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## Chapter 9

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# The economic case for better mental health

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## Key statistics

- In 2000, 90% of the societal cost of depression was due to unemployment and absenteeism.<sup>1</sup>
- In 2000, the service costs associated with childhood psychiatric disorders were 12 times greater for frontline education services than for specialist mental health services.<sup>2</sup>
- Over 25 years, the total return from parenting programmes for children with conduct disorder is between 2.8 and 6.1 times the intervention cost, much of this through reduced crime.<sup>3</sup>
- Early intervention services that provide intensive support for young people experiencing a first psychotic episode can help avoid substantial health and social care costs: over 10 years perhaps £15 in costs can be avoided for every £1 invested.<sup>4</sup>
- £1 in every £8 spent in England on long-term conditions is linked to poor mental health.<sup>5</sup>
- More than 11% of the NHS budget is spent on treating mental illness<sup>6</sup> – but the indirect costs from unemployment, absenteeism and presenteeism can be higher. These indirect costs totalled £30.3 billion in England in 2009/10 across all mental illnesses, compared with direct health and social care costs of £21.3 billion.<sup>7</sup>
- The economic cost of a completed suicide for someone of working age in the UK exceeds £1.6 million.<sup>8</sup>

## Overview

Mental illness can emerge at any age, and can have highly significant impacts across much of the life course for the individual, their family and community. Those impacts may start early in life – maternal mental illness can negatively affect a child's later emotional, behavioural and intellectual development – or may strike late; for example, the consequences of bereavement can last many years.

Emotional and behavioural problems that develop in childhood can leave a legacy of difficulties that stretches long into adulthood. The typical age of onset of serious psychoses such as schizophrenia and bipolar disorder – in late adolescence and early adulthood – is also the time when many key investments and decisions are made that shape future careers, personal and social roles.

People with mental health problems are more likely to smoke, be overweight, have disrupted education, be unemployed, take time off work, fall into poverty, and find themselves in the criminal justice system. Major mental disorders shorten the life span. As other chapters in this report make clear, and as we describe below, no field of social policy is untouched by mental illness.

While it is the health and quality of life consequences of mental illness that rightly dominate public concerns,<sup>9</sup> it is the economic consequences that most heavily influence policy

responses. This is not because the dominant policy aim for public mental health is to save resources, but because those people who make, shape and implement policies recognise that those resources are always scarce relative to the demands made upon them – especially so when there are broader economic pressures.<sup>10</sup> Decision makers want preventive strategies and treatment approaches to be effective in improving health and quality of life, but they also want to get good value for money.

We address this value for money question by examining the economic case for better public mental health. Making the economic case does not mean cutting costs but rather using resources (not just in the NHS, but across the whole economy) to their best effect – making sure they are used to get the best achievable health and quality of life outcomes. We discuss a series of economic opportunities and challenges. Between them, they reflect the key characteristics of mental health problems: distressing and disabling symptoms; chronicity if untreated; high rates of co-morbidity; effects on many aspects of individuals' lives; spillover effects on families and communities; disrupted employment; associations with anti social behaviour and crime; links to self-harm and suicide; widespread stigma, discrimination and victimisation; and interconnections with socio-economic disadvantage and inequalities. We shall demonstrate how economic arguments can support the case for prevention and treatment.

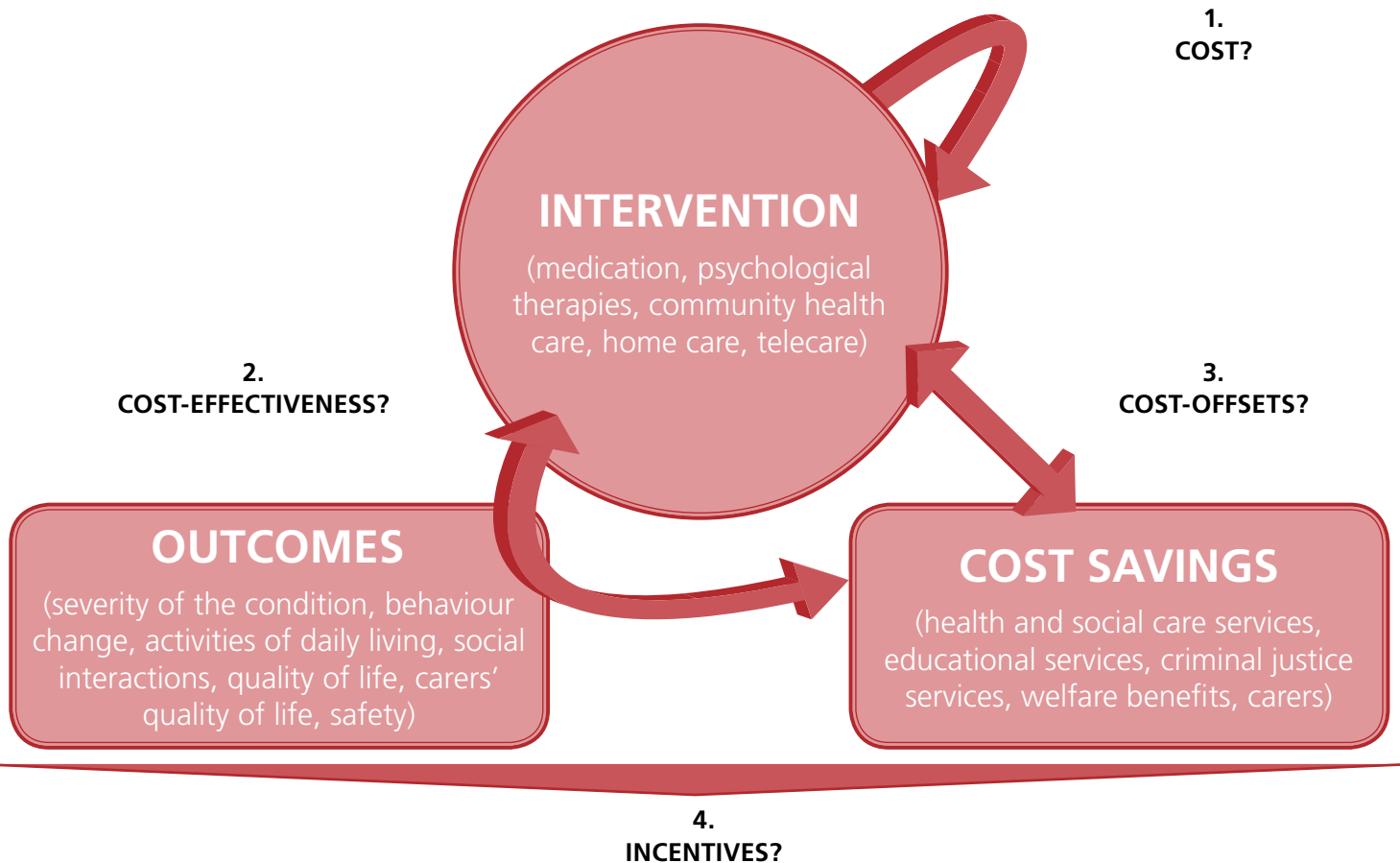
## Making an economic case

### Scarcity and choice

Healthcare and other responses to the needs of people with mental health problems that are well designed, well co-ordinated and well targeted will have significant impacts on their symptoms, functioning and quality of life, and may also improve the quality of life of family members and others. The problem is that there are never enough health or other services to meet all needs or satisfy all preferences. This endemic scarcity leads to difficult decisions about how best to achieve good clinical and quality of life outcomes, in turn raising questions about how to use resources efficiently and equitably – criteria that we define below. These are moral, political and perhaps even ethical questions; but they are also economic questions.

A simple framework (Figure 9.1) shows common interventions (shorthand for treatments, support arrangements, preventive strategies or wider policy frameworks), their potential health and other outcomes, and the consequences of those outcomes for resource use patterns and costs. Interventions that improve outcomes may reduce longer-term costs: for example, treating the early signs of psychosis could reduce positive symptoms and keep patients engaged in education or employment, thereby avoiding the need for inpatient admissions (or shortening their duration) and reducing productivity losses from absenteeism or long-term unemployment.<sup>4</sup>

**Figure 9.1 Mental health – economic questions**



Source Martin Knapp, London School of Economics and Political Science

Figure 9.1 also shows how economic analysis helps us understand and improve mental health systems (see also World Health Organization, 2006).<sup>11</sup> There are four questions that economists often address. **Cost** questions focus on the resources used to provide treatment, care and support. **Cost-offset** questions ask how those costs compare with the savings resulting from successful treatment or prevention. **Cost-effectiveness** questions ask about links between the resources expended and the outcomes achieved. **Incentives** questions address ways to encourage decision makers to pursue policies or practices that are effective, efficient and fair.

### Cost-effectiveness

The cost-effectiveness question is the most relevant, and embodies the cost and cost-offset questions. For two or more interventions or strategies (one of which could be doing nothing), a cost-effectiveness analysis compares the resources used by each (the costs) with the health, quality of life or other outcomes achieved (the effectiveness). If one intervention has both lower costs and greater effectiveness than the other, it will look attractive to hard-pressed budget-holders, although their ultimate decisions will also factor in fairness and other wider strategic considerations. However, if one intervention is more effective than the other but only at a higher cost, then someone must decide whether those better outcomes are worth the additional expenditure.<sup>12,13</sup> There

is no simple way to judge such 'worth': it is in the eye of the beholder, and different beholders might reach different judgements.

An intervention does not need to save money to be cost-effective. However, it does need to generate outcomes that are 'worth' paying for, which means that the outcome gains are greater than would be achieved by using the resources in any other way. Someone must weigh up the relative outcomes and costs, and make the trade-off. Politicians are elected to make these decisions strategically, and commissioners and providers are entrusted with responsibility locally. Each can be guided by evidence from well-conducted research and also (in England and Wales) by the National Institute for Health and Care Excellence (NICE), which synthesises evidence and combines it with expert advice to produce clinical guidelines. These guidelines (for example, on depression, psychosis and schizophrenia)<sup>14,15</sup> are increasingly the mainstay of commissioning and provision across many clinical areas, and build explicitly on economic evidence.

Where possible, NICE uses a generic health outcome measure – the quality-adjusted life year (QALY) – alongside disease-specific measures. The QALY is intended for use across all clinical areas, allowing broad resource allocation decisions to be made. NICE also recommends a threshold value: an intervention that costs more than £30,000 per QALY is unlikely to be considered 'worth it' because it is believed

that the money could be better spent elsewhere in the NHS (NICE, 2008). This approach works less well in areas such as schizophrenia, where QALYs are hard to measure reliably,<sup>16</sup> and often needs adaptation in public health and social care contexts where health improvement is not the only or even the most important objective.

Evidence on cost-effectiveness can be generated from various study designs. The randomised controlled trial (RCT) is usually best, but observational designs have also been used<sup>17</sup> and mathematical or statistical modelling is now widely employed to supplement and extend RCT findings.<sup>18</sup> Modelling also offers a short-term substitute for an RCT when decision makers need evidence sooner than a trial can deliver – such as when projecting the economic impact of closing a hospital from data on early discharges into the community<sup>19</sup> – and also an alternative when a trial is infeasible, such as when evaluating a nation-wide policy.<sup>20</sup>

Cost-effectiveness analyses helpfully remind everyone – health professionals, patients, carers, taxpayers and voters – that resources are finite and so commissioners and other key decision makers face difficult choices in deploying them. Those analyses also tell us that it is sometimes worthwhile to choose an option even when it does not save money.

### Efficiency and equity

Cost-effectiveness and related analyses address questions of efficiency: how to get the maximum effect in terms of outcomes achieved from a specified volume of resources (such as the available budget). Efficiency is not the only objective of a healthcare system or nation, of course. Another important objective is equity, which relates to the extent to which outcomes, access to services and payments for them are distributed fairly across individuals, regions or socio-economic strata. Different people will have different views on what is fair, but most would agree that equity should not mean exact equality: people have different needs and an equitable allocation of resources should result in giving more treatment and support to those with greater needs. Similarly, individuals have different income and wealth levels, and most countries expect those who are better off to contribute greater amounts (for example, through taxes for the UK's centrally funded NHS).

Most mental health systems are neither efficient nor equitable: they do not get the most out of available resources, and they would not be considered by most citizens to be distributing their benefits or burdens in ways that are fair.<sup>21–23</sup>

## Economic opportunities and challenges

### Distress and disability

The Global Burden of Disease Study 2010 reports 'the striking and growing challenge that [mental] disorders pose for health systems in developed and developing regions'.<sup>24</sup> Specifically for the UK, figures for 2010 show 'the growing burden of disability, particularly from mental disorders, substance use, musculoskeletal disorders, and falls [which] deserve an integrated and strategic response'.<sup>25</sup>

Economists also measure the consequences of mental health problems using cost rather than disability weights, summing the costs of services and treatments, reductions in productivity from disrupted employment, the imputed values of unpaid care, and lost economic value from premature mortality. The resultant figures do not provide guidance on how to prevent or treat illness, but help by emphasising to decision makers the scale of the challenge and its distribution across the economy.<sup>26</sup> For example, Thomas and Morris<sup>1</sup> calculated that 90% of the societal cost of depression was due to unemployment and absenteeism, and Snell et al.<sup>2</sup> showed how the service costs associated with childhood psychiatric disorders were 12 times greater for frontline education services than for specialist mental health services.

### Enduring impacts

Mental health problems in childhood or adolescence can have later-life consequences: antisocial and criminal behaviour, substance misuse, unemployment, social exclusion, emotional disorder and poor quality of life (see Chapter 6 of this report, 'Life course: children and young people's mental health'). Each of these has attendant costs.<sup>27–29</sup> Evidence suggests that NHS-delivered interventions in childhood could have substantial longer-term impacts, although their biggest economic pay-offs may be outside the NHS. Bonin et al.<sup>3</sup> calculated that, over 25 years, the total return from parenting programmes for children with conduct disorder is between 2.8 and 6.1 times the intervention cost, much of this through reduced crime. Beecham<sup>30</sup> reviews related economic evidence.

The onset of psychosis in adolescence or early adulthood can seriously disrupt education and post-school training, causing poor educational outcomes and poor employment prospects. Leaving the psychosis untreated exacerbates the situation and raises the risk of suicide (see Chapter 15 of this report, 'Suicide and self-harm'). Early intervention services that provide intensive support for young people experiencing a first psychotic episode can reduce relapse rates and improve both vocational recovery and quality of life.<sup>31,32</sup> They help avoid substantial health and social care costs: over 10 years perhaps £15 in costs can be avoided for every £1 invested.<sup>4</sup>

The chronicity of most mental health problems and the potential for long-term deleterious impacts across many life domains should be enough to energise searches by all

interested parties for early effective action – but, as we have illustrated, there is also often a supportive economic case. A major challenge that we would identify is how to get decision makers to think long term, even with short-term resource pressures arising from the need to keep within tight expenditure constraints.

## Co-morbidities

People with schizophrenia and psychosis have higher risks of physical morbidity and premature mortality, linked particularly to poor health behaviours. Yet they also have poorer access to routine health checks (see Chapter 13 of this report, ‘Physical health and mental disorder’). There are economic as well as clinical and ethical reasons for recognising and responding to these links, since poor physical health translates into increased and enduring NHS costs.

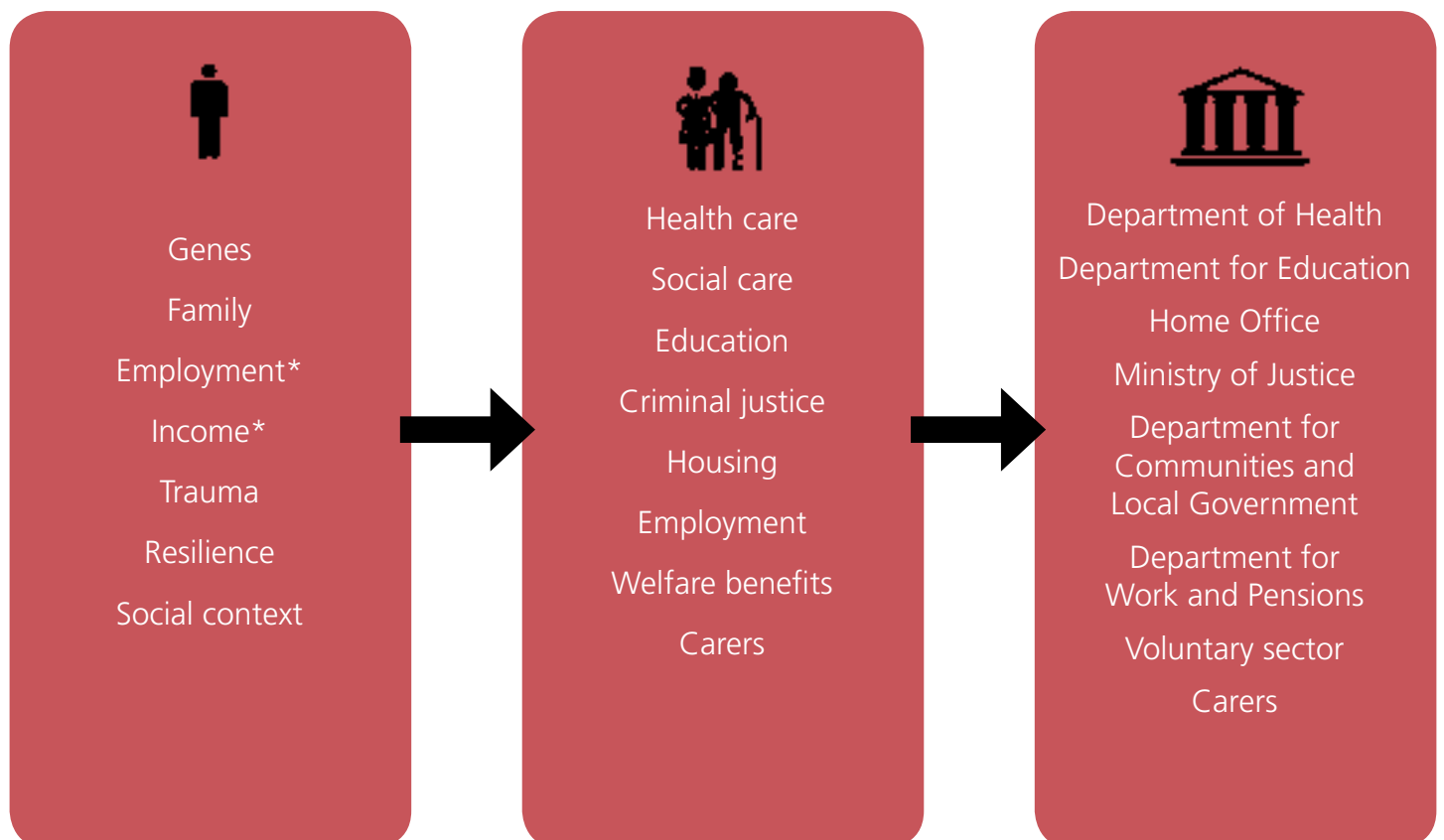
Evidence on the economic case for action is modest but accumulating, as we now illustrate. Adding bupropion to cognitive behavioural therapy (CBT) and nicotine replacement therapy can help people with first-episode psychosis to quit smoking and appears to be cost-effective.<sup>33</sup> A combination of psycho-education and nutritional and/or exercise counselling appears to be a cost-effective way to help people with first-episode psychosis to manage their weight,<sup>34</sup> while a six-month manualised healthy lifestyle programme appears cost-effective as a means of managing body mass index for people who have been living with schizophrenia for longer.<sup>35</sup>

Depression is also commonly associated with poor physical health (see Chapter 13 of this report, ‘Physical health and mental disorder’). Compared with people with diabetes alone, those with co-morbid depression and diabetes are four times more likely to have difficulties managing their health, and seven times more likely to miss work frequently.<sup>36</sup> The economic consequences for health and other sectors can be considerable,<sup>37</sup> although ‘collaborative care’ delivered in primary care settings to individuals with this co-morbidity (involving GP advice and care, antidepressants and sometimes CBT, with a practice nurse as case manager) appears to be cost-effective.<sup>38</sup>

More broadly, given that many people with poor long-term physical health also have mental health problems, the resultant NHS costs can be substantial. Naylor et al. (2012) conservatively estimated that £1 in every £8 spent in England on long-term conditions is linked to poor mental health.<sup>5</sup>

There are also close links between such co-morbidities and deprivation, thereby exacerbating the inequalities between socio-economic groups if treatment is not offered. As well as collaborative care arrangements, innovative forms of liaison psychiatry in acute hospitals can be cost-effective.<sup>39</sup> Better integration of physical and mental health care, encouraged by redesigned payment mechanisms, would further improve healthcare quality and productivity.

**Figure 9.2 Mental health – multiple needs and impacts**



Notes \* Economic factors

Source Martin Knapp, London School of Economics and Political Science

### Multiple needs and impacts

Mental health problems can generate major and enduring impacts, and these can be experienced across many aspects of an individual's life, generating needs for support from (potentially) the social care, housing, employment, criminal justice, income support and other systems (Figure 9.2).<sup>7,40–42</sup> The direct treatment costs to the NHS are certainly substantial – more than 11% of the NHS budget is spent on treating mental illness<sup>6</sup> – but the indirect costs can be even higher. Indirect costs – mainly from unemployment, absenteeism and presenteeism – amounted to £30.3 billion in England in 2009/10, compared with direct health and social care costs of £21.3 billion.<sup>7</sup>

One obvious corollary is the need for co-ordinated action across budgets and systems to avoid gaps and wasteful overlaps, combining resources effectively and efficiently.<sup>43</sup> Silo budgeting – where budget-holders are so determined to keep their own spending in check that they engage in cost-shifting and problem-dumping onto other budgets – is a substantial barrier to better overall efficiency. Silo budgeting is likely to be more common when resources are under considerable pressure, and yet the greater those pressures, the stronger the need for co-ordinated action across different areas. A recent, far-sighted example is the decision by a police commissioner in England to invest in psychologist-delivered parent training programmes to tackle conduct disorder because of the potential to cut antisocial behaviour and crime-related costs over future decades, as demonstrated by Bonin et al.<sup>3</sup> Another example is investment in workplace-based mental illness prevention and treatment programmes by some larger companies (and some public sector employers), with the potential to reduce both absenteeism (thereby improving productivity) and NHS costs.<sup>44</sup> Great strides have also been made in supporting people with a history of severe mental health problems to achieve open employment, with cost-effectiveness gains.<sup>38</sup>

### Impacts on others

Mental health problems experienced by expectant and new mothers can have deleterious consequences for their partners and children, some with measurable associated costs.<sup>45,46</sup> Behavioural problems in schools can damage the education experience for other pupils. The relatives of people with schizophrenia may give up employment, take time off work to provide support (thereby losing earnings) or give up leisure time or incur out-of-pocket costs to subsidise treatment expenses or provide transport to appointments. These are largely hidden costs, but to overlook them in policy discussions would be dangerous given that many people with mental health problems rely on their family members and communities for support.

Population ageing makes this an especially important issue, since models of treatment and care that are reliant primarily on paid professionals may not be affordable in future decades.

Interventions can be targeted on family members or intra-family relations, as with family therapy for schizophrenia, for which there is both a clinical and an economic case.<sup>35,47</sup> Some interventions can be justified not only by their effects on those individuals who are ill, but also because they recognise and address the spillover effects of mental illness on other people: for example, CBT and person-centred treatment for postnatal depression can have benefits that go beyond symptom relief for mothers so as also to improve the lives of their children, and in a cost-effective way.<sup>48</sup> There are also interventions that build explicitly on community assets, as with befriending programmes,<sup>49,50</sup> and interventions that can employ people with lived experience of mental illness to deliver support, as with peer workers.<sup>51,52</sup>

### Employment

There are multiple and two-way links between mental health problems and employment difficulties. People with a history of mental illness are at greater risk of unemployment, job insecurity, early retirement, absenteeism, presenteeism and low salaries, while stress, bullying and other adverse workplace experiences are risk factors for the onset or exacerbation of common mental disorders (see Chapter 10).

Employment generates earnings, brings social status, shapes social roles, fosters social participation and is a major factor in self-image and self-esteem. Long-term unemployment increases the risk of unmanageable personal debt and poverty, in turn further worsening mental health.<sup>53</sup> Most people with a history of mental illness want to work, are perfectly capable of working in appropriate settings, and derive therapeutic benefits from working.<sup>44,54</sup> But those people often face barriers: reduced abilities because of their symptoms (even if only temporarily), endemic social stigma and widespread discrimination by employers.

Economic hardship intensifies the difficulties that people with mental health problems encounter in the labour market. A study that looked at experiences across 27 countries of the European Union found that it was harder for people with mental health problems to get employment during the worldwide macroeconomic recession of recent years than people without such morbidity. Moreover, the relative disadvantage was significantly greater in countries with higher levels of stigmatising attitudes towards mental illness.<sup>55</sup>

### Antisocial behaviour and crime

While, as Howard and Shaw argue in Chapter 14 of this report, 'Violence and mental health', "most people with mental illness are not violent and most people who are violent are not mentally ill", mental health problems may lead to contact with the criminal justice system. As noted earlier, childhood mental health problems can lead to teenage delinquency and adulthood crime.<sup>27,29</sup> Economic impacts include costs associated with the victim, fear of crime, the impacts on the criminal justice system of acquisitive crime by people who misuse substances<sup>56</sup> and violent crime by people experiencing florid psychotic episodes,<sup>57</sup> and suicide and self-harm by people experiencing severe depression.<sup>58–60</sup>

Economic evidence in this area is limited. Parenting programmes targeted at parents of children with conduct disorder and intervention services for those in the early stages of psychosis look like cost-effective preventive strategies over both the short and long term.<sup>3,4</sup> However, little is known about the economic case for liaison and diversion services or mental health programmes within prisons.<sup>61</sup>

## Suicide and self-harm

Suicide and self-harm are rare but disturbing consequences of mental illness. Although not uppermost in decision makers' minds when considering how to address these events, there are actually quite high economic consequences too, including intangible costs (the value of lost life; pain and suffering for relatives), as well as the costs of lost productivity (both waged and unwaged), police time and funerals. The cost of a completed suicide for someone of working age in the UK exceeds £1.6 million.<sup>8</sup> Self-harm and non-fatal suicide attempts generate costs for Accident & Emergency departments and medical, surgical and psychiatric care.<sup>62</sup>

Although the economic evidence is sparse, there is some to guide commissioners. Suicide awareness training for GPs and other professionals, followed by CBT for individuals identified as at risk, is highly effective in reducing premature death, self-harm, grief to families and productivity losses. It is also highly cost-effective.<sup>38</sup> Manual-assisted CBT for adults with a history of recurrent deliberate self-harm is also cost-effective,<sup>59</sup> but group therapy for adolescents who repeatedly self-harm is not.<sup>63</sup>

## Stigma and discrimination

Poor mental health can be exacerbated by social exclusion, discrimination and prejudice.<sup>64</sup> The stigma experienced by many people can affect multiple aspects of their lives, limiting access to employment and housing, harming social relationships, lowering self-esteem and reducing the likelihood that they seek treatment.<sup>65</sup> Initiatives such as England's Time to Change – which included an anti-stigma social marketing campaign – have been launched to try to improve public knowledge, attitudes and behaviour. Time to Change was found to have a modest but statistically significant positive impact, to cost relatively little and to be potentially cost-effective.<sup>66</sup> Earlier modelling obtained similar economic results for the Scottish See Me campaign.<sup>20</sup>

## Inequalities

Unemployment, low income, unmanageable debt, housing problems and social deprivation can lead to or exacerbate mental and physical health problems, suicide rates, alcohol misuse and social isolation, as well as reducing resilience.<sup>67</sup> But there are also causal links in the other direction: people with mental health problems are at elevated risk of unemployment, early retirement, rent arrears and other debt, lower personal and household income and social isolation.<sup>53,68</sup>

One implication of these connections is the need to pay particular attention to mental health needs during periods

of macroeconomic downturn.<sup>69</sup> Another implication is that there are wide and deep-rooted inequalities in the incidence and prevalence of mental health needs. Income-related inequalities in mental health are much greater than in physical health,<sup>21</sup> and are even greater in some minority ethnic groups.<sup>70</sup>

Decision makers should be alert to the possibility that access to treatments (and hence to their therapeutic benefits) may be inequitably distributed by ethnicity, gender, age, language, religion, income or place of residence.<sup>68</sup> They should also be aware that interventions might be differentially beneficial: Barrett et al.<sup>71</sup> found that adding joint crisis plans to usual treatments was cost-effective in preventing compulsory hospital admissions among black patient groups, but not among white or Asian groups. As we argued earlier, the potential lifelong disadvantages associated with mental health problems require long-term strategic action.

## Conclusions

Although there is less economic evidence in the mental health field than is needed to support the more efficient and more equitable allocation of available societal resources, the situation is vastly better than even 10 years ago, thanks in large measure to publicly funded research in England. Strategic decision makers and local commissioners now have much more and better evidence to guide their actions. Whether they make best use of that evidence is perhaps another matter. Efforts are needed to improve the translation and implementation of knowledge, to counter some deep-seated stigmatising attitudes towards mental illness and the people who experience it, and to address shortages of suitably trained professionals (such as psychologists). Efforts are also needed to engage actors across many sectors – not just health, but social care, housing, education, employment, criminal justice, welfare and so on – given the complex aetiology and wide-ranging impacts of many mental health problems.

Spending on evidence-based mental health services is an investment that will pay quality of life and economic dividends across much of society, over many years.

## Authors' suggestions for policy

- The potential lifelong disadvantages associated with mental health problems require long-term strategic action.
- Better integration of physical and mental health care, encouraged by redesigned payment mechanisms, would further improve healthcare quality and productivity.
- National and local efforts are needed to address persistent negative attitudes towards mental illness, particularly towards schizophrenia and other psychoses.
- Access to treatments (and hence to their therapeutic benefits) may be inequitably distributed by ethnicity, gender, age, language, religion, income or place of residence.



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