers the information they need rather than institutional care.
[11] 'In every community there is a Community Health Centre where people can get advice on all aspects of health, including mental health. In these centres there are access workers with whom people can discuss their health concerns. The access workers offer information about different ways to improve and maintain mental health such as exercise, reading and volunteering...' (Rankin, Mental Health in the Mainstream, IPPR 2005)
[12] The suicide rate in 2006 was the lowest ever recorded, with the overall rate of suicide amongst the general population is at the lowest rate on record, a decrease in the rate of suicide amongst young men under the age of 35 and a decrease in the number of suicides amongst mental health in-patients (DH, Fourth annual report on progress in implementing the national suicide prevention strategy for England, 2006)
[13] Oxford Economics, Mental health and the UK Economy, 2007
[14] Healthcare Commission, State of Healthcare, 2006 p.43
[15] Rethink, Just One Per Cent, 2003
[16] Healthcare Commission A snapshot of hospital cleanliness in England – Findings from the Healthcare Commission's rapid inspection programme, 2005
[17] Mental Health Act Commission, In Place of Fear? 11th Biennial Report 2003-2005, 2005
[18] DH, National Service Framework for Mental Health – Five Years On, 2004
[19] Healthcare Commission, State of Healthcare, 2006 p.24. HCC says: "It is a particular concern that services for people with mental health problems and learning disabilities feature so prominently"
[20] 43% of patients with schizophrenia were prescribed more than one type of anti-psychotic medication, which is against recommended standards and 36% of inpatients on anti-psychotic medication were prescribed more than recommended levels (Prescribing Observatory For Mental Health-UK Audit standards and key findings 2005/2006, 2006)

- Information - A much lower percentage of people with mental health problems are told about the potential side effects of their medication than patients in acute hospitals and primary care.[21]

The lack of specific targets in mental health and its low public profile have ensured it is a low priority, according to the Healthcare Commission.[22] This has recently materialised in the form of disproportionate cuts to mental health services aimed at balancing the books at local level.[23] As the Health Select Committee put it, 'mental health services appear to have been particularly targeted', which is 'unacceptable'.[24] In the last year for which figures are available (2005-6), spending on mental health in England increased at under half the rate of NHS overall spending: 1.8% compared with 3.7%.[25]

Britain's health service is not investing in mental health proportionately. In 2004/5, England spent £7.58bn on mental healthcare and £22.51bn on physical healthcare.[26] Mental health is considered one of the Government's three main priorities in health, alongside heart disease and cancer. But someone experiencing a mental health problem has ten times less spent on their treatment than someone experiencing cancer,[27] even though people in the UK lose more years of their lives to mental health problems than to cancer.[28] Therefore, any increases in health spending should favour mental health.

Yet, all the signs are that mental illness will grow over the next decade. The World Health Organisation predicts that depression will be the second biggest health problem in developed countries by 2020. The public want Britain's health service to cover physical and mental well-being.[29]

This disproportionate funding results in lack of provision of cost-effective interventions, like psychological treatment – a full analysis of these interventions follows in Appendix 1. The human cost of this is unnecessary illness; the economic cost is measured in unemployment, as people wait for treatment and are unable to contribute to social and economic capital.

Will increased investment work? Increases since 2001/2 have already brought results, as detailed above. The demonstration sites of psychological therapies have produced results, but even with the second tranche of sites, only 12 out of the 152 PCTs in England are covered. To ensure that citizens receive the care and support they need, we recommend that:

Any increase in health spending should include an above-average increase for spending on mental health

A fair deal beyond health

[21] Healthcare Commission, State of Healthcare, 2006, p. 66
[22] Healthcare Commission, State of Healthcare, 2005, p. 53
[23] Rethink, A Cut too Far, 2006; Rethink, A Cut too Far: six months on, 2006; Sainsbury Centre for Mental Health, Under Pressure: the finances of Mental Health Trusts in 2006, SCMH 2006
[24] Health Select Committee, NHS Deficits: vol 1, 2006, Stationery Office, pp 54
[25] Sainsbury Centre for Mental Health, Under Pressure: the finances of Mental Health Trusts in 2006, SCMH 2006
[26] DH, Reference costs information, 2005
[27] In 2004/5, England spent £7.58bn on mental healthcare and £3.67bn on cancercare (DH, Reference costs information, 2005). 1 in 6 people experience some form of mental health problem (Nicola Singleton et al, Psychiatric Morbidity Survey, 2000, ONS), which approximates to 8,400 000 people in a population of 50.4m (ONS, Mid-year population estimates, 2006). 0.07% of the English population have some form of cancer (The Information Centre, QOF achievement data: Disease prevalence at SHA and England level 2005/6, 2006). This equates to a spend of approximately £900 per person with a mental health problem, but £10,000 per person with cancer. NB QMAS data for mental health only includes severe mental illness, hence a direct comparison of QOF cancer and mental health prevalence is inadequate.
[28] World Health Organisation Global Disease Project, Estimates of DALYs for United Kingdom, 2002
[29] DH, Your health, your care, your say, 2006

Mental illness is of relevance to other work across Government. Yet these Departments are also underinvesting in people with mental health problems. This lack of investment is leading not only to social exclusion, as noted by the Social Exclusion Unit in 2004,[30] but also, paradoxically is leading to unnecessary spending on negative costs such as unemployment and criminal justice. The real cost of the lack of investment has been estimated at £23 billion in England alone.[31]

People with mental health problems have the highest want to work rate of any disability group, but the lowest employment rate. Cost-effective interventions exist which would address this problem and hence reduce the current DWP spend on unemployment benefits and the days lost to sick leave and increase the tax income available to the Exchequer. 3 in 10 people have sick leave from work related to their mental health in any one year, resulting in 91 million working days lost due to mental ill-health.[32] Individual placement and support services are cost effective – 58% of people with schizophrenia, for example, can work if these services are provided, as LSE's analysis confirms (see Appendix 1).

However, supply side interventions are not enough – the biggest barrier to people with mental health problems working is employer prejudice: more than 60% of employers write off people with any form of mental illness[33]; less than 25% of employers think it's even possible to employ someone who has experienced schizophrenia.[34] Social attitudes to people with mental illness are getting worse.[35] Anti-stigma campaigns can change attitudes at a low cost (see Appendix 1), removing the biggest barrier to higher employment and hence lower spending on benefits.

Other departments contribute to this social exclusion and face unnecessary costs. Because of the lack of diversion schemes, 5,000 people with mental illness are currently in prison.[36] Prison places cost approximately £37,305 per year in 2005[37], though this has risen in new prisons to £99,839 per year.[38] Mental health problems are associated with homelessness[39] and disability in general is associated with low educational achievement[40].

Measures to address social exclusion by all departments could help to make health interventions more cost-effective. Early intervention services, for example, rely on people presenting to services and asking for help. If the stigma attached to mental illness remains unchallenged, people will be less likely to come forward for help. About half of the British public say they would not tell anyone if they had a mental health problem.[41] Yet this can be reduced by half through generic anti-stigma work.[42] Prejudice and fear prevent people with mental illness accessing health services for physical conditions, which results in significantly increased mortality rates. [43]

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[30] Social Exclusion Unit: Mental Health and Social Exclusion, 2004, ODPM

[31] Overall, the Sainsbury Centre for Mental Health estimated the cost of mental health at £77bn, comprising £23bn in costs to the economy, £42bn in costs to individuals, through reduced quality of life and mortality, and £12bn in care. (Sainsbury Centre for Mental Health, Economic and Social Costs of Mental Illness in England, 2003)

[32] R Layard, Depression Report, 2006

[33] C Manning and P D White, Attitudes of employers to the mentally ill, 1995 Psychiatric Bulletin 19.

[34] S Roberts et al Disability in the workplace, 2004 DWP

[35] Taylor, Nelson Sofres, Attitudes to mental illness, 2003 ONS

[36] IPPR, Politics for a New Generation: the progressive moment 2007

[37] Prison Reform Trust Bromley Briefings Oct 2005

[38] Hansard, House of Commons written answers, 30 June 2005 : Column 1669W

[39] 30-50% of rough sleepers have mental health needs (Sian Griffiths, Addressing the health needs of rough sleepers, 2002 ODPM)

[40] Individuals of working age who are classified as disabled are more likely to have no qualifications than the non-disabled (24.4 per cent versus 9.6 per cent). DFES, Level of Highest Qualification held by Young People and Adults: England, 2006

[41] Rethink, Rethink Anti-discrimination site Evaluation report, 2006

[42] *ibid*

[43] Disability Rights Commission, Equal Treatment: Closing the Gap, 2006

The failure to attend to the needs of people with mental illness cuts across Government. All departments will need to work together to address and reverse this failure. Hence, we recommend:

A cross-Departmental PSA target on reducing the social exclusion associated with mental illness

How could this be measured? Social exclusion is a broad concept; key measures could include:

- Social attitude surveys, which the Department of Health already commission as part of the *Shift* programme
- Proportion of people in employment rates compared with 'want to work' rates
- Household income
- Mortality rates
- Educational attainment
- Homelessness
- Quality of life measures, including personal relationships
- Involvement in the criminal justice system, including imprisonment rates and anti-social behaviour convictions

Rethink May 2007

APPENDIX ONE: THE HUMAN COST

"I have applied to become a volunteer at four different NHS hospitals and all four declined to take me on - first they accepted me, but as soon I as informed them I had a mental health difficulty- straight away they decided not to take me on. They claimed I posed a threat to the public- because of my mental health difficulties. Though, I have never committed any crimes or acts of violence against anyone, they used my mental health difficulties against me."

University student with mental health condition

"When my daughter came out of hospital after being very ill, she went to a nursing home for people recovering from mental health problems in a small rural town. After several months she became well enough to move into a supported living house. She began to take part in activities in the town, including singing in the town choral society.
All went well until the nursing home bought a property in a nearby town to use as supported housing, similar to my daughter's house. When people in that town discovered what was happening there was a storm of protest. Someone smashed the car window of the nursing home owner. The Mayor organised a public meeting to protest about the proposed use of the house, and the controversy was all over the local press. The Mayor was reported as saying that he didn't want any weirdoes and nutters in his town (or words to that effect).
When my daughter went to the choral society the next week, the subject of the public meeting came up. The other people said they thought it was dreadful that there was a proposal to have such a house. My daughter asked them why they should think this and told them that she lived in a similar house in this town. On hearing this, the other people got up and went to sit on the other side of the room, leaving my daughter on her own. She never went to the choral society again after being treated in this way."

Carer of someone with a mental health condition

"I have struggled to find work, and have usually been refused because I am on medication for schizophrenia. I am much more experienced than many others seeking work though my years of voluntary work, but when doctors and occupational health reports are asked for I know I will not get the job. I probably received my first part time job because I had done it on a voluntary basis for so many years. I am also refused insurance and other things because of my past problems, and employers take no note that my medication prevents these problems recurring to any great extent."

Person with a mental health condition

"For the past year I have been attending counselling sessions for depression. I was very lucky as it became worse following the birth of my daughter and my health-

visitors were so supportive and put me in touch with a newly trained counsellor who was offering her time for free in order to build up her hours.

Last week she told me that she was asking all her "clients" if they could spare a donation for each session which I was more than willing to do. She explained that this was because the council would not help fund the service. They recognised that the work she was carrying out was essential but that they would not be able to help towards the cost of providing it."

Person with a mental health condition

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APPENDIX TWO: THE ECONOMIC COSTS

ECONOMICS AND MENTAL HEALTH: COST-EFFECTIVENESS EVIDENCE REVIEW AND ECONOMIC IMPLICATIONS OF STIGMA

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EXECUTIVE SUMMARY

Aims

This report has two aims: (i) to review evidence on the cost-effectiveness of specific interventions in mental health care (in particular 'talking' therapies for depression and psychoses, early intervention initiatives and employment schemes) and (ii) to produce models to assess the economic impact of initiatives aimed at reducing stigma and discrimination experienced by people with mental health issues.

Psychological interventions for schizophrenia

There have been a number of evaluations of cognitive behaviour therapy (CBT) for treating schizophrenia. Aims have included reducing symptoms and improving medication adherence. Studies have generally included a relatively small number of participants and therefore the evidence base is not that strong, but indications are that CBT does improve patient outcomes. Economic evaluations have additionally shown that these improved outcomes are often at similar costs to usual psychiatric care and as such CBT does appear to be potentially cost-effective. There is relatively strong evidence to support the cost-effectiveness for family therapy for schizophrenia. However, there is a limited supply of trained therapists and therefore widespread implementation of CBT and family therapy may be problematic.

Psychological interventions for bipolar disorder

Only one economic evaluation of a psychological intervention for bipolar disorder was identified. This UK study revealed that cognitive therapy (CT) resulted in significantly reduced days spent with symptoms compared to usual care. Costs were also lower (although not statistically) and this implies that CT was cost-effective.

Psychological interventions for depression

Evaluations of counselling for people with depression have generally found that clinical outcomes are seldom better compared to usual care and costs are not reduced. As such, the evidence seems to be that counselling is not cost-effective for this patient group.

There is better evidence to support the use of CBT for depression. However, whilst outcomes are generally improved following CBT, costs are often higher and therefore it is a value judgement as to whether the extra outcomes justify the extra costs. A recent study has

evaluated the use of computer-delivered CBT and this was revealed to be cost-effective if modest values were placed on improved outcomes.

CBT for depression has also been compared to brief psychological treatment. Costs and outcomes were similar for each. CBT was seen to be the most cost-effective option if low values were attached to outcome gains but this difference lessened as higher values were used.

Interpersonal psychotherapy (IPT) is a further potential intervention for depression and a number of evaluations of this have been conducted. To date these have suggested that IPT is not as effective or cost-effective as drug treatment.

Early intervention (EI) services for psychosis

In recent years there has been much promotion of early intervention services for people with schizophrenia and other psychotic conditions. There have though been very few economic evaluations in this area.

One evaluation in Melbourne has found that costs can be reduced through an early intervention service and that outcomes are improved. In the UK, a study commissioned by NIHME reported that early intervention services can result in substantial reduction in costs due to lower readmission rates.

Employment interventions

Interventions designed to increase employment opportunities for people with mental health problems can take a variety of forms. Broadly though they can be categorised as those which aim to prepare people for work through rehabilitation schemes and those which aim to get people in to open employment and then provide ongoing support.

Individual placement and support (IPS) initiatives seem to be the most effective and cost-effective options. However, whilst some studies have shown that the economic gains from employment outweigh the costs of the intervention, others have shown the opposite. More research evidence is though forthcoming in this area.

Economic implications of stigma/discrimination

Stigma and discrimination can (i) act as barrier to care and result in higher rates of untreated illness, (ii) act as a disincentive to invest in mental health services to the same extent as investment in other areas of health care, (iii) may directly affect employment opportunities for people with mental health issues, (iv) interfere with a child's learning and academic achievements with later consequences for career and earnings.

No economic evaluations of anti-stigma/discrimination initiatives were identified. However, the cost-effectiveness of such campaigns can be estimated. For example, the 'see me' campaign in Scotland cost £2.2 million over four years which is equal to £0.55 per adult. Available survey data suggest a cost as low as £3.70 for each person showing improved attitudes towards people with mental health problems.

Models to assess impact of reducing stigma/discrimination

We developed two models to estimate the economic benefits of an anti-stigma/discrimination campaign for people with (i) depression and (ii) schizophrenia. In the depression model, it was assumed that there would be a five percentage point increase in the number of depressed people seeking treatment following the campaign and the same increase in the number of depressed people experiencing gains in employment. The economic benefit after treatment costs were subtracted was £164 per person with depression or £4.26 per adult in the population. Therefore, if the campaign incurs costs below this figure there will be overall economic gains from running it. Over a three-year period the economic benefits would be greater, although there may be reduced effect of the campaign over time.

In the schizophrenia model we assumed that the likelihood of a patient experiencing remission is affected by the duration of untreated psychosis (DUP). A successful anti-stigma/discrimination campaign was in turn assumed to reduce the likelihood of a long DUP and therefore to save treatment costs associated with non-remission.

Recommendations

1. Evidence on the cost-effectiveness of CBT for schizophrenia is growing, but many studies are small and the findings whilst generally positive require substantiating. Further research in this area is required.

2. Good evidence exists to suggest that family therapy is a cost-effective intervention for people with schizophrenia and this would be a strong candidate for future investment.
3. Among the various psychological therapies for people with depression CBT appears to be the most cost-effective and further investment in this treatment option is required.
4. Given the limited supply of trained therapists further use should be made of computerised CBT for depression and anxiety.
5. There is limited cost-effectiveness data on psychosis prevention interventions. Early intervention services for people already with psychosis do appear to be cost-saving if they can reduce hospital admission and readmission rates. Further investment in early intervention services is required on clinical grounds and could save money. However, the evidence base needs strengthening.
6. There is reasonably strong evidence to suggest that individual placement and support schemes are the most cost-effective way of helping people to gain and maintain open employment. It is recommended that these schemes be more widely used but that further research is also required.
7. Whilst anti-stigma/discrimination campaigns have not been extensively evaluated, our models suggest that modest success in changing attitudes could result in large cost savings especially in terms of reduced lost employment for people with depression. This finding, along with other benefits in reducing stigma/discrimination, suggests that such campaigns should be encouraged.

BACKGROUND AND AIMS

Following an invitation from Rethink to discuss possible economic contributions to the organisation's submissions to the Departments of Health and Treasury in the build up to the 2007 Comprehensive Spending Review, we have prepared this report which covers two pieces of work. It has been carried out jointly by staff of the Personal Social Services Research Unit (PSSRU) at the London School of Economics and Political Science and the Centre for the Economics of Mental Health (CEMH) at the Institute of Psychiatry (King's College London).

The Psychiatric Morbidity Survey conducted in 2000 found that at any one time around 17% of people living in the community have a neurotic disorder (Singleton et al, 2001). The most common disorder is mixed anxiety and depression (8.8%), followed by generalised anxiety disorder (4.4%) and depression (2.6%). The prevalence of probably psychotic disorders was 0.5%. Given resource constraints in the NHS, it is imperative to have an understanding of the economic implications of the mental health needs of people with these conditions and the various options available to address them. This paper comprises two specific components:

- a review of the evidence on the cost-effectiveness of specific interventions in mental health care (in particular 'talking' therapies for depression and psychoses, early intervention initiatives and employment schemes)
- production of decision models to assess the economic impact of initiatives aimed at reducing stigma and discrimination experienced by people with mental health issues.

REVIEW OF COST-EFFECTIVENESS EVIDENCE

Psychological interventions for schizophrenia

There are many psychological and psychosocial approaches to the management of schizophrenia (Tarrier, 1996; Wykes et al, 1998), but few have been studied by economists. However, because most psychological treatments, even group sessions, are labour-intensive and sometimes continue for long periods, they may look expensive. An important question to

be addressed, therefore, is whether they have counter-balancing outcomes or whether they reduce longer-term costs.

Cognitive behaviour therapy

Relapse is one of the principal cost drivers or concerns in schizophrenia, and can have high cost implications, especially if a patient needs readmission to hospital. More than one third of the costs of schizophrenia relapse can be attributed to non-adherence with treatment (Weiden & Olfson, 1995). Not surprisingly, therefore, care professionals are keen to improve adherence with recommended drug treatment regimes, both to improve the health and quality of life of people with schizophrenia in the short term and to reduce the probability of relapse in the longer term. Psychological therapies have an important role to play.

A study published nearly ten years ago showed that a short intervention based on cognitive behaviour therapy, called compliance therapy by the clinicians who devised it, could achieve better outcomes at the same cost as standard counselling. Patients were invited to discuss first their attitude towards their illness, and subsequently the drawbacks and advantages of drug treatment. A randomised controlled trial of 74 people with psychosis about to move from inpatient residence found that patients counselled in this way were five times more likely than a control group to take their medication without prompting, and over an 18-month follow-up period had better global functioning, insight, adherence and attitudes to their medication (Kemp et al, 1998).

The economic analysis covered health and social care services, education, social security and housing supports, and criminal justice contacts, but excluded caregiver and lost employment costs. The cost-consequences analysis found costs to be the similar for compliance therapy as for standard counselling during each of the three six-month follow-up phases and over the full 18 months. Costs were higher for patients with greater symptomatology. Significant correlations were found between greater adherence and higher costs over the first six months. That is, improving adherence will initially increase costs, although over time there is an offsetting reduction (Healey et al, 1998).

Another UK study reported the cost-effectiveness of cognitive behaviour therapy (CBT) when compared to standard care (Kuipers et al, 1997; 1998). The economic evaluation was based on a randomised controlled trial of 54 patients with schizophrenia spectrum disorders,

and covered all health care, community care and accommodation costs. CBT was found to be more effective in terms of symptom reduction and less costly than standard care, although the small sample made it difficult to reach firm conclusions on the cost difference.

A recent study in Wales has examined the cost-effectiveness of CBT over a two-year period (Startup et al, 2005). Ninety patients were randomised to receive either weekly sessions of CBT in addition to usual psychiatric care or to usual care alone. Although there was a relatively high level of attrition from the sample by the two year follow-up, significant differences - in favour of the CBT group - were still detected between the two groups in terms of social functioning and negative symptoms. Positive symptoms were also lower for the CBT group but the difference was not statistically significant. Costs were measured comprehensively and averaged £27,535 in the CBT group and £27,956 in the usual care group.

Many evaluations exclude people with substance misuse problems. However, Haddock et al (2003) compared CBT plus a motivational intervention and family therapy with usual psychiatric care specifically for people with comorbid schizophrenia and substance misuse. Patients randomised to the therapy, consisting of around 29 individual and 10-16 family sessions, received it over a period of nine months. Follow-up was at 18 months and the primary outcome was functioning. This was significantly higher for the therapy group whilst costs were lower (£6205 compared with £9453 for usual care). However, the sample size was small (28 at follow-up) and this relatively large cost difference was not statistically significant.

These studies, evaluating treatments based on cognitive behavioural approaches, generally show that this therapeutic mode is not costly in relative terms and that it appears to be efficient when looking at its outcome and resource implications.

Family therapy

Family interventions aim to reduce the impact of family stress and conflict often seen in households with high levels of ‘expressed emotion’ (Vaughn & Leff, 1976). A systematic review of randomised trial findings identified 18 studies, employing quite tight selection criteria. It was concluded that family interventions reduce relapse and readmission rates, improve concordance with medication and decrease carer burden (Leff, 1996).

Family interventions may also reduce costs. The most recent economic review of which we are aware identified nine economic studies from the USA, the UK, Germany and China (National Collaborating Centre for Mental Health, 2002). Generally, they were not as comprehensive in their coverage of direct and indirect costs as would now be expected, but they complemented the clinical evidence well. Falloon et al (1982) conducted their randomised trial in Los Angeles, comparing a psychoeducational family programme combined with maintenance drug treatment against drug treatment alone. The relapse rate was substantially lower in the family therapy group – a result that has been replicated in other studies – and there were greater improvements in household tasks, work or study activities and social relations. Caregiver burden was also reduced over both the initial nine months and the full two years of the follow-up period. Three economic studies based their analyses on these trial data (Cardin et al, 1986; Goldstein, 1996; Liberman et al, 1987). A (limited) cost-benefit analysis compared costs with earnings from employment (Liberman et al, 1987), but the more interesting results came from the cost-effectiveness analysis (outcomes measured in terms of symptoms, social functioning and family functioning were crudely weighted into a single effectiveness index) (Cardin et al, 1986). A basic cost-offset analysis also found possible cost savings by family therapy (Goldstein, 1996). This led the authors to conclude that family therapy was more cost effective than 'traditional individual-based management'.

Tarrier's economic study in Salford built on the previously reported benefits of a behavioural intervention with families of schizophrenic patients in terms of lower relapse rates (Tarrier et al, 1988; 1991). The evaluation found that any increased cost associated with the family intervention was outweighed by reduced utilisation of other mental health services. Other costs were not examined. Leff and colleagues (2001) confirmed this finding in circumstances where costs of training of staff were also included in the analysis. In Norway, Rund et al (1994) reached a similar conclusion from a small sample of adolescent schizophrenia patients (n = 24), in a non-randomised trial. Costs were again measured quite narrowly.

Evidence from China (Xiong et al, 1994) comes from a randomised trial (n = 63) comparing standard post-hospitalisation care (which is effectively just a prescribed medication with possibly some outpatient contact) and family intervention. The latter was tailored to the complex family relationships and unique social environment in China, and involved monthly counselling on a range of topics, particularly management of social and work problems, medication, family education and crisis intervention. The 18-month RCT found that family

intervention was associated with reductions in hospital re-admissions, duration of inpatient stay, duration of unemployment and family burden. There were also some advantages as measured using standard clinical scales. Both treatment costs and lost income from employment were measured, and the trial found lower costs for the family intervention group.

Two different ways of delivering family therapies have been compared by McFarlane et al (1995). They demonstrated that a multi-family group intervention was more cost-effective than a single-family intervention.

An Australian study has compared the cost-effectiveness of three different forms of family therapy for people with schizophrenia – behavioural family management (the most intensive), behavioural intervention for families and multiple family groups (Mihalopoulos et al, 2004). The authors estimated outcomes, disability adjusted life years (DALYs) averted, using a Markov model with data obtained from other studies. Costs were estimated based on the staffing requirements for each form of therapy and the time costs for patients and their families. The behavioural intervention for families resulted in the lowest cost per DALY averted (A$8000) followed by multiple family groups (A$21,000) and behavioural family management (A$28,000).

Most of the completed studies have some methodological weaknesses, but – notwithstanding the different approaches to family intervention studied – there appear to be grounds for believing that this kind of psychosocial therapy can be not only effective but also less costly than standard care. However, a word of caution is needed. Schooler and colleagues (1997) compared two types of family intervention - the form examined in some previous studies and a simpler version - and found no effectiveness differences between them. The research sites also practised 'an intensive and assertive clinic model … (and) an intensive family intervention may have been unnecessary' (Hargreaves, 1998).

Psychological interventions for bipolar disorder

Whilst there have been a number of economic evaluations of psychological therapies for schizophrenia, there have been few for bipolar disorder. One recent study has though assessed the cost-

effectiveness of cognitive therapy as a way of reducing relapse rates for people with this condition (Lam et al, 2005). 103 bipolar disorder patients in London were randomly allocated to a control group of treatment-as-usual (TAU), which consisted of mood stabilisers and psychiatric follow-up, or to a cognitive therapy (CT) group that consisted of cognitive therapy plus TAU. Service use and costs were measured at three-month intervals over a 30-month period. The main outcome measure for the economic evaluation was the number of days spent in bipolar episodes. Cost-effectiveness was assessed using the net benefit approach. The CT group had significantly fewer days in bipolar episodes. The addition of cognitive therapy was not more expensive than TAU, as extra therapy costs were offset by reduced service use elsewhere (although the difference in costs was not statistically significant). The probability of cognitive therapy being cost-effective was high and robust to different therapy prices. This study showed CT to be a cost-effective option for treating bipolar disorder even if a zero value was placed on change in outcome. However, the sample size was small and the concept of a unit-change in outcome may be clinically difficult to interpret.

Psychological interventions for depression

There are a number of good quality economic evaluations of psychological therapies for people with depression, in a number of different treatment settings. Psychological therapies include CBT, counselling and psychotherapy. These interventions usually have high treatment costs because they are intensive, individual therapies administered by qualified professionals. Psychological therapies have proven effectiveness in depression (Geddes et al, 2003), so economic evaluations aim to investigate whether high initial treatment costs are offset by potentially lower costs elsewhere or if the additional costs are worth paying because of improved outcomes.

Counselling

Counselling is a psychological treatment that aims to help the patient work out his or her problems. The role of the counsellor is to listen sympathetically, identify with the problem, clarify difficulties and sometimes give advice.

The review of the evidence begins with four cost-effectiveness analyses and one meta-analysis from the UK. No significant differences in costs or effects were found between psychodynamic counselling and usual care in one study, although fewer patients at follow-up were classified as 'cases' in the counselling group at follow-up (Simpson et al, 2003). Harvey and colleagues confirmed these results, concluding that there was no evidence that counselling in primary care is more effective than usual GP care in treating a wide range of mental health problems including depression (Harvey et al, 1998). Clinical results demonstrated no significant differences so a cost-minimisation analysis was used to compare counselling and usual care in general practice in the third study (Friedli et al, 2000). Over the nine-month follow-up period the counsellor group remained more expensive per patient compared with the general practitioner (GP) group. In the fourth study, counselling, CBT and usual GP care were compared in a three-arm cost-effectiveness analysis (Bower et al, 2000). All clinical outcomes were equivalent at 12-months follow-up and there were no significant differences in direct costs, productivity losses or societal costs between the three treatments at four and 12 months follow-up. Thus there is no evidence to suggest that counselling was more or less cost effective than usual care in the long run.

The findings from all four studies must be considered preliminary given the likely low statistical power of the cost data. In an attempt to overcome these sample size limitations, Bower and colleagues (2003) undertook a meta-analysis of data on costs. The meta-analysis included individual patient data from the four trials, and demonstrated that each study was under-powered to produce useful conclusions about the cost comparisons. Incremental cost-effectiveness over the short-term was £150 per point improvement on the Beck Depression inventory (BDI), and over the long-term £196 per point improvement. The uncertainty surrounding the cost-effectiveness ratio was explored using cost-effectiveness acceptability curves that showed - for willingness to pay values above £196 - that counselling had a greater than 50% probability of being cost-effective compared with usual GP care. The results of the

analysis are sensitive to assumptions made about the cost of sessions with a counsellor and the management of patients by a general practitioner.

More recently, Miller and colleagues (2003) used advanced health economic techniques to compare counselling and antidepressant therapy for the treatment of mild to moderate depression in primary care. At twelve months follow-up, there were no significant differences in outcomes and costs. Bootstrap analysis showed that for the majority of patients the antidepressant intervention was the dominant cost-effective strategy. The Miller study further supports the results of the meta-analysis; the cost-effectiveness of counselling for depression in primary care has not been proven.

Cognitive behaviour therapy (CBT)

CBT is widely used in psychological disorders including depression and is based on the belief that such problems are the product of 'faulty' ways of looking at the world. The role of the therapist is to assist the patient to identify these ways of thinking and avoid them.

In an early economic analysis, 120 patients initiating treatment for depression were randomised to one of four interventions: CBT by a clinical psychologist, counselling and case work by a social worker, amitriptyline prescribed by a psychiatrist and usual care from a general practitioner (Scott & Freeman, 1992). After 16 weeks, there were improvements in depressive symptoms in all treatment groups, but treatment total costs were twice as much in the specialist treatment groups compared to routine care. With such a short period of follow-up it was difficult to draw conclusions and the authors recommended a full economic evaluation with longer follow-up and one that included a wider definition of cost.

A recent RCT from the UK explored strategies for the prevention of relapse in depression using CBT (Scott et al, 2003). CBT was found to produce significantly lower relapse rates than usual care for significantly greater costs. Cost-effectiveness acceptability curves were presented to depict the probability that CBT is more cost-effective than usual care for a range of minimum values a decision-maker would be willing to pay per relapse prevented. CBT resulted in incremental costs per extra relapse prevented of between £4328 and £5027. The paper is a high quality RCT and economic evaluation although the cost estimates included only health care costs excluding productivity and other indirect costs which if included could

alter the relative cost effectiveness of the intervention. In addition, the calculations assumed that the benefits of CBT would all be realised within the study period, which may not necessarily be the case.

CBT has also been compared to brief psychological treatment (up to seven sessions) and usual care (Hakkarrt-Van Roijen et al, 2006). In this Dutch randomised trial, 702 patients were referred by GPs to specialist centres and were followed up for 1.5 years. Service use and costs were measured and quality-adjusted life years (QALYs) estimated. The treatment centre costs of the brief therapy itself were lower than the costs of CBT and of usual care. However, when other health costs were included the differences were reduced and were not statistically significant. There were no significant differences in lost production costs between the three groups. There were QALY gains for each group over time but again there were not significant differences between them. Cost-effectiveness acceptability curves showed that if low monetary values are placed on QALYs then CBT is the most cost-effective option. This is maintained if QALY values remain below €100,000, although the difference between CBT and brief therapy is substantially reduced.

Usually CBT requires an appropriately trained therapist. However, such trained professionals are in short supply. A potential alternative to face-to-face CBT is computer-based delivery (cCBT). In a recent UK study, 274 patients suffering from depression and/or anxiety were recruited from primary care settings (Proudfoot et al, 2004). Patients were randomised to receive nine sessions of cCBT or usual care. Comprehensive service use during the period before and after randomisation was measured and costs calculated (McCrone et al, 2004). Costs were then combined with outcomes (BDI, disability free days and QALYs) using the net benefit approach, and the probability that cCBT was cost-effective compared to treatment as usual was estimated for different values place on a unit-improvement in outcome. The mean service cost at follow-up was £40 higher for the cCBT group. This was not statistically significant, but there was a significant reduction

in lost employment costs for cCBT compared to usual care. Outcomes were significantly better for cCBT and only a modest value would need to be placed on a unit improvement in outcome for cCBT to have a high probability of being more cost-effective than usual care.

In the United States, a study by Revicki et al (2005) has compared CBT, drug treatment and community referral (i.e. illness education about depression and referral to an appropriate agency) for predominantly low-income women with depression. This randomised study included 267 women and measured health costs, symptomatology, depression-free days and QALYs over a one-year follow-up period. Both drug treatment and CBT (although to a lesser extent) resulted in reduced symptoms and more depression-free days than community referrals. However, both were also more expensive than community referrals. Compared to community referral, CBT resulted in a cost per extra depression-free day of $27, whilst the figure for drug treatment was $25. The cost per QALY gained relative to community referral was $16,068 for drug treatment and $17,624 for CBT.

The cost-effectiveness of CBT has also been assessed for depressed children and adolescents in an Australian study (Vos et al, 2005). The authors used a model to compare CBT with antidepressant drug treatment, and they also compared alternative ways of delivering CBT. Data on the effectiveness of the interventions were mainly obtained from a meta-analysis and from this the number of disability-adjusted life years (DALYs) averted was estimated. CBT delivered in groups and individual CBT delivered by a publicly funded psychologist were both cost and DALY saving. Other forms of CBT and tricyclic antidepressants also had costs per DALY averted below A$10,000 which was deemed to be an indicator of cost-effectiveness. The least cost-effective interventions were SSRIs.

The same group has also assessed the cost-effectiveness of CBT for depressed children and adolescents (Haby et al, 2004). CBT delivered by publicly funded psychologists resulted in a cost per DALY averted of A$9000, compared to figures ranging between A$23,000 and A$34,000 for other types of care. Although the results favoured CBT, the authors made the point that crucial staffing issues needed to be considered.

The studies above suggest that CBT may be associated with improved clinical outcomes, but at a greater cost. Decision-makers must therefore decide if the improvement in outcomes is worth the additional cost.

Psychotherapy and other psychological interventions

Psychotherapy is the treatment of depression through individual and group interaction and its cost-effectiveness has been investigated in trials in Canada, the US and the UK. In one study, patients with dysthymia were randomised to interpersonal psychotherapy (IPT), IPT with sertraline (an SSRI) or sertraline alone in an RCT in primary care (Browne et al, 2002). Clinical outcomes at two-year follow-up demonstrated that there were no statistically significant differences between sertraline alone and sertraline plus IPT, but both were significantly more effective than IPT alone in reducing depressive symptoms. Societal costs were significantly lower in the IPT group, but there was no synthesis of costs and effects so the incremental cost-effectiveness of the treatment is not known. The authors stressed the importance and potential economic value of combining psychotherapy and pharmacotherapy.

IPT, pharmacotherapy with nortriptyline (a TCA) and usual care were compared in a cost-effectiveness analysis in the US (Lave et al, 1998). Both IPT and the pharmacotherapy provided better outcomes than usual care at follow-up although the pharmacotherapy group did slightly better than those assigned to IPT. Costs were higher in the IPT and pharmacotherapy groups compared to usual care. The incremental cost per QALY gained was US$11,695 for the pharmacotherapy and US$15,358 for IPT, indicating a decision-making preference for the drug treatment.

IPT was compared to usual care in patients with enduring psychiatric symptoms (including depression) in a psychiatric outpatients department (Guthrie et al, 1999). Patients receiving IPT had significantly greater improvements in levels of psychological distress and social functioning and significant reductions in the cost of health care utilisation excluding treatment costs at six months follow-up. During the intervention phase of the trial there were no significant differences in costs.

A modelled cost-utility analysis compared IPT, imipramine (a TCA), a combination of the two, and a placebo in patients with recurrent depression (Kamlet et al, 1995). A Markov

model and Monte Carlo simulation were used to estimate the costs and benefits associated with each maintenance therapy and the authors demonstrated that the drug maintenance treatment was most cost-effective.

Among patients with depression who had a partner with a criticising attitude, significant improvements in outcomes were found in patients randomised to couple therapy compared to those randomised to antidepressants (Leff et al, 2000). There were higher treatment costs in the therapy group, but the higher costs were moderated by decreased use of other services resulting in no significant differences in cost at follow-up. The authors warned that the results could not be generalised beyond individuals with depression who are living with a heterosexual partner and that conclusions were limited by large amounts of missing data in the economic evaluation.

A recent study from The Netherlands has evaluated minimal contact psychotherapy as a way of preventing full-blown depression in primary care patients with sub-threshold symptoms (Smit et al, 2006). Over 200 patients were randomised to receive usual care or the intervention which consisted of usual care plus a self-help manual and a series of six brief contacts with a therapist by telephone. After 12 months, 11.9% of patients who had received the intervention had depressive disorder compared to 18.3% in the usual care group – a difference that was statistically significant. Direct service costs did not differ significantly between the groups. There was also no significant difference in lost employment costs (although these were lower for the intervention group). Using a cost-effectiveness acceptability curve it was shown that the intervention had at least a 70% likelihood of being more cost-effective than usual care alone if all costs are considered. Even if the savings due to reduced lost employment are excluded, the intervention was seen to have at least a 46% of being more cost-effective than usual care.

A psychological therapy intervention developed and used in Goa, India, was compared to antidepressant drug treatment (fluoxetine) and a placebo in a randomised trial of 450 patients Patel et al, 2003). In this study there were no significant differences in services costs or clinical outcomes between the psychological therapy and placebo groups, whereas the drug treatment group had lower costs and better outcomes than the placebo group.

Early intervention (EI) services for psychosis

An economic study of EI was carried out in Melbourne by Mihalopoulos et al (1999), comparing the community-orientated treatment delivered by the Early Psychosis Prevention and Intervention Centre (EPPIC) with standard care. A before-and-after study compared 51 EPPIC patients treated in 1993 and 1994 with 51 matched retrospective controls receiving the pre-EPPIC treatment model between 1989 and 1992. Outcomes assessed included quality of life and negative symptoms. Cost measures were limited to health services: inpatient stays, outpatient appointments, medication, community mental health team contacts, general practitioner contacts and private therapy and psychiatry. EPPIC was found to cost less than the pre-EPPIC treatment model, although there is no indication in the published paper of the statistical significance of this result. The cost saving arose because reductions in inpatient service outweighed increases in community services. The study has a number of methodological limitations but encourages the view that an EI service can be more cost-effective than standard care.

Recently in the UK, McCrone et al (2006) have developed a model to estimate the economic impact of early intervention services compared to usual care. Care pathways were identified and the probabilities of patients moving through particular pathways and the costs of these were estimated from a randomised controlled trial of an early intervention service in south London. The expected cost for EI patients over one year was £13,370 whilst for usual care the figure was £29,369. This represents a 53% saving, which is maintained after three years when the respective costs are £41,054 and £88,108. Three-year costs after discounting are £31,864 for EI and £77,724 for usual care. With one exception, the findings were insensitive to changes in model parameters including the cost of the actual EI service. The exception was the readmission rate. If this increased from 33% to 38% for EI patients then the cost savings would disappear over the three years period. It should be noted however that this latter finding is specific to the data from the trial that was used in the model and should not be seen as a generalisable result.

Employment interventions

Measures taken to help people with severe mental illness to return to work are very different to those taken in relation to people who maintain a link to their former workplace or with the wider labour market. The services and approaches available share much in common with people who have been long-term physically disabled; but there are obstacles that are either specific or more pronounced for people with mental illnesses, including stigma, ignorance

and discrimination. One study in Germany, for instance, reported that there were strong negative responses to people with schizophrenia returning to their place of employment (Schulze & Angermeyer, 2003).

Systems that have been set up to try to integrate the long-term disabled into work have evolved over many years and some, in practice, may constitute an alternative, or are parallel to, the open labour market. One difficulty in judging the effectiveness of these systems is that many were not set up with any intention of getting individuals back into the open labour market. Their primary goal was to bring structured activity into individuals' lives as a way of fostering rehabilitation. This makes any attempt to assess their effectiveness difficult to judge, as return to employment is not always their objective, and effectiveness data where available vary substantially. What is clear however is that vocational employment systems which do not immediately seek to return individuals to employment, help return no more than 10 to 20 per cent of people with *all* disabilities to open employment. When it comes to people with severe mental illnesses these return to employment rates are often lower. In contrast, interventions which seek to return individuals directly to open employment and then provide support and accommodation to help maintain individuals at work do appear to have some success and potentially also may be cost effective.

There is still comparatively little evidence on the cost effectiveness of interventions to help individuals return to work (Latimer, 2005). Where evidence is available it is difficult to generalise any findings on cost effectiveness in comparison to other types of intervention because these are highly context specific; for instance there are many factors which influence participation in supported employment programmes (Ruiz-Quintanilla et al, 2005), moreover many analyses in fact focus on individuals with learning disabilities (Tines et al, 1990, Wehman et al, 2003, McCaughrin et al, 1993). One recent study in Canada however, concluded that the success of the individual placement and support (IPS) model was generalisable to the very different context to be found in Canada (Latimet et al, 2006). A six country European Commission randomised controlled trial has also investigated the cost-effectiveness of supported employment for people with severe mental illness using the IPS model, compared to existing vocational services. This includes England and results are expected to be in the public domain this year.

Increasingly, evidence on effectiveness from North America suggests that economic productivity is enhanced more by supported employment schemes, measured in terms of more hours of work and higher wage rates than those seen by individuals receiving vocational rehabilitation (Crowther et al, 2001; Cook et al, 2005). Other earlier North American studies have suggested that at worst supported employment is cost neutral in that the costs of running the programme are offset by alternative services such as day care that are no longer provided. In one review of a number of US IPS type programmes, Latimer reports that converting day treatment or other less effective vocational programmes to supported employment can be cost-saving or cost neutral from the hospital, community centre, and government points of view. The costs of introducing supported employment schemes are modest, but these schemes do need to substitute for existing services to ensure that they are at least cost-neutral (Latimer, 2001).

In her review, Schneider (2003) identifies a study by Dixon and colleagues which looks at the cost effectiveness of IPS compared with enhanced vocational rehabilitation – no difference could be determined in terms of earning power of participants although it was believed that it is statistically highly likely that IPS both costs more and produces more competitive employment (Dixon et al, 2002).

Other analyses suggest that the costs of IPS interventions may outweigh the gains in terms of benefit payments avoided, and income tax payments as for instance shown in one Australian study (Chalamat et al, 2005). In the UK one variant on the supported employment model aims to work with willing employers to help find open employment jobs. Data from this uncontrolled small scale programme in London contrasts with that in the Australian study in that it has helped individuals gain and retain employment, initially with jobs within a local hospital Trust. Perkins et al (2002) estimated a net gain of £1900 per person participating in the programme, through a reduction in benefits paid and taxes collected.

It is important however to consider broader measures of outcome as well as narrow measures such as rate of return to employment. In comparison to other interventions higher rates of employment can be associated with other benefits such as reduced need for health care services, increased levels of social inclusion and improved quality of life. For instance, there is some evidence that while the majority of individuals may still move in and out of employment after receiving supported employment, their use of health and other support

services may be reduced considerably during times of employment. One 11 year US evaluation followed 3000 employment service clients for 48 months, reporting that overall costs were reduced because the use of health services was much lower during periods of stable employment (Perkins et al, 2005).

ASSESSING THE ECONOMIC IMPACT OF INITIATIVES TO REDUCE STIGMA/DISCRIMINATION

Economic implications of stigma/discrimination

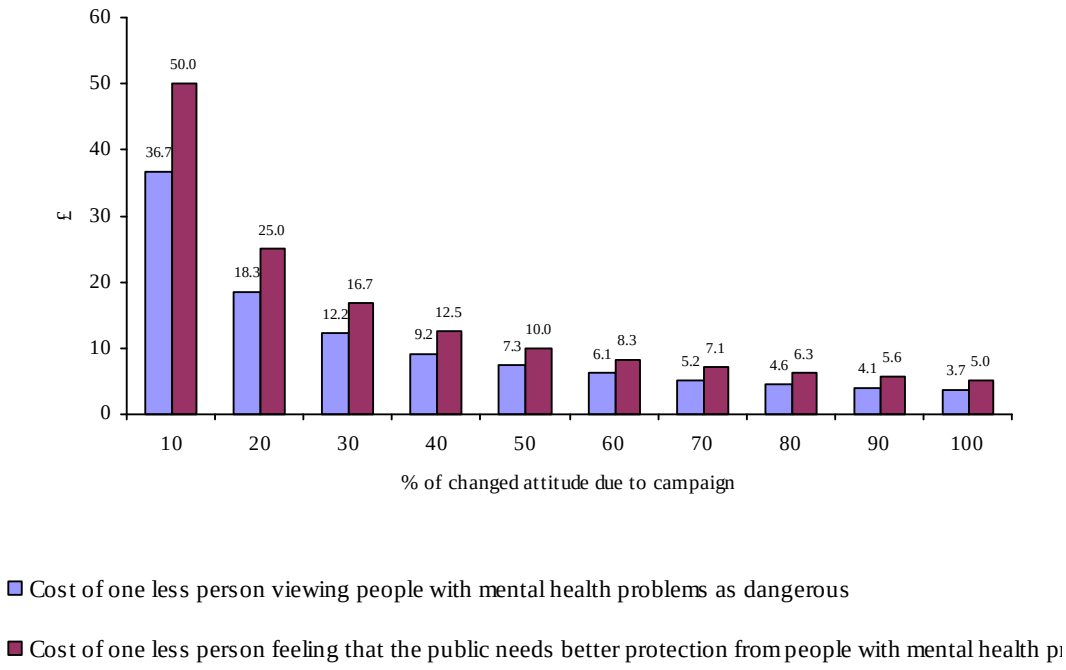
Clearly, there are potentially many personal costs associated with stigma and discrimination. There are also broader costs to society, including costs falling on carers and family members. For example, the following situations could each have adverse economic consequences:

- If stigma acts as barrier to care then there will be higher rates of untreated illness.
- Stigma can act as a disincentive to invest in mental health services to the same extent as investment in other areas of health care.
- Stigma may directly affect employment opportunities for people with mental health issues, which will have a clear impact on personal income and will also have a social impact in terms of reduced productivity and increased reliance on social security payments.
- Stigma in the classroom could interfere with a child's learning and academic achievements, with later consequences for career and earnings.

Cost-effectiveness of anti-stigma/discrimination campaigns

The 'see me' campaign in Scotland has been the largest anti-stigma/discrimination initiative in the UK. Over a four-year period the campaign cost £2,292,897, which is equal to £0.55 per person adult over 16. Over the same period, the Scottish Executive found that of over 1000 people surveyed there was a reduction from 32% to 15% of those who felt that people with mental health problems were dangerous. Assuming that the sample was representative this suggests changed attitudes for 624,871 people. There was also a reduction from 35% to 24% of people who felt that the public required better protection from people with mental health problems. This suggests 458,239 with changed attitudes. We do not know how much of this was due to the campaign. Figure 1 shows that if the campaign was entirely responsible then the costs per person with changed attitudes regarding dangerousness are £3.70, whilst the figure for protection is £5. The chart shows what the costs per person with changed attitudes are if the campaign was not entirely responsible for the changes. Even if only 10% of the change was due to the campaign it would cost at most £50 to get someone to change their attitude.

Figure 1. Cost of changing attitudes about mental health problems.



Models to assess impact of reducing stigma/discrimination

We did not identify any economic evaluations of anti-stigma or anti-discrimination campaigns. Therefore, we used a decision modelling approach to assess the economic impact of such initiatives over a one-year period. (The Appendix contains conceptual background that guided us in developing the model.) Decision models are used to show the impact on costs and cost-effectiveness of new and existing interventions as an alternative to collecting such data alongside trials. Whilst trial based data may have more internal validity (in that it allows very specific hypotheses to be addressed) decision models may be more generalisable and are certainly more flexible. However, they are also a simplification of reality. Two models were produced, one for depression and the other for schizophrenia.

Depression model

The first model we have developed focuses on the impact that an anti-sigma/discrimination campaign might have for people with depression. We have started off by assuming that (i) some people with depression will not seek help because of the stigma that is attached to having mental health problems and (ii) employment opportunities for people with depression are diminished because of discrimination by potential employers.

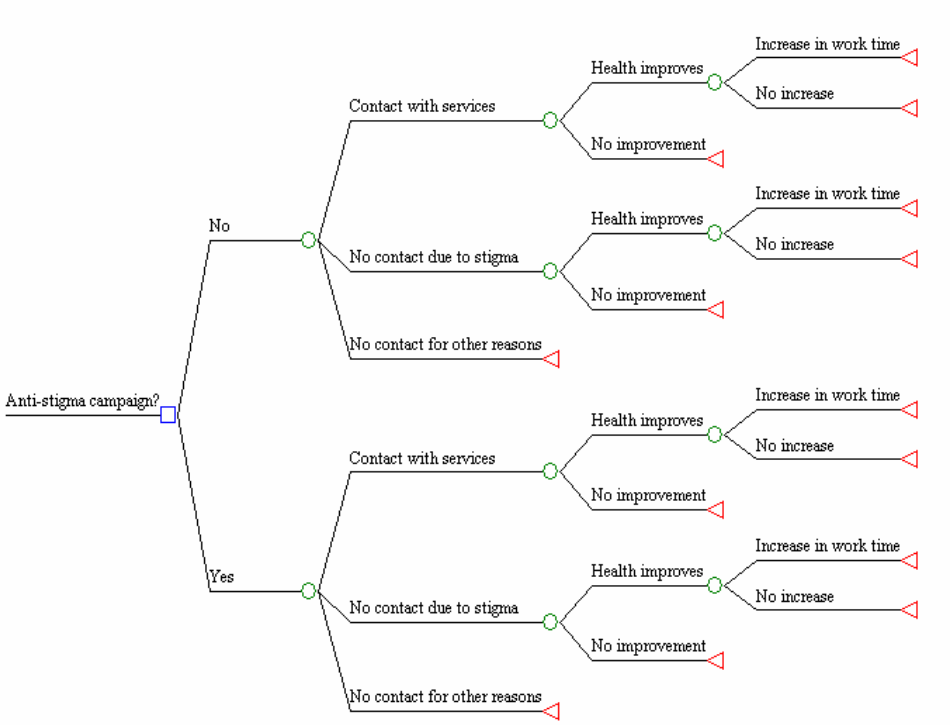
The model, shown in Figure 2, is divided into two halves. The top half describes a situation where there is no anti-stigma/discrimination initiative. People with depression are assumed to either seek treatment for it, to not seek treatment because of stigma, or to not seek treatment because of other reasons. Whether they do or do not seek treatment there is a possibility that their health will improve or that they will remain depressed. If there is a reduction in depression then there is a possibility that they will experience a positive outcome in terms of increased employment. (We have focussed on increased employment as this is an outcome to which we can fairly easily attach an economic value. Of course other benefits would also come about through health improvement.) The bottom half of the model has exactly the same structure but indicates the outcomes achieved as a result of an anti-stigma discrimination campaign.

Data for depression model

Decision models need to be 'populated' with appropriate data to show (i) the probability that a person with depression would go down each branch of the tree and (ii) the economic consequences of this. The data we have used in the model is shown in Table 1. Rates of

contact with services by people with depression were obtained from the 2000 Psychiatric Morbidity Survey (National Statistics, 2001). This though did not state the reasons for non-contact with services. Data on this was obtained from a large survey of public attitudes to mental health problems by the Scottish Executive (2004). In this survey 50% of respondents agreed with the following statement: "If I were suffering from mental health problems, I wouldn't want people knowing about it". In the absence of other data, we have assumed that the same proportion of people in whom depression occurs will initially agree with the statement and avoid treatment.

Figure 2. Decision model to estimate the economic impact of an anti-stigma campaign for people with depression.



Treatment costs for psychological therapies and drug treatment were obtained and a weighted average of the two was used in the model based on utilisation data from the Psychiatric Morbidity Survey. For the purposes of the model we have assumed equivalent efficacy of the two forms of treatment. However, as Layard et al (2006) indicate, this rests on the assumption that patients adhere to the medication.

Data on the impact of treatment for depression in terms of recovery and increased employment was obtained from a recent report by Layard and colleagues (2006). In that report the authors estimated that for every month of health improvement there would be 0.14 months of extra employment. Using an average salary of £12,000 and assuming that the extra months of work are for 24% of people who improve suggests a productivity gain of £6720 per person improving and having increased employment over a 12-month period.

Table 1. Data used in model to assess the economic impact of an anti-sigma/discrimination campaign.

Parameter	Value	Source
Contact with services in the absence of a campaign	44%	National Statistics (2001)
No contact due to stigma	50%	Scottish Executive (2004)
No contact due to other reasons	6%	Value determined from two previous values
Health improves following treatment	60%	Layard et al (2006)
Health improves in absence of treatment	30%	Layard et al (2006)
Increase in employment following health improvement	24%	Derived from Layard et al (2006)
Change in attitudes as a result of campaign	5%	Scottish Executive (2004)
Annual cost of treatment	£349	Weighted average of course of psychological therapy (Layard et al, 2006) and course of citalopram (BMA/RPS, 2006)
Economic value of increased work	£6720	Derived from Layard et al (2006)

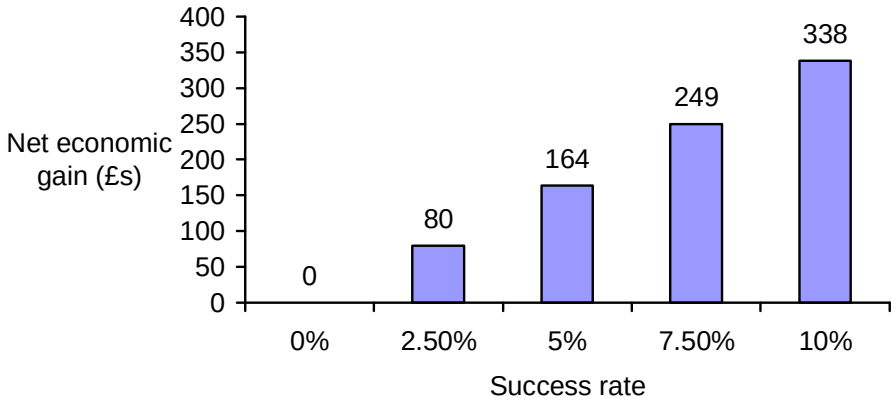
The aforementioned Scottish survey was repeated after a large anti-stigma/discrimination campaign had been conducted (Scottish Executive, 2004). This survey found that 45% of people now agreed with the statement above – a 'success rate' of five percentage points. We

have used this figure to show the increased likelihood of entering treatment following the occurrence of depression. This success rate has also been used to indicate the increased rate of employment for people with depression (regardless of whether recovery is due to treatment or not). The decision model was 'rolled-back' to show the expected economic benefit (net of treatment costs) that would occur with an anti-stigma/discrimination campaign compared to economic benefits in the absence of this. All models rely in various assumptions being made about data parameters. To see how important these assumptions were we conducted sensitivity analyses of key parameters and assessed how the expected costs changed.

Results from depression model

When the model was populated with the data described above and in Table 1 the expected economic benefit net of treatment costs in the absence of an anti-stigma/discrimination campaign were £605 per person with depression. With a campaign taking place this increased to £769, i.e. an economic gain of £164 per person as a result if the initiative. The above gain was entirely due to the assumed success rate of five percentage points following an anti-stigma/discrimination campaign. Figure 3 shows the expected economic gains if alternative success rates are assumed. It can be seen that if the campaign was entirely unsuccessful then there would be no economic gain whereas if the success rate was ten percentage points the gain would be £338.

Figure 3. Economic gain from an anti-stigma/discrimination campaign.



Note: Success rate is defined as the percentage point decrease in people agreeing with the statement "If I were suffering from mental health problems, I wouldn't want people knowing about it".

Implications of depression model

The Psychiatric Morbidity Survey estimated that 26 in every 1000 people between 16 and 74 had depressive disorder. This suggests a benefit per adult of £4.26. As long as an anti-stigma/discrimination that achieves this benefit has a cost per person of below £4.26, then it will be economically beneficial. As stated above, the Scottish campaign had a cost per person of just £0.55 per person. Clearly, economies of scale are likely if a campaign is conducted across a wide area. The benefits have been calculated over a one-year period. Over three years the benefits could be around £12 per person, although we might also expect to see a reduced effect of the campaign over time. In addition, we have focused on depression and most campaigns would produce benefits for other patient groups also. Furthermore, increased access to health probably reduces physical health problems which could be economically beneficial. However, these effects were also excluded. As such the expected gains reported here are probably underestimates. The data for assessing the success of a campaign were obtained from a large Scottish survey. In Norwich, however, the proportion of people who agreed with the statement that they would not want anyone to know if they had a mental health problem fell from 40% to 22% following an anti-stigma/discrimination campaign. This further demonstrates that the positive economic results shown here could be even greater.

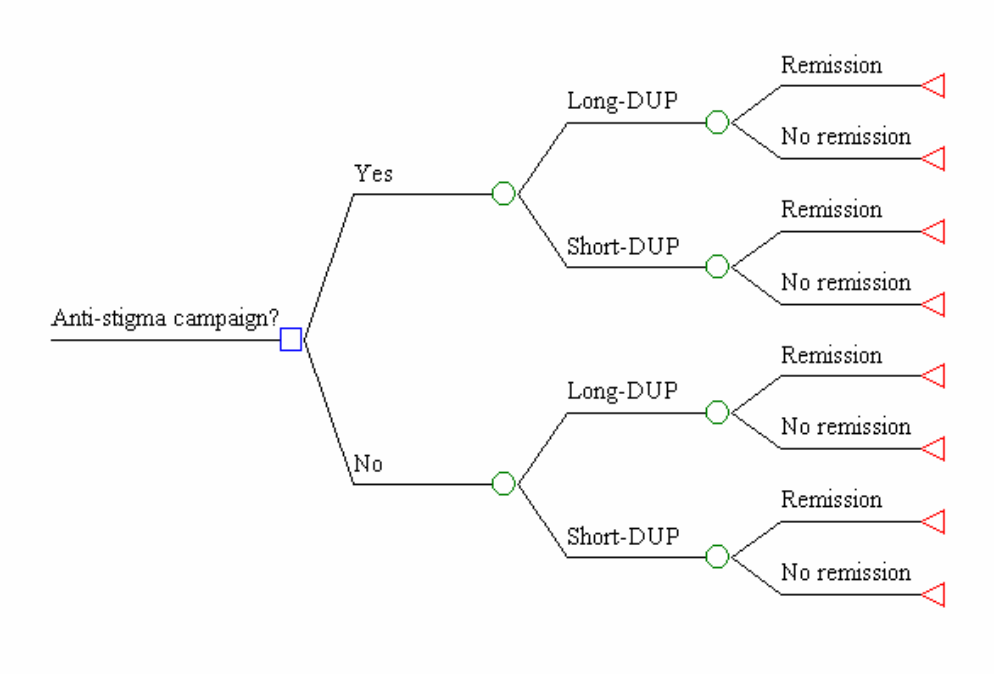
Schizophrenia model

The focus of the depression model was on reductions in lost employment for people with depression as a result of a successful anti-stigma/discrimination campaign. People with schizophrenia often experience substantially more challenges related to work and many have been absent from the workforce for many years. Whilst it would be hoped – and expected – that an anti-stigma/discrimination campaign would improve work opportunities, this would probably be achieved in the long-term. Instead, the main impact of a successful campaign is assumed to be on the proportion of people accessing services early, i.e. having a short duration of untreated psychosis (DUP). This is crucial as it is known that the DUP can be as long as two years and that lengthy DUPs result in reduced rates of remission (Marshall et al, 2005). Consequently, cost savings would result from decreasing the likelihood of a long DUP as remission is likely to result in reduced care costs.

The model structure is shown in Figure 4. Here it can be seen that in the presence or absence of an anti-stigma/discrimination campaign there is a probability of someone with

schizophrenia having a long or short DUP. As a consequence of this, there are subsequent probabilities of the person experiencing a remission within the first year of treatment.

Figure 4. Decision model to estimate the economic impact of an anti-stigma campaign for people with depression.



Data for schizophrenia model

Unfortunately the data availability for the schizophrenia model is more limited than for the depression model and therefore we have had to make assumptions about key parameters. In particular we have assumed that in the absence of an anti-stigma campaign there is a **50%** likelihood that someone with schizophrenia will have a long DUP. However, this is not crucial given that it is the percentage-point reduction in this that will affect costs. What is more important is the probability that a long or short DUP will result in remission. A systematic review by Marshall et al (2005) identified a number of studies that provide data on this, and these together reveal probabilities of **0.49** and **0.67** respectively.

As with the depression model we have assumed initially that there is a five percentage-point success rate of an anti-stigma/discrimination campaign, resulting in a probability of a long DUP of **0.45**. We were not able to identify any studies that reported the cost savings that result from a patient achieving remission. However, a study by Almond et al (2004) does provide comparative costs for patients who have relapsed and those who have not. They

included costs of key health and social care services and the service pattern for non-relapsing patients results in costs of around **£5000** (after inflating to 2005/6 figures for one year). This figure has been used to represent the care costs for patients in remission. Costs for patients who relapsed were around four times as high, which in current prices and over a year comes to **£20,000**. This figure has been used for non-remission. To test the importance of this assumption we also used a cost of **£10,000** for non-remission.

Results from schizophrenia model

If an anti-stigma/discrimination campaign results in 45% rather than 50% of people having a long DUP then the expected care costs fall from £11,300 to £11,165 – a cost saving of £135 per person. This would increase to £270 if a ten percentage-point success rate was attained and £540 for a 20 percentage-point success rate. If a cost of non-relapse of £10,000 is used then the cost saving from a campaign falls to £45 per person.

Implications of schizophrenia model

There are around 1.85 people with schizophrenia per 1000 people in the general population. This suggests that cost savings of £0.25 per person would be achieved if an anti-stigma campaign results in a five percentage-point reduction in long DUPs. However, a campaign *specifically* targeting schizophrenia might be expected to achieve a higher success rate. In addition, the cost saving would be higher if lost employment costs are also considered. Many other potential economic effects of a campaign have been excluded and therefore the results of the schizophrenia model are conservative.

CONCLUSIONS

Review of economic evaluations

This report has shown that a variety of forms of psychological intervention are available for the treatment of schizophrenia, bipolar disorder and depression. From our review we would conclude that CBT is the most cost-effective from of psychological therapy. However, in primary care settings it probably increases costs and it is a value judgement as to whether the extra gains are worth the extra expense. There is very limited evidence as to the cost-effectiveness of EI services, but the initial studies do seem promising. The evidence on the

for employment schemes is mixed, but schemes which focus on supporting people in open employment do appear to be the most cost-effective.

Cost-effectiveness of anti-stigma/discrimination campaigns

A campaign run on a large scale can reach many people. Figures from Scotland suggest that the cost per person with changed attitudes towards people with mental health problems is low. The model for depression that we produced revealed a potential economic benefit of £4.26 per adult in the population which is substantially higher than the likely per person costs of running a campaign. The costs savings resulting from reduced likelihood of a long DUP in people with schizophrenia could increase this to £4.51. We have focussed just on these two conditions; an anti-stigma/discrimination campaign would undoubtedly wish to improve attitudes to people with a wide range of other conditions also.

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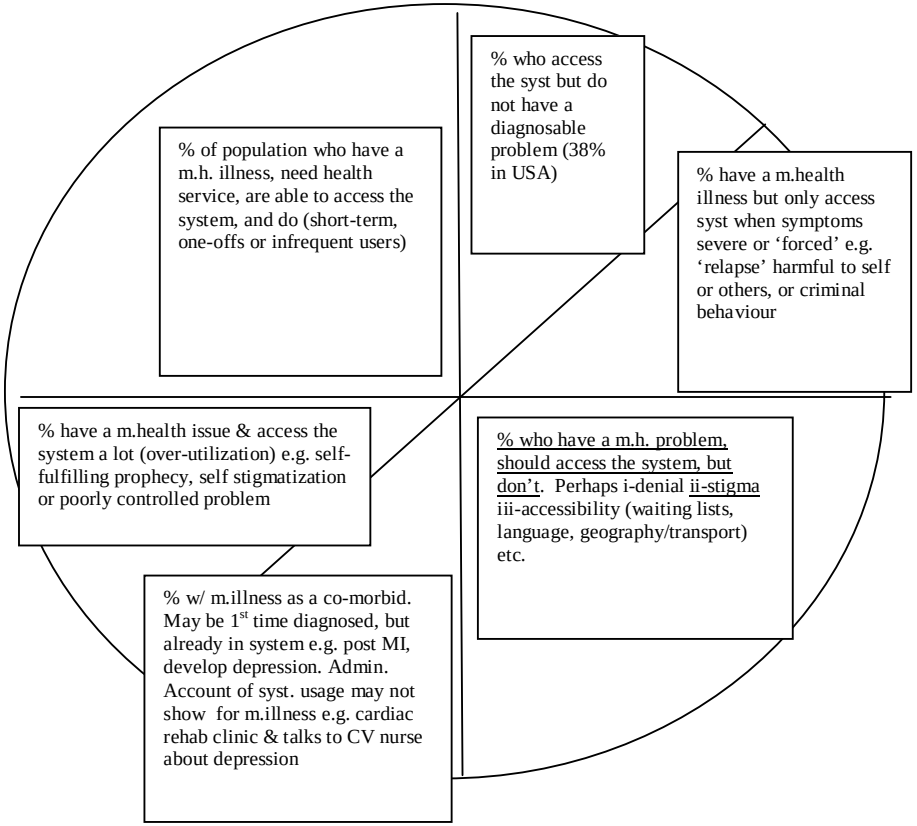
rethink

APPENDIX THREE: CONCEPTUAL MODEL FOR ASSESSING ECONOMIC IMPACT OF STIGMA REDUCING CAMPAIGNS.



NHS – System Utilization Reviews cover the use of:

- Hospitals (in-pt & out-pt clinics)
- Non-hospital health clinics
- Drs (GPs)
- Psychiatrists
- Psychologists
- Social Workers
- Nurses
- Councillors e.g. teen

Want to identify people who <u>do not access</u> mental health care <u>related to stigma</u>

A) Get

- Total population # with a mental illness (epidemiology)
- Utilization numbers for the NHS MH services

(subtract utilization number from total population to get estimate of those who are not accessing the system)

B) Issues

- 'Repeat customers' unidentifiable (?) – utilization measurements are aggregate vs individual
- **Population gap** of people who have a mental health issue and
  - <u>Don't access any help anywhere (denial, sigma)</u>
  - Access private services i.e. Drs, councillors etc.
  - Use other means to cope e.g. alternative services (reiki, massage, shiatsu, polarity, homeopathy etc.), social networks (family/friends), recreation (sport, entertainment)

Want to identify how much the 'population gap' costs society (as theoretically they 'reflect a potential outcome of societal 'stigma'').

If people access private services, it means they have financial means and are receiving help, and not a cost to society (infact contributing to the economy).

This leaves people who do not access any type of service and do not cope ie. Lose employment or are welfare recipients as obvious 'societal costs'. However, there are more gaps… ***see next page***