PAYING THE PRICE

The cost of mental health care in England to 2026

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King's Fund

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Foreword

Mental health is big business. Direct costs of mental health in England are now around £22.5 billion a year – that includes spending in health and social care and a variety of other agencies, but not the indirect costs of the impact on the criminal justice system and in lost employment. Within the NHS it accounts for more than 12 per cent of the total budget. What is more we are now spending more than ever, with an unprecedented expansion over the past few years.

Much of the spending on mental health has been directed at trying to raise the level and quality of services provided, and the evidence suggests that there have been significant improvements. Nevertheless, serious questions remain about the nature of the current provision and the extent to which it is fit for purpose, as well as about how mental health services should respond to future demands. That is why we commissioned this review, which followed our 2006 report into the funding of social care *Securing Good Care for Older People: Taking a long-term view* (King's Fund 2006).

With this report our aim has been to understand more clearly what future needs might be and to reflect on where investment, or indeed disinvestment, could take place. Like all such studies involving projections, there is a significant degree of uncertainty – the assumptions of today do not always turn into the societal changes of tomorrow – but it does provide a picture of a possible future and underlines the importance of starting to plan for it right now.

In some respects the message of *Paying the Price* is reassuring – in spite of some alarming commentary from various quarters about the state of the nation's mental health, there is no evidence that we are becoming more anxious or depressed or that many more of us are suffering from serious conditions such as schizophrenia and severe personality disorders.

What it does reveal, however, are some significant challenges.

First is the rise in dementia and a growing population of older people – a product of the success in extending the average lifespan. Dementia will drive spending in current prices from less than £15 billion in 2007 to nearly £24 billion in 2026 – and considerably more if the real cost increases of employing staff at that time are included. Second, many people who currently need help are not in touch with services – for example, it is estimated that a third of those with depression and half of those with anxiety disorders remain undiagnosed and untreated. Third, a great deal more work needs to be done to demonstrate when and whether mental health promotion works in reducing prevalence of mental disorders.

The review also suggests that there are ways in which we could increase investment in evidence-based interventions, which could produce net savings through increased employment. We also need to find ways of encouraging government to think more about how effective investment in one area can produce real savings in another.

The lesson of this report is that without the right level and type of investment we will all pay the price – not just in wasted resources but also in wasted lives. We therefore hope this report will be used to encourage informed debate about the future nature and shape of mental health support.

Niall Dickson
Chief Executive, King's Fund

Executive summary

Background

In 1999 the government made mental health one of its three clinical priorities, alongside cancer and heart disease. It created a National Service Framework for Mental Health and appointed a National Director for Mental Health to oversee its implementation. Since then, backed by an increase in investment of more than £1.5 billion (around a 50 per cent increase), which has helped to fund growth in all the main mental health staff groups, mental health services in England have seen considerable change, in particular in the development of specialist secondary care services for people living in the community.

Recognising the significance of mental health in terms of both the health of the population and the cost to the government and taxpayer, in 2006 the King's Fund commissioned a review to estimate mental health expenditure in England for the next 20 years, to 2026. The review had the following broad aims. To:

- assess the current need for mental health services and the costs of services provided
- project needs and costs to the year 2026
- assess the impact that specific interventions may have on these costs.

Methods

Mental health need was assessed by obtaining prevalence data on specific conditions covering major mental health problems and combining these prevalence rates with population projections for England. The conditions included are those targeted by mainstream services and for which there is a reasonable evidence base as to the effectiveness of interventions. However, substance misuse was excluded. We included all age groups in the study with the exception of those aged below 5.

Typical service packages were defined from survey data and individual studies and costs were calculated. These were then combined with the numbers of people in each disorder group to measure the overall costs of services.

'Service costs' and 'total costs' were estimated. The former included direct health and social care costs, and, where possible, informal care and criminal justice services; the latter is service costs plus the costs of lost employment (considered relevant where a significant proportion of those experiencing the mental disorder were of working age).

It has been assumed that health and social care costs increase at an annual rate of 2 per cent above general inflation (the GDP deflator) – which is in line with similar reports. To estimate the cost of lost employment we also assumed that earnings in the population as a whole increase by 2 per cent a year over and above the GDP deflator.

TABLE 1: NUMBER OF PEOPLE WITH SPECIFIC DISORDERS AND CURRENT AND PROJECTED COSTS

Disorder	Number of people (million)		Service costs (£ billion)			Lost earnings (£ billion)			Total costs (£ billion)		
	2007	2026	2007	2026 (2007 prices)	2026 including real pay and price effect[c]	2007	2026 (2007 prices)	2026 including real pay and price effect[c]	2007	2026 (2007 prices)	2026 including real pay and price effect[c]
Depression	1.24	1.45	1.68	2.03	2.96	5.82	6.31	9.19	7.50	8.34	12.15
Anxiety disorders	2.28	2.56	1.24	1.40	2.04	7.7	8.34	12.15	8.94	9.74	14.19
Schizophrenic disorders	0.21	0.244	2.23	2.52	3.67	1.78	1.94	2.83	4.01	4.46	6.5
Bipolar disorder/ related conditions	1.14	1.23	1.64	1.8	2.63	3.57	3.83	5.58	5.21	5.63	8.21
Eating disorders	0.117	0.122	0.016	0.016	0.024	0.035	0.036	0.052	0.051	0.052	0.076
Personality disorder[a]	2.47	2.64	0.7	0.78	1.13	7.2	7.65	11.16	7.9	8.43	12.29
Child/adolescent disorders[b]	0.61	0.69	0.14	0.16	0.24	0	0	0	0.14	0.16	0.24
Dementia[b]	0.58	0.94	14.85	23.88	34.79	0	0	0	14.85	23.88	34.79
Total	8.65	9.88	22.5	32.59	47.48	26.1	28.1	40.97	48.6	60.69	88.45

Notes: [a] The costs for personality disorders related to 64.6 per cent of people with the condition (*see* Chapter 9). [b] The total costs are the same as the service costs as we have assumed that there is no lost employment for people with these conditions. [c] It has been assumed that real pay and prices increase by two percentage points above the GDP deflator.

Specific interventions for which there was an evidence base – such as the use of psychological therapies and home treatment teams – and for which data were available were then modelled to assess their impact on costs.

There are some limitations to the review and thus this report. These include:

- costs were estimated on the basis of primary diagnoses only
- children aged 0–4 were omitted
- less common diagnoses for which data were unlikely to be available were excluded (although the number of people with these other conditions is unclear, the Hospital Episode Statistics for 2004/5 show that they accounted for 2.2 million bed days out of a total of 8.7 million)
- learning disability was not included
- data on some services (including informal care and the criminal justice system) were not available for all conditions. However, we consider that non-health service costs will be incurred to some extent for all conditions.

These limitations mean the estimates of current and projected service costs made in this report are likely to be slight underestimates of the true figures.

Findings

Key findings from the review are shown in Table 1 above.

Summary of key findings

- The number of people in England who experience a mental health problem within the diagnostic groups studied is projected to increase by 14.2 per cent from 8.65 million in 2007 to 9.88 million in 2026 – a rise of more than 1.2 million people. On the whole, this increase in numbers simply reflects the expected increase in population by 15.1 per cent from 50.98 million currently to 58.68 million people in 2026.

- Prevalence rates for all mental disorders within all age groups are likely to remain broadly stable. The proportion of people with a mental disorder will fall very slightly from 17.0 per cent to 16.8 per cent of the total population.

- Although not the largest group of people with a mental disorder, those with dementia will see the largest increase in numbers, as a result of an increasingly ageing population, in particular people aged 75 and over. The service costs associated with dementia are far higher than all other conditions put together. They currently make up 66 per cent of all mental health service costs; by 2026 it is estimated that they will make up 73 per cent of all mental health service costs (at 2007 prices).

- Current service costs, estimated to be £22.50 billion, are projected to increase by 45 per cent to £32.6 billion in 2026 (at 2007 prices). This is primarily due to an estimated increase in service costs for people with dementia of £9.0 billion. Costs will increase by 111 per cent to £47.5 billion if the real pay and price effect (a 2 per cent annual increase in health prices over and above GDP deflator) is taken into account – again, primarily due to the impact of dementia.

- Many people with mental disorders are either not in contact with services or are in contact but are not receiving any treatment. It is estimated, for example, that 35 per cent of those with depression and 51 per cent of those with anxiety disorders are not in contact with services, and many conduct disorders and eating disorders among children and adolescents are undiagnosed and untreated. This means there is a significant potential to treat more people with these mental disorders if diagnostic services are accessible, treatment is available, and the individuals concerned are willing to accept it. Net savings are likely to occur if treatment is given to those currently not receiving treatment as reductions in lost employment costs should outweigh treatment costs. However, it is important to recognise that while the costs of care fall to primary care trusts (PCTs), the benefits largely accrue elsewhere, in terms of increased employment and tax revenue, and reduced benefits payments.

- The cost of lost employment, currently estimated to be £26.1 billion, is projected to increase by 7.7 per cent to £28.1 billion by 2026 (at 2007 prices). Although a relatively small increase (it is not affected by the rise in numbers of people with dementia, who may almost all be assumed to be beyond retirement age), this confirms the major adverse economic impact of poor mental health, which currently outstrips the direct NHS and social care service costs of supporting people with mental disorders.

- A number of service interventions might lead potentially to reductions in costs. For depression and anxiety disorders, increasing the number of people who are currently in treatment and who receive evidence-based interventions would increase service costs but could result in savings in total costs if treatment is effective and results in

TABLE 2: POTENTIAL ANNUAL SAVINGS FROM INTERVENTIONS TO TREAT DEPRESSION, ANXIETY DISORDERS, SCHIZOPHRENIA, BIPOLAR DISORDER AND DEMENTIA

Condition and interventions	**2007**	**2026**
Depression		
Medication for those currently untreated	£5–36 million	£8–61 million
Medication plus psychological therapy for those currently untreated	£1–9 million	£2–16 million
Anxiety disorders		
Medication for those currently untreated	£8–66 million	£13–102 million
Medication plus psychological therapy for those currently untreated	£1–7 million	£2–11 million
Schizophrenia		
Expansion of crisis intervention teams	£4–22 million	£7–37 million
Expansion of early intervention services	£0 million	£13–65 million
Introduction of early detection services	£0 million	Up to £19 million
Bipolar disorder		
Expansion of crisis intervention teams	£2–10 million	£3–16 million
Expansion of early intervention services	£0 million	£8–31 million
Introduction of early detection services	£0 million	Up to £4 million
Dementia		
Reduction in prevalence among those aged 65–74	£0.2–0.6 billion	£0.4–1.2 billion
Reduction in prevalence among those aged 65–84	£0.8–2.4 billion	£1.7–5.2 billion

The range of potential savings depends on how many more patients are treated and how quickly new services come online

increased employment. Increasing the number of people receiving medication provides a much greater economic gain than psychological therapies, which may produce similar benefits compared to medication but are far more expensive. Such savings are shown in Table 2 above.

- With regard to schizophrenia and bipolar disorder and related conditions, savings (mainly in reduced inpatient costs) could be realised by expanding the use of crisis intervention and early intervention services. Early detection and intervention services for psychosis can lead to a reduced need for services at a later stage and therefore cost savings.

- All the evidence-based interventions examined had the potential to reduce costs and should be pursued, so that scarce resources can be directed to best effect. However, in no cases would any savings from such interventions – which might be counted in millions of pounds – make a significant impact on the overall level of mental health costs, which can be counted in billions of pounds. The one exception would be reducing the prevalence of dementia in those aged under 85.

- Recommendations include:
  - a commitment from future governments to ensure that funding meets expected increased costs
  - a sustained effort to support people with mental health needs of working age who are not in employment to return to work
  - the expansion of evidence-based interventions in primary care settings for people with depression and anxiety disorders, crisis services in the community and early intervention services for psychosis
  - the establishment of better systems of early detection and treatment of dementia
  - more research into the cost-effectiveness of a range of interventions, including mental health promotion and prevention initiatives.

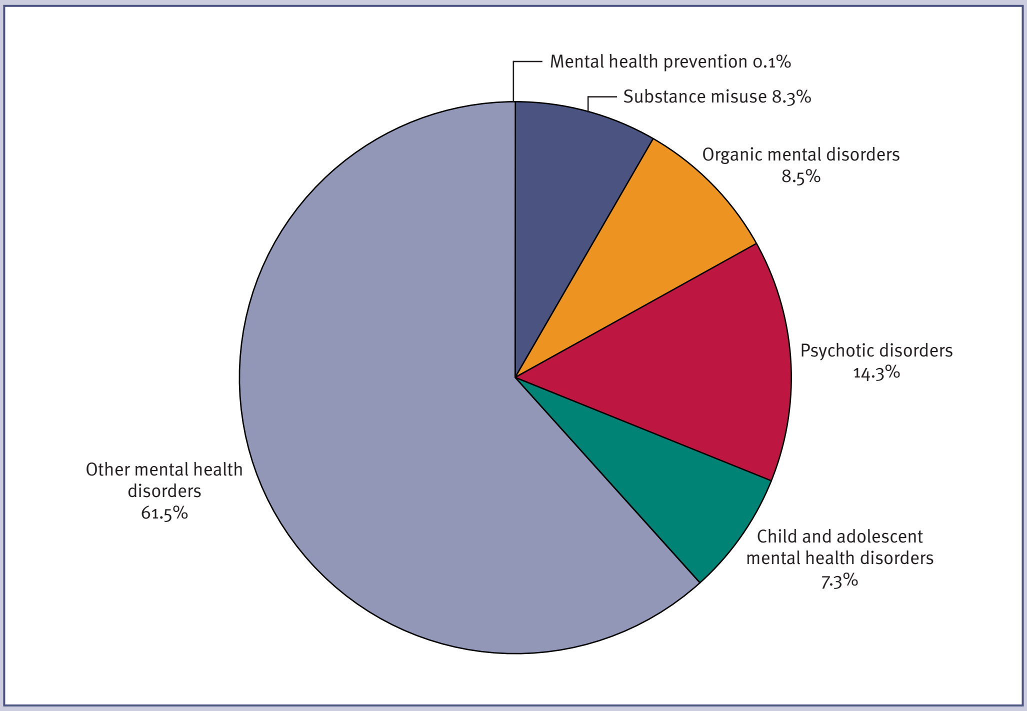
1 Introduction

Background

People with mental disorders experience significant difficulties in leading ordinary lives and participating in their communities, and their conditions can have a significant economic impact. Even mild levels of mental ill health can result in social and occupational problems. Providing effective treatment for affected individuals creates potential benefits for the patients themselves; for employers, through reduced absenteeism and higher productivity; for family members and friends, through a lower 'burden' of care; and for government, through reduced social security benefits.

Ten years ago mental health was designated a top NHS priority (Boardman 2005), alongside cancer and heart disease. The government's White Paper *Modernising Mental Health Services: Safe, Sound and Supportive* (Department of Health 1998) made clear the intention to modernise mental health services, invest an additional £700 million in care over three years, and to create a National Service Framework for Mental Health (NSFMH) for

1 DISTRIBUTION OF NHS SPENDING ON MENTAL HEALTH SERVICES, 2006/7



Source: Department of Health 2007d

working-age adults, the implementation of which was to be overseen by a national director for mental health.

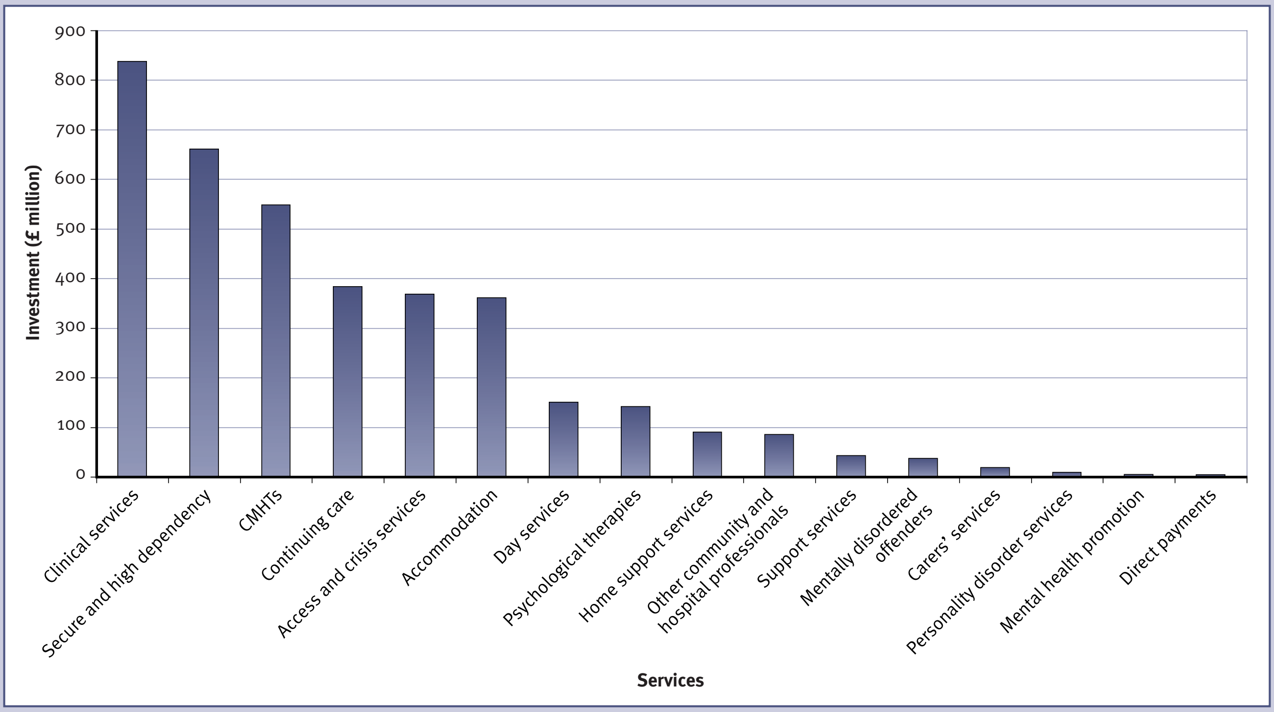
Funding

In 2006/7 NHS organisations budgeted to spend £8.4 billion on mental health services (for all age groups), which accounts for 12.4 per cent of all spending (Department of Health 2007d). The distribution of mental health spending across different areas is shown in Figure 1 (*see* p 1). Two-thirds of expenditure is on the 'other' category which includes depression and anxiety disorders. Very little expenditure was specifically for preventive interventions.

Backed by an increase in investment of more than £1.5 billion since 1999, with growth in all the main mental health staff groups, NHS mental health services in England have seen considerable change in recent years, in particular in the development of specialist secondary care services for people living in the community. The government's 2007 Comprehensive Spending Review (CSR) suggests that the NHS budget will be increased by 4 per cent per year in real terms for the next three years, which will enable more investment in mental health services (HM Treasury 2007).

The CSR also announced a smaller (1 per cent) increase in spending on adult social care. Overall local authority funding – from which adult social care, including care for people with mental disorders, is funded – is to increase by £2.6 billion by 2010/11. In addition, direct funding from the Department of Health for social care for older people – again, many

2 DISTRIBUTION OF PLANNED INVESTMENT IN ADULT MENTAL HEALTH SERVICES IN ENGLAND, 2006/7



Source: Mental Health Strategies (2007)

of whom will have mental disorders – and support services for carers will increase by £190 million to £1.5 billion by 2010.

It has been estimated that planned investment in direct mental health services for adults of working age only in 2006/7 was £4.0 billion (Mental Health Strategies 2007). This clearly differs substantially from the figure of £16.4 billion above. This is due to: first, the latter including figures for older people and children and adolescents and second, expenditure on infrastructure investment probably not being picked up in the service costs. (The NHS costs we report in Chapter 12 are higher than the Mental Health Strategies figure because we have included dementia and conditions affecting children and adolescents. However, our costs – which are similar to those reported elsewhere (Sainsbury Centre for Mental Health 2003b) are similar to the £8.4 billion stated above for the reasons already cited and also because we have not included certain disorders.)

Figure 2, opposite, shows the distribution of this planned investment and it can clearly be seen that certain services such as those for carers and mental health promotion receive substantially less funding than acute services.

National Service Frameworks

The NSFMH (Department of Health 1999) laid out a series of minimum standards for mental health services (*see* Table 3 overleaf).

The separate National Service Framework for Older People (Department of Health 2001a) highlighted levels of depression and dementia among older people, and set its own mental health standard, Standard 7: ‘Older people who have mental health problems have access to integrated mental health services, provided by the NHS and councils to ensure effective diagnosis, treatment and support, for them and their carers’. A report produced jointly by the Healthcare Commission, the Audit Commission and the Commission for Social Care Inspection has found that progress against this standard has been patchy (Commission for Healthcare Audit and Inspection 2006).

The later National Service Framework for Children, Young People and Maternity Services (Department of Health 2004a) also included its own standard for children, namely: ‘All children and young people, from birth to their eighteenth birthday, who have mental health problems and disorders have access to timely, integrated, high quality, multi-disciplinary mental health services to ensure effective assessment, treatment and support, for them and their families’. A target to establish a comprehensive Child and Adolescent Mental Health Service (CAMHS) by the end of 2006 was not achieved, although a review of this National Service Framework published in November 2007 (Department of Health 2007d) claims that, despite significant variations in service across the country, proxy targets have been met and significant progress has been made towards commissioning a comprehensive mental health service for children and adolescents.

The NSFMH standards were elaborated and specified further in the *NHS Plan* (Department of Health 2000), which included specific targets for numbers of new services and numbers of people who would be supported by such services. The *Mental Health Policy Implementation Guide* (Department of Health 2001b) set out service specifications for crisis resolution/home treatment teams, assertive outreach teams and early intervention

TABLE 3: THE NATIONAL SERVICE FRAMEWORK FOR MENTAL HEALTH, 1999

Standard	Aims
1 Mental health promotion	• Good mental health should be promoted. • Discrimination and social exclusion as a result of mental health problems should be combated.
2 Primary care and access to services	• Patients contacting primary care team should have their condition assessed and be offered appropriate treatment.
3 Primary care and access to services	• Patients should be able to contact services around the clock. • NHS Direct should be available as a first option for advice.
4 Effective services for people with severe mental illness	• Patients on the Care Programme Approach should receive care which optimises engagement, prevents/ anticipates crises, and reduces risk. • Patients should receive a care plan and be able to access services at all times.
5 Effective services for people with severe mental illness	• Patients who require admission should have access to a bed in the least restrictive environment that is consistent with safety to themselves and others. • Inpatient stays should be as close to home as possible. • On discharge patients should receive a written care plan.
6 Individuals who care for people with mental health problems	• Carers should have an assessment of their own needs. • Carers should have their own written care plan.
7 Preventing suicide	• The above standards should be applied to prevent suicide. • Prison staff should be supported to prevent suicide in prisoners. • Staff should be able to assess risk of suicide in those most at risk. • Local suicide audit systems should be developed.

Source: Department of Health (1999)

teams. Since then the Department of Health has published a number of further guidance documents about specific types of services.

The National Institute for Health and Clinical Excellence (NICE) has also published a number of reports setting out the best evidence of cost-effective interventions for a range of mental disorders (NICE 2002; NICE 2004b; NICE 2005a; NICE 2005b; NICE 2006; NICE 2007a; NICE 2007c). Much of this evidence was used in the review to estimate the impact on costs of implementing recommended interventions.

Some reports (*see*, for example, Sainsbury Centre for Mental Health 2003a) have pointed out that increased funds were not necessarily resulting in improved or expanded services. A five-year review of the NSFMH (Department of Health 2004b) showed progress towards some of the targets but also acknowledged challenges in other areas and pointed to the diversion of money and existing inequities across the country. However a more recent 10-year review of mental health care reform (Department of Health 2007c) emphasises the £1.5 billion increase in funding and staff numbers.

Rationale for the review

The King's Fund has a core interest in the improvement of health and the delivery of health services – a key factor in which is the costs of services. In 2002, HM Treasury published a report it had commissioned from Sir Derek Wanless on future health care funding needs over a 20-year period (Wanless 2002). This was followed by a further report focusing on the public health aspects of the review's recommendations (Wanless 2004). To build on this work, in 2005 the King's Fund commissioned Sir Derek to undertake a review of the future social care needs of older people over a 20-year period, including identifying the resources that would be required and how such social care might be funded (Wanless 2006). Most recently, the Fund invited Sir Derek to chair the Steering Group for its own review of progress in the five years following the first Wanless report, looking at how the extra money was spent and what had been achieved (Wanless 2007).

This mental health expenditure review builds on these earlier reports. Mental health problems affect more than 8 million people in England, and account for more NHS expenditure than any other health programme. They also have a huge impact outside direct publicly funded health and social care spending in terms of informal care costs and lost employment costs. In order to promote better treatment and the most effective use of limited resources, a thorough understanding of the costs associated with mental health problems is required, against which specific interventions can be assessed.

There is currently little work available on the future costs of mental health care. One costing study, undertaken by the Sainsbury Centre for Mental Health, does touch on this area (Boardman and Parsonage 2007), although it was limited to specific NSFMH standards and only looked across seven years. The study assessed the resources needed to deliver key objectives of current mental health policy, organised around the seven standards of the NSFMH. The report estimated that there needed to be an increase in resources from £3.3 billion in 2002/3 to £6.4 billion by 2010/11 to meet the objectives of the National Service Framework (NSF) – an average annual increase of 8.8 per cent. Cost of illness studies have, though, been criticised as they do not directly inform decisions about how resources should be allocated – this is more properly facilitated by cost-effectiveness studies. Data from such studies can, however, help with policy decisions if used as a benchmark against which specific interventions can be assessed.

Recognising the significance of mental health both in terms of the health of the population and the cost to the NHS, the government and the taxpayer, and the lack of existing work in this area, in 2006 the King's Fund commissioned the Centre for the Economics of Mental Health (Institute of Psychiatry, King's College London) to undertake a review of current mental health expenditure in England, and to estimate future mental health costs over the 20 year period to 2026.

Aims of the review

The aims of the review were to:

- assess current needs for, and costs of, mental health services
- estimate the number of people in England with specific mental disorders over the 20-year period between 2007 and 2026
- examine the evidence on rates of treated prevalence in order to make projections of trends in contact rates over the same period
- define typical service packages for people with these disorders based on current service configurations, including impacts outside the NHS
- estimate the cost of these services over the 20-year period
- change key parameters in the model to take account of possible technological advances in mental health care treatment and provision
- discuss the policy implications of these predicted expenditure needs.

It would have been useful to examine the impact on patient outcomes of different mental health care interventions, but time precluded this being part of the remit.

Structure of report

Chapter 2 describes the general methodology of the review. Chapter 3 describes how the demography of England is expected to change over the next 20 years – key to projecting future costs. Specific conditions are covered in Chapters 4–11. Finally, Chapter 12 summarises the key findings, identifies implications and makes recommendations on the basis of the findings.

2 Methods

In order to estimate mental health expenditure we took the following four steps:

- quantification of mental health need
- estimation of service provision for each group of conditions
- estimation of service and total costs
- modelling of interventions to assess their impact on costs.

This chapter provides a general overview of the methods used. However, given differences in data sources and availability each of the following chapters contains a detailed description of the methods applied and the data used for that condition.

Quantifying mental health need

A key part of the review was to estimate the number of people (adults and children/adolescents) with specific mental health conditions for each of the years from 2007 to 2026. The following conditions (with relevant ICD-10 codes where appropriate) were included, covering most major mental health problems:

- depressive disorders (F320 to F31X)
- anxiety disorders (F400 to F411, F418 to F42X)
- schizophrenia and other functional psychoses (F200 to F29X)
- bipolar disorder and related conditions (F300 to F31X)
- eating disorders (F500 to F503)
- personality disorders (F600 to F61X)
- conditions affecting children and adolescents (hyperkinetic disorders, conduct disorder, emotional disorders)
- dementia (F000 to F03X)

Some key disorders or groups of disorders were excluded. In particular, we have not included drug or alcohol abuse. Other exclusions are post-traumatic stress disorder (PTSD), mixed anxiety and depression (which is considered to reflect some symptoms but which do not reach a 'threshold' for depression or anxiety), and eating disorders other than anorexia nervosa and bulimia nervosa (due to lack of data). The omission of PTSD is a limitation. Establishing the prevalence is problematic as this is influenced in part by the occurrence of external events. Given its link to migration it is arguably going to become an increasingly prevalent disorder in England. However, we are not aware of any data sources that would enable us to estimate costs of treatment associated with PTSD. As such the costs reported in this study are an underestimate of the total costs of mental disorder in England.

It is not uncommon for someone with one mental health problem to have an additional disorder. However, co-morbidities have not been teased out due to the methodological complexities in doing this. Instead we have focused on primary diagnoses and recognise that some of the associated costs may be due to other conditions.

Age- and gender-specific prevalence rates were estimated for the above conditions. Data were obtained from the large-scale Psychiatric Morbidity Survey (PMS) for the prevalence of depressive disorders and anxiety disorders (Singleton *et al* 2001). The PMS was conducted in 2000 and involved interviewing more than 8,000 adults aged 16–74 living in the community. A diagnostic tool (the CIS-R) was used to establish the presence or not of common mental disorders. In addition, questions were asked to identify possible cases of psychosis. Due to the low numbers of people with probable psychosis we obtained prevalence data for schizophrenic disorders from both the PMS and other figures from the published literature. For bipolar disorder and related conditions prevalence data were obtained from a community survey conducted in the United States, the National Co-morbidity Survey Replication (Merikangas *et al* 2007). This was used due to the lack of appropriate epidemiological data from England. Prevalence estimates for eating disorders were obtained from published papers, while those for personality disorders were adapted from an Australian study (Andrews *et al* 1999). Prevalence rates for child and adolescent disorders were estimated from another large-scale community survey, conducted in 1999 (Meltzer *et al* 2000). Finally, we used figures from a recent report by the Alzheimer's Society for the prevalence of dementia (Alzheimer's Society 2007).

To estimate the number of people with the above conditions in England for each year from 2007 to 2026 we multiplied the derived age- and gender-specific prevalence rates by the most recent population projections (using 2006 as a base year) produced by the Government Actuary's Department (www.gad.gov.uk). These projections do not show how the distribution of different ethnic groups may change and, because this is potentially important for some disorders, we obtained projections by ethnic group from another source (Rees and Parsons 2006).

A valid criticism of the above methodology would be that focusing on specific diagnoses results in too narrow an approach. People with mental health problems will often have changing diagnoses and tools used to determine diagnosis differ. This is reflected in the very different prevalence figures that various studies report. There is also a school of thought that is opposed to the very idea of 'labelling' people with diagnoses. While recognising these views we felt that the approach used was appropriate from a practical point of view given that most of the data available were also linked to specific diagnoses.

Estimation of service provision

The objective of this component of the study was to derive 'typical' annual service packages for each disorder and, where possible, to produce these for males and females and each age group separately. Recognising that mental health problems necessitate service responses from a variety of agencies, we adopted a comprehensive approach to costing. Where data allowed, and where this was considered an important component, we included not only health care services but also social care, criminal justice services and informal care from family members. In addition, we also included the costs associated with lost employment as a result of mental health problems. Data sources for service use information included the PMS, the national survey for children and adolescents and individual studies conducted by the authors or colleagues using similar methodologies (examples of such studies can be found at: www.iop.kcl.ac.uk/departments/?locator=355). Most of these sources provided data on services used by people with mental health problems but what we could not disentangle was the service use that was specifically due to the disorder. Inpatient data were obtained from the Department of Health's *Hospital Episode Statistics*. However, these do not include private beds and therefore the inpatient costs in this report are underestimates.

Estimation of service and total costs

In attaching monetary values to service packages it is important that they reflect the true economic costs of services. We used the Personal and Social Services Research Unit (PSSRU) costs in our estimation as these attempt to take into consideration the opportunity costs of providing services (Curtis and Netten 2006). All of the data sources for service use were for periods before 2007 and therefore costs had to be inflated (to 2005/6 values, the latest available from the PSSRU at the time of writing). Informal care costs were calculated for schizophrenic disorders and bipolar and related disorders. Informal care is not generally paid for but it clearly still has an economic value and we used the cost of a homecare worker to reflect this value. Lost employment was costed using the human capital approach. This assumes that lost work time can be valued using wage rates. There is some debate regarding the different methods used to value lost work. If unemployment is high then lost work may not actually result in an economic loss as someone who was previously unemployed could take the place of the person who is out of work due to mental health problems. However, at the time of writing unemployment in England is relatively low and there is also the possibility that a replacement employee would previously have been working elsewhere. In this report we used gender-specific average earnings to represent the cost of lost employment. We have, though, assumed that in the absence of depression, anxiety disorders, schizophrenia, bipolar disorder and personality disorder the prevailing unemployment rate would apply. Lost employment costs for eating disorders were estimated in a different way as described in Chapter 8.

A key issue concerns the way in which changes in the input wages and prices of health and social care are dealt with in making projections and in particular assumptions about future inflation. In this study it has been assumed that health and social care costs are likely to grow at a faster rate than inflation in the economy as a whole as measured by the GDP deflator. One reason for this is that productivity increases in a labour-intensive industry such as health care are more difficult to achieve than in other areas, and yet there is pressure for wage increases to keep pace with those elsewhere (Baumol 1995). To account for this we have assumed that health and social care costs (pay and prices) will increase at an annual rate of 2 per cent above general inflation (the GDP deflator) – which is in line with similar reports conducted by the Personal Social Services Research Unit, London School of Economics (for example, Malley *et al* 2006; Comas-Herrera *et al* 2007). To estimate the cost of lost employment we assumed that earnings in the population as a whole increase by 2 per cent per year over and above the GDP deflator. (Again, this follows the methods used by the Personal Social Services Research Unit, London School of Economics.)

Intervention modelling

The final component of the study has been to estimate the impact that different interventions have on the costs of different disorders. After constructing a 'base case' model of projected service provision and costs from the current configuration of health and social care services, we estimated changes that would occur by implementing and expanding evidence-based interventions and other interventions for which there is more anecdotal support. Scenario 1 interventions are those which are either based on official recommendations or for which there is a clear evidence base. Scenario 2 interventions include those where the evidence base regarding effectiveness is weaker.

For some disorders no such interventions could feasibly be modelled. To inform this component we conducted interviews with people from key mental health organisations and also asked organisations to contact us with their views as to the direction that mental health services should take in the future. In the event, most of the intervention modelling was based on interventions for which reasonably strong evidence already exists, with the consultative process serving to identify areas which require further analysis. Appendix 1 (*see* pp 127–128) provides details of the interviews and feedback received.

3

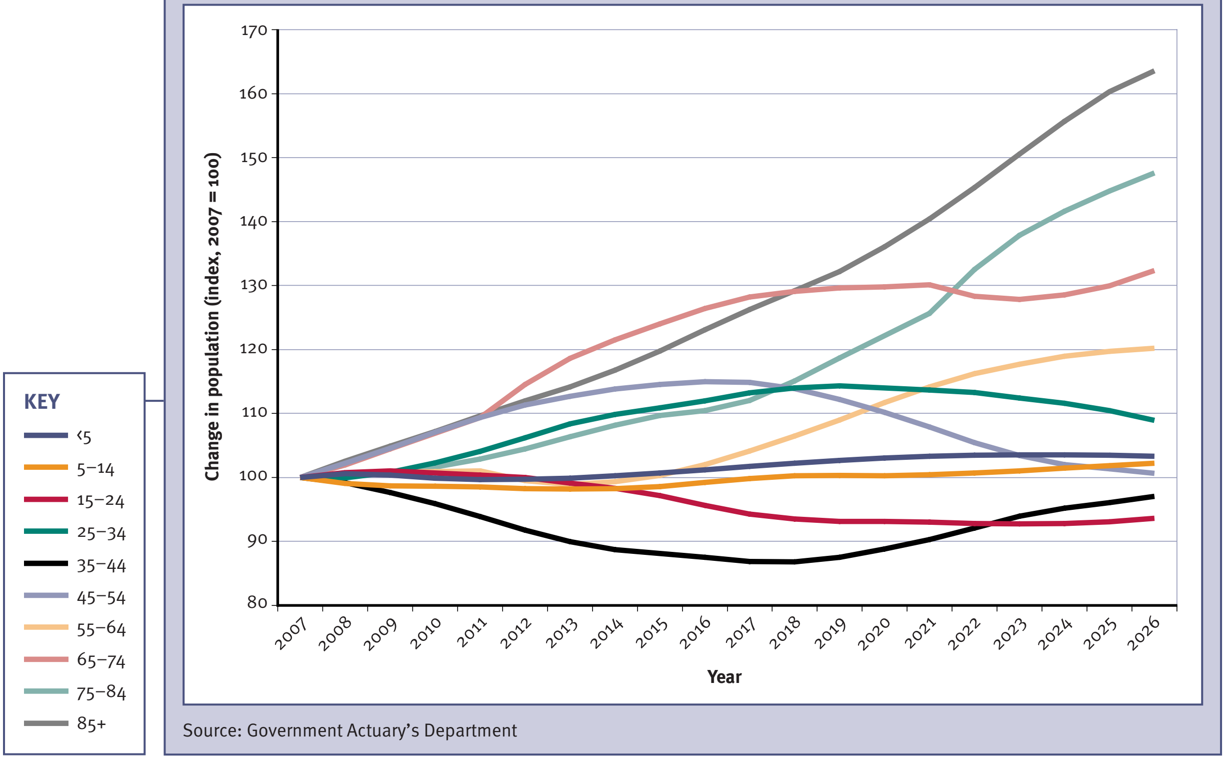
Projected demographic change in England, 2007–2026

Projecting mental health need is clearly dependent on demographic change. The Government Actuary's Department (GAD) produces population projections for England by age and gender up to 2074. It is estimated that there are currently 50.80 million people living in England. This number is expected to increase steadily over the next 20 years, reaching 58.68 million by 2026.

It is often stated that the population is becoming relatively older. This is illustrated in Figure 3, which shows that those aged 75 to 84 and 85+ are increasing in number at a greater rate than those in other age groups. There is projected to be a decline in those aged 15 to 24 over time. Figure 3 is interesting in that it indicates a non-linear rate of change in some age groups. For example, we see growth in those aged 45–54 until around 2016 and then a decrease, whilst the opposite applies to those aged 35–44.

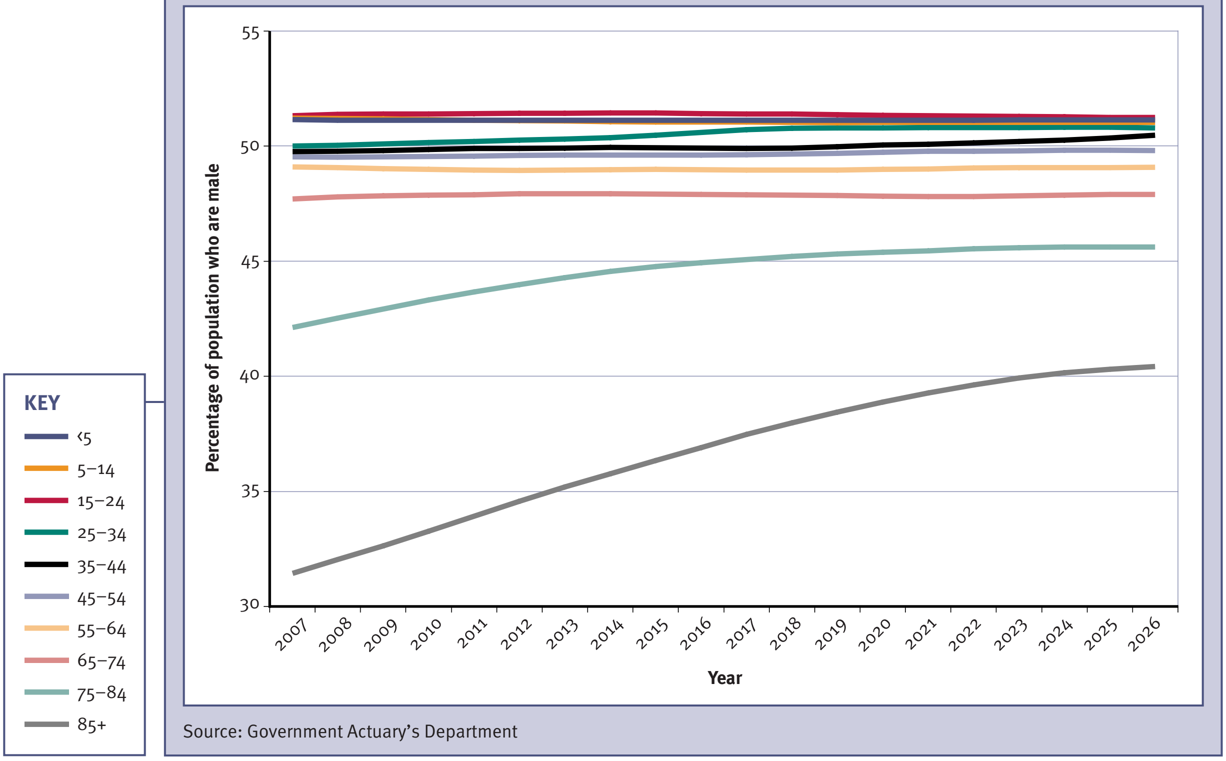
The gender distribution for most age groups is fairly even, but currently men account for only 31 per cent of all people aged 85 and over and 42 per cent of those aged 75 to 84

3 CHANGE IN NUMBER OF PEOPLE IN ENGLAND BY AGE GROUP, 2007 TO 2026



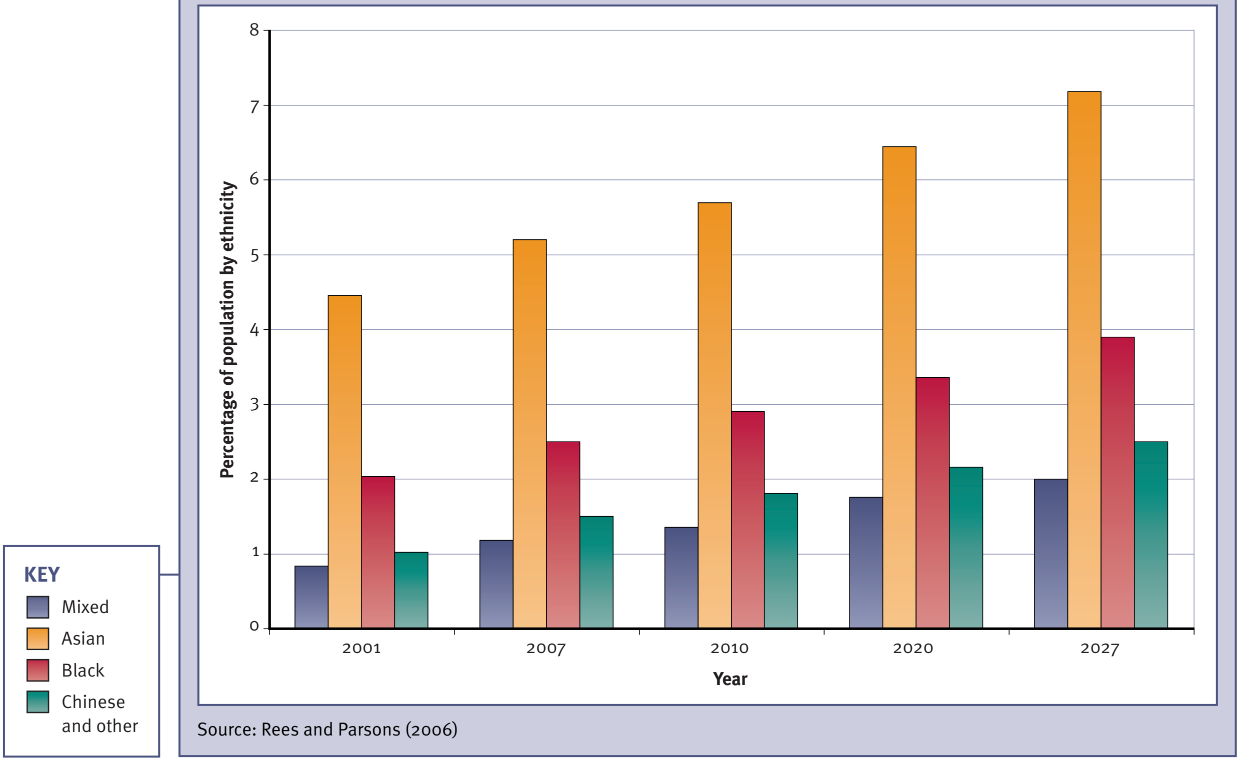
Source: Government Actuary's Department

4 PROPORTION OF POPULATION WHO ARE MALE IN ENGLAND, 2007 TO 2026



Source: Government Actuary's Department

5 PERCENTAGE OF POPULATION AGED 16–44 BY ETHNIC GROUP



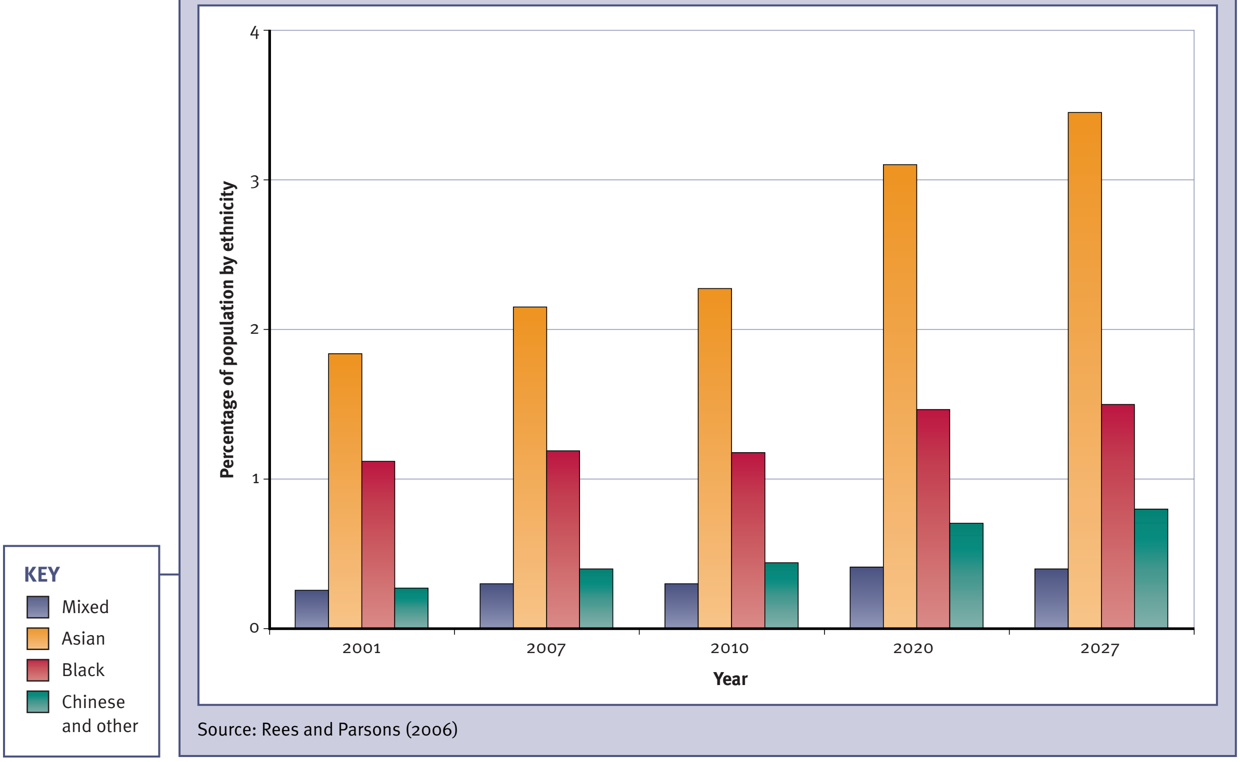
Source: Rees and Parsons (2006)

(*see* Figure 4, opposite). Over the next 20 years this difference is expected to narrow, probably due in particular to improved health in men.

Population projections by ethnic group

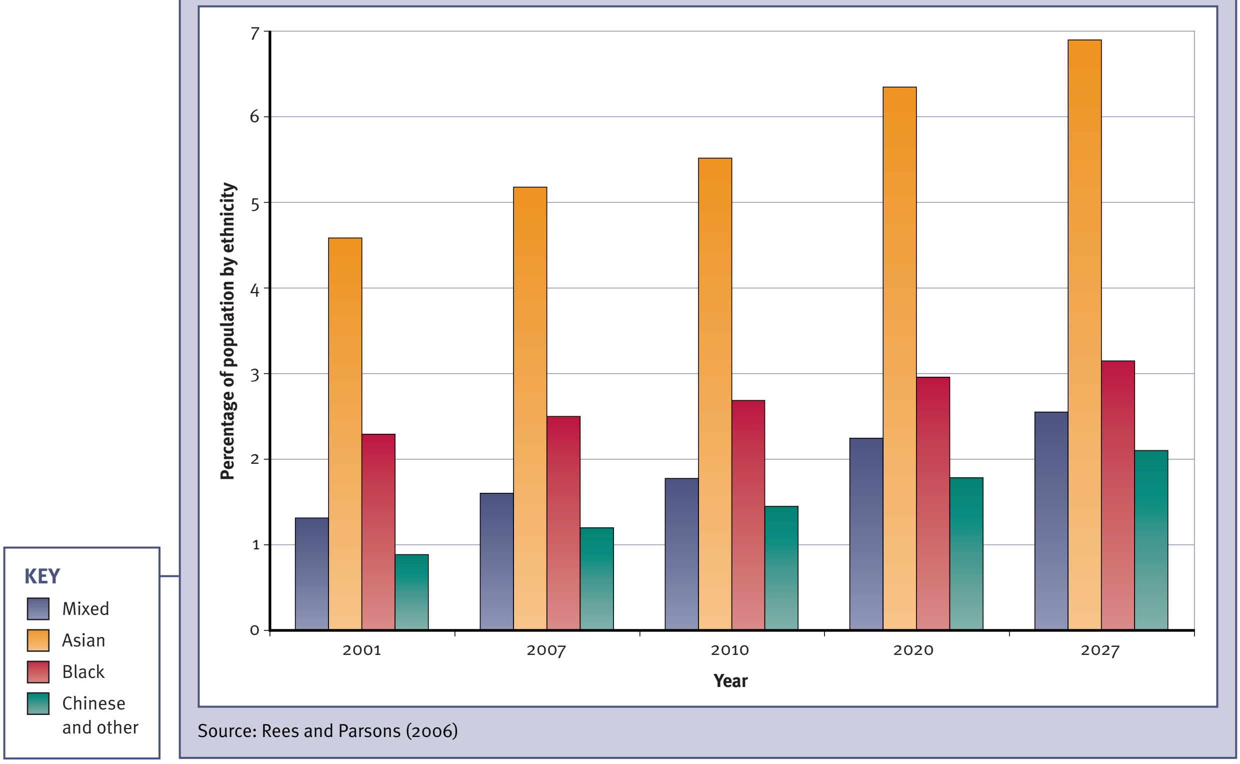
The GAD figures do not contain projections by ethnic group. However, data were available from a report produced for the Joseph Rowntree Foundation (Rees and Parsons 2006). These data relate to the years 2001, 2010 and 2020 and therefore we made linear interpolations for the years between 2007 and 2026 for use in this report. Figures 5–7 (*see* pp 12–14) show increases in the proportion of the population for black and minority ethnic groups for which data are available, and for each age group. The absolute numbers are relatively small, and those from a white ethnic background account for 79.9 per cent of those aged 15 and over. This is projected to decrease slightly by 2026 to 78.9 per cent.

6 PERCENTAGE OF POPULATION AGED 45–59 BY ETHNIC GROUP



Source: Rees and Parsons (2006)

7 PERCENTAGE OF POPULATION AGED OVER 60 YEARS OLD BY ETHNIC GROUP



Source: Rees and Parsons (2006)

Summary

We have seen from this chapter that the next 20 years will see clear, but not always large, changes in the demographic make-up of England. In particular there will be an increase in the proportion of the population aged 75 and over and those from black and minority ethnic groups.

4

Depression

SUMMARY

A substantial number of people in England have depression, resulting in considerable service and societal costs. Although costs are projected to increase over the next 20 years, most of this increase is due to changes in the real price of health and social care. It has been shown that around one-third of people with depression are not in receipt of services. Of those with moderate to severe depression who are in contact with services one-third do not receive medication or psychological therapy. Provision of both of these forms of care would increase service costs and in the case of medication these costs would be offset by reduced cost of lost employment. This is to some extent also the case with psychological therapy, but if real earnings increase at a lower rate than real health and social care prices these savings would fall over time and could even disappear.

Key points

- The prevalence of depression ranges between 29–42 per 1,000 people.
- 2007 figures estimated that 1.24 million people had depression and it is projected that by 2026 this will reach 1.45 million due to demographic changes.
- 65 per cent of working-age adults are in contact with services.
- The average service costs for those in contact with services was £2,085 in 2007, while the average cost of lost employment was £9,311.
- The total cost of services for depression in England in 2007 was estimated to be £1.7 billion. Lost employment brings the total cost to £7.5 billion. By 2026 these figures are projected to be £3 billion and £12.2 billion respectively. Most of this increase is due to expected increases in the cost of services over and above inflation.
- Providing evidence-based treatment to those in contact with services but not receiving such care would increase costs but this will be offset by decreased costs of lost employment. The savings are greatest if medication is used but psychological therapy may be more acceptable to patients.
- If 95 per cent of people with depression were in contact with services, rather than the current 65 per cent, then service costs would currently be £2.3 billion.

Introduction

Depression is a relatively common health problem that usually presents in primary care settings (Goldberg and Huxley 1980). However, it often goes undetected. While most people experience symptoms of depression, there are specific tools for identifying 'caseness' such as the Beck Depression Inventory and the Hamilton rating scale (Beck *et al* 1996; Hedlung and Vieweg 1979). There is some disagreement regarding the categorisation of depression into different severity levels, but a recent report for the National Institute for

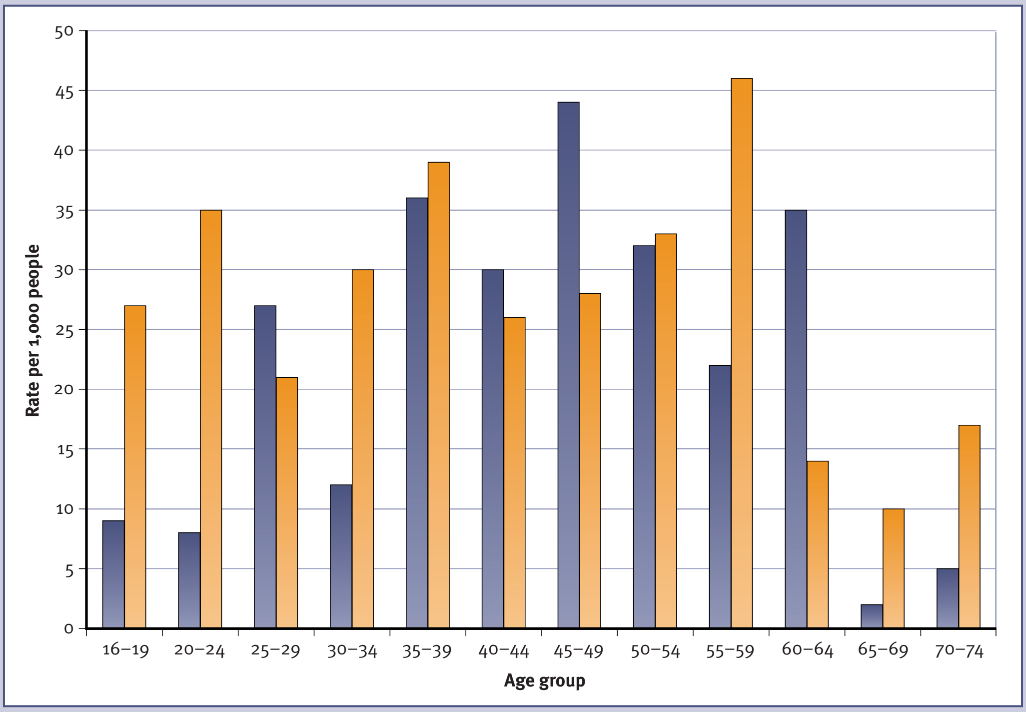
Health and Clinical Excellence (NICE) suggests that mild depression accounts for approximately 70 per cent of cases, moderate depression for 20 per cent and severe depression for 10 per cent (NICE 2004a). Recent reports of increased prescribing of medication for depression has led to discussions about whether depression is increasing or whether it is being over-diagnosed (Parker 2007; Hickie 2007). Current NICE recommendations regarding treatment are summarised in Appendix 2 (*see* p 128).

Prevalence estimates

The Psychiatric Morbidity Survey (PMS) of adults aged 16–74 conducted in the United Kingdom in 2000 (Singleton *et al* 2001) reported a prevalence rate for depression of 26 per 1,000 people in the population, with a slightly higher rate for women (28 per 1,000) compared to men (23 per 1,000). The distribution of prevalence rates according to age is shown in Figure 8 below. It can be seen that prevalence rates for people aged below 35 are lower than the rates for people aged 35–59. Rates fall noticeably for people aged 65 and over but this may be due to insensitivity of the diagnostic tool used in the survey to detect psychiatric morbidity in older people. A recent report from Age Concern has indicated that rates of depression actually increase with age (Age Concern 2007). The possible under-counting of depression among older adults is dealt with below.

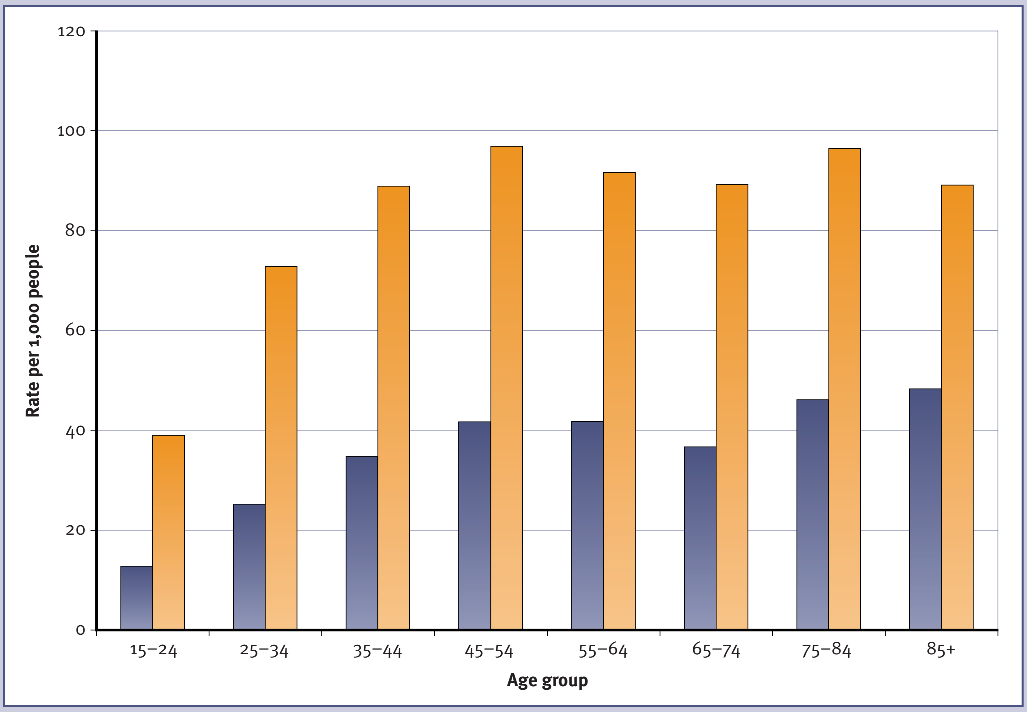
Gender-specific prevalence rates by age group show substantially higher rates for females than males under the age of 25. There are also markedly higher rates for older females compared to older males. Prevalence rates are higher for males than females for those aged 45–49 and 60–64.

8 PREVALENCE OF DEPRESSIVE DISORDERS BY AGE GROUP AND GENDER



Source: Psychiatric Morbidity Survey 2000 (Singleton *et al* 2001)

9 PREVALENCE OF DEPRESSION IN GENERAL PRACTICE BY AGE AND GENDER



Source: Key Statistics from General Practice 1998 (National Statistics 2000)

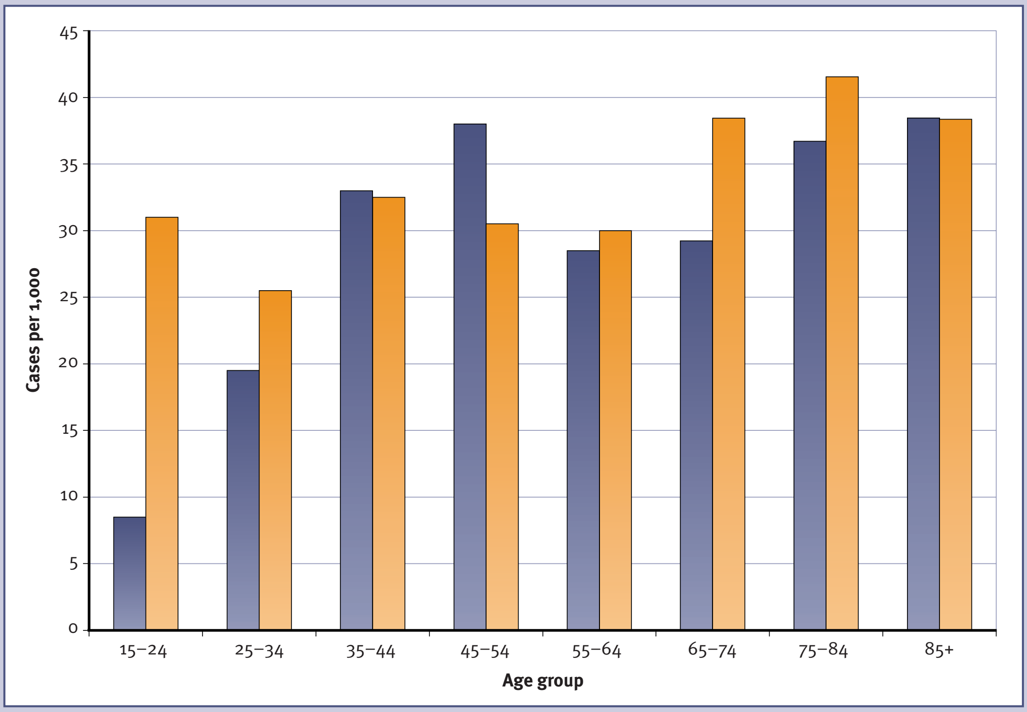
The prevalence rate for people aged under 65 was 30 per 1,000. This is similar to the rate of 28 per 1,000 from the 1993 survey. (There was, though, a larger increase for men than women.) The view of epidemiologists contacted reinforces this finding that the prevalence of depression is relatively stable. The overall prevalence rate of 26 per 1,000 from the 2000 survey is lower than that reported in national surveys from Australia, Germany, the Netherlands and the USA, which all used a different diagnostic tool (Baumeister and Härter 2007).

In order to derive prevalence rates for people aged 75+ (and to obtain more satisfactory rates for those aged 65–74) the review used diagnostic data recorded on patients by general practitioners (National Statistics 2000). Figure 9, above, gives details of these figures for 1998. These figures relate to people who have consulted their GP and been diagnosed with depression (although not necessarily with an instrument such as the CIS-R). The major gender difference in rates reflects the greater likelihood that women will consult their GP.

Prevalence rates from the PMS were calculated for the age groups in the above chart and the ratios between the PMS and general practice prevalence estimates were calculated.

The average ratio for the four age groups was then used to adjust the prevalence rates for the 65–74, 75–84 and 85+ age groups from the general practice data. The resulting prevalence rates, based on the PMS and the general practice data, reveal a slight increase with age (*see* Figure 10, overleaf). Prevalence rates for older adults (65 and over) have

10 PREVALENCE OF DEPRESSION BY GENDER AND AGE GROUP



Source: Psychiatric Morbidity Survey 2000 (Singleton *et al* 2001); Key Statistics from General Practice 1998 (National Statistics 2000)

been investigated in other studies (Djernes 2006), but with a wide range (23 to 250 per 1,000). Our figures of 29.2 to 41.5 per 1,000 appear reasonably typical of those reported elsewhere and we use these as the basis for our calculations.

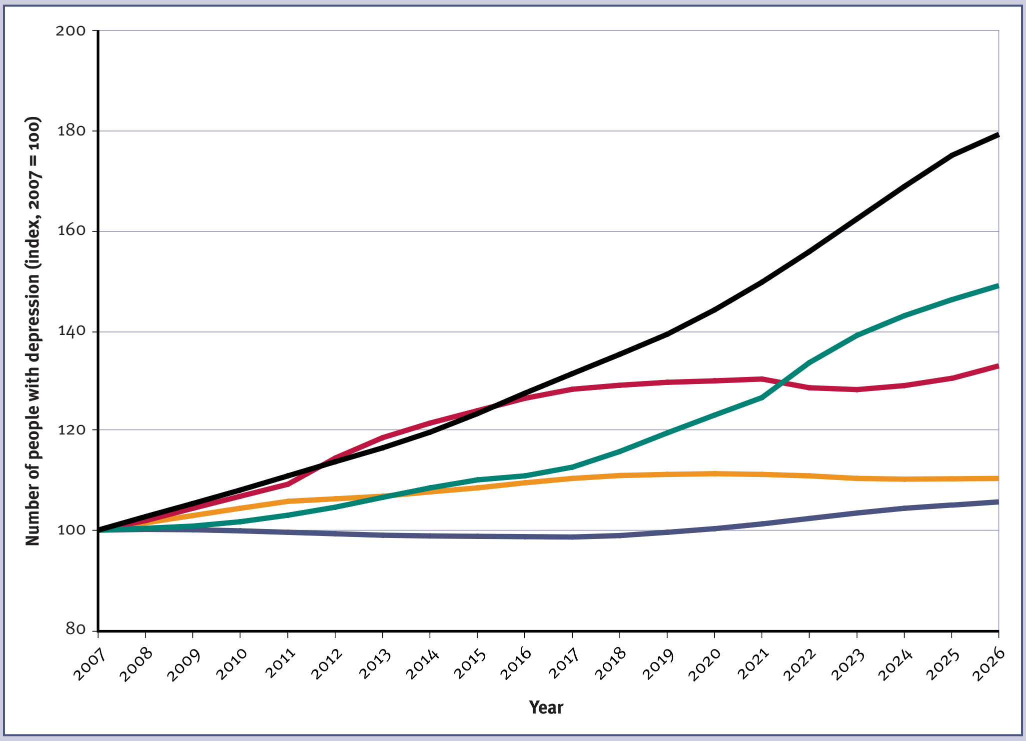
One aspect of depression that we have not addressed specifically is the inter-relationship between depression and physical health problems. Depression may affect the course of a physical illness, but conversely physical illness can lead to more depression. This is important, but we were not able to examine it in great detail. However, the cost data (below) do include elements for services received in respect of physical health needs.

Population estimates

We combined the prevalence rates shown in Figure 10, above, with population estimates for England for 2007 through to 2026 for the age groups used in the subsequent cost estimates. It is estimated that there are 1.24 million people with depression in England, and this is projected to rise to 1.45 million by 2026 – an increase of 17 per cent. From Figure 11, opposite, it can be seen that the rates of change in numbers of cases of depression is not expected to be uniform across age groups. The rate of increase will be highest in the older age groups, with low rates of increase for younger adults. (In fact there is expected to be minimal change in depression numbers for those aged under 45 over the 20-year period.) These trends are entirely due to demographic changes in the population.

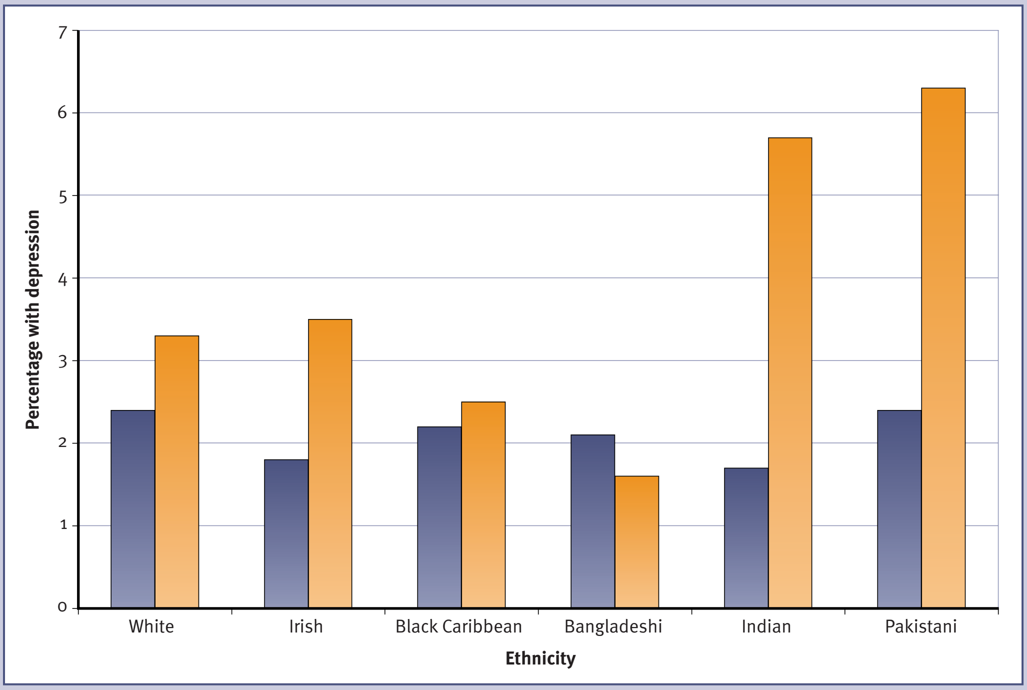
As Chapter 3 has shown, there are expected to be changes in the ethnic composition of the population in England between 2007 and 2026. If prevalence rates for depression

11 PROJECTED CHANGE IN NUMBER OF PEOPLE WITH DEPRESSION, 2007 TO 2026



KEY

12 PERCENTAGE OF PEOPLE WITH DEPRESSION BY ETHNIC GROUP AND GENDER*



KEY

Source: National Statistics (2002)
* Figures represent the percentage in the week prior to the date of the survey.

differ according to ethnic group we would expect this to have an impact on the overall number of people with depression. According to the Ethnic Minority Psychiatric Illness Rates in the Community (EMPIRIC) study, prevalence rates for depression are largely similar across ethnic groups (Sproston and Nazroo 2002). These figures are for cases of depression identified with a survey instrument, and a diagnosis may not actually have been made by a clinician. There are higher rates of depression among Indian and Pakistani women, but lower rates in Black Caribbean and Bangladeshi women (*see* Figure 12, p 19). Population projections are available for the Asian group as a whole and as such the higher rates for Indian and Pakistani women will be offset to some extent by the lower rate for Bangladeshi women.

Service costs and lost employment

The elements used to estimate total costs for depression were: prescribed drugs, inpatient care, other NHS services, supported accommodation, social services and lost employment. Other costs may also be incurred but we could not quantify them for this review and they would be unlikely to add substantially to the totals here. However, it does need to be recognised that our figures are likely to be underestimates of the true cost.

Service costs

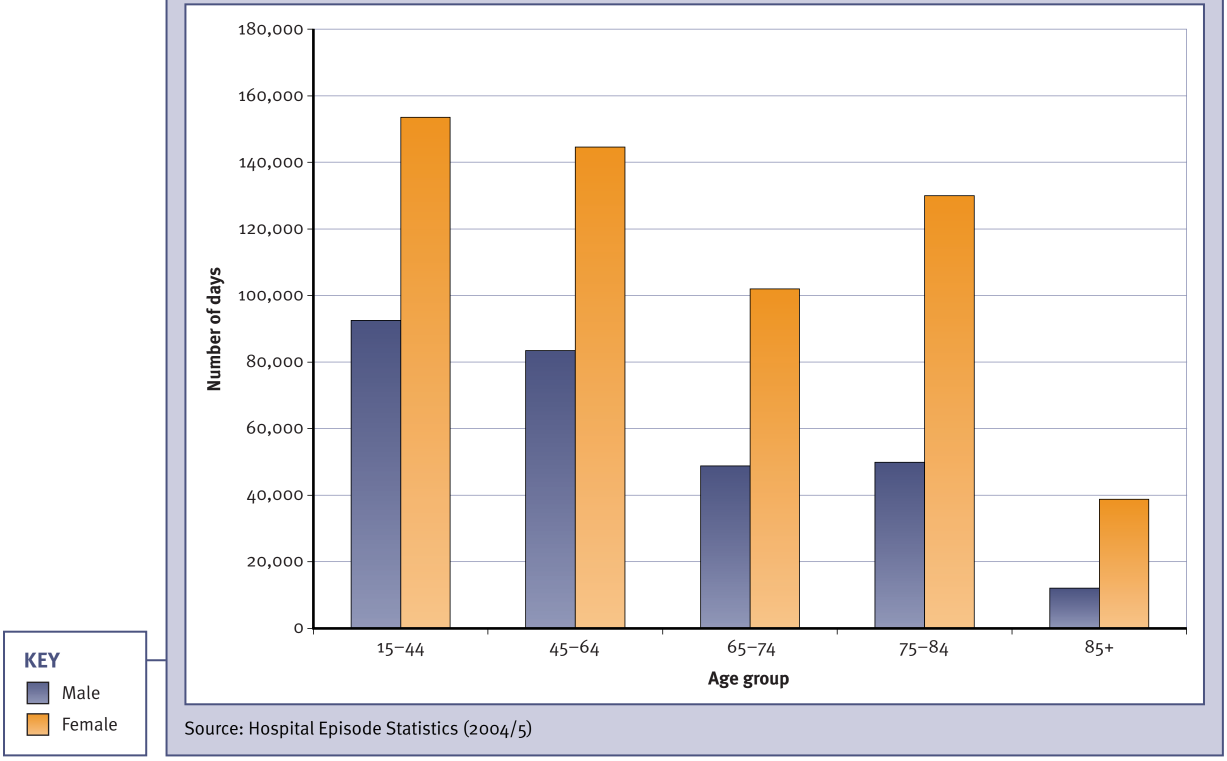
The general method behind the costing approach has been described in Chapter 2. Service use data for people aged under 65 were obtained from the PMS. Exceptions were inpatient data for which we used figures from the Hospital Episode Statistics 2004/5 and use of supported accommodation. Service cost data for older adults were obtained from Livingston *et al* (1997). This was a study estimating the community care costs for 700 people aged 65 and over, 96 of whom had depression (that is, 13.7 per cent). Costs were converted from 1993/4 to 2005/6 prices using appropriate inflation indices (Curtis and Netten 2006).

Data were extracted from the PMS for respondents with severe depressive disorder, moderate depressive disorder and mild depressive disorder. This yielded a total sample of 238 which was divided into gender-specific age bands (16–44, 45–64 and 65–74) to facilitate merging with Hospital Episode Statistics (HES) data. The number of people in each group is shown in Table 4 below. Due to very low numbers in the 65–74 age group,

TABLE 4: NUMBER (%) OF PMS RESPONDENTS WITH DEPRESSION BY GENDER AND AGE

	All with depression		With depression and in contact with services	
	Male	Female	Male	Female
‹45	47 (48)	76 (54)	30 (48)	49 (53)
45–64	47 (48)	54 (38)	33 (52)	38 (41)
65–74	3 (3)	11 (8)	0 (0)	5 (5)
Total	97 (100)	141 (100)	63 (100)	92 (100)

13 NUMBER OF PSYCHIATRIC INPATIENT BED DAYS BY AGE AND GENDER, 2004/5



Source: Hospital Episode Statistics (2004/5)

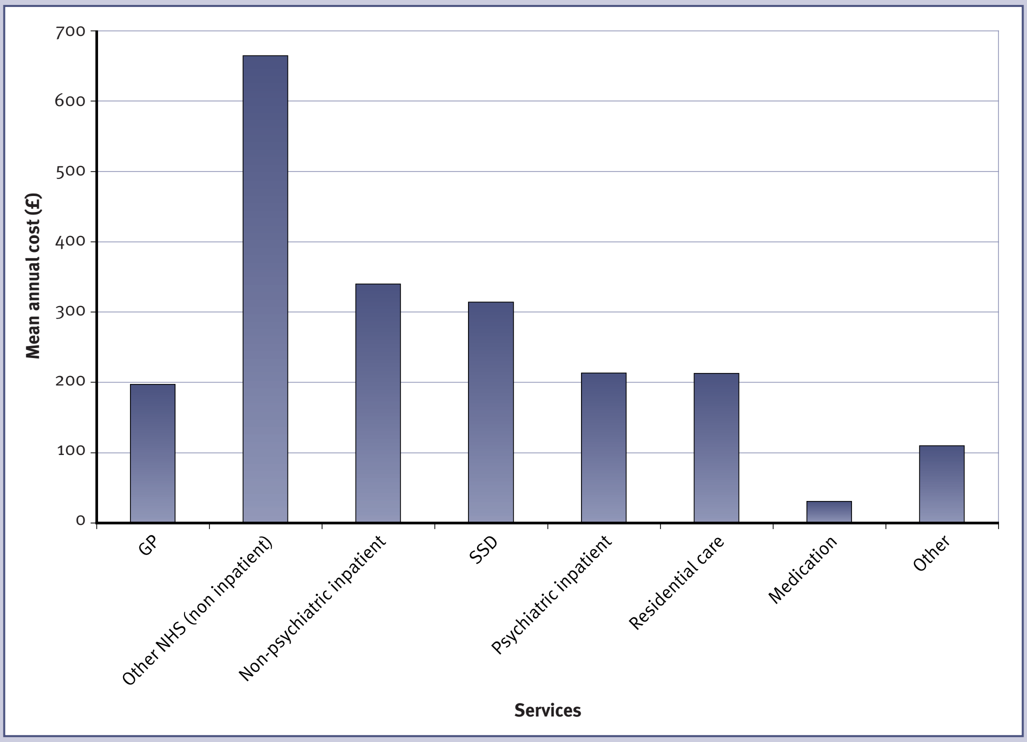
service cost data were taken from the same source as for the 75–84 and 85+ age groups (Livingston *et al* 1997).

Of the 238 people with depression, only 155 (65 per cent) of them were 'in contact' (defined as receiving a specific service for mental health problems, including psychotropic medication, or where the GP had diagnosed a mental health problem). Table 4, opposite, shows data on the number of men and women in each age group. For the sake of consistency we have also assumed that 65 per cent of men and women in the 65–74, 75–84 and 85+ age groups are in contact with services.

NHS inpatient data from the HES by age and gender were available for the year 2004/5. The number of inpatient days in that year is shown in Figure 13, above. For each age group, women used substantially more bed days than men.

We derived the number of people in residential care from two sources. For working-age adults we used data produced from a large survey of residential care homes (Lelliott *et al* 1996; Chisholm *et al* 1997). This shows that around between 4–7 per cent of residents had a main diagnosis of depression depending on age and gender. In England in 2006 there were 12,055 people under the age of 65 in supported accommodation of some form, due to mental health problems (Department of Health 2006). The figure of 12,055 was divided by age and gender according to distributions from the above survey and the age- and gender-specific rates applied to derive the number of people in England in residential care with a main diagnosis of depression. The cost of a week in residential care, £281, was derived

14 AVERAGE SERVICE COSTS FOR DEPRESSION, 2005/6



from a range of unit costs reported by Curtis and Netten (2006) and applied to the above numbers after multiplying by 52 to give an annual cost.

In a recent survey of supported accommodation for older adults it has been estimated that 7 per cent have depression (Bowman *et al* 2004). Some of these may have primarily been in residential care for other reasons though, and we have therefore assumed that 3 per cent are in care specifically because of depressive disorder. (Unfortunately there are no data to verify this, but one might expect a small proportion of older people to be in care homes *specifically* because of depression.) There were 200,055 supported care places for older adults in England in 2006 (Department of Health 2006), and therefore we estimated that 6,007 are related to depression. We subdivided this by age and gender and combined it with a unit cost of £521 per week, again derived from Curtis and Netten (2006).

For people with depression who are in contact with services (but not necessarily receiving active treatment), non-inpatient health care, excluding contacts with GPs which is a separate category, was the most expensive care input (*see* Figure 14, above). This group of services included contacts with psychiatrists, psychologists, other doctors and community mental health nurses. Psychiatric inpatient care had a relatively low cost. Although for those using inpatient care the costs would be high, rates of admission for depression are low. The average service costs in 2007 for people in treatment or where their condition was recognised was £2,085.

15 AVERAGE SERVICE AND TOTAL COSTS FOR DEPRESSION BY AGE GROUP, 2005/6

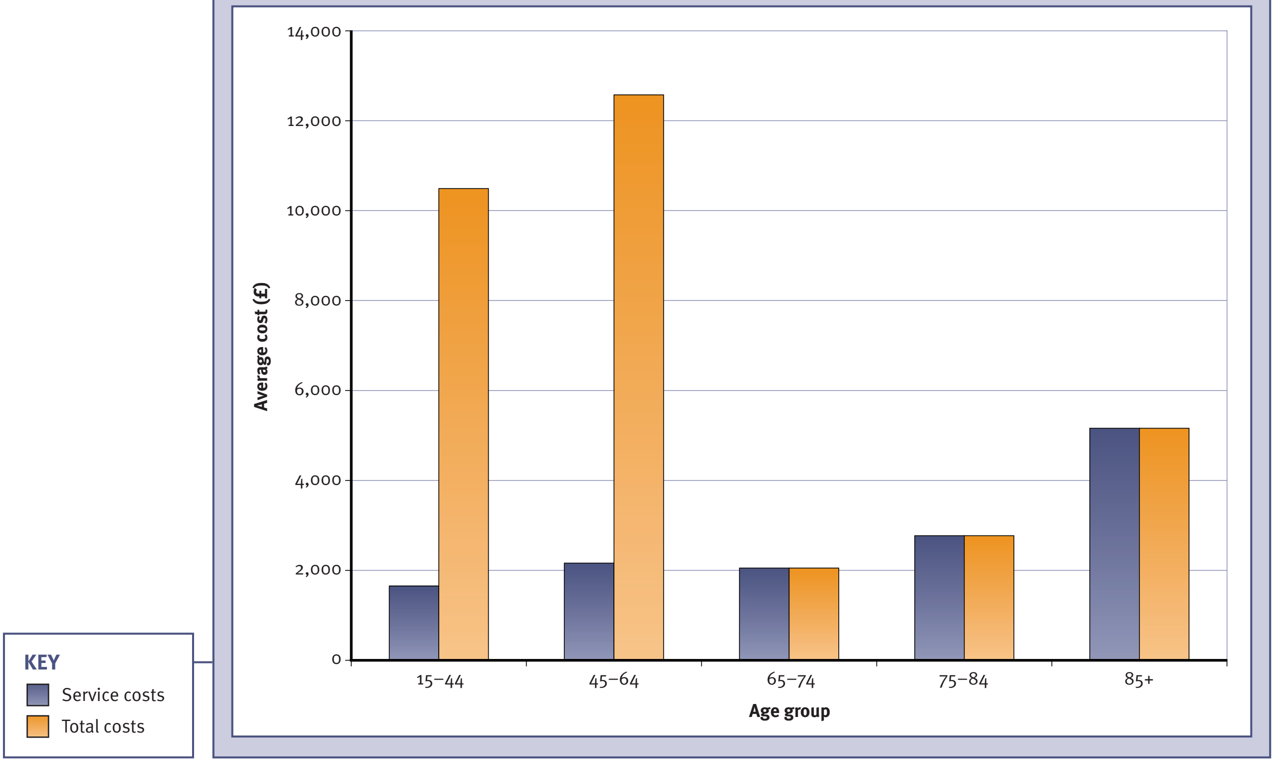


Figure 15, above, shows that average service costs have a tendency to increase with age, with substantially higher costs for those in the oldest age group.

Lost employment costs

The PMS included employment classifications used by the International Labour Organization (employed, unemployed, economically inactive). We computed the percentage of men and women in the ‹45 and 45–64 age groups who were unemployed or economically inactive at the time of the PMS survey and who had not worked during the previous year for people in contact with services because of depression; not in contact with services even though they had depression; and those without depression. The difference between the two depression groups and the non-depressed groups was used to indicate the 'excess probability' of not working due to depression. The average probability for the different age-gender groups was subsequently multiplied by mean annual earnings for men (£30,689) and women (£17,758) in 2006 (National Statistics 2007a). The difference in earnings reflects the greater likelihood that women are engaged in part-time work and earnings inequality. Table 5, overleaf, suggests that having depression results in higher levels of unemployment and economic inactivity than would exist in its absence.

For those people who were unemployed or economically inactive at the time of the survey but who had worked in the previous year, we calculated the mean number of days off work as a proportion of one year, and again the difference between the depressed and non-depressed groups indicated the excess work loss due to depression. This average

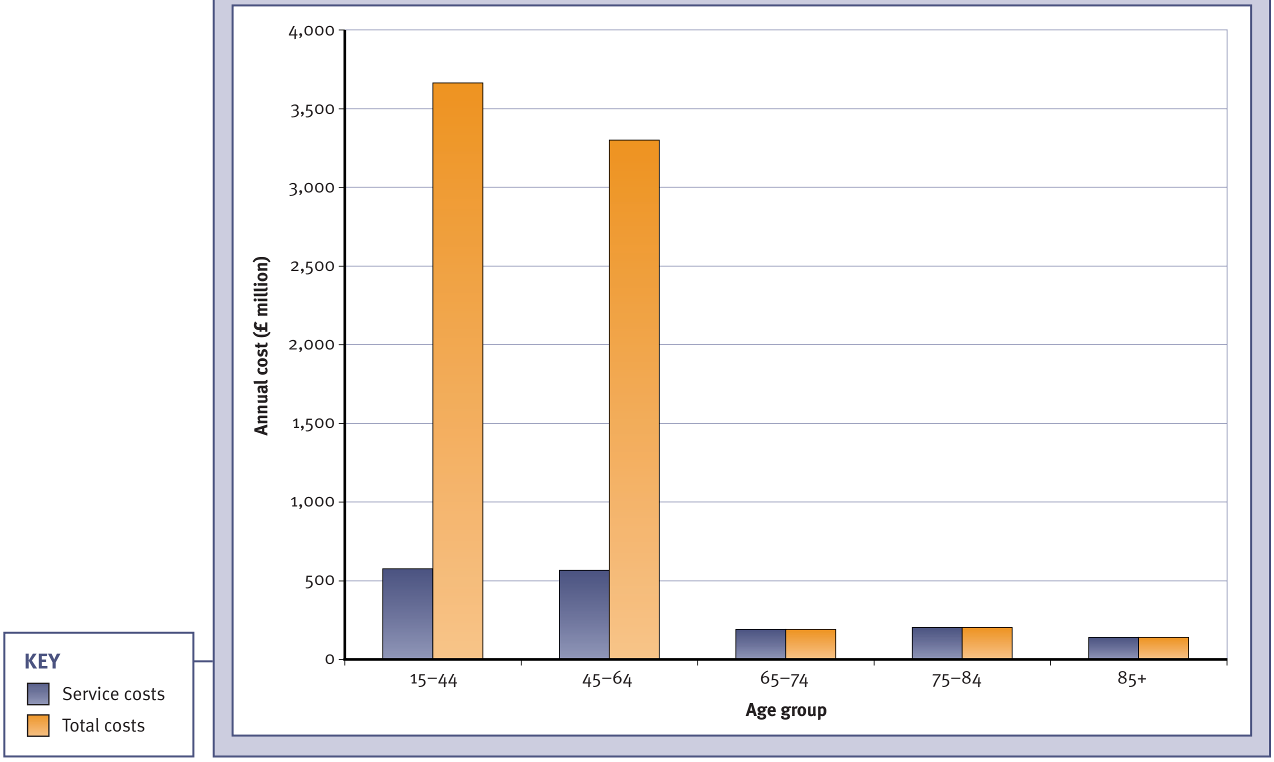
TABLE 5: PERCENTAGE OF PEOPLE WITH DEPRESSION WHO ARE UNEMPLOYED OR ECONOMICALLY INACTIVE

Men	No depression	Depression and in service contact	Depression and not in service contact
‹45	11.1	55.1	17.6
45–64	23.9	71.9	71.4
Women	**No depression**	**Depression and in service contact**	**Depression and not in service contact**
‹45	23.2	47.9	24
45–64	36.5	60.5	40

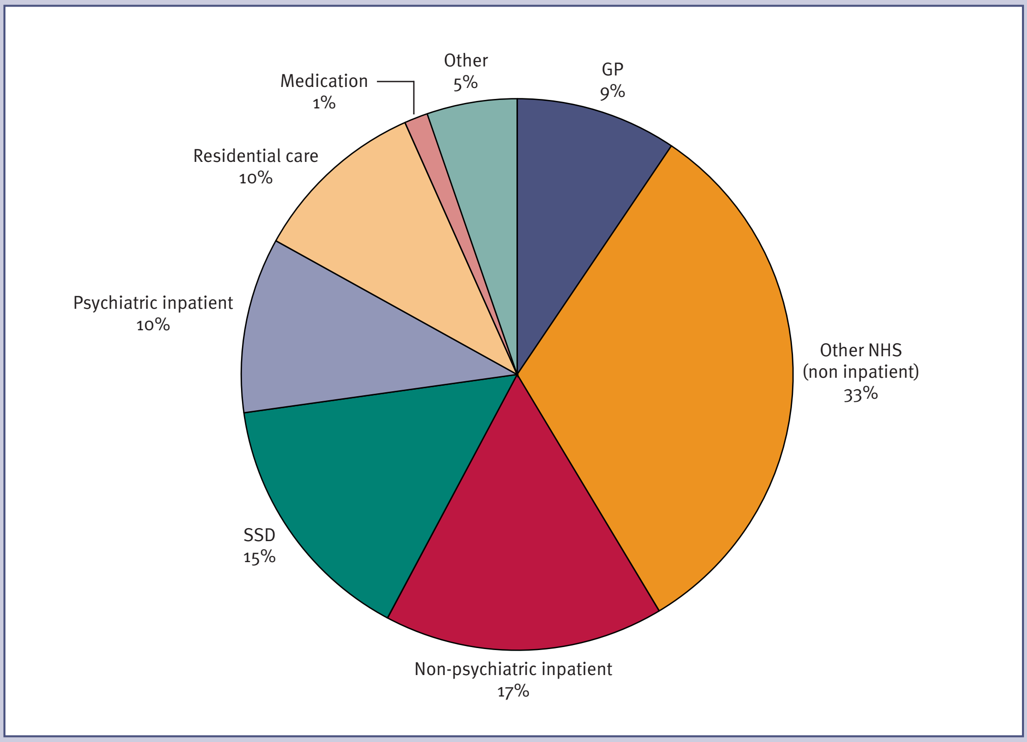
Source: Psychiatric Morbidity Survey 2000 (Singleton *et al* 2001)

proportion was multiplied by the above annual amounts. Mean lost employment costs were £7,226 resulting in a total mean cost of £9,311 per year. Total costs (that is, service costs plus lost employment costs) are equal to service costs for those aged 65 and over due to an assumption of no lost working time in the older age groups. (Of course older adults will be affected in other ways, such as loss of independence. While these may have cost implications they have not been estimated here.)

16 AGGREGATE COSTS OF DEPRESSION BY AGE GROUP, 2005/6



17 DISTRIBUTION OF SERVICE COSTS FOR DEPRESSION



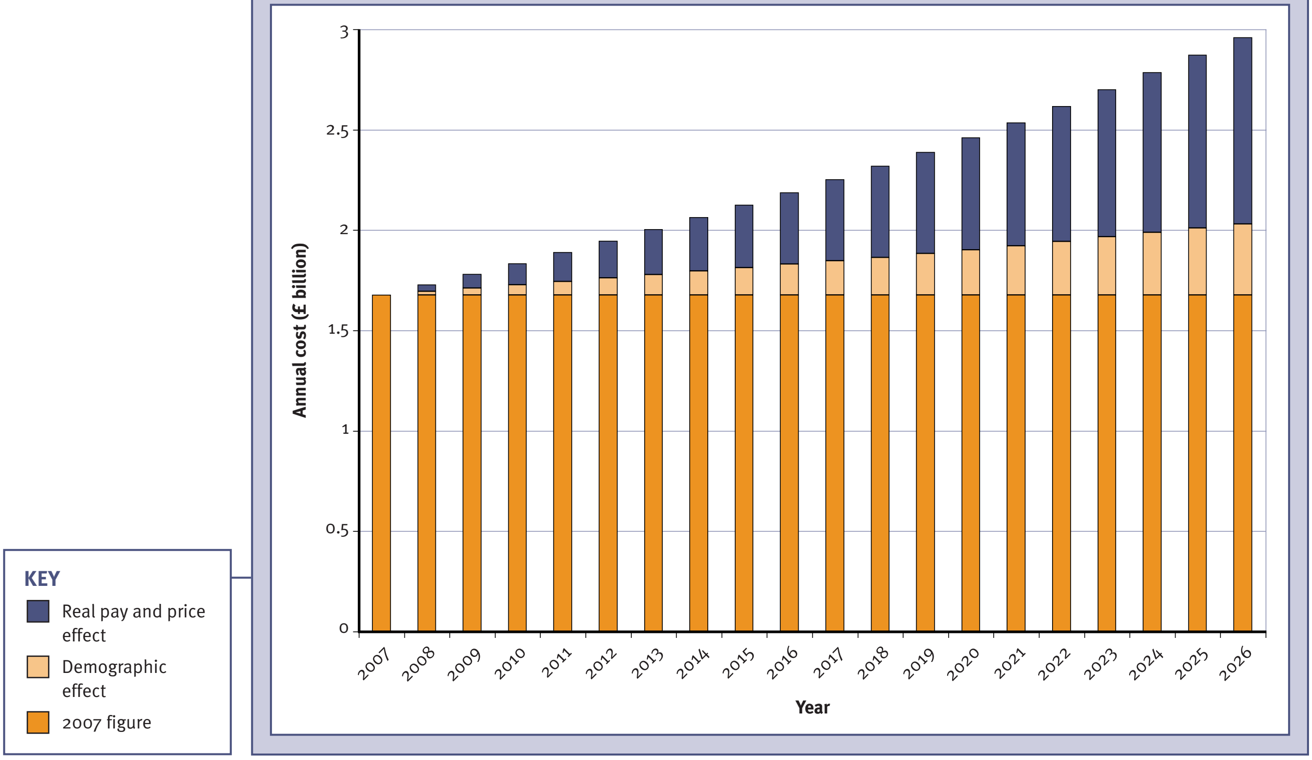
The cost of services for the whole of England in 2007 was approximately £1.7 billion. With the inclusion of lost employment the total comes to £7.5 billion. Figure 16, opposite, shows the overall costs for different age groups, most of which occur for people aged under 65.

Lost employment is estimated to account for 78 per cent of all costs of depression for people in contact with services. (This takes into account the fact that some people even without depression would remain out of work.) Of the service costs, psychiatric inpatient care and residential care together account for 20 per cent of costs (*see* Figure 17, above). Non-inpatient health care, excluding GP time, accounts for one-third of all costs.

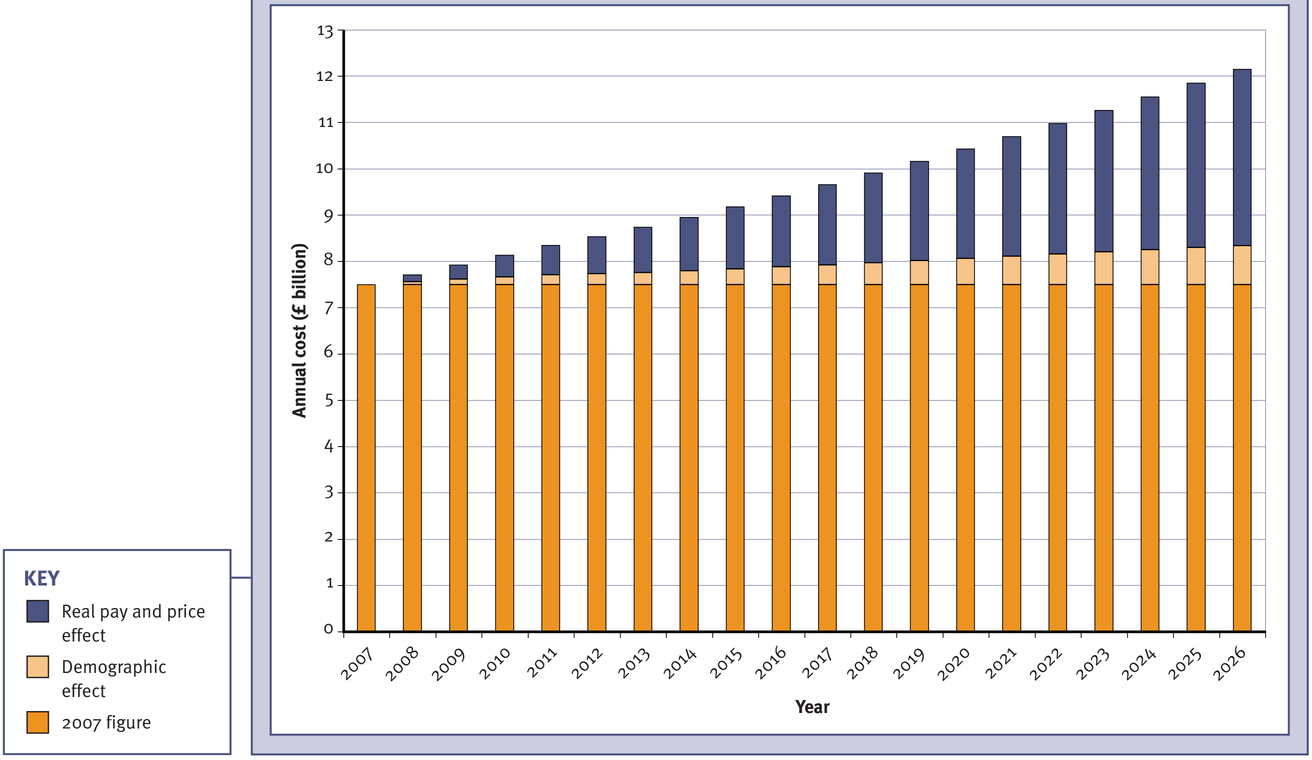
Projected costs

Service costs have been projected up to 2026, and these projections are shown in Figure 18 overleaf. The costs of £1.7 billion in 2007 are projected to increase by 76 per cent to reach £3 billion by 2026. Most of the cost increase is due to the assumption made about increases in the real unit cost of services (that is, over and above inflation). Removing this element shows a more modest increase of 21 per cent. Costs including lost employment are projected to rise from £7.5 billion to £12.2 billion – an increase of 62 per cent (*see* Figure 19, overleaf), again with most of the increase due to real increases in prices and earnings.

18 PROJECTED SERVICE COSTS FOR DEPRESSION, 2007 TO 2026



19 PROJECTED TOTAL COSTS FOR DEPRESSION, 2007 TO 2026



Scenario modelling

The approach taken towards modelling alternative scenarios has been described in Chapter 2.

Scenario 1 intervention

PHARMACOLOGICAL OR PSYCHOLOGICAL THERAPY FOR PEOPLE WITH MODERATE/SEVERE DEPRESSION

The NICE guidelines focus on appropriate treatment for depression, but do not make clear recommendations about bringing more people with depression into contact with services. The PMS shows that 65 per cent of respondents with depression (equivalent to 805,504 people in England) were in contact with services. Of these, 76.8 per cent (618,627) have moderate or severe depression and should be in receipt of an active treatment, whether pharmacological or psychological. However, only 57.1 per cent of these were in receipt of anti-depressant medication and 35.2 per cent receive some form of psychological therapy (*see* Table 6, below). One-third of patients with moderate or severe depression (213,426) were estimated to not receive any active treatment even though they are in contact with services. For moderate/severe depression cognitive behavioural therapy (CBT) is recommended by NICE for those not responding to antidepressants, yet only 2.5 per cent receive this intervention.

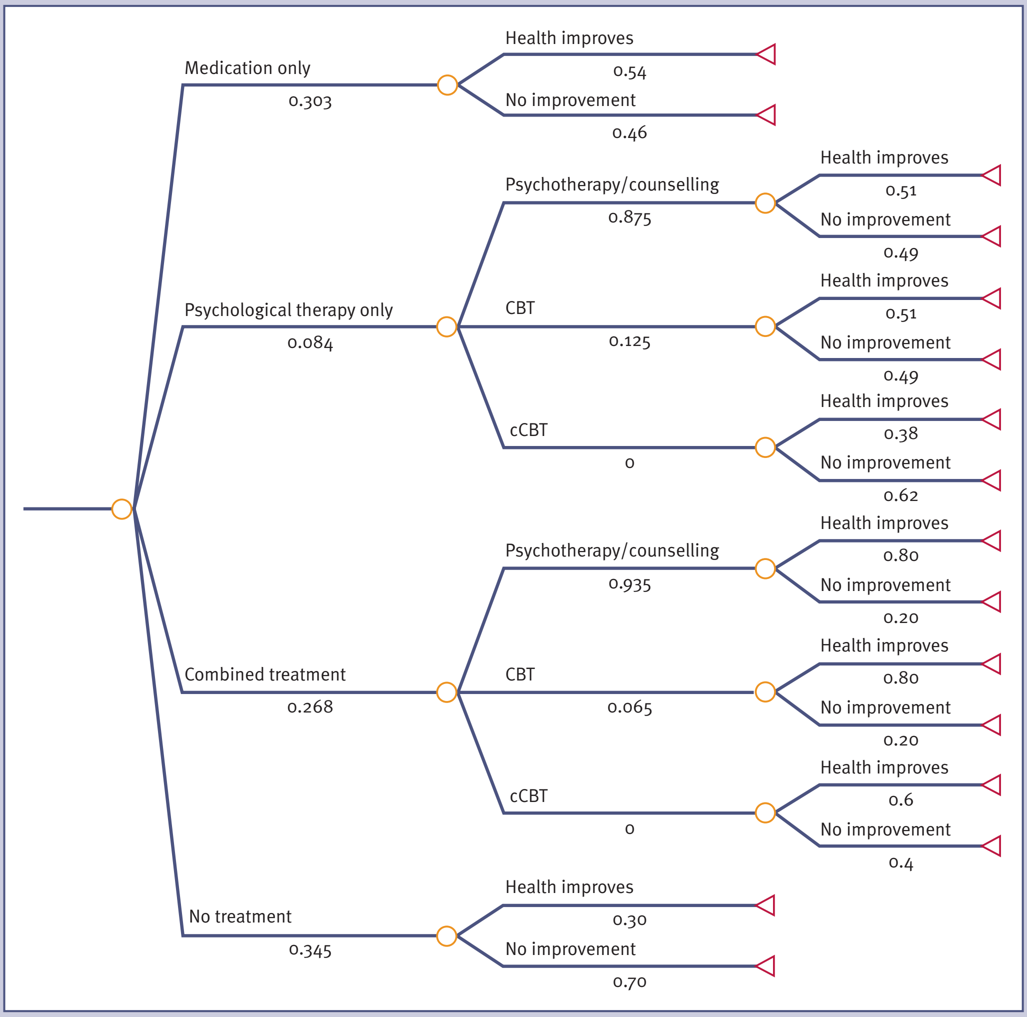
Providing evidence-based treatment for the extra 213,426 people with moderate/severe depression would clearly have cost implications in terms of service use, but economic benefits would occur if improvements following treatment led to increased employment (and reduced future service use, although data are not available regarding this). To assess the economic implications of treating these people we developed a decision model (*see* Figure 20, overleaf). The model assumes that those in contact with services either receive medication only, psychological therapy only, combined medication and psychological therapy, or are not treated. The probabilities of these and the type of psychological therapy received are shown in the model and correspond to the data in Table 6. (Probabilities are similar to percentages – for example, a probability of 0.03 is equal to a 3 per cent likelihood of an event occurring.)

TABLE 6: RECEIPT OF PHARMACOLOGICAL AND PSYCHOLOGICAL TREATMENT BY PEOPLE WITH MODERATE OR SEVERE DEPRESSION IN CONTACT WITH SERVICES

Treatment	% of moderate/severe patients
Anti-depressant medication	57.1%
Anti-depressant medication only	30.3%
Psychotherapy, psychoanalysis, individual or group therapy	12.6%
Cognitive or behaviour therapy	2.5%
Counselling	17.6%
Other therapy	2.5%
Psychological therapy only	8.4%
Medication and therapy	26.9%
No active treatment	34.5%

Source: Singleton *et al* (2001)

20 DECISION MODEL OF COSTS OF REDUCING NON-TREATMENT AMONG PEOPLE WITH DEPRESSION IN CONTACT WITH SERVICES



It can be seen that computer-delivered CBT (cCBT) is included in the model although no one in the PMS sample was using this. It has been included so that in future analyses the impact of expanding this form of care may be assessed. Even though we have assumed a zero probability of its use we have included an estimate of it being three-quarters as effective as face-to-face therapy.

Following on from each of the alternative treatment options there is a probability of health improving or not improving. The data for these parameters were obtained from a recent review by Petersen (2006) which reports response rates for patients receiving drug therapy alone of 53–55 per cent; for psychological therapy alone of 50–52 per cent; and for combined therapy of 75–85 per cent. The probability of health improvements in the untreated group (0.3) was taken from work by Layard *et al* (2006) which assessed the cost benefits of increasing the provision of cognitive behavioural therapy.

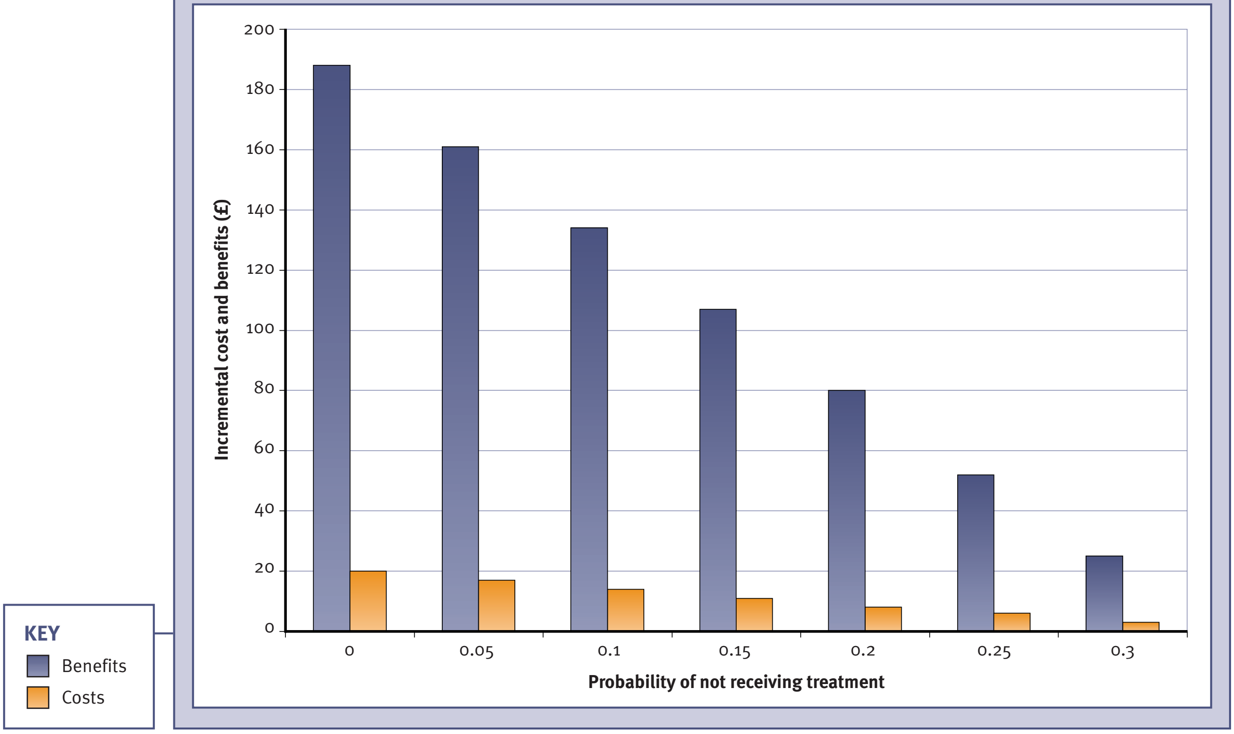
The Layard *et al* study estimated that for every month of health improvement there would be a corresponding gain of 0.14 months in employment. In our model there will be a delay before employment is regained corresponding to the approximate length of therapy (typically four months). Using an average monthly wage of £2,025, the employment gain following health improvement is £2,025 x 8 months x 0.14 = £2,268.

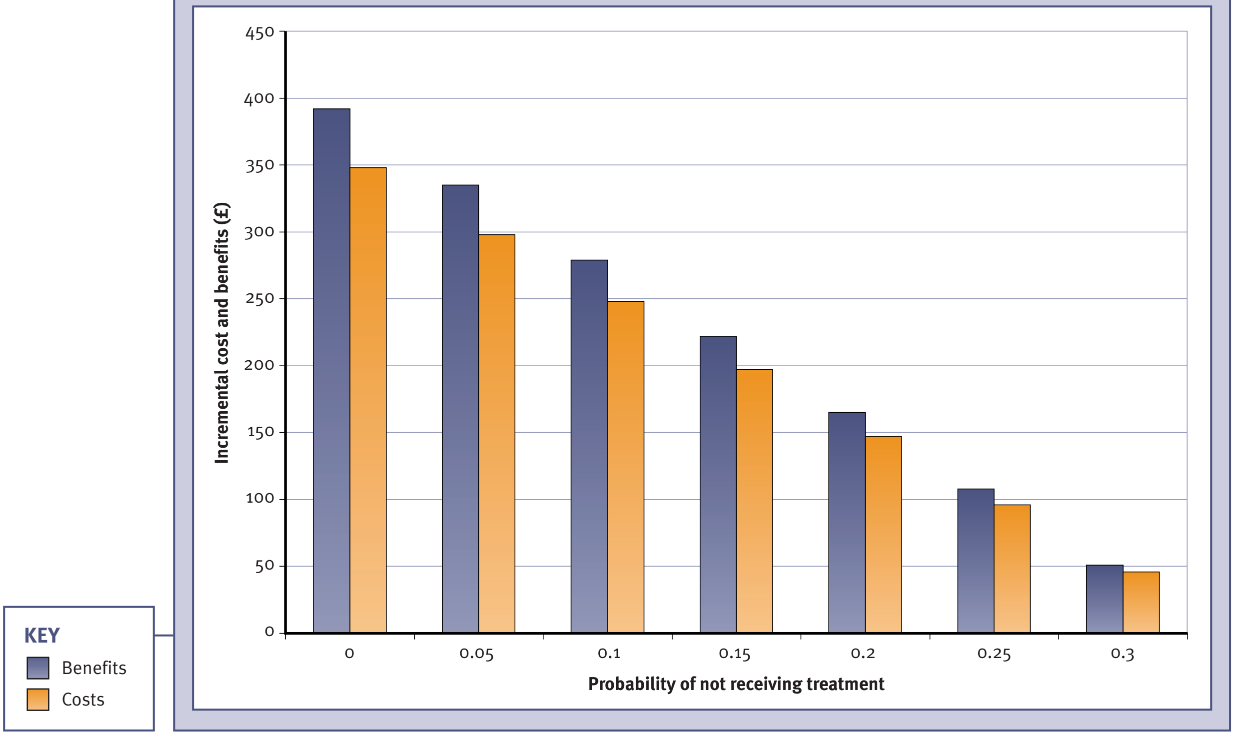
The following assumptions were made regarding the costs of different treatments:

- a course of CBT consists of 10 one-hour sessions over four months
- CBT is delivered by a psychologist with a cost per hour of £66 (Curtis and Netten 2006) – total cost £660
- a course of counselling consists of nine one-hour sessions (Simpson *et al* 2000)
- counsellors cost £48 per hour (Curtis and Netten 2006) – total cost £432
- a course of psychotherapy consist of 26 one-hour sessions
- psychotherapy is delivered by a psychologist with a cost per hour of £66 (Curtis and Netten 2006) – total cost £1,716
- weighted cost of counselling/psychotherapy = £971
- annual course of medication = £56.34 (based on British National Formulary data).

The decision model allowed us to estimate the expected service costs given the above probabilities and treatment costs and also the expected benefits in terms of employment gains. In the base-case model (which represents the current situation) the expected costs are £365 per year and the expected benefits through the impact on employment are £1,189. Therefore, for those in contact with services the benefits in terms of employment outweigh the costs of treatment that is assumed to produce those gains.

21 IMPACT OF PROVIDING MEDICATION TO THOSE WHO ARE IN CONTACT BUT NOT RECEIVING TREATMENT FOR DEPRESSION





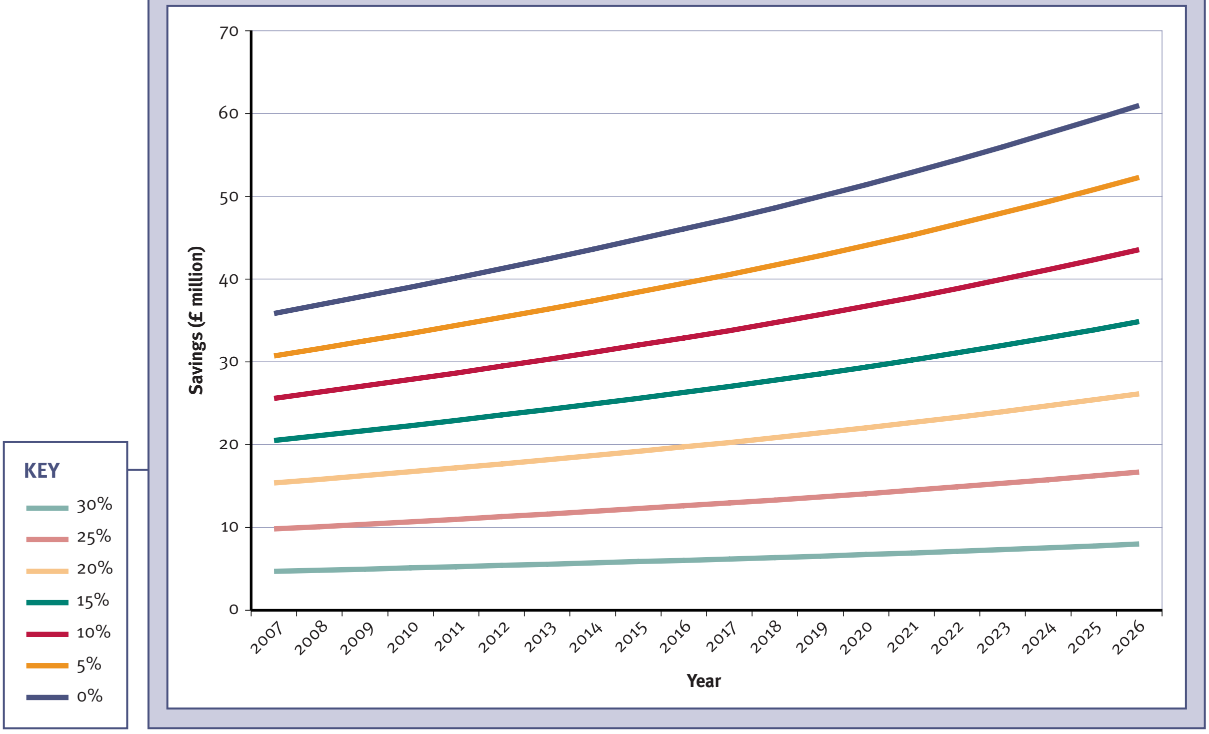
22 **IMPACT OF PROVIDING PSYCHOLOGICAL THERAPY AND MEDICATION TO THOSE WHO ARE IN CONTACT BUT NOT RECEIVING TREATMENT FOR DEPRESSION**

Compared to the current situation, if the percentage of those not receiving treatment falls from 35 per cent towards 0 per cent, and if the extra treatment takes the form of medication only, then there will be increased costs per person. However, these will be exceeded by the gains in terms of extra employment (*see* Figure 21, p. 29).

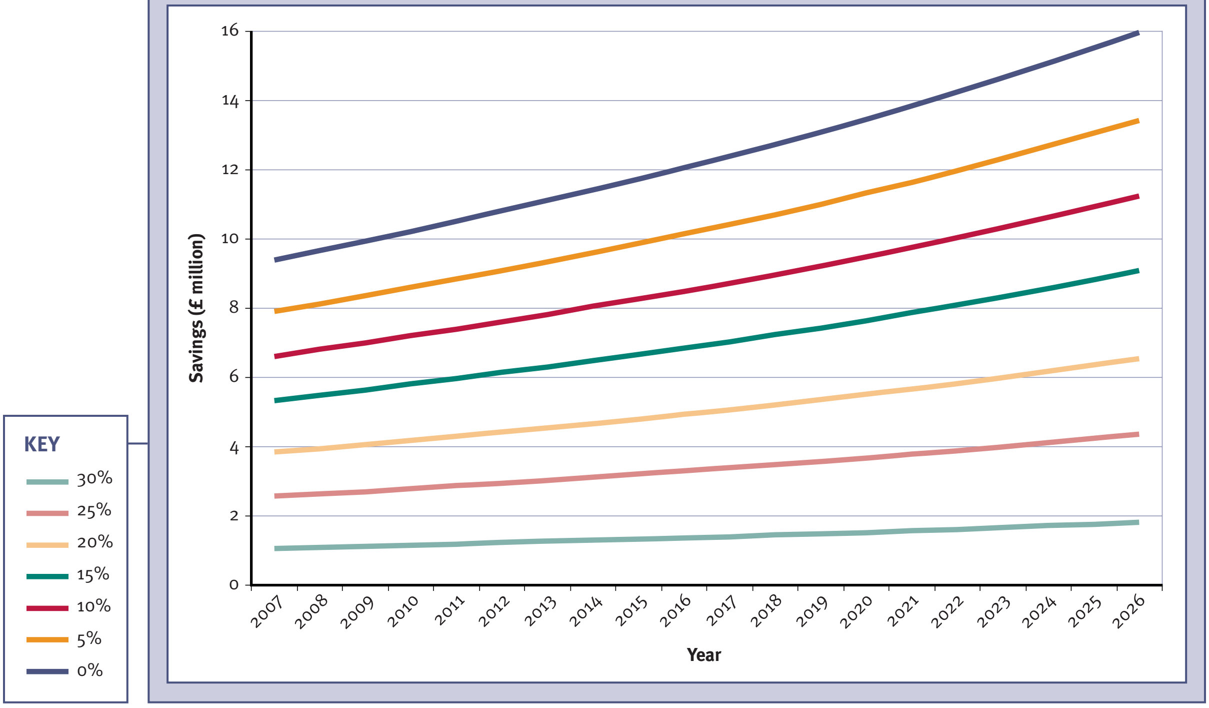
Some patients, however, will not complete their course of medication, partly due to side-effects, and it has been suggested that ‘talking therapies’ are preferred by many (and this is in line with the NICE guidance). Figure 22, above, shows the impact on costs and benefits if the 35 per cent of people who do not receive treatment receive combined psychological therapy and medication. Incremental benefits are similar to medication alone, but the extra costs are greater. However, the chart still indicates an excess of benefits over costs. The costs have been estimated assuming that psychologists deliver the therapy. Savings may be greater if other professionals are used.

The total projected impact on costs of providing medication for people in contact with services but not receiving treatment is shown in Figure 23, opposite. (The bottom line shows savings that occur if 30 per cent of ‘suitable’ patients still do not receive appropriate treatment. The higher the line the fewer the patients that remain out of treatment.) Savings occur for all levels of non-treatment (because benefits from employment outweigh extra treatment costs), but are considerably higher if non-treatment equals 0 per cent (that is the highest line). The savings increase over time due to the fact that gains from employment are assumed to rise in real terms by 2 per cent per year as explained in Chapter 2.

23 COST SAVINGS DUE TO PROVIDING MEDICATION FOR THOSE IN CONTACT WITH SERVICES BUT NOT CURRENTLY RECEIVING TREATMENT FOR DEPRESSION



24 COST SAVINGS DUE TO PROVIDING PSYCHOLOGICAL THERAPY AND MEDICATION FOR THOSE IN CONTACT WITH SERVICES BUT NOT CURRENTLY RECEIVING TREATMENT (ASSUMING A 2 PER CENT ANNUAL REAL EARNINGS INCREASE)



25 COST SAVINGS DUE TO PROVIDING PSYCHOLOGICAL THERAPY AND MEDICATION FOR THOSE IN CONTACT WITH SERVICES BUT NOT CURRENTLY RECEIVING TREATMENT (ASSUMING A 1 PER CENT ANNUAL REAL EARNINGS INCREASE)

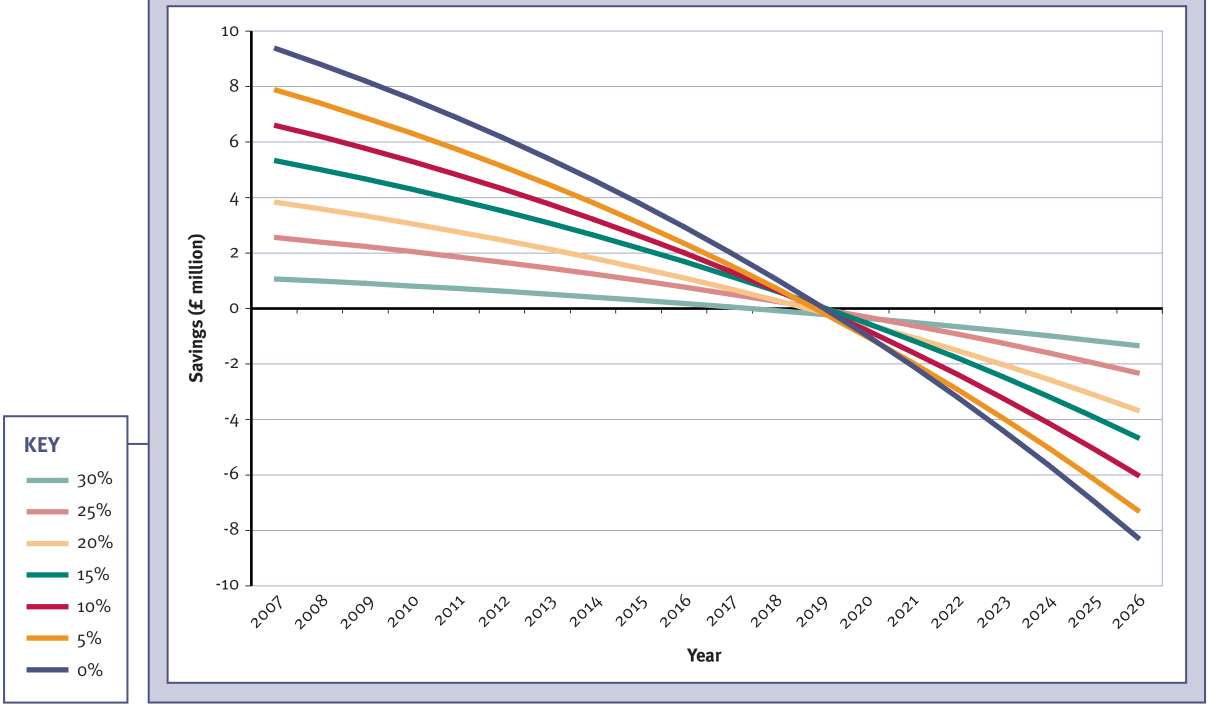


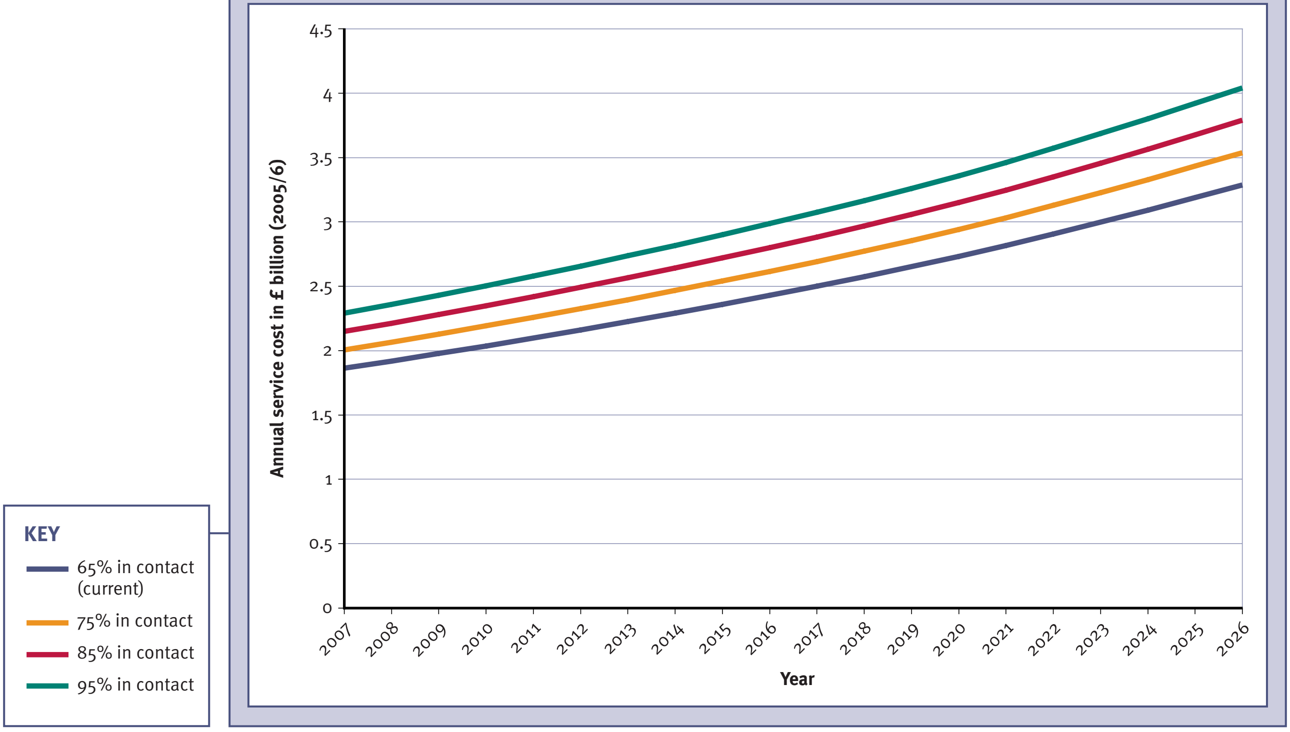
Figure 24 (*see* p 31) shows the projected savings that would arise if those who are not currently treated receive combined medication and psychological therapy. Savings are less than in the medication-only intervention because the difference between costs and benefits for psychological therapy is relatively small (*see* Figure 21, p 29). We have assumed, in line with work carried out by the Personal Social Services Research Unit (PSSRU), that real health care prices and earnings increase by 2 per cent per year. However, if the increase is only 1 per cent then the employment gains are not sufficient to offset the extra cost of therapy, and savings actually decline over time (*see* Figure 25, above). At a certain point the extra therapy costs would be greater than the extra employment benefits, resulting in a net loss. This may of course still be acceptable if patient outcomes are sufficiently high.

Scenario 2 intervention

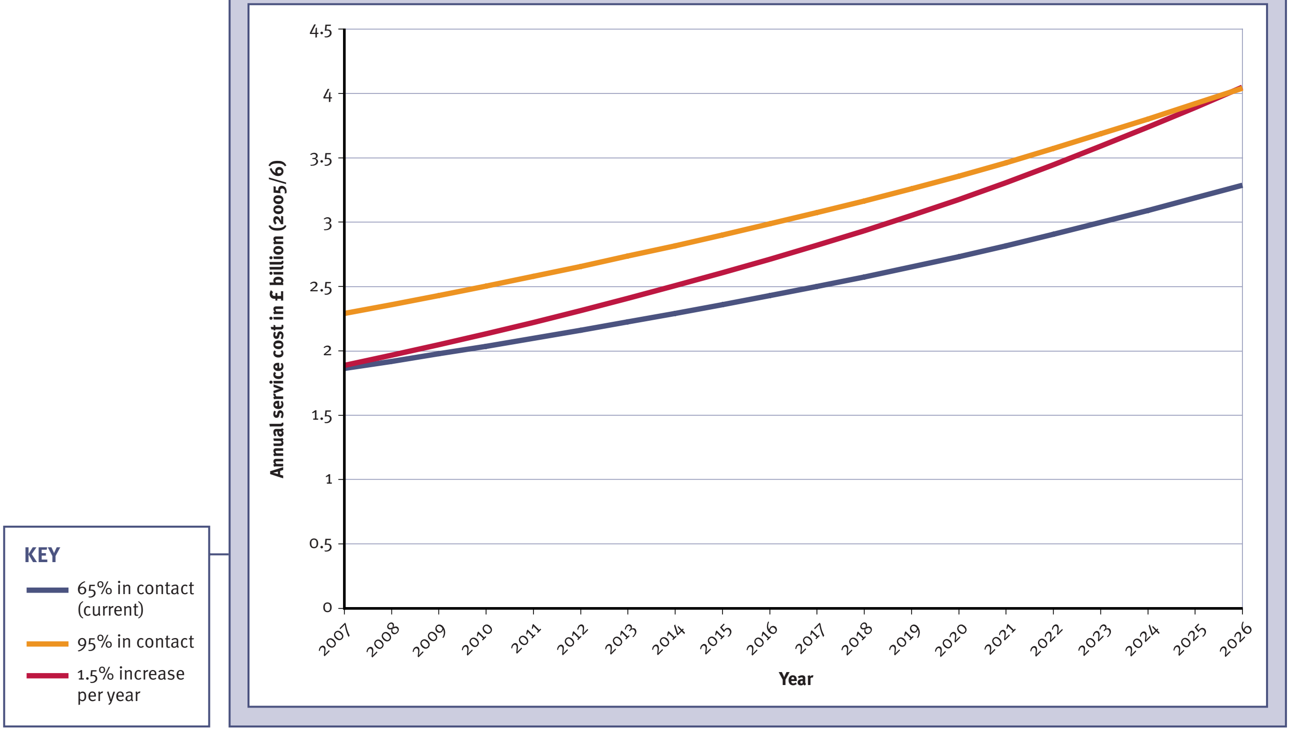
INCREASING THE PROPORTION OF PEOPLE IN CONTACT WITH SERVICES

We have shown earlier that only 65 per cent of people with depression are in contact with services. From the PMS we know that of the 35 per cent not in service contact, 44.6 per cent have moderate or severe depression and therefore would (according to official guidance) require active treatment. Those who are not in contact have a lower level of severity and would presumably have lower costs than those shown in Figure 14 (*see* p 22) to reflect this lower level, if brought into contact with services. The costs for those in contact with services with the same severity levels as those not in contact were calculated and used to model the cost impact of increasing the proportion of people in service contact. The PMS shows that those not in contact with services do still have *some* health

26 IMPACT ON TOTAL SERVICE COSTS OF INCREASING PROPORTION IN TREATMENT FOR DEPRESSION (INCREASE OCCURS IMMEDIATELY)



27 IMPACT ON TOTAL SERVICE COSTS OF INCREASING PROPORTION IN TREATMENT (INCREASE OCCURS GRADUALLY)



and social care contacts. These do not include specialist mental health care. They may include GP contact, but for these people the PMS shows that their mental health problems had not been recognised by the GP. The current service cost is £1.86 billion if these services are also considered. (The costs presented earlier in this chapter do not include these costs for those not in contact.) The impact on service costs of increasing the percentage in contact with services above 65 per cent is shown in Figure 26 (*see* p 33). Service costs would increase to £2.29 billion if 95 per cent were in contact (an increase of 23 per cent). It may be unrealistic to increase service coverage immediately and Figure 27 (*see* p 33) shows the impact of an increase of 1.5 percentage points per year, with 95 per cent reached by 2026, compared to continuous 65 per cent coverage and immediate 95 per cent coverage. This, however, does not take into account the likelihood that lost employment costs would decrease as a result of increased treatment.

5 Anxiety disorders

SUMMARY

As with depression, the number of people with anxiety disorders in England is substantial and will grow over time, although this is due to demographic change rather than changes in prevalence rates. Total costs are high (£8.9 billion rising to £14.2 billion in 2007, and lost employment accounts for a disproportionate amount of these (around 85 per cent). Interventions exist that, while increasing service costs, produce net savings due to reductions in lost employment costs. This is particularly the case with medication but psychological therapies may be more acceptable to patients even though they involve lower cost benefits.

Key points

- The prevalence of anxiety disorders is estimated to be 17–95 per 1,000 people depending on age.
- The total number of people with anxiety disorders was estimated to be 2.28 million in 2007 and this is projected to rise to 2.56 million by 2026.
- 51 per cent of people with anxiety disorders are not in contact with services and of those who are, 46 per cent do not receive medication or psychological therapy.
- The average service costs in 2007 for people in treatment or where their condition is recognised is £1,104. Including lost employment costs brings the total to £2,402 per person.
- The cost of services for the whole of England in 2007 was approximately £1.2 billion. Including lost employment costs brings the total to £8.9 billion. By 2026 it is projected that service costs for anxiety disorders will be £2 billion with total costs at £14.2 billion.
- If those in contact with services but who are not currently receiving treatment do receive medication then service costs will increase but this will be offset by reduced lost employment costs. If combined medication and psychological therapy is used, there will be less of an offset and costs may actually exceed benefits.
- If 95 per cent of people with anxiety disorders were brought into treatment then the service costs would rise to £2.1 billion.

Introduction

Anxiety disorders are relatively common and are generally treated in primary care settings. As with depression, however, it is perceived that many people may not access services and anxiety may not always be detected. Conditions included in these analyses are: generalised anxiety disorder, agoraphobia, social phobia, panic disorder and obsessive compulsive disorder (the latter is usually considered separately and is included here mainly for convenience). Clearly this is a heterogeneous collection of disorders, and this should be borne in mind in interpreting the findings. Treatment recommendations are summarised in Appendix 2 (*see* p 129).

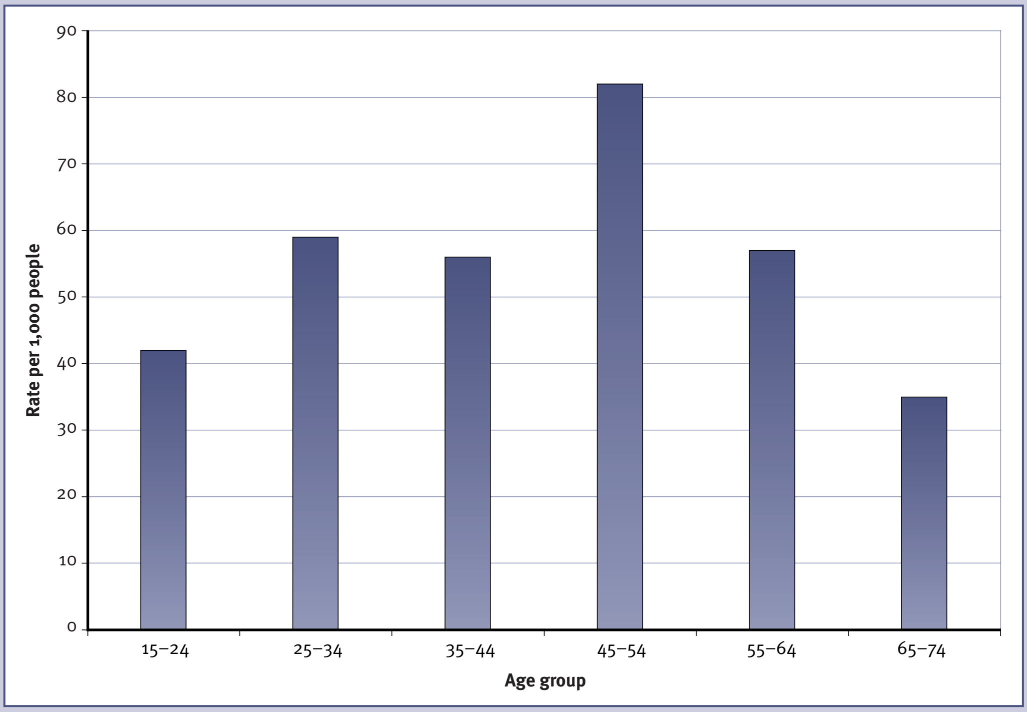
Prevalence estimates

Population-based surveys

As with depression, the most suitable source of prevalence data for anxiety disorders is the Psychiatric Morbidity Survey (PMS) of 2000. The PMS shows relatively high rates of anxiety disorder in the community (*see* Figure 28, below). Rates are relatively similar across age groups, with the exception of those aged 45–54 which is substantially higher than other groups. Figure 29, opposite, shows prevalence rates in general practice which rise with age and are substantially higher for women than men.

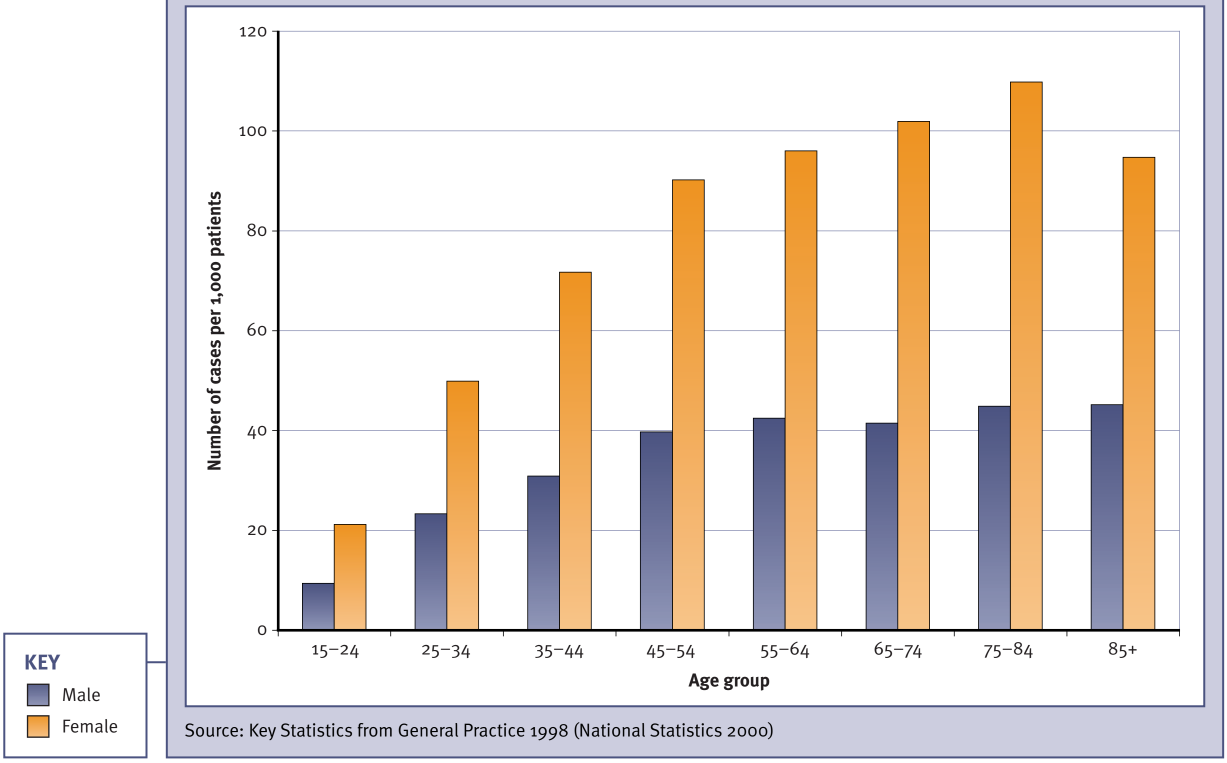
The ratio between the general practice prevalence rate and the rate from the PMS for the 65–74 age groups was used to adjust the general practice prevalence rates for the 75–84 and 85+ age groups. The combined rates are shown in Figure 30, opposite. The overall rate of anxiety disorders in the community is 5.4 per cent. This is very similar to the rate of 5.6 per cent found in a large Australian survey, but less than the rates (12.4–18.1 per cent) found in four other surveys, according to a review by Baumeister and Härter (2007). The lower rates in older adults is in line with other studies, but some feel that somatisation of symptoms may increase with age and other conditions may also exist which 'mask' the

28 PREVALENCE OF ANXIETY DISORDERS IN THE COMMUNITY BY AGE GROUP



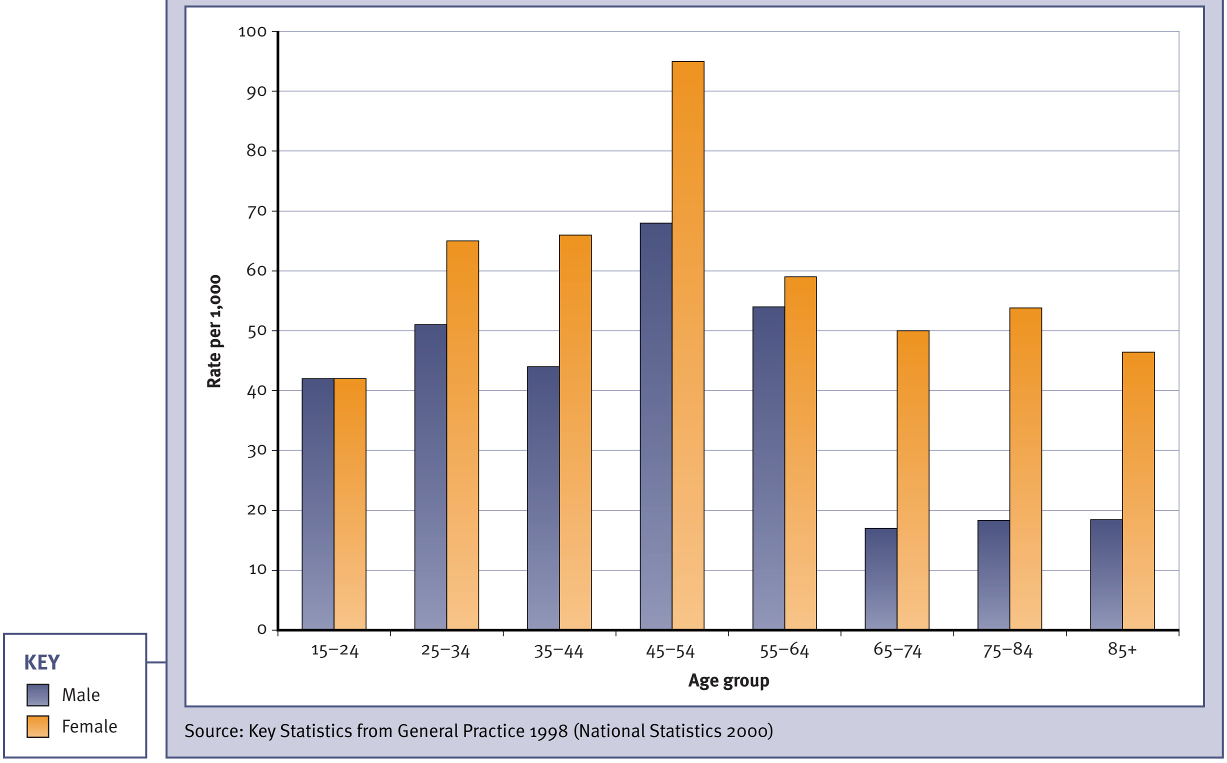
Source: Psychiatric Morbidity Survey 2000 (Singleton *et al* 2001)

29 PREVALENCE OF ANXIETY DISORDERS IN GENERAL PRACTICE BY AGE AND GENDER



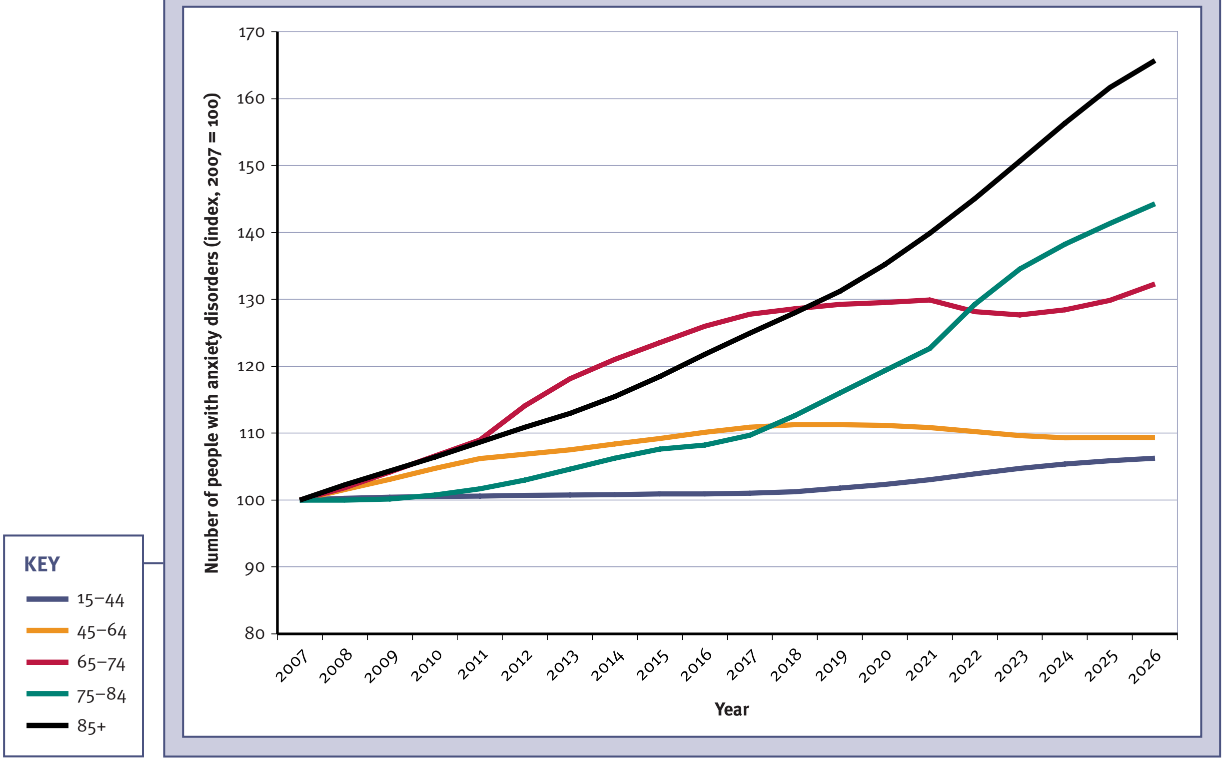
Source: Key Statistics from General Practice 1998 (National Statistics 2000)

30 PREVALENCE OF ANXIETY DISORDERS BY AGE AND GENDER



Source: Key Statistics from General Practice 1998 (National Statistics 2000)

31 PROJECTED CHANGE IN NUMBER OF PEOPLE WITH ANXIETY DISORDERS, 2007 TO 2026



anxiety disorders (Alwahhabi 2003). A large survey conducted in the Netherlands did find higher prevalence rates in older adults than the figures reported here (Beekman *et al* 1998).

Population estimates

Based on the prevalence rates shown in Figure 30 (*see* p 37) the total number of people with anxiety disorders was estimated to be 2.28 million in 2007. Those aged 44 and under account for 48 per cent of cases, while 13 per cent are aged 65 or over. The total number is projected to rise to 2.56 million by 2026 (an increase of 12.7 per cent). Increases are greatest in the older age groups, with a change of 66 per cent for those aged over 85 (*see* Figure 31, above).

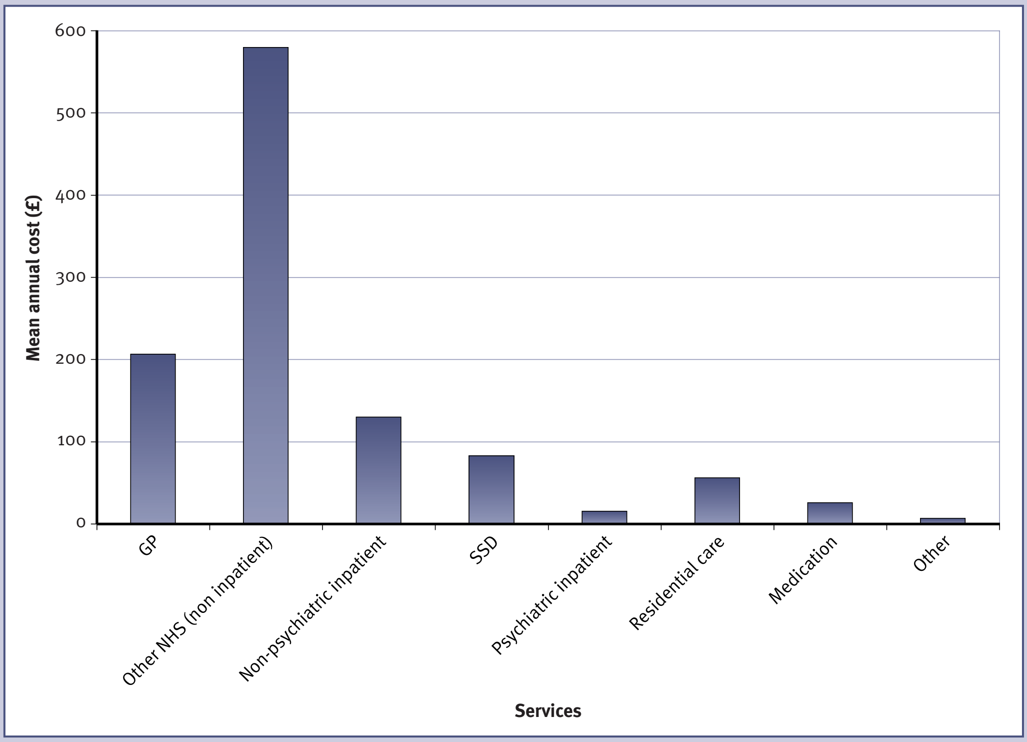
Service costs and lost employment

The elements used to estimate total costs for anxiety disorders were: prescribed drugs, inpatient care, other NHS services, supported accommodation, social services and lost employment. Other costs may also be incurred but we could not quantify them for this review and they would be unlikely to add substantially to the totals here. However, it does need to be recognised that our figures are likely to be underestimates of the true cost.

Service costs

The methods used to calculate service costs are the same as for people with depressive

32 AVERAGE SERVICE COSTS FOR ANXIETY DISORDERS, 2007



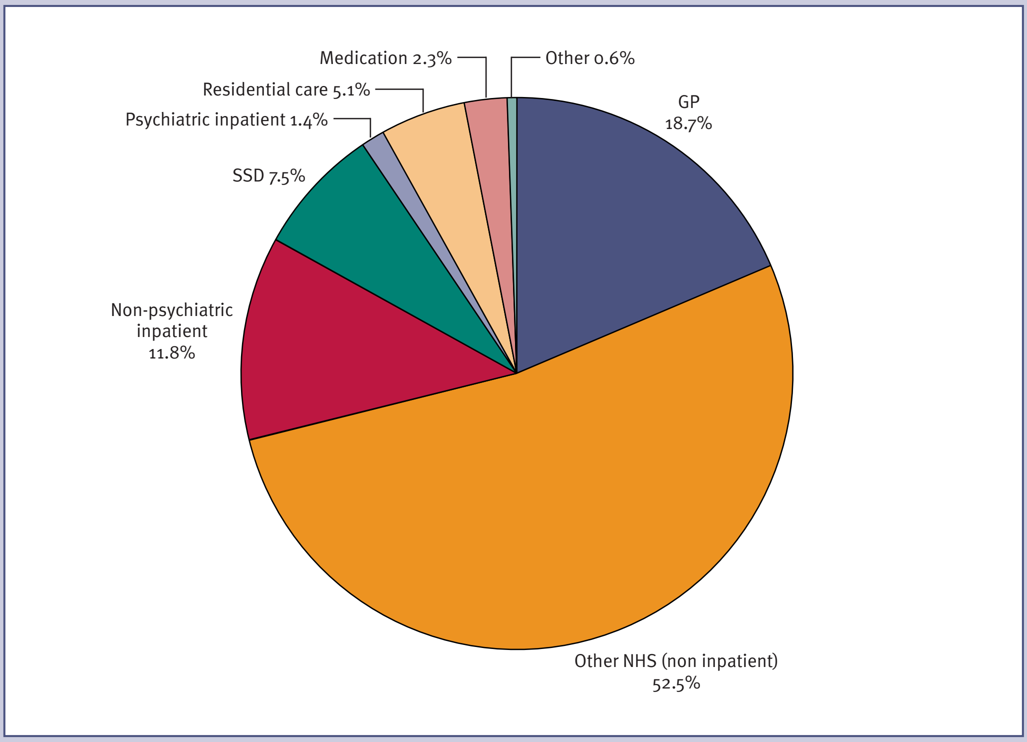
disorders (see Chapter 4 page 20 for details). Service use data from the PMS was supplemented with Hospital Episode Statistics (HES) data and for working-age adults information on residential care was obtained from a survey from the mid-1990s (Lelliott *et al* 1996; Chisholm *et al* 1997). Data were not available on the percentage of older adults in residential care due to anxiety disorders, and we assumed a 1 per cent rate (as with depression).

The PMS data reveals that 49.2 per cent of people with anxiety were either in contact with services or had had their mental health problems recognised by their GP. This is rather less than the proportion of people with depression who are in service contact, and equates to 1.12 million people not in contact with services. The costs below apply just to the 'in contact' people with anxiety.

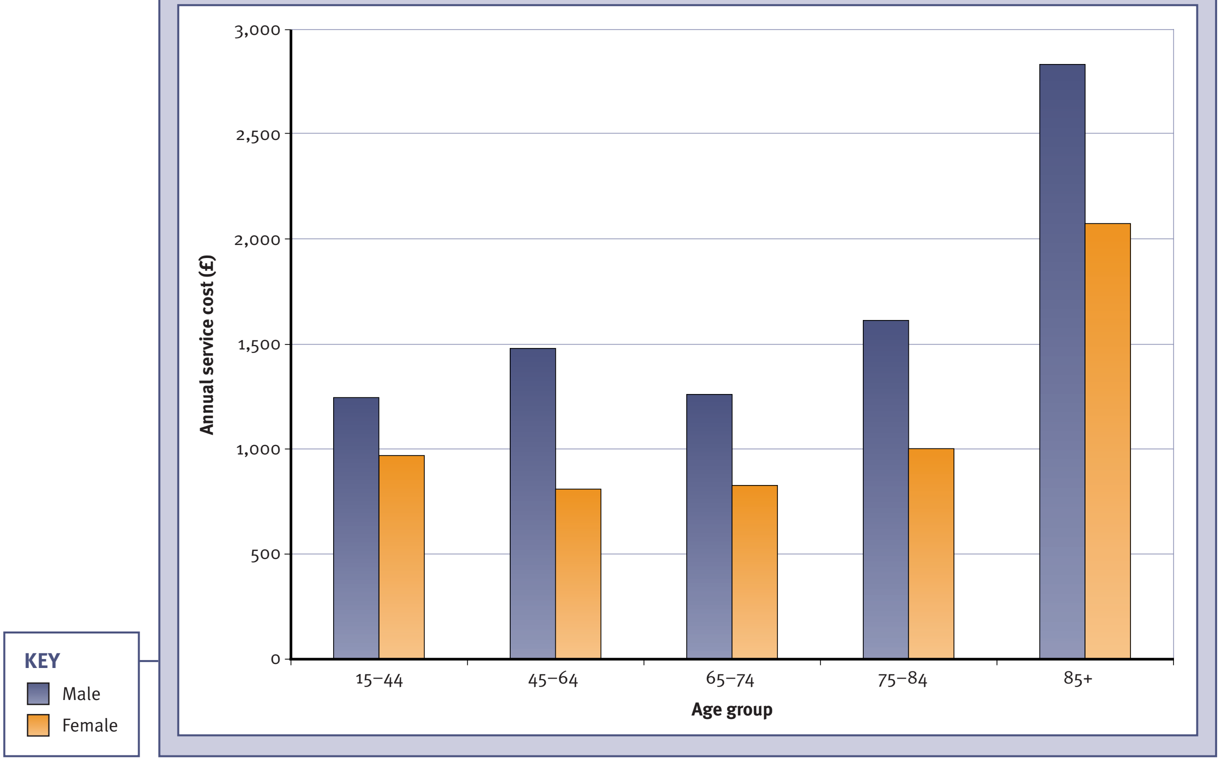
Average service costs are greatest for health care services, excluding inpatient care and GP care which are treated separately (*see* Figure 32, above). This category includes outpatient visits and contacts with community-based mental health professionals. GP care is the next most costly. Psychiatric inpatient care is highly expensive when used, but given that this is rarely the case for people with anxiety disorders the costs are low.

The average service costs in 2007 for people in treatment or where their condition was recognised was £1,104. The distribution of service costs reveals that more than half are accounted for by health care costs (*see* Figure 33, overleaf). Average service costs were higher for males and increase with age (*see* Figure 34, overleaf).

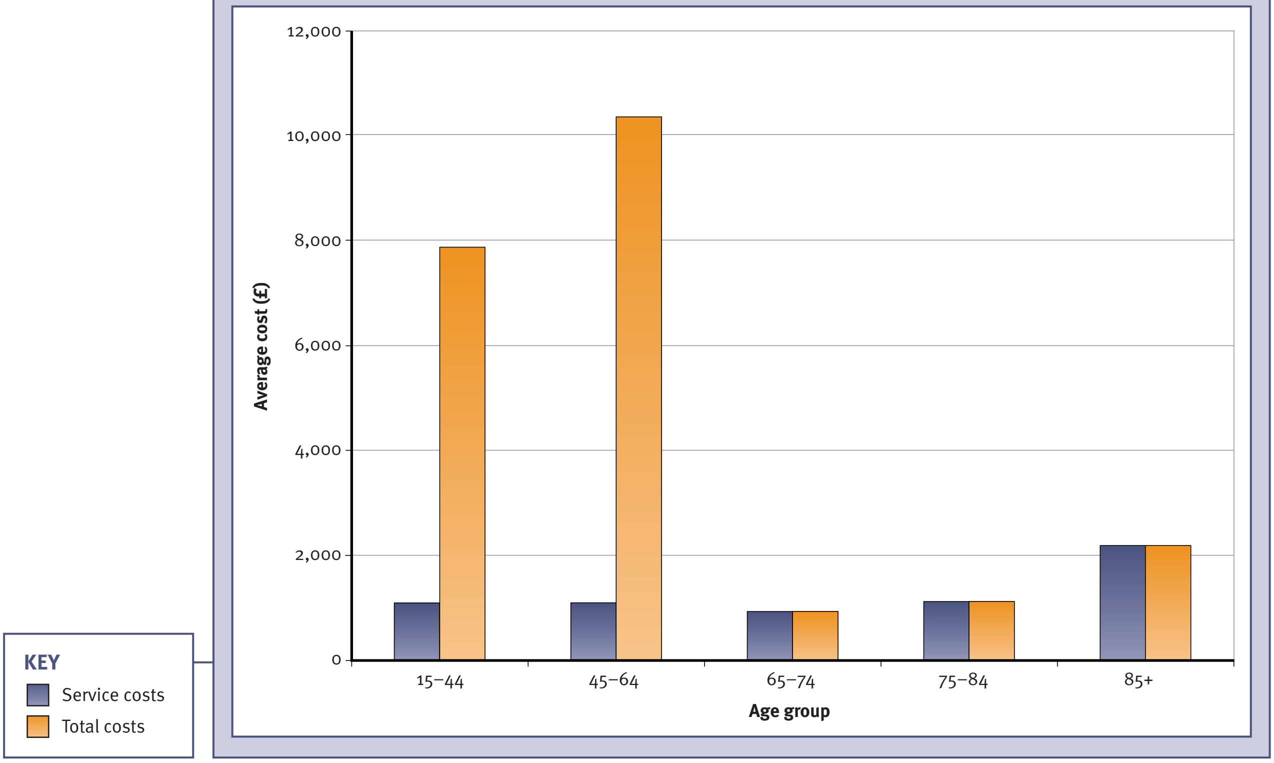
33 DISTRIBUTION OF SERVICE COSTS FOR ANXIETY DISORDERS



34 SERVICE COSTS FOR ANXIETY DISORDERS BY GENDER AND AGE, 2005/6



35 AVERAGE SERVICE AND TOTAL COSTS FOR ANXIETY DISORDERS BY AGE, 2005/6



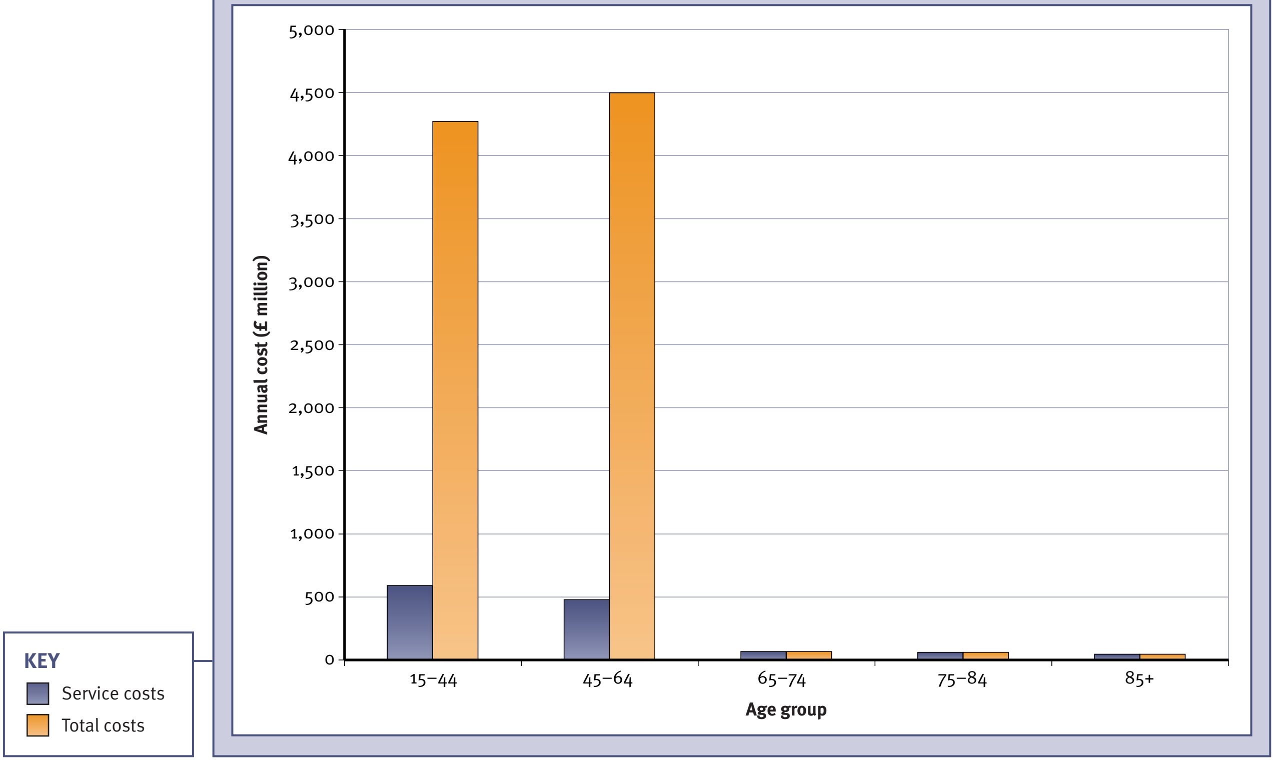
Lost employment

The methods for estimating lost employment costs for anxiety disorders are the same as those used in Chapter 4 Depression.

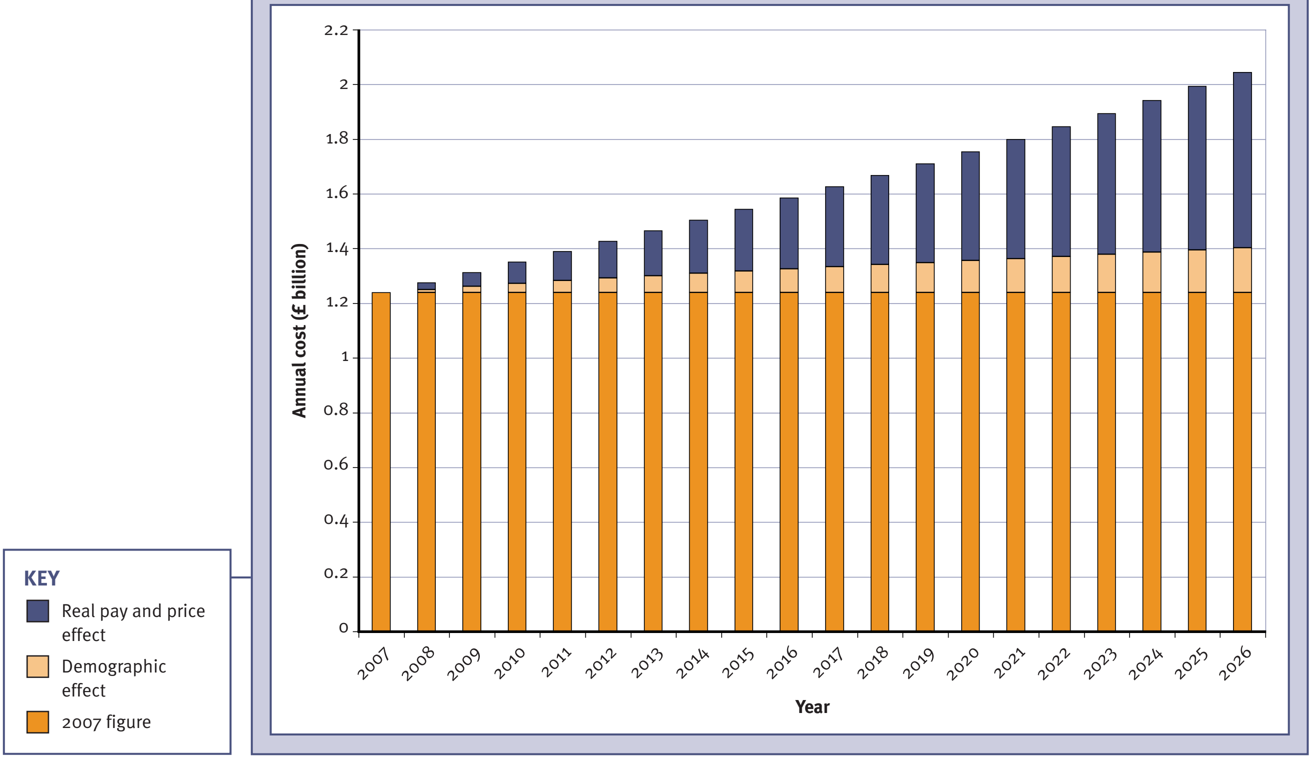
The average costs of lost employment are estimated to be £6,850. With the inclusion of lost employment costs the total comes to £7,964. Figure 35, above, shows that average service costs are substantially higher for those in the oldest age group. (The service costs in Figure 34 (*see* opposite) differ for those in Figure 35 because in the latter the costs for males and females are combined). Total costs are equal to service costs for those aged 65 and over due to an assumption of no lost working time in the older age groups.

The cost of services for the whole of England in 2007 was approximately £1.2 billion. Including lost employment costs brings the total to £8.9 billion. Figure 36, overleaf, shows the overall costs for different age groups.

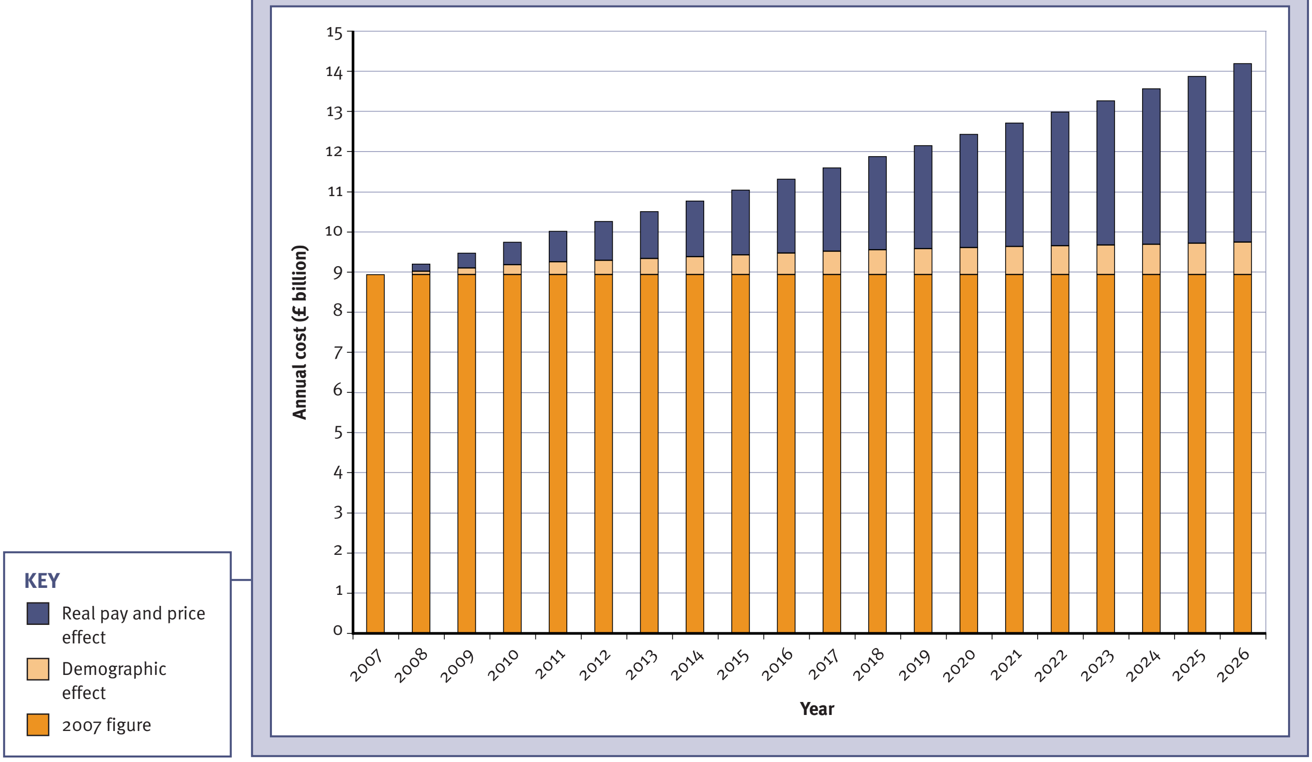
36 AGGREGATE COSTS FOR ANXIETY DISORDERS BY AGE GROUP



37 PROJECTED SERVICE COSTS FOR ANXIETY DISORDERS, 2007 TO 2026



38 PROJECTED TOTAL COSTS FOR ANXIETY DISORDERS, 2007 TO 2026



Projected costs

Service costs are projected to be £2 billion by 2026, an increase of 65 per cent (*see* Figure 37, opposite). The increase in the real cost of health and social care (that is over and above general inflation) accounts for most of this increase; without adjusting unit costs in this way the rise over time is 12.9 per cent (represented by the demographic effect section of the bars in Figure 37). Total costs are projected to rise by 59 per cent to £14.2 billion (*see* Figure 38, above), with the rise being 8.9 per cent if real price increases are removed.

Scenario modelling

Scenario 1 intervention

PRESCRIPTION OF MEDICATION OR PROVISION OF PSYCHOLOGICAL THERAPY FOR PEOPLE WITH ANXIETY DISORDERS

In Chapter 4 a decision model was described with which the cost impact of increasing the proportion of people receiving evidence-based interventions for depression was assessed. The same model is applied here for people with anxiety disorders who are in contact with services or for whom a mental health problem has been recognised by their GP. Nearly half of these people, identified in the PMS, were not receiving medication or a psychological therapy (*see* Table 7, overleaf). One-third of patients received medication only and less than one-fifth were in receipt of psychological therapy.

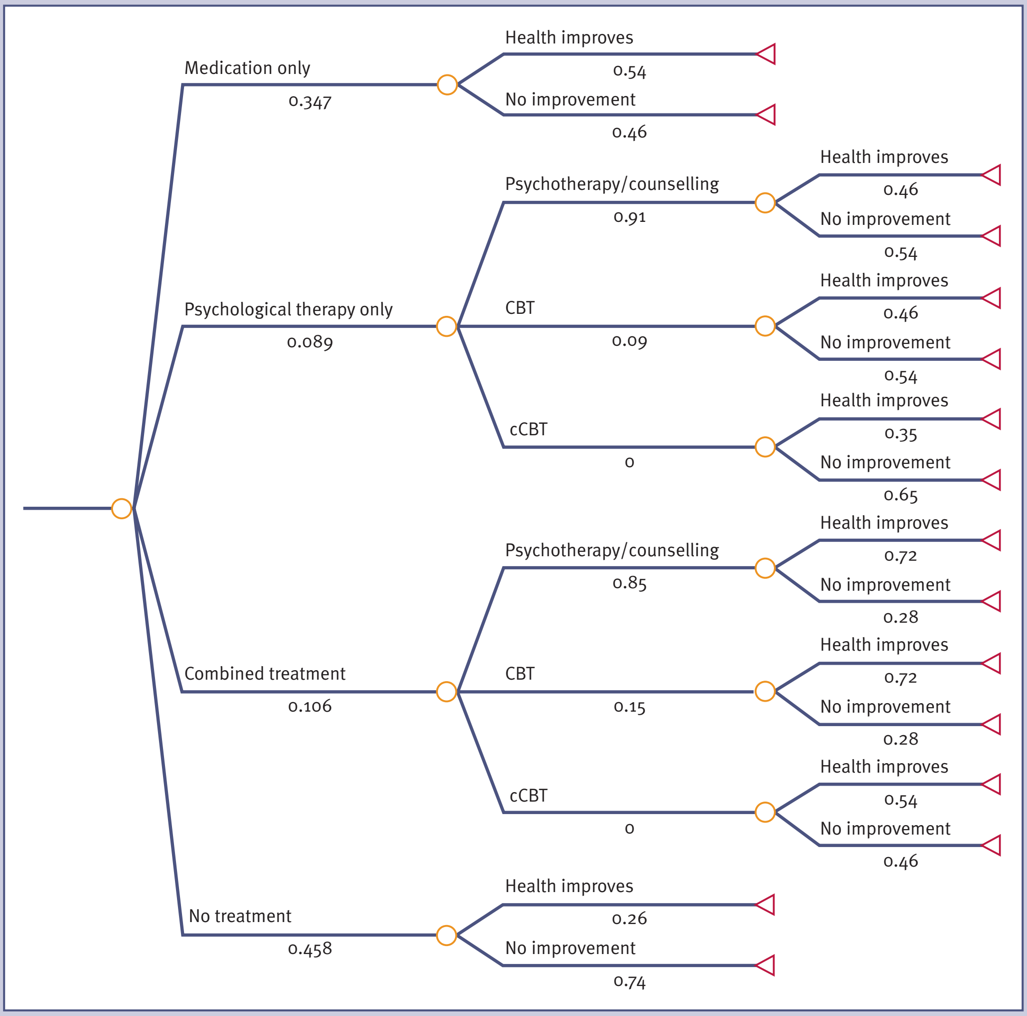
The above data were used in the model along with the costs described in Chapter 4 (*see*

TABLE 7: RECEIPT OF PHARMACOLOGICAL AND PSYCHOLOGICAL TREATMENT BY PEOPLE WITH ANXIETY DISORDERS IN CONTACT WITH SERVICES

Treatment	% of moderate/severe patients
Medication only	34.7%
Psychological therapy only	8.9%
Medication and psychological therapy	10.6%
No active treatment	45.85%

Source: Singleton *et al* (2001)

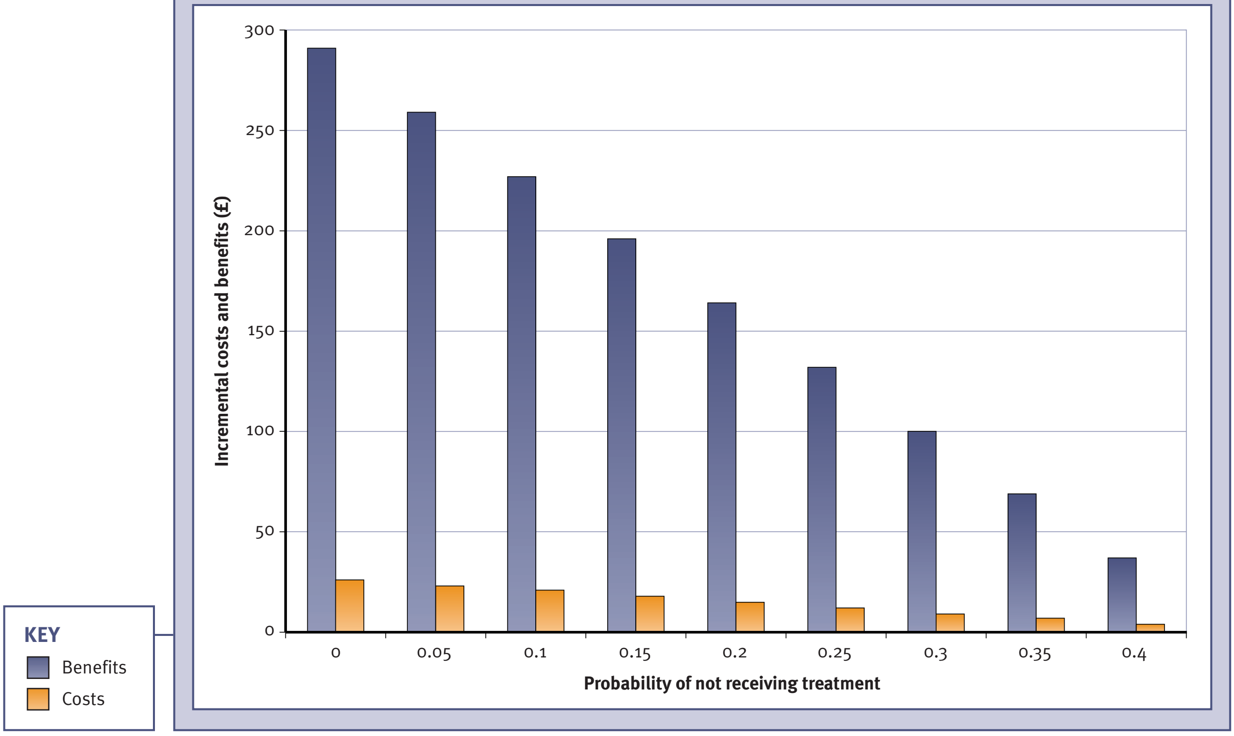
39 DECISION MODEL OF COSTS OF REDUCING NON-TREATMENT AMONG PEOPLE WITH ANXIETY DISORDERS IN CONTACT WITH SERVICES



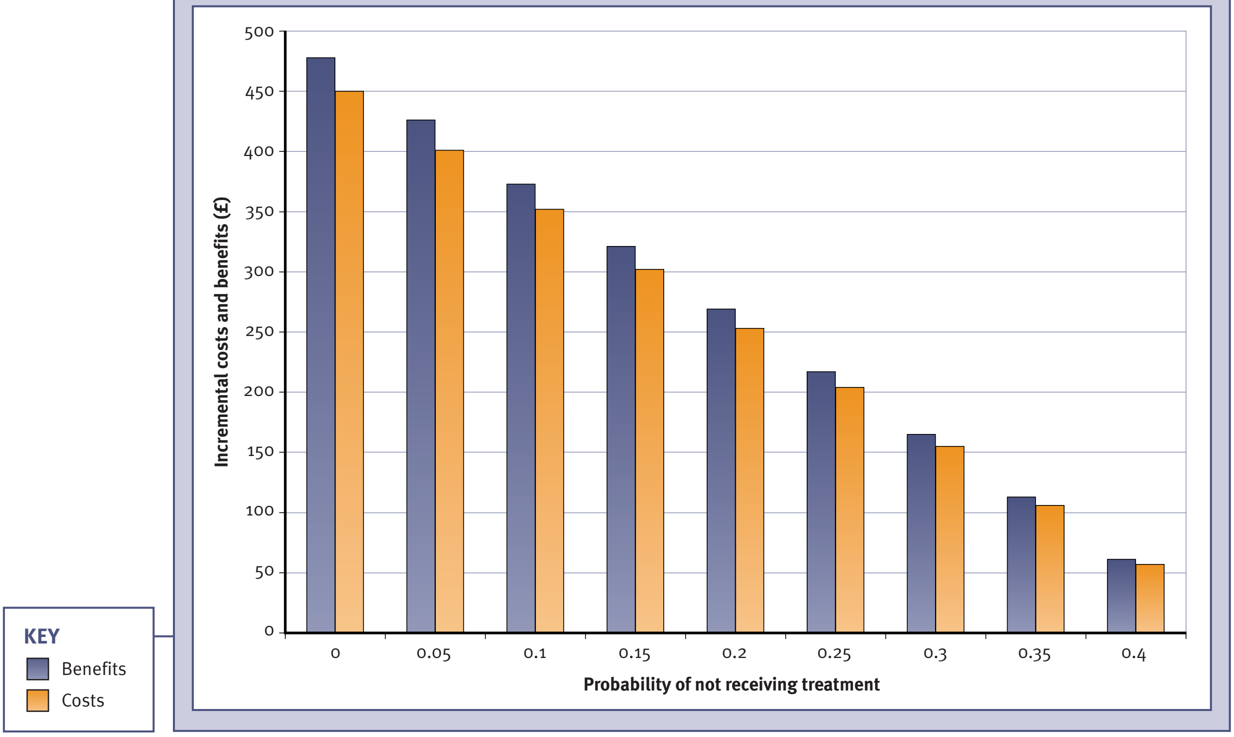
page 29). The estimates of treatment response for medication and psychological therapy were obtained from two Cochrane reviews (Kapczinski *et al* 2003; Hunot *et al* 2007). The review of drug treatment was for anti-depressants and we have assumed equal efficacy compared to other drugs for anxiety disorders. This review revealed that 54 per cent of patients receiving medication responded to treatment while the other review showed a 46 per cent response rate following psychological therapy. The average response rate to 'usual care' from these reviews was 26 per cent. Data were not available on the effectiveness of combined care, and we therefore estimated the ratio between combined therapy and psychological therapy only from the depression model and applied this to the above data. As with the depression model we have assumed that cognitive behavioural therapy (CBT) and psychotherapy/counselling are equally effective and that computer-delivered CBT (even though not used by people in the PMS) is three-quarters as effective as face-to-face therapy. As with depression, it is assumed that for every month of health improvement there would be a corresponding gain of 0.14 months in employment. The model containing the above data is shown in Figure 39 opposite.

The expected cost per person derived from the above model is £207 while the savings in terms of employment gains as a result of the above care pathways amount to £961 per person. Figure 40, below, shows the extra costs and benefits (that is employment gains) per person that would – according to the model – result from decreasing the proportion of people in contact with services but not receiving evidence-based treatment and increasing the proportion receiving medication only. For example, if the proportion not receiving treatment decreased from the current 46 per cent to 20 per cent there would be extra

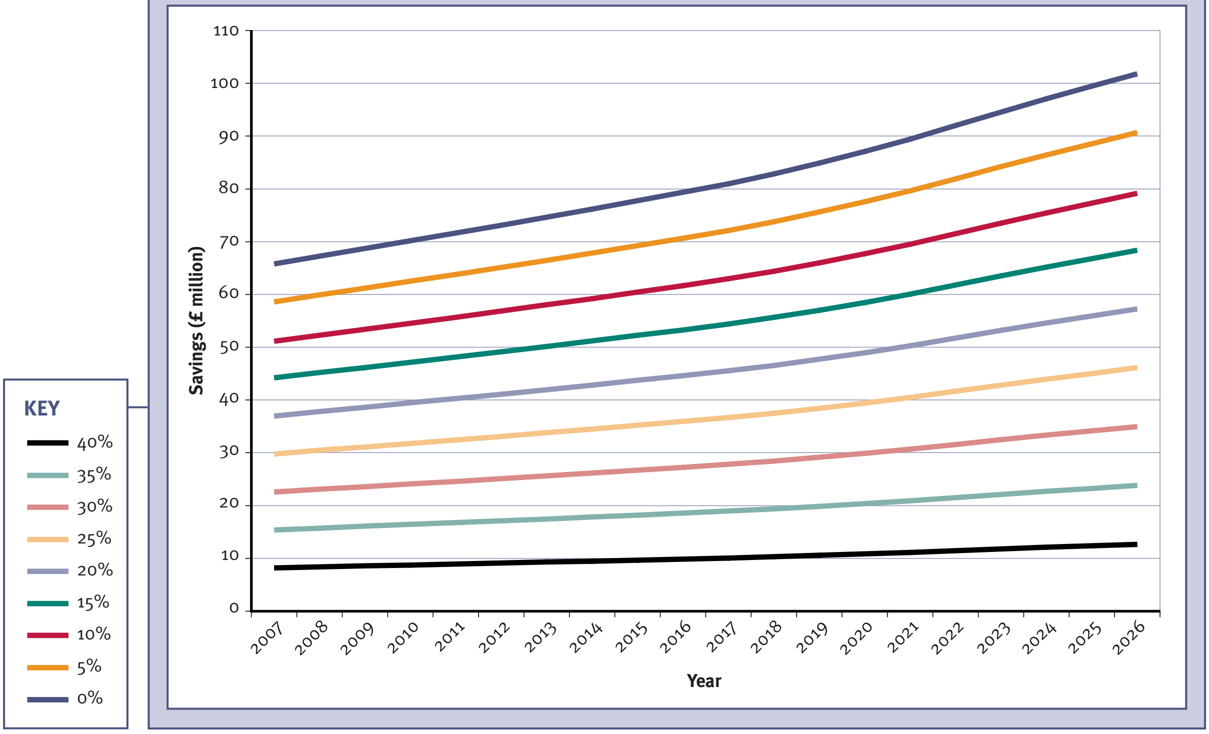
40 IMPACT OF PROVIDING MEDICATION TO THOSE WHO ARE IN CONTACT BUT NOT RECEIVING TREATMENT FOR ANXIETY DISORDERS



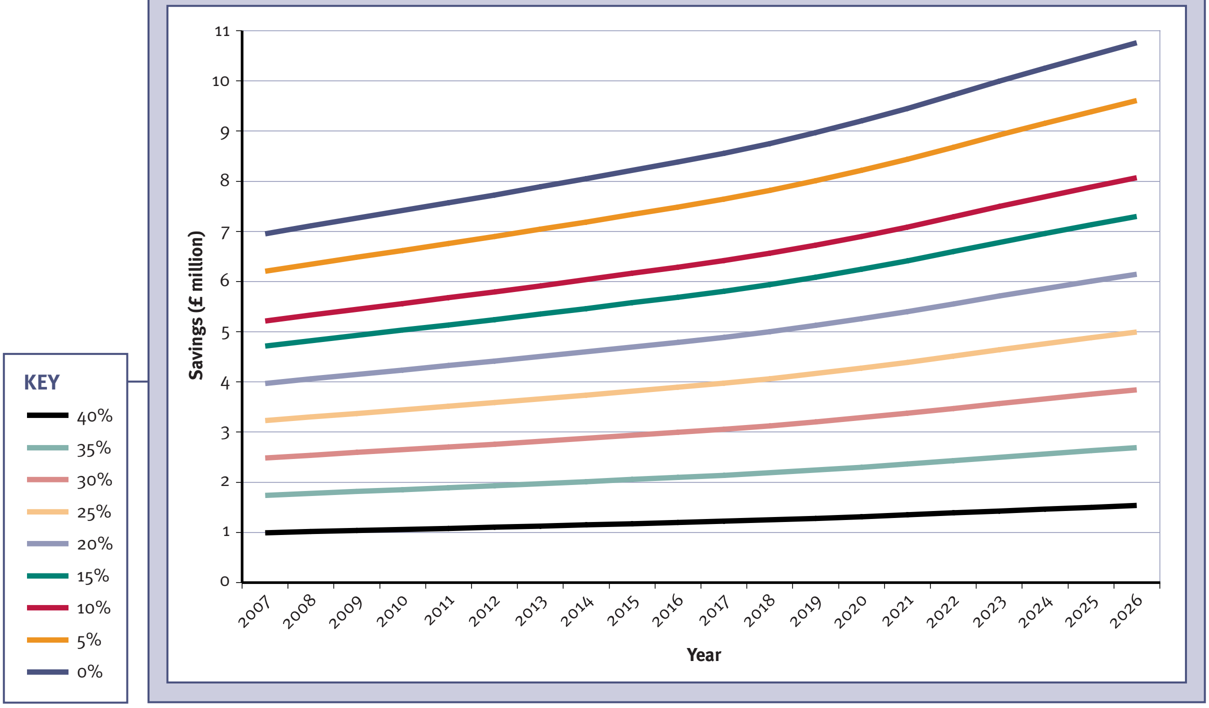
41 IMPACT OF PROVIDING MEDICATION AND PSYCHOLOGICAL THERAPY TO THOSE WHO ARE IN CONTACT BUT NOT RECEIVING TREATMENT FOR ANXIETY DISORDERS



42 COST SAVINGS DUE TO PROVIDING MEDICATION FOR THOSE IN CONTACT WITH SERVICES BUT NOT CURRENTLY RECEIVING TREATMENT FOR ANXIETY DISORDERS, 2007 TO 2026



43 COST SAVINGS DUE TO PROVIDING COMBINED MEDICATION AND PSYCHOLOGICAL THERAPY FOR THOSE IN CONTACT WITH SERVICES BUT NOT CURRENTLY RECEIVING TREATMENT FOR ANXIETY DISORDERS (ASSUMING A 2 PER CENT ANNUAL REAL EARNINGS INCREASE), 2007 TO 2026



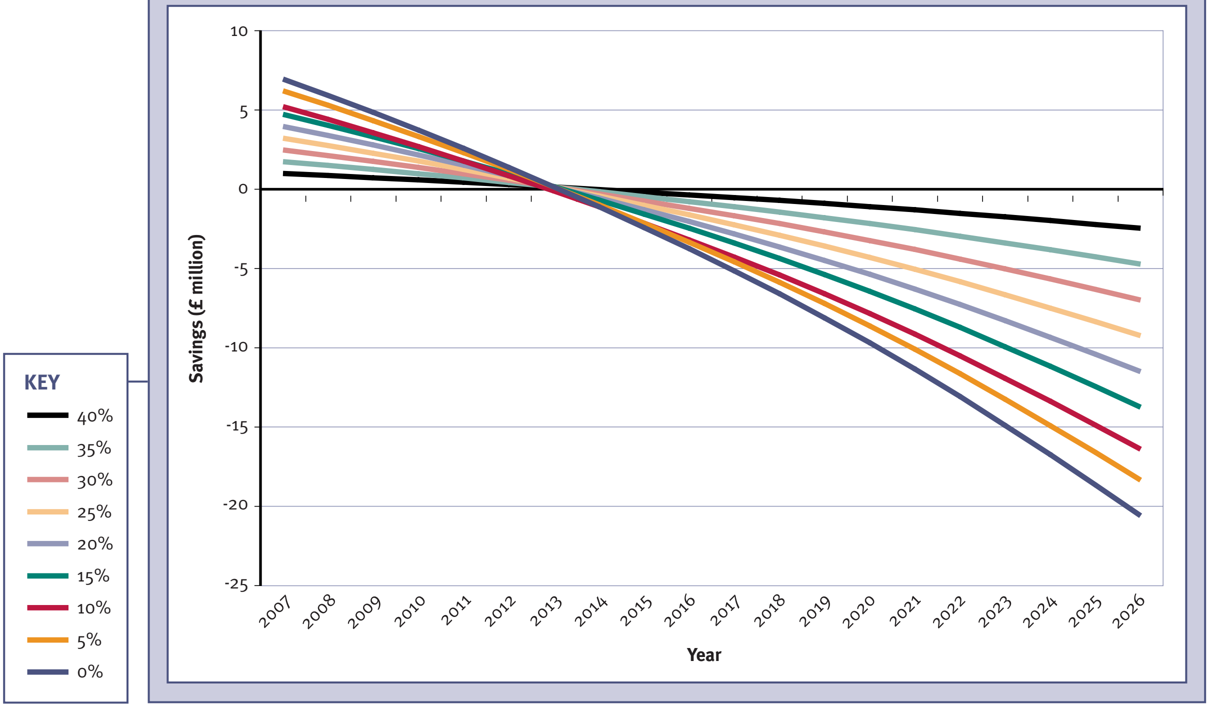
service costs of £15 per person as a result of increased medication but this would be substantially offset by increased earnings of £164 per person.

If the proportion of those who currently receive no treatment, even though they are in contact with services, instead receive combined psychological and drug therapy then costs will increase as will benefits from increased earnings (*see* Figure 41, opposite). As with depression, the net gain of benefits over costs is less than with drug therapy only, but combined treatment may result in greater patient satisfaction.

The total impact on costs of providing medication for people in contact with services but not receiving treatment is shown in Figure 42 opposite. (The bottom line shows savings that occur if 40 per cent of 'suitable' patients still do not receive appropriate treatment. The higher the line the fewer the patients that remain out of treatment.) Savings occur for all levels of non-treatment (because benefits from employment outweigh extra treatment costs), but are considerably higher if non-treatment equals 0 per cent (the highest line). Employment gains are assumed to rise in real terms by 2 per cent per year as explained in Chapter 2.

Figure 43, above, shows the projected savings that would arise if those who are not currently treated receive combined medication and psychological therapy. The savings are expected to be far less than with the medication-only option given the relatively high cost of psychological input.

44 COST SAVINGS DUE TO PROVIDING COMBINED MEDICATION AND PSYCHOLOGICAL THERAPY FOR THOSE IN CONTACT WITH SERVICES BUT NOT CURRENTLY RECEIVING TREATMENT FOR ANXIETY DISORDERS (ASSUMING A 1 PER CENT ANNUAL REAL EARNINGS INCREASE), 2007 TO 2026



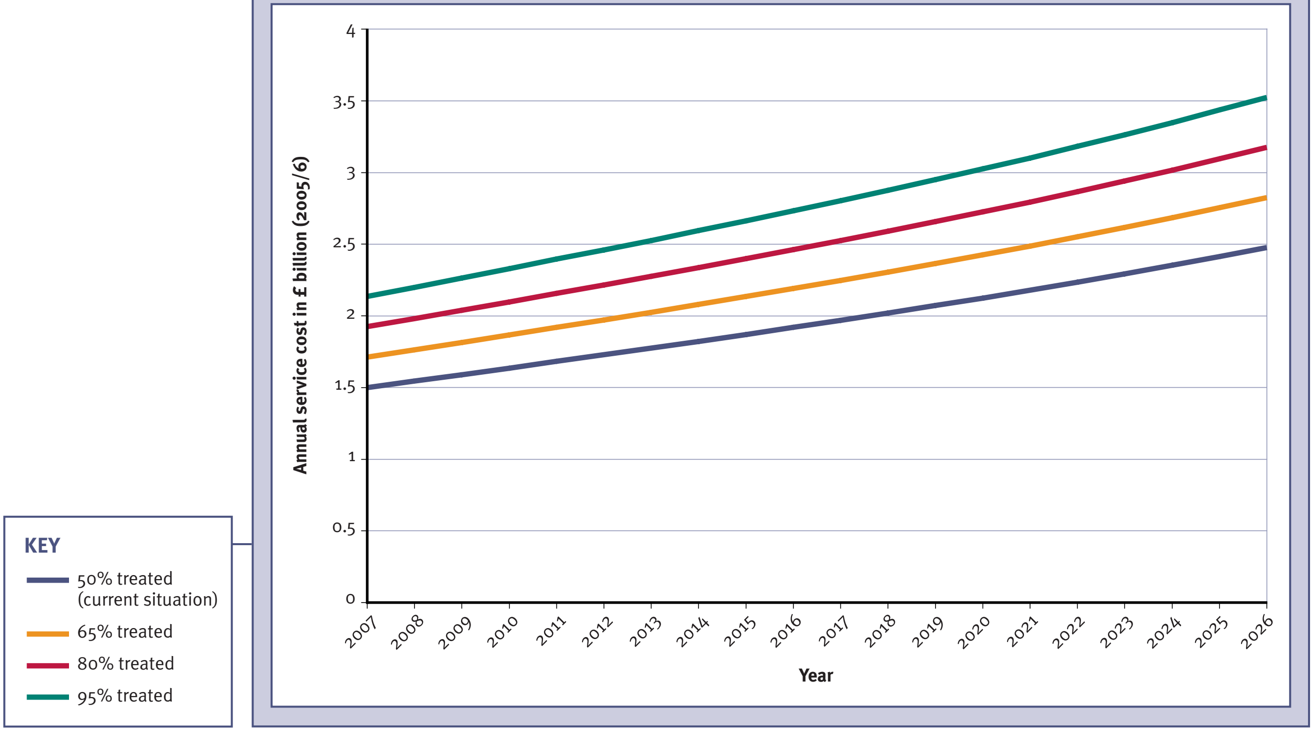
As with depression, the savings from combined therapy would diminish if the growth in real earnings was less than the growth in real health care prices. Figure 44, above, illustrates this if real earnings rise at 1 per cent per year.

Scenario 2 intervention

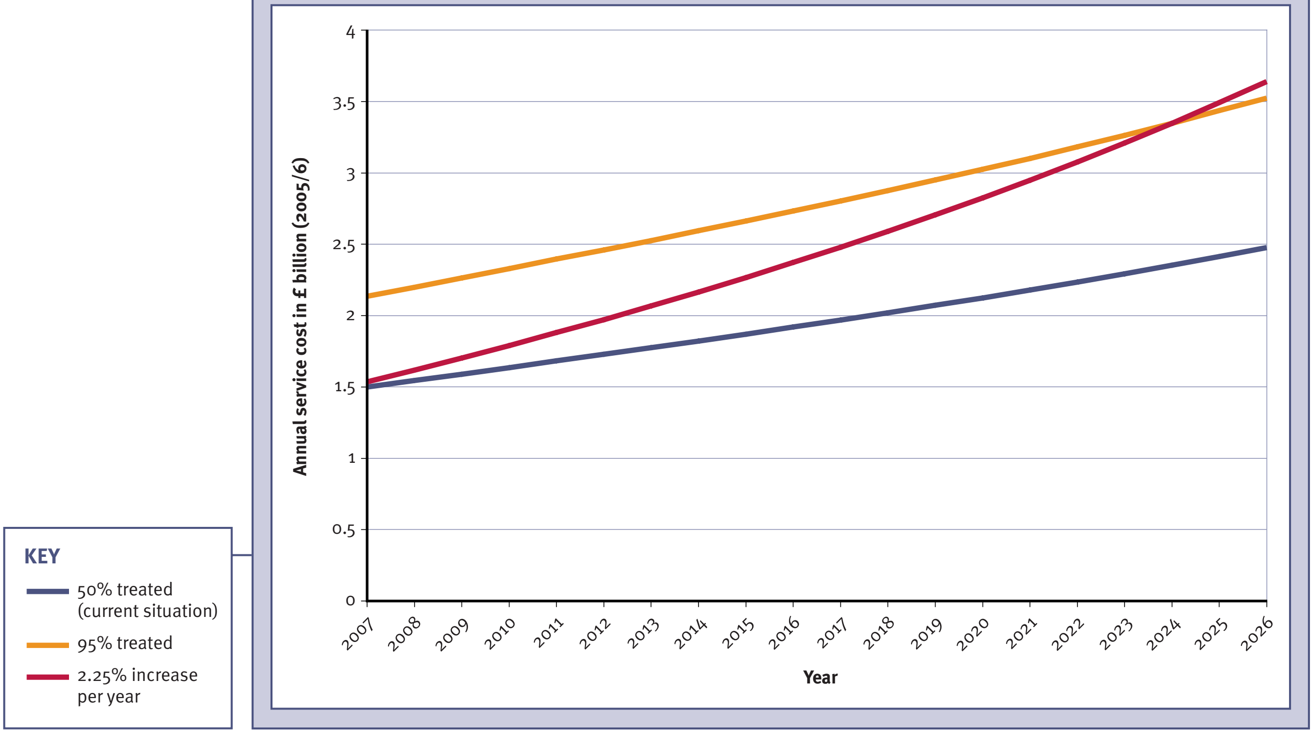
INCREASING THE PROPORTION OF PEOPLE IN CONTACT WITH SERVICES

The impact on service costs of increasing the percentage in contact with services above 50 per cent is shown in Figure 45, opposite. The current cost is £1.5 billion and this would increase to £2.1 billion if 95 per cent were in contact. This cost takes into account the fact that many people will be using health and social care services even though they are not being treated for anxiety. The costs were calculated by applying the same adjustments as for those with depression. (The costs presented earlier in this chapter do not include these costs.) It may be unrealistic to increase service coverage immediately, and Figure 46, opposite, shows the impact of an increase of 1.5 percentage points per year, with 95 per cent reached by 2026, compared to continuous 65 per cent coverage and immediate 95 per cent coverage. It is of interest that these findings are very similar to those shown for depression in Chapter 4. As with depression, it is likely that these increased care costs would be offset to some extent by reduced costs of lost employment as a result of treatment.

45 IMPACT ON SERVICE COSTS OF INCREASING PROPORTION IN TREATMENT FOR ANXIETY DISORDERS (INCREASE OCCURS IMMEDIATELY), 2007 TO 2026



46 IMPACT ON SERVICE COSTS OF INCREASING PROPORTION IN TREATMENT FOR ANXIETY DISORDERS (INCREASE OCCURS GRADUALLY), 2007 TO 2026



6 Schizophrenic disorders

SUMMARY

Schizophrenia is not common but does result in high service and total costs. Prevalence rates are higher in some ethnic groups but this is likely to have only a marginal impact on long-term costs. Early intervention services and crisis resolution/home treatment teams have the potential to lower costs by reducing inpatient admissions.

Key points

- The prevalence of schizophrenia and related disorders is estimated to be 5 per 1,000.
- It is estimated that 210,450 people currently have these conditions and by 2026 the figure is projected to be 243,931.
- The incidence of schizophrenia is substantially higher for some black and minority ethnic (BME) groups, and adjusting population projections to take account of ethnicity changes results in an increase of 3 per cent in new cases.
- The average annual service costs for schizophrenia in 2007 were estimated at £10,687. Lost employment brings the average cost to £19,078.
- Total service costs for England in 2007 are estimated to be £2.2 billion, rising to £3.7 billion by 2026. With the inclusion of lost employment costs the total in 2007 was estimated to be £4 billion and £6.5 billion by 2026.
- Savings of between £4 million and £22 million in 2007 would have occurred if crisis resolution/home treatment services were considered for 60–100 per cent of potential admissions. By 2010 health care savings could be £9 million if early intervention services were provided to 60 per cent of new cases of schizophrenia. This could increase to £44 million if coverage were 100 per cent. If early detection services could be rolled out to achieve 100 per cent coverage by 2026 then savings of £18.4 million could be realised.

Introduction

Schizophrenia is a serious and frequently disabling mental health condition. A useful description of the characteristics of the condition has recently been provided by Picchioni and Murray (2007). Symptoms are generally classified as positive (including lack of insight, hallucinations, delusions, thought disorder) and negative (including social withdrawal, self-neglect, emotional blunting, paucity of speech, loss of motivation and initiative). Subtypes of schizophrenia include paranoid, hebephrenic, catatonic and simple. For many years there have been divisions between those who felt that schizophrenia was caused by factors linked to the social environment and those who considered it to be a predominantly biological condition. This distinction probably applies far less today. Other conditions included here are schizotypal disorder, delusional disorder and schizo-affective disorder.

TABLE 8: THE COURSE OF SCHIZOPHRENIA

Beginning	Type of evolution	End-state	Ciompi (1980)	Fenton (2000)
Sudden	Intermittent	Recovery or mild	25%	15%
Insidious	Continuous	Moderate or severe	24%	25%
Sudden	Intermittent	Moderate or severe	12%	11%
Insidious	Continuous	Recovery or mild	10%	6%
Insidious	Intermittent	Recovery or mild	10%	11%
Sudden	Continuous	Moderate or severe	6%	7%
Insidious	Intermittent	Moderate or severe	5%	22%
Sudden	Continuous	Recovery or mild	5%	3%

A number of long-term studies have investigated the course and outcomes of schizophrenia. One of the most recognised pieces of work has been by Ciompi (1980). Former patients were followed up for an average of 36.9 years and eight distinct categories of course were identified. Table 8, above, shows the distribution of these illness courses for the patients in Ciompi's sample. Fenton (2000) used the same classification, but the distribution was slightly different. Ciompi (1980) found that over the follow-up period there were favourable outcomes for 49 per cent of patients and unfavourable outcomes for 42 per cent. Total remission was experienced by 20 per cent, 42 per cent improved, 30 per cent were unchanged and 6 per cent were impaired.

Treatment recommendations for schizophrenia are summarised in Appendix 2, (*see* p 130).

Prevalence estimates

Schizophrenia and related conditions have been the subject of much epidemiological study, but robust estimates of prevalence remain scarce. A recent systematic review has estimated a one-year prevalence rate for schizophrenic disorders of 6 per 1,000 people (Goldner *et al* 2002). Another review of schizophrenia reported rates of 6.21 and 5.38 for males and females respectively (Saha *et al* 2005). The Psychiatric Morbidity Survey (PMS) gives a rate for probable psychotic disorder of 6 per 1,000 for males and 5 per 1,000 for females. However, these figures equate to just 60 people and are for those living in the community. In addition, they include cases of all probable psychoses (ie, including bipolar disorder and so on).

Based on the above prevalence data we have assumed a rate of 5 per 1,000 for the adult population. This results in an estimate of 210,450 people with schizophrenic disorders. However, it is also recognised that prevalence rates differ according to age. Prevalence rates of treated cases by age group were, however, available from Key Statistics from General Practice (National Statistics 2000) and these are shown in Table 9 opposite. Applying these rates to the population figures for the same gender-specific age groups results in a total of 100,682. Therefore, the primary care rates were adjusted by a factor of 2.09 (210,450 divided by 100,682).

The derived prevalence estimates included in this report are shown in Figure 47, opposite,

TABLE 9: PREVALENCE OF TREATED SCHIZOPHRENIA IN GENERAL PRACTICE

Age group	Male prevalence	Female prevalence
15–24	1.1	0.3
25–34	2.4	1.3
35–44	3.5	1.9
45–54	3.3	2.8
55–64	2.8	3.8
65–74	2.6	3.6
75–84	1.9	2.9
85+	1.3	2.2

Source: Key Statistics from General Practice 1998 (National Statistics 2000)

for the age groups for which costs were calculated. While the prevalence is highest for men in the 15–44 and 45–64 age groups, rates for women are highest for older adults. The incidence of schizophrenia is highest in younger adults, but Figure 47 demonstrates that because these conditions are chronic there is an accumulation of morbidity over time.

It is not clear whether the incidence of schizophrenia is changing over time. One study in south-east London does suggest this, with a doubling in rates over a 32-year period (Boydell *et al* 2003), but similar work needs to be carried out elsewhere to verify this

47 PREVALENCE OF SCHIZOPHRENIC DISORDERS PER 1,000 POPULATION

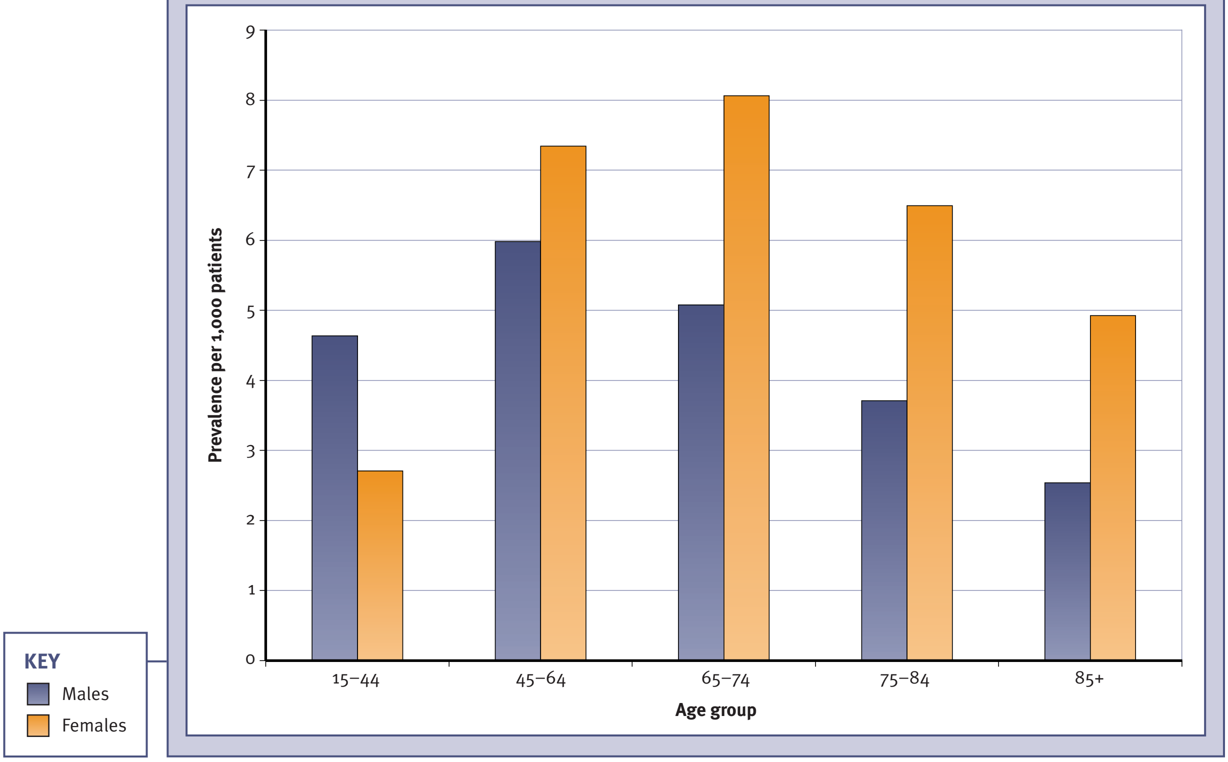


TABLE 10: INCIDENCE OF SCHIZOPHRENIA BY ETHNIC GROUP

Group	Number of new cases per 100,000
White	14.4
Mixed	22.8
Asian	17.0
Black	87.6
Other	26.9

Source: Fearon *et al* (2006)

finding. One potential cause of a change in the incidence rate of schizophrenia is the use of cannabis. While a causal link has not been proved, there is a large body of epidemiological research that does show an association (Moore *et al* 2007), and a leading expert in this area has suggested that around 10 per cent of cases of schizophrenia could be due to cannabis use (Murray 2007).

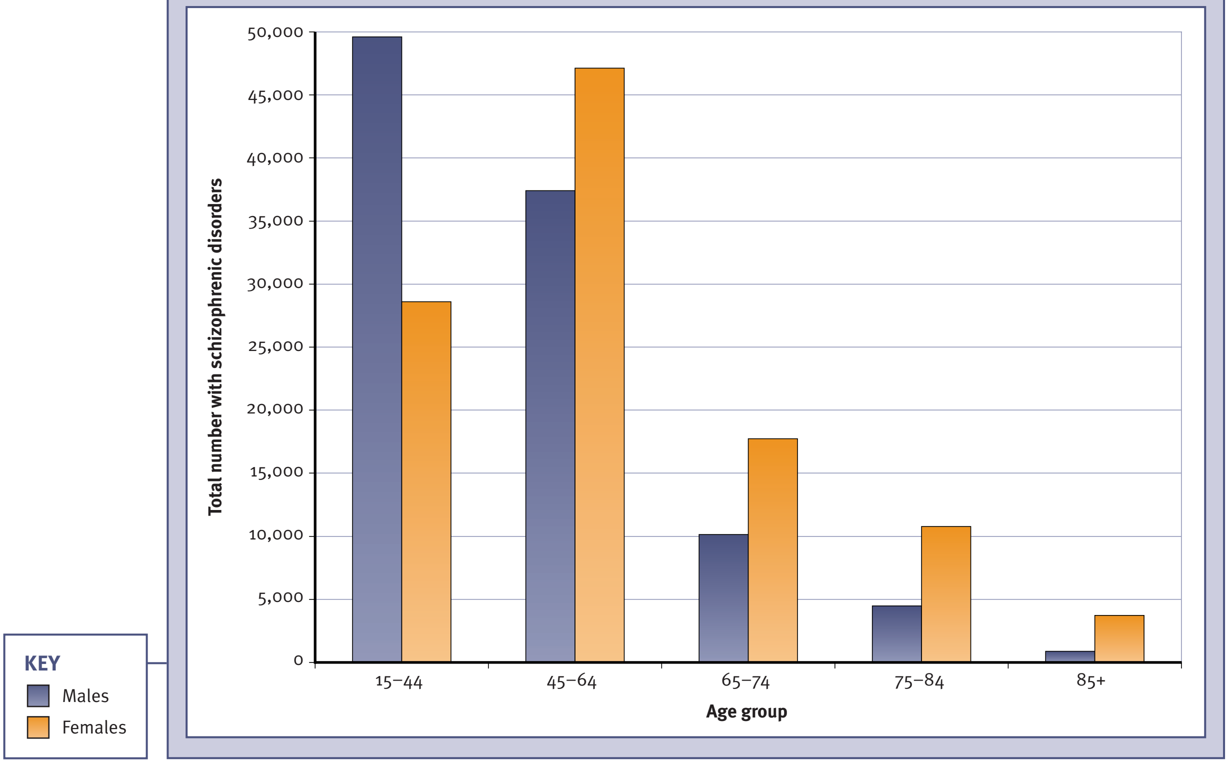
Surveys have shown that the prevalence of schizophrenia is higher in some black and minority ethnic (BME) groups than in the white population. For example, the Ethnic Minority Psychiatric Illness Rates in the Community (EMPIRIC) survey of psychiatric morbidity in the community found that psychosis rates in the white population were 1 per cent for men and 0.7 per cent for women (Sproston and Nazroo 2002). Among the black Caribbean population the rates were 1.6 per cent and 1.7 per cent respectively. More recently the Aetiology and Ethnicity in Schizophrenia and Other Psychoses (AESOP) study has estimated incidence rates of schizophrenia by ethnicity in Bristol, Nottingham and London (Fearon *et al* 2006). The overall incidence rate was about 16 per 100,000 people, but rates were substantially higher in certain BME groups than for the white population, as shown in Table 10 above.

Population estimates

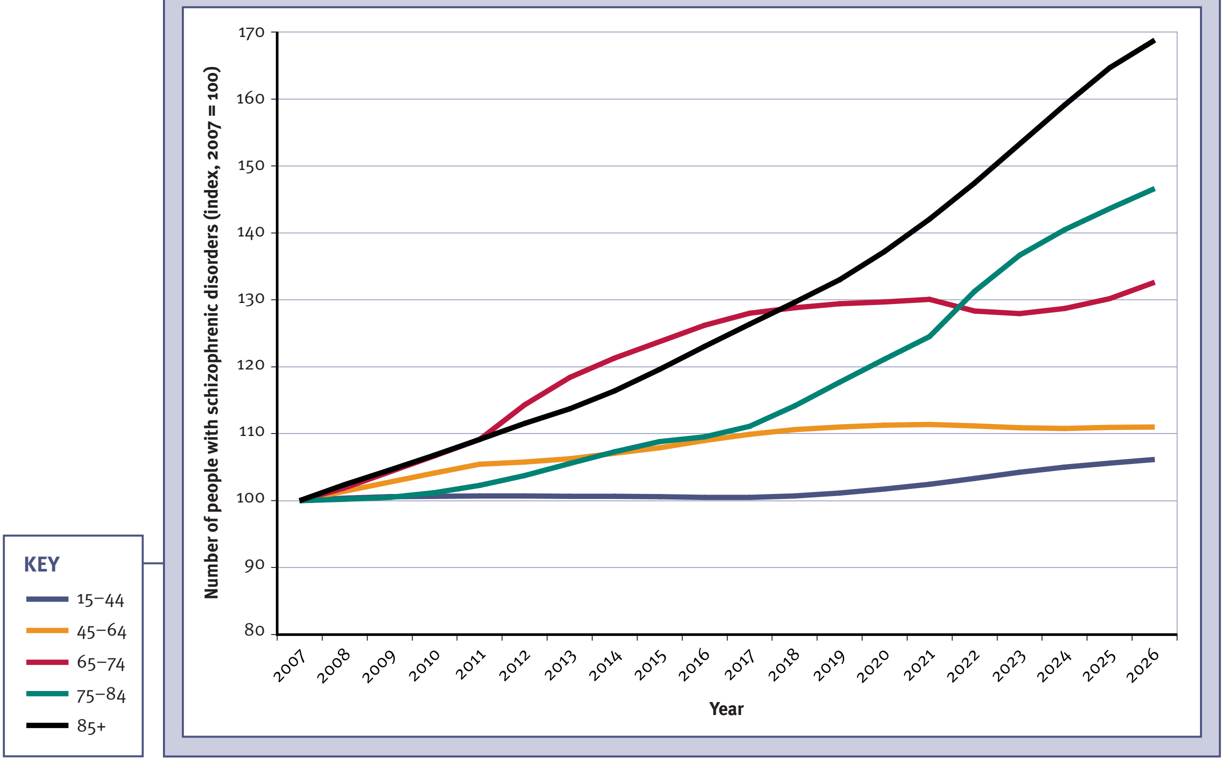
Based on the above rates, the total number of people with schizophrenic disorders can be estimated (*see* Figure 48, opposite). Of the 210,450 people with these conditions, 77.3 per cent are estimated to be under the age of 65. The numbers of men and women are very similar (102,484 and 107,966 respectively) but clearly the distribution by age group differs markedly. By 2026 it is estimated that the total number will be 243,931 – an increase of 16 per cent. As with depression, the rate of increase is projected to be highest in the older age groups, as a result of demographic change in the population (*see* Figure 49, opposite). Mortality rates among people with schizophrenia are higher than in the general population due to poorer physical health and suicides. However, the figures in this report do not reflect this.

If adjustment is made for population changes by ethnic group and the differential incidence rates for these groups then there would be a 3.3 per cent increase in expected new cases of schizophrenia. This increase has only a minor impact on the number of prevalent cases of schizophrenia in the population.

48 NUMBER OF PEOPLE WITH SCHIZOPHRENIC DISORDERS BY AGE AND GENDER, 2007



49 PROJECTED CHANGE IN NUMBER OF PEOPLE WITH SCHIZOPHRENIC DISORDERS, 2007 TO 2026



Service costs and lost employment

The elements used to estimate total costs for schizophrenic disorders were: prescribed drugs, inpatient care, other NHS services, supported accommodation, criminal justice services, day care, other social services, informal care and lost employment. Other costs may also be incurred but we could not quantify them for this review and they would be unlikely to add substantially to the totals here. However, it does need to be recognised that our figures are likely to be underestimates of the true cost.

Service costs

Previous studies have shown that people with schizophrenia and related conditions use a wide range of services. Key components that have been identified are not only health and social care costs, but also informal care costs, criminal justice system costs and the costs of lost productivity and premature mortality (Knapp 2003). For this report we have obtained comprehensive service use data from two studies that have drawn samples of people with schizophrenia from an area that is generally representative of England (the London Borough of Croydon).

EPSILON STUDY

The European Psychiatric Services: Inputs Linked to Outcome Domains and Needs (EPSILON) study was conducted to produce standardised versions of instruments measuring needs for care, family or care giving burden, satisfaction with services, quality of life, and socio-demographic and service receipt in five European languages.

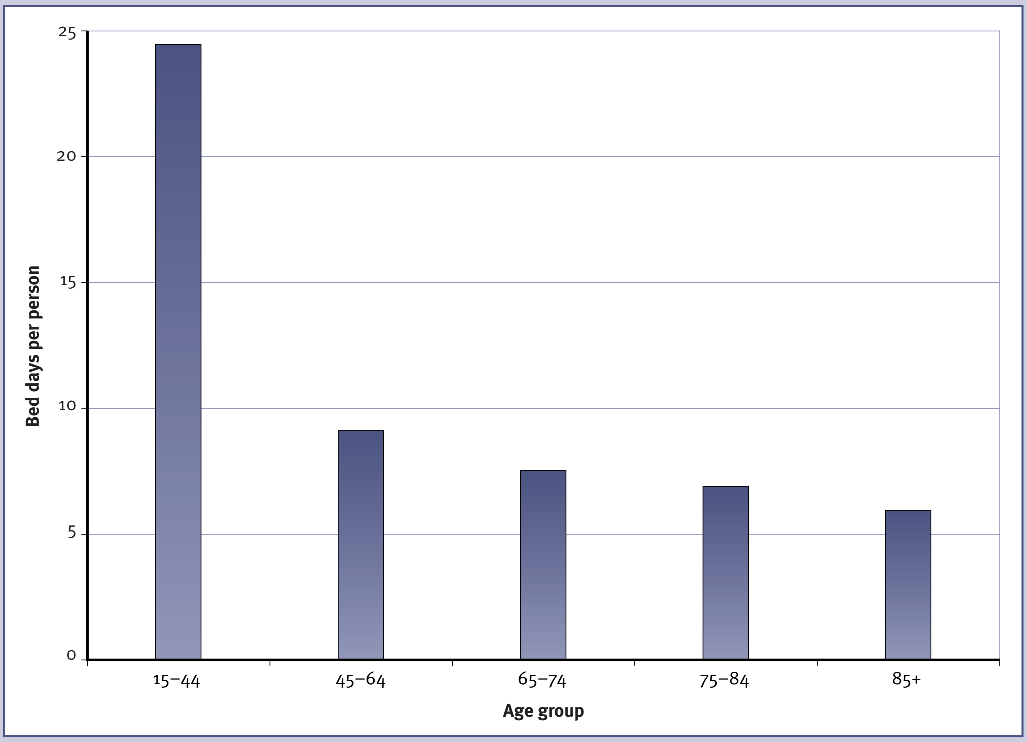
The sample included 84 people with schizophrenia, treated by 'ordinary services'. Service use was measured over a three-month retrospective period (Knapp *et al* 2002). It was felt that the period was sufficiently long to pick up a wide range of services that individuals use. Services measured included psychiatric and general medical inpatient admissions, psychiatric and general medical outpatient attendances, community-based day services, and contacts with primary care, social services and community mental health care professionals. The use of medication was also recorded as were details of employment and benefits received. As the costs were collected for a three-month period, they were converted to annual costs by multiplying by four.

Service use and cost data were extracted by gender and age group. No data were available for people aged 75 or over. The costing of the original study was for the 2002/03 financial year. To update the costs to the present period, all costs were inflated using an appropriate index (Curtis and Netten 2006). The latest index available was for the year 2005 and all the mean costs were multiplied by 1.17 to give present costs.

QUATRO STUDY

The Quality of Life following Adherence Therapy for People Disabled by Schizophrenia and their Carers (QUATRO) study was a multi-centre randomised controlled trial of two interventions for people with schizophrenia carried out across four European countries – England, Germany, Italy and the Netherlands. The trial recruited 409 subjects with 92 of them from London (Gray *et al* 2006). Half the subjects were randomised to adherence therapy and the other half to health education. Participants were to be followed up for one year, after which measurements of adherence to medication, quality of life and costs were to be assessed. For the analyses in this report we have used baseline data from this study.

50 INPATIENT BED DAYS PER PERSON WITH SCHIZOPHRENIC DISORDERS



The range of services included in the study, and the methods by which they were measured and costed, were essentially the same as in the EPSILON study. Informal costs, which make up a significant portion of overall costs, were also estimated in the study by recording the average number of hours that carers spent on specific tasks per week and attaching an appropriate unit cost to this. These were supplemented with informal care costs from the PRiSM Psychosis Study (McCrone *et al* 1998).

INPATIENT COSTS

Although both the EPSILON and QUATRO studies collected data on inpatient stays, we decided to use Hospital Episode Statistics (HES) data given its comprehensive coverage. In 2004/5 men with schizophrenic disorders used 1.98 million inpatient bed days while women used 1.05 million bed days. The average number of bed days per person for different age groups reveals a reduction with age (*see* Figure 50, above).

PRISON COSTS

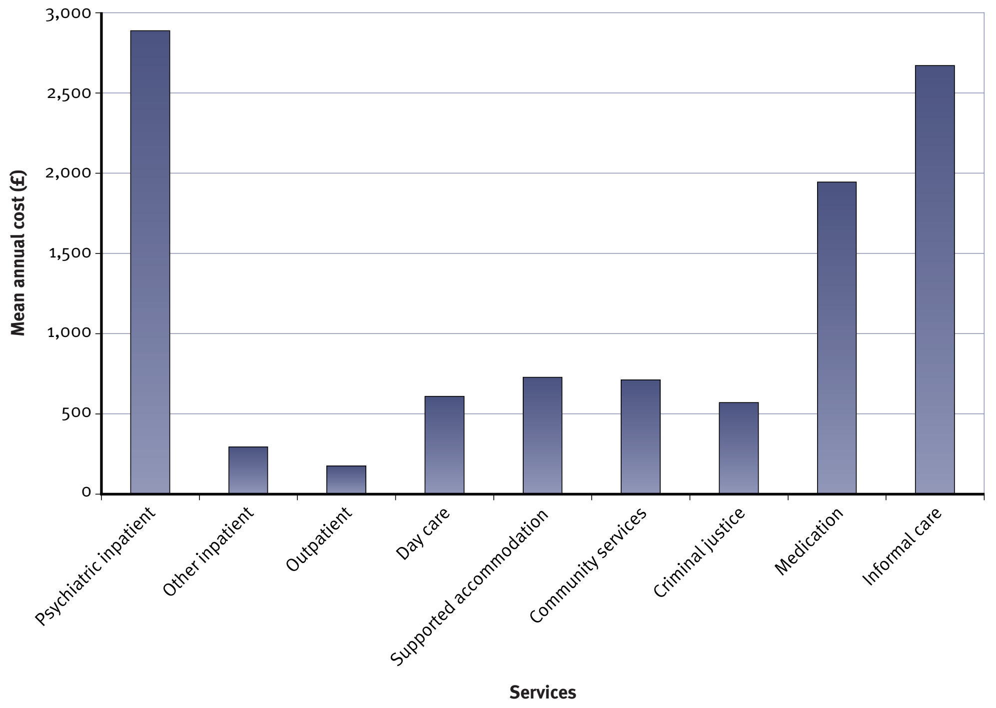
The EPSILON and QUATRO studies did not recruit patients from prison. A national survey of psychiatric morbidity in prison conducted in 1997 found prevalence rates of schizophrenic disorders in 9 per cent of male remand prisoners, 6 per cent of male sentenced prisoners and 13 per cent of female prisoners (Singleton *et al* 1998). These figures translate to 3,365, 1,325 and 516 people respectively based on 2006/7 prison population data. However, the cost of schizophrenia-related prison stays is not simply a matter of computing costs for these people as some of the offences committed may not have been related to schizophrenia. In a study examining the needs of prisoners with mental health problems, Thomas (2005) found that in the opinion of consultant psychiatrists 38 per cent of prisoners required transfer to a secure hospital setting. We have therefore assumed that prison costs for 1,279 male remand prisoners, 504 male sentenced prisoners and 196 female prisoners are related to schizophrenia. The annual cost of a prison place in 2006 was £26,326 for male prisoners and £41,272 for female prisoners (Prison Service 2006). Other criminal justice services were not included and it is recognised that this is a limitation. In particular, a number of patients will be in medium-secure and high-secure units and, while the numbers may be small, they are likely to account for a disproportionate amount of costs.

Residential care costs

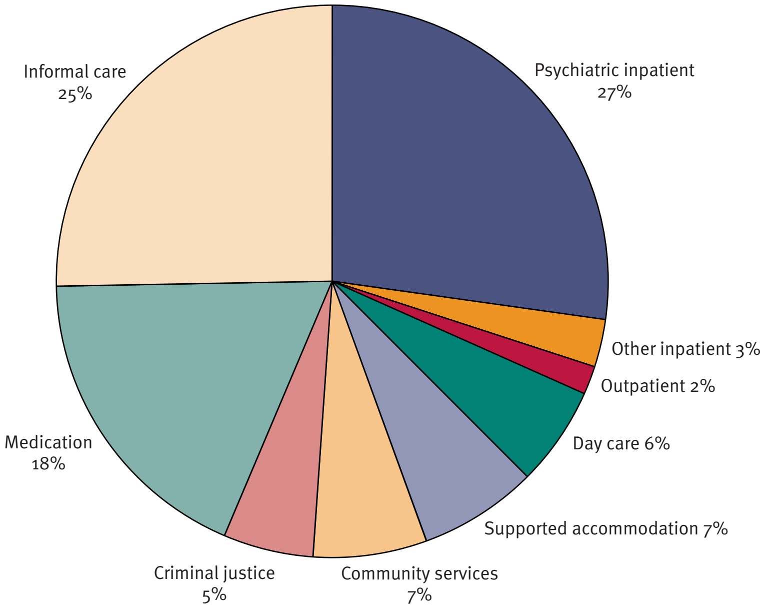
Residential care costs were derived from the aforementioned residential care study (Lelliott *et al* 1996; Chisholm *et al* 1997) in which between 48.8 and 60.8 per cent of people under 65 years living in residential care homes for people with mental health problems had schizophrenia, and from the survey of older adults in residential care in which 1 per cent had this condition (Bowman *et al* 2004).

The average costs for each service, and the proportion of total service costs they account for, are shown in Figures 51, below, and 52, opposite. Not surprisingly inpatient care was the most expensive, but a similar cost was borne by informal carers – both accounting for around one-quarter of costs. Medication is estimated to cost around £2,000 per year. Total service costs are currently estimated to be £10,605 per person.

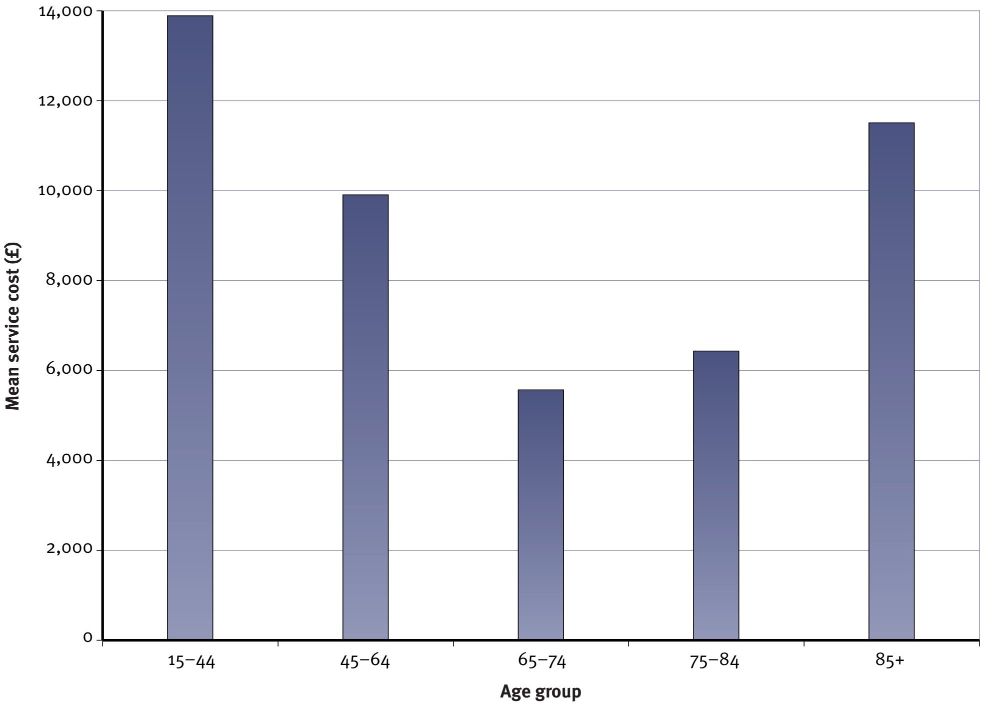
51 MEAN ANNUAL SERVICE COSTS FOR PEOPLE WITH SCHIZOPHRENIC DISORDERS, 2005/6



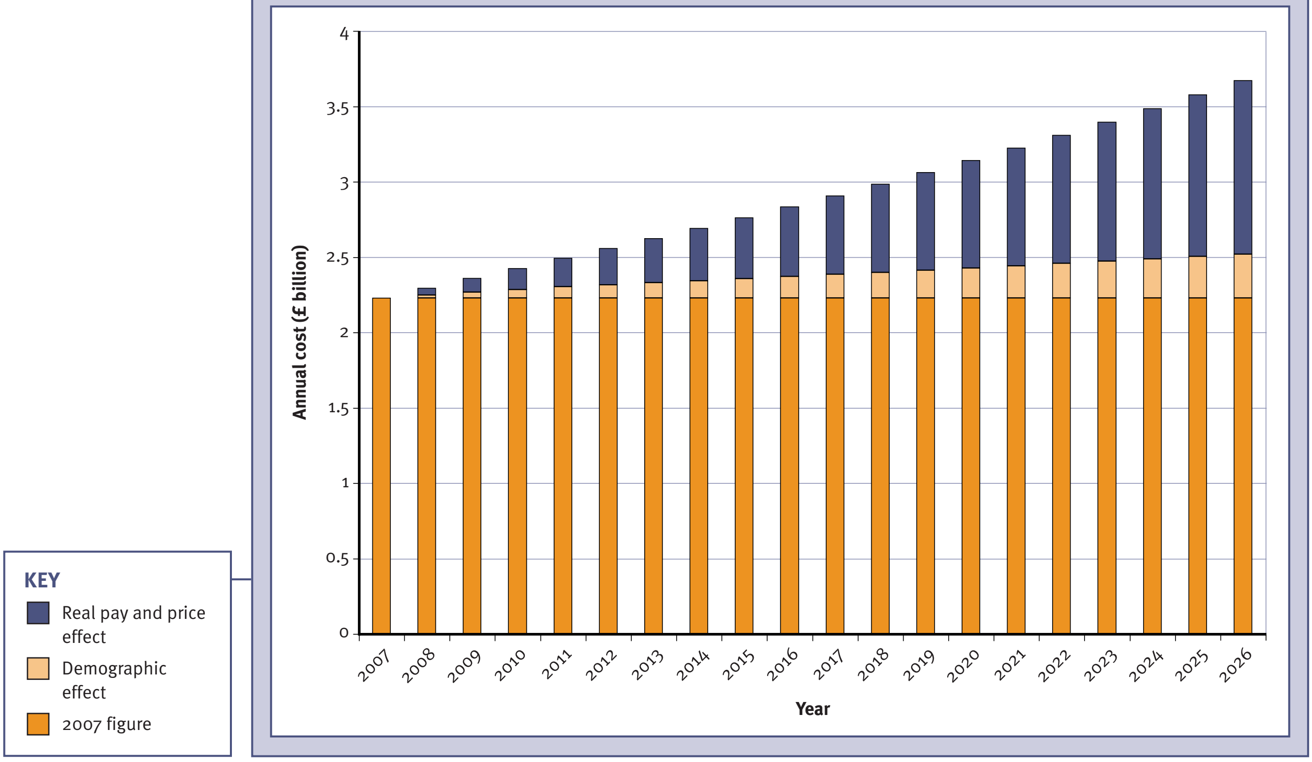
52 DISTRIBUTION OF SERVICE COSTS FOR SCHIZOPHRENIC DISORDERS



53 DISTRIBUTION OF SERVICE COSTS BY AGE FOR SCHIZOPHRENIC DISORDERS, 2005/6



54 PROJECTED SERVICE COSTS FOR SCHIZOPHRENIC DISORDERS, 2007 TO 2026



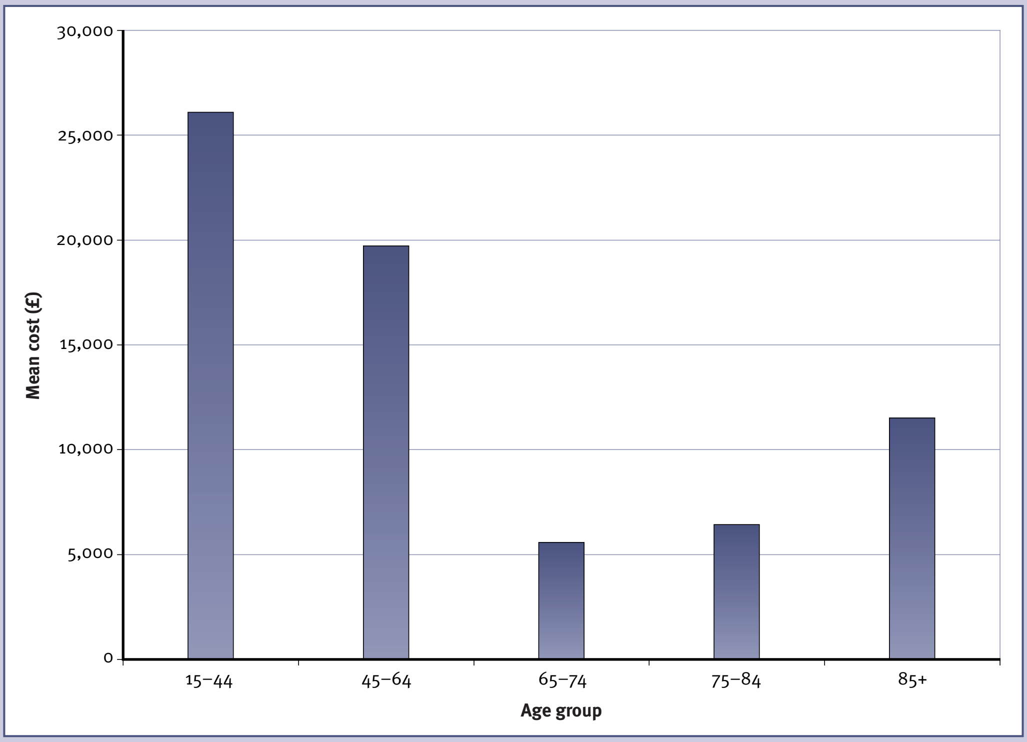
Service costs are highest for people aged under 45 and are estimated to fall until age 74 with costs then increasing again (*see* Figure 53, p 59).

Total service costs for England in 2007 were estimated to be £2.2 billion. If we assume that health and social care prices increase by 2 per cent in real terms annually, then along with demographic changes we can see from Figure 54, above, that projected service costs will reach £3.7 billion by 2026 – an increase of 68 per cent. As with the other disorders in this report most of the increase is due to changes in the real price of health and social care. If these changes are excluded then a more modest increase in costs of 9 per cent is observed.

Lost employment costs

Relatively few people with schizophrenia and related conditions are in work. The PMS for psychosis shows that 72 per cent of men and 68 per cent of women are economically inactive. This was due to illness for 81 per cent of men and 43 per cent of women. Therefore, 58 per cent of men and 29 per cent of women are not working because of illness. In the absence of schizophrenia a proportion would remain out of work due to prevailing unemployment, which in May 2007 was 5.4 per cent (National Statistics 2007b). Therefore, we can assume that lost employment due to schizophrenia occurs for 53 per cent of men and 24 per cent of women. (In reality the figures are probably higher because the above data refer to all psychoses, and schizophrenia might be expected to have a more detrimental impact on employment than say bipolar disorder.) Lost employment

55 DISTRIBUTION OF SOCIETAL COSTS OF SCHIZOPHRENIC DISORDERS BY AGE



costs were estimated by linking these rates to the numbers of people with schizophrenia aged below 65 and average annual salaries, which in 2006 were £31,661 for men and £18,061 for women (National Statistics 2007c). This resulted in mean lost employment costs of £12,205 for those aged under 45 and £9,815 for those aged 45–64. Mean total costs (that is service costs plus lost employment costs) for 2007 were estimated to be £19,078, with substantially higher costs for those aged below 65 (see Figure 55, above).

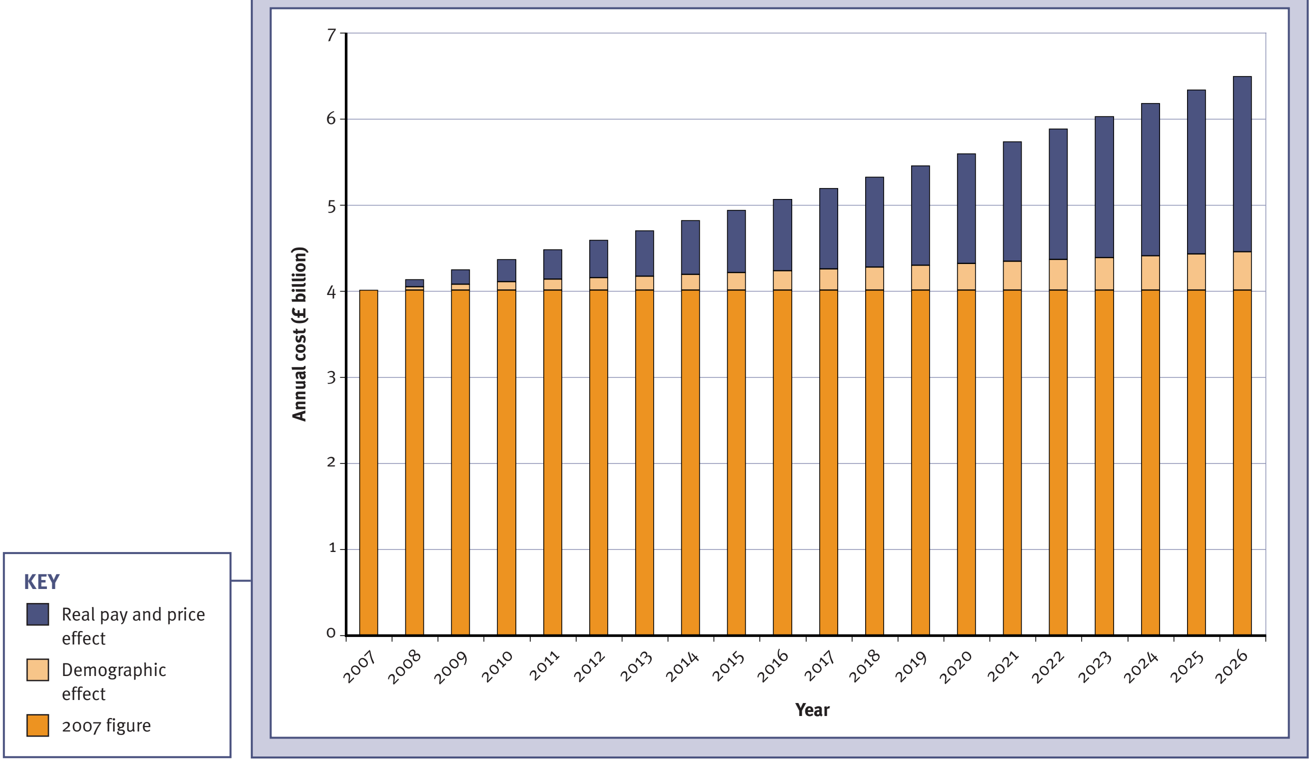
Total lost employment costs for 2007 were estimated to be £1.8 billion, which in addition to the service costs results in total costs of £4 billion. Therefore, around 45 per cent of costs are due to impacts on employment. A substantial amount of the remaining 55 per cent is due to the impact on families of informal care giving (*see* Figure 51, p 58).

There has been much discussion recently of the impact that cannabis might have on the risk of schizophrenia. If 10 per cent of cases are linked to cannabis the cost of cannabis-associated schizophrenia is around £400 million.

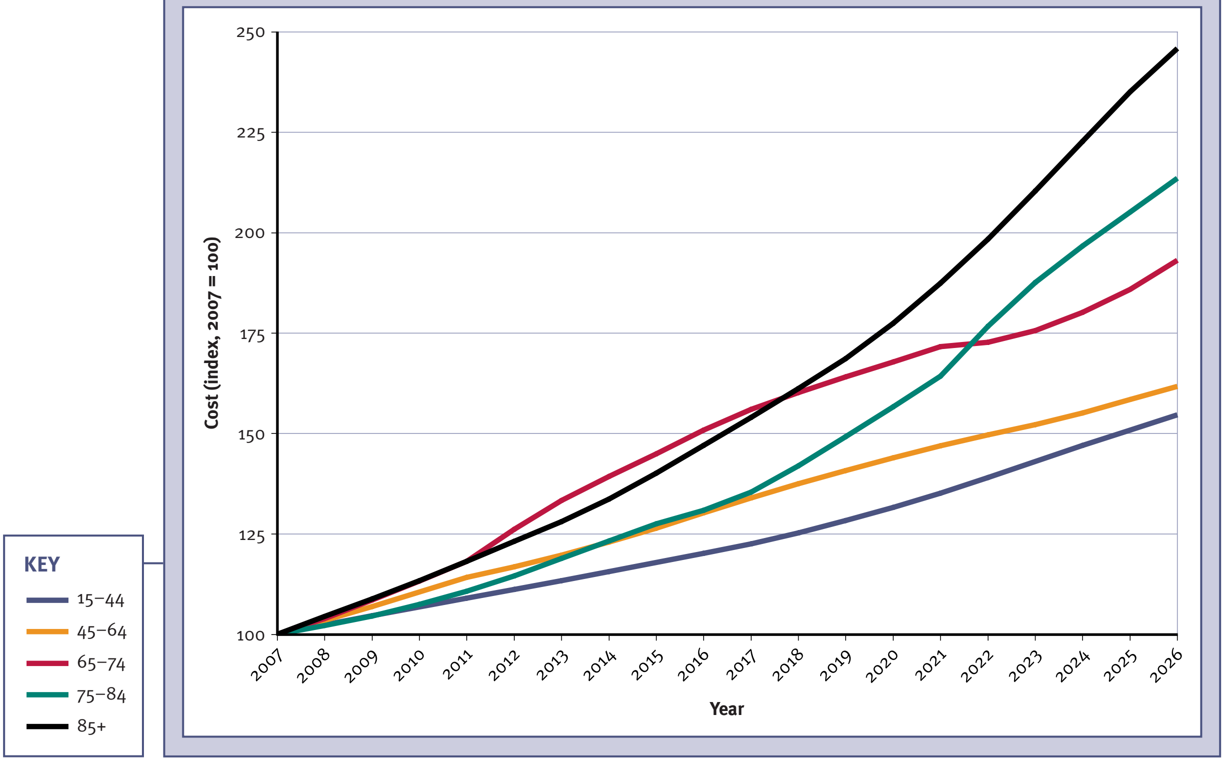
Projected costs

By 2026 total costs are projected to be £6.5 billion (*see* Figure 56, overleaf), an increase of 63 per cent. Growth in costs was greatest for those aged 85+ and 75–84 and lowest for those in the younger age groups (*see* Figure 57, overleaf). If real price/earnings increases are excluded the rise in costs is 11.2 per cent.

56 PROJECTED SOCIETAL COSTS OF SCHIZOPHRENIC DISORDERS, 2007 TO 2026



57 PROJECTED GROWTH IN COSTS OF SCHIZOPHRENIC DISORDERS, 2007 TO 2026



Scenario modelling

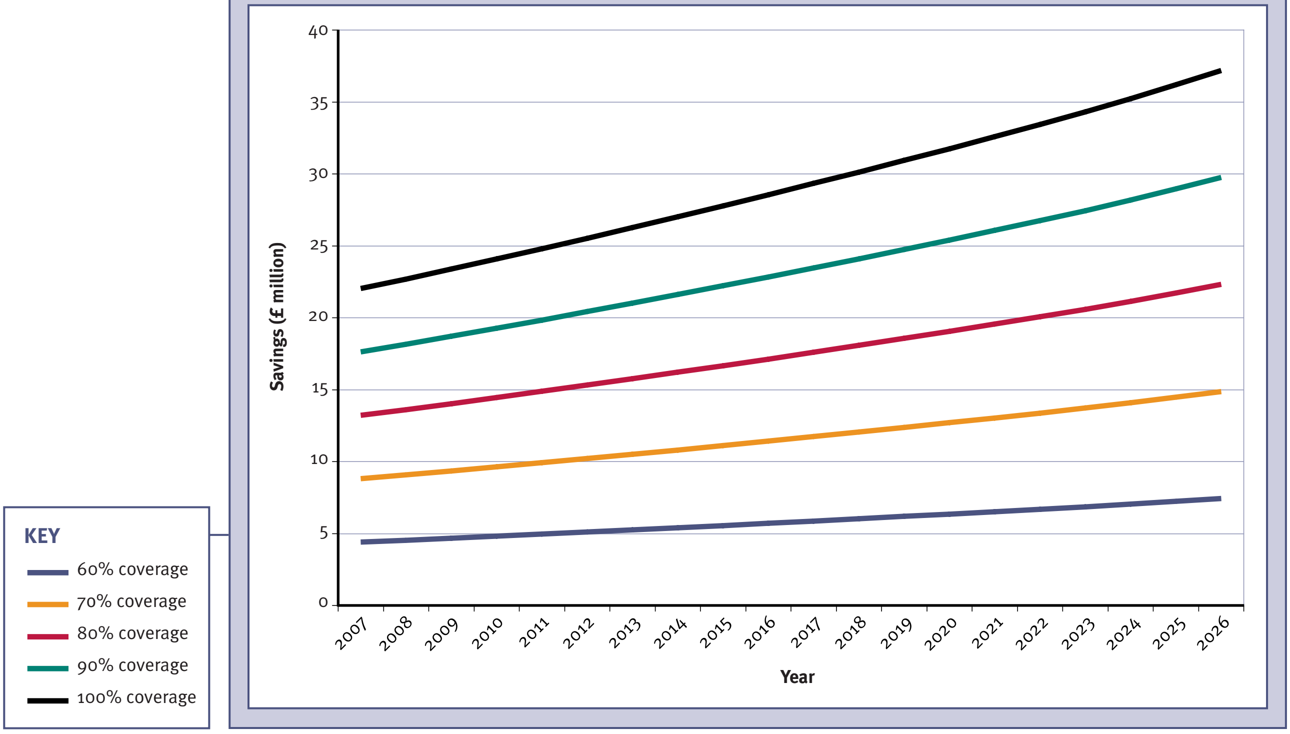
Scenario 1 interventions

CRISIS RESOLUTION/HOME TREATMENT AS AN ALTERNATIVE TO ADMISSION

One of the key service recommendations of recent years has been that crisis or home treatment teams should be provided across England as a potential alternative to admission to hospital for people experiencing a psychiatric crisis. In a report published by the National Audit Office (NAO; McCrone *et al* 2007) a model was used to show the impact that increasing the number of people receiving home treatment would have on health service costs through reduced admissions and earlier discharge. In the base-case model it was estimated that savings of £610 per crisis would be realised if home treatment was considered compared to not considering it. However, it was also assumed that in 50 per cent of cases home treatment was already considered and therefore moving to 100 per cent coverage would show cost savings of £305 per crisis.

The NAO report estimated that for every admission there were currently 1.47 crises that did not result in an admission. In 2005/6 there were 29,238 admissions for schizophrenic disorders in England, which implies that there were 42,980 crises not resulting in an admission – 72,218 crises in all. In Figure 58, below, the potential savings that would occur as a result of increasing considering home treatment from 50 per cent is indicated and projected to 2026. (It is assumed also that prices rise by 2 per cent per year over and above inflation). In 2007 savings would have been £4.4 million per year if considering home treatment increased to 60 per cent, while savings would have been £22.0 million if

58 POTENTIAL SAVINGS FROM EXPANDING PROVISION OF CRISIS RESOLUTION TEAMS FOR SCHIZOPHRENIC DISORDERS, 2007 TO 2026



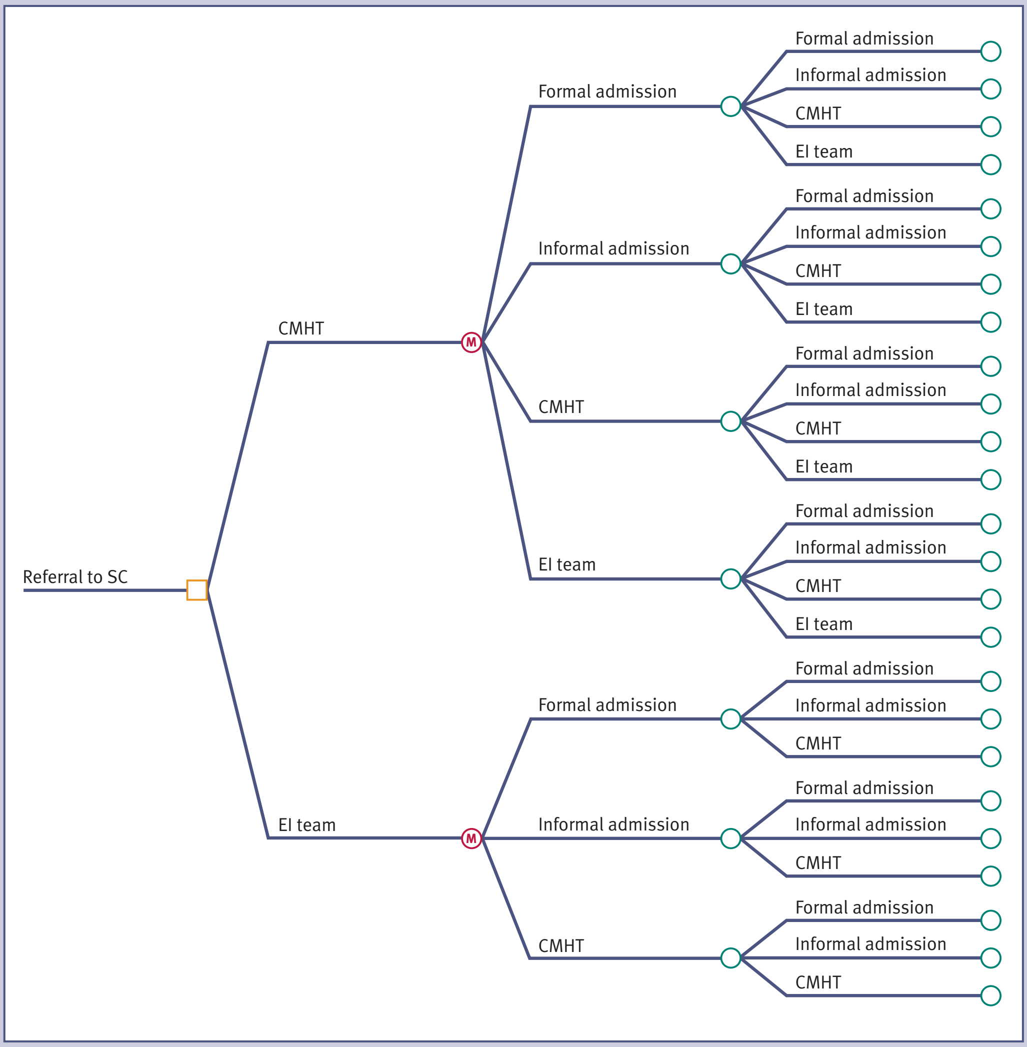
coverage were 100 per cent. By 2026 these figures would be £7.4 million and £37.2 million respectively.

EARLY INTERVENTION FOR PSYCHOSIS

Another key recommendation of the Department of Health is that early intervention (EI) services should be provided in each area for those patients who are experiencing their first episode of psychosis. This rests on the belief that such early intervention can produce favourable long-term outcomes and may reduce expensive inpatient admissions. Evidence to date suggests that inpatient stays can indeed be reduced but longer-term outcomes are less clear.

In 2006 a decision model was developed to compare EI services with usual care, reflecting the normal care pathways in both options. The analysis considered what is known about the probabilities for patients using different care pathways, together with knowledge of the

59 MODEL TO ASSESS ECONOMIC IMPACT OF EARLY INTERVENTION SERVICES FOR SCHIZOPHRENIC DISORDERS

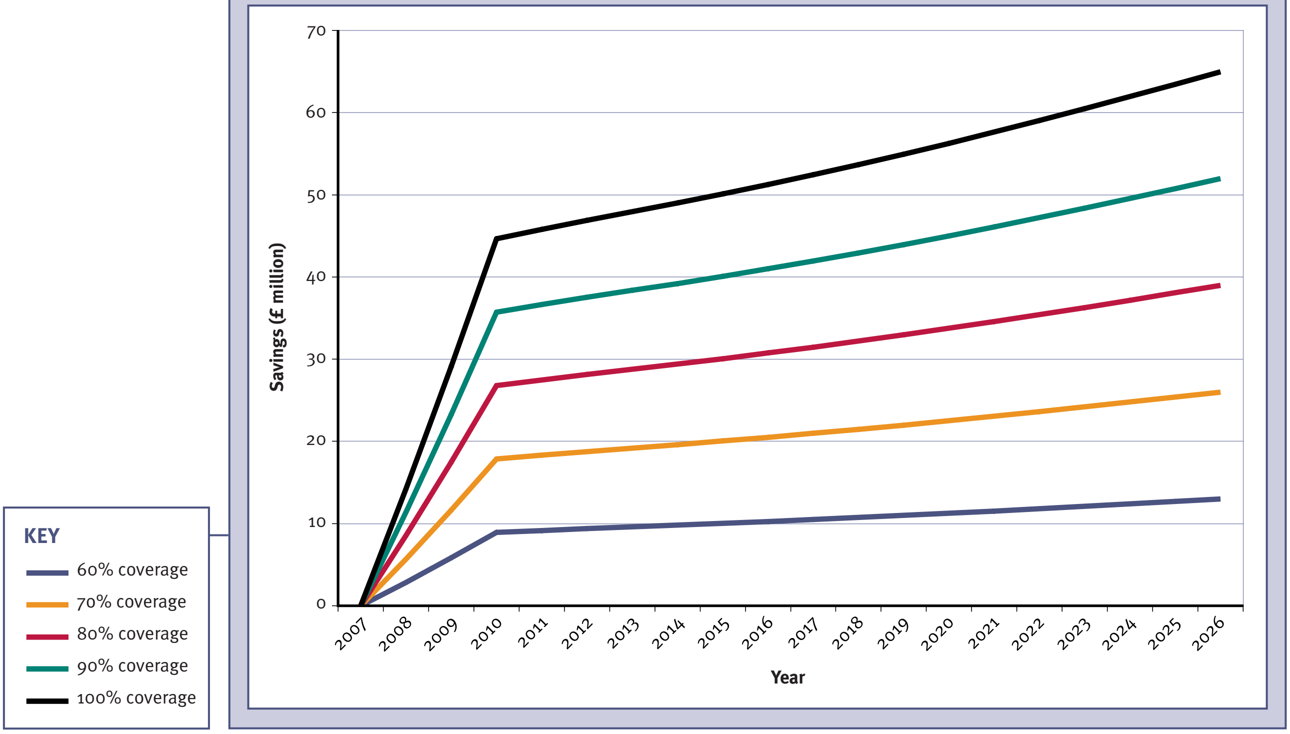


associated service costs. The model was analysed to provide comparative cost estimates based on one-year and three-year periods between EI and usual care. The model is shown in Figure 59, opposite. Patients are assumed to enter the secondary care system and to receive initial care from an EI team or from usual care. The model then defines specific care pathways that the patient ‘cycles’ through every two months.

Preliminary findings suggest significant cost savings in intervening early. Patients receiving standard care services had admission rates that were 1.6 times higher than the readmission rates for EI services. If we assume a readmission rate of 20 per cent every two months for EI then the cost saving over a one-year period would be around £5,000 compared with standard care. The actual admission rates across the country are not known and the above figures were used to illustrate the cost savings that could potentially occur. Even though an EI service may cost more to run than standard care services, the cost savings may be considerable due to their potential ability to reduce the need for inpatient readmission. Sensitivity analyses show that varying key parameters did not change the finding that early intervention resulted in overall lower costs. The only exception (but a crucial one) to this general result was if the inpatient readmission rates were to rise.

EI services would potentially be used by new cases of schizophrenic disorders. Based on incidence figures reported by Fearon *et al* (2006) this is equal to 5,539 people in 2007 rising to 5,968 by 2026. If, as with crisis resolution and home treatment teams, we assume that 50 per cent of relevant patients currently receive EI services then we can estimate the extra savings that would arise by increasing the use of EI. Figure 60, below, shows these

60 POTENTIAL SAVINGS FROM EXPANDING PROVISION OF EARLY INTERVENTION SERVICES FOR SCHIZOPHRENIC DISORDERS, 2007 TO 2026



savings. We have assumed that expansion of EI services would not happen immediately and therefore savings start in 2008. The initial steep rise in savings is because patients would probably stay with the service for three years and therefore a ‘steady state’ is not reached until 2010.

In 2010 estimated savings would be £8.9 million per year if use of EI increased to 60 per cent, while savings would be £44.6 million if coverage were 100 per cent. By 2026 these figures would be £13 million and £64.9 million respectively.

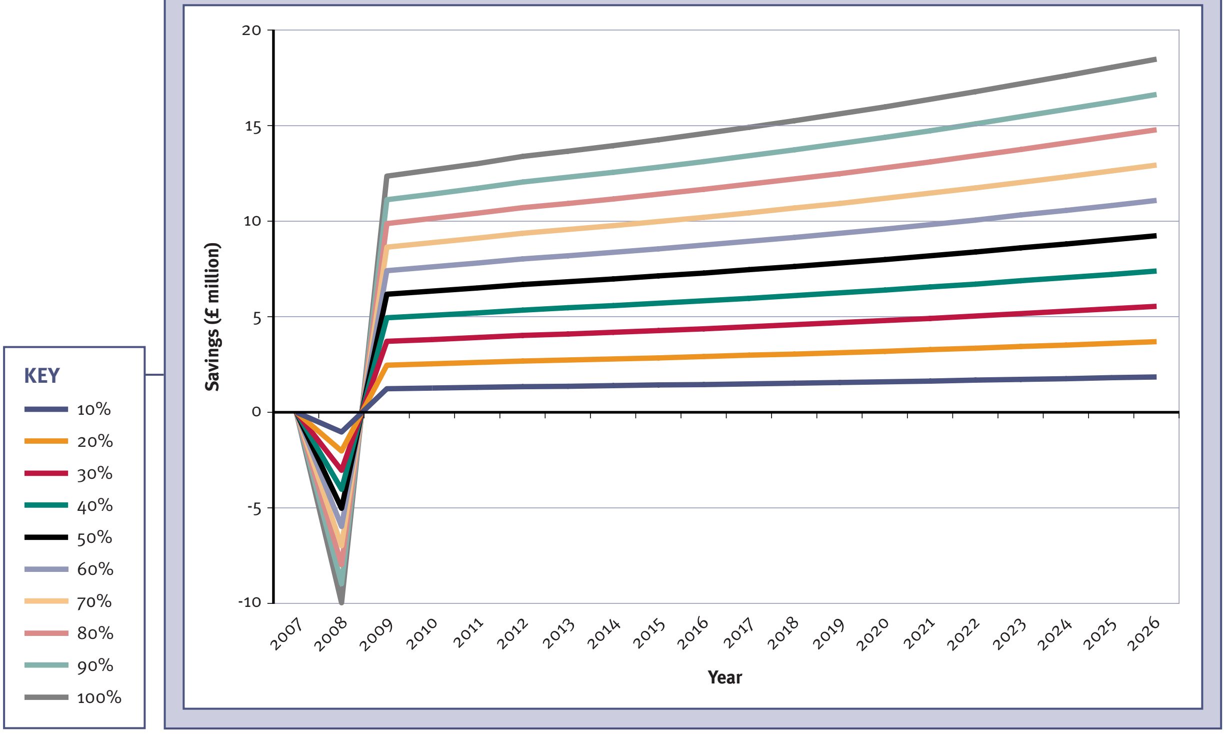
Scenario 2 intervention

EARLY DETECTION FOR PSYCHOSIS

While EI services target those with a recognised psychotic condition, early detection services aim to provide care to those showing early signs (or prodromal symptoms) of psychosis. Prodromal symptoms are thought to occur in most cases of schizophrenia, and here we have assumed a figure of 80 per cent. Such services are controversial because many people with prodromal symptoms will not actually make a ‘transition’ to psychosis. However, although there are no firm policy recommendations regarding early detection services there is a growing evidence base that suggests that providing early treatment (usually a combination of psychological therapy and low dose medication) can reduce the rate of transition (*see*, for example, Morrison *et al* 2004).

It has recently been estimated that the transition rate for people with prodromal symptoms

61 POTENTIAL SAVINGS FROM EXPANDING PROVISION OF EARLY DETECTION SERVICES FOR SCHIZOPHRENIC DISORDERS, 2007 TO 2026



in the absence of an early detection service is around 35 per cent, while the transition rate where such a service exists is estimated to be 20 per cent (L Valmaggia, personal communication 2007). Based on current estimates of incidence, the assumption that 80 per cent of cases of schizophrenia will have shown prodromal signs and the above transition rate of 35 per cent we estimate that in 2007 there would have been 12,629 people who might potentially have benefited from interventions provided by an early detection service. Based on unpublished data from the Institute of Psychiatry we estimate that in the first year of receiving an early detection service there are extra costs of £813 per person. However, due to subsequent reductions in inpatient use there are savings of £1,803 in the subsequent year. If coverage with early detection services of 10 per cent could be achieved by 2008, then by 2009 there could be savings of £1.2 million (*see* Figure 61, opposite). If coverage increased to 100 per cent by 2026 the savings would increase to £18.5 million. (Figure 61 shows that initially there will be negative savings as the costs of introducing or expanding services are not offset until the subsequent year.)

7

Bipolar disorder and related conditions

SUMMARY

The number of people with bipolar disorder and related conditions is high, but the total numbers are not expected to increase much over the next 20 years due to lower prevalence rates in older adults. Lost employment accounts for around two-thirds of the overall costs of these conditions. As with schizophrenia, cost savings could be realised by rolling out crisis resolution and early intervention services.

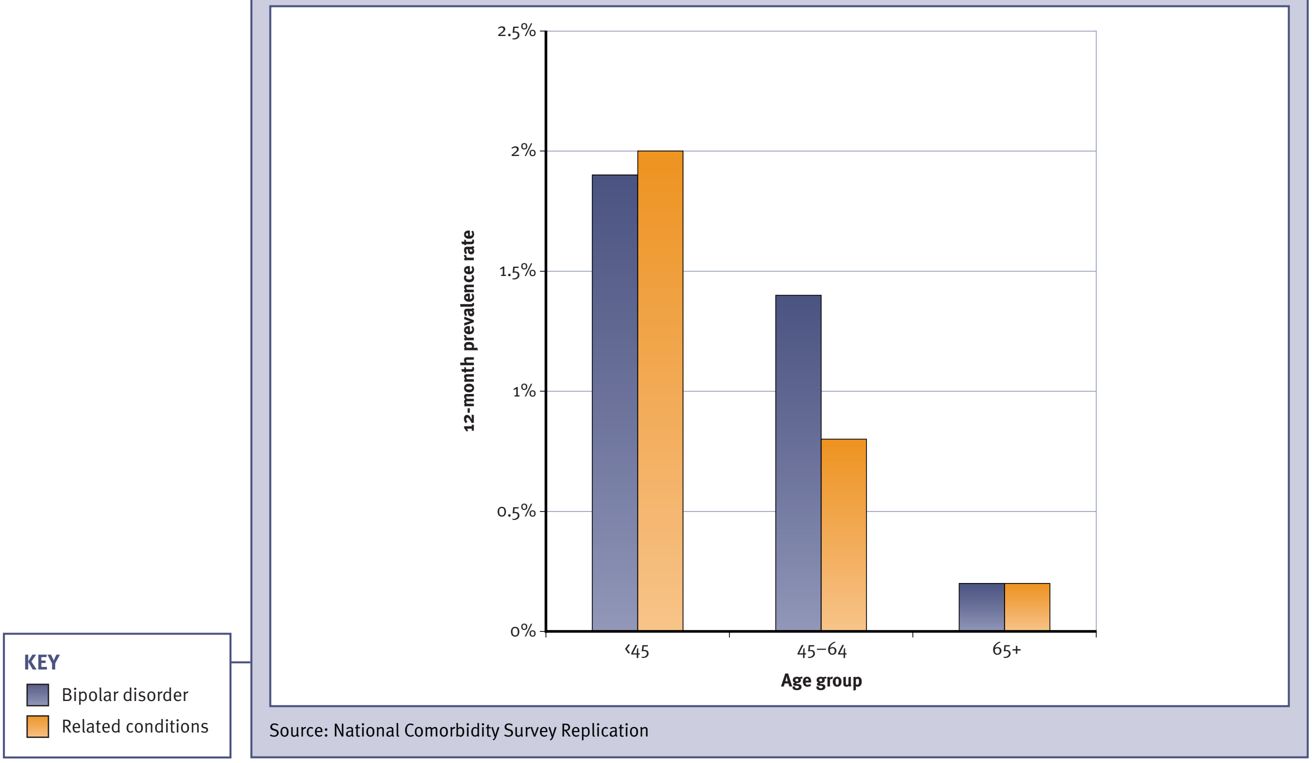
Key points

- Prevalence of bipolar disorder and related conditions is estimated to be 0.4 per cent – 3.9 per cent depending on age
- Current estimates suggest that 1.14 million people have these conditions. By 2026 the number will only have increased to 1.23 million.
- Total service costs in 2007 were estimated to be £1.6 billion, increasing to £2.6 billion by 2026. With the inclusion of lost employment costs, the total for 2007 was £5.2 billion and is projected to be £8.2 billion by 2026.
- Savings of between £1.9 million and £9.8 million would have occurred in 2007 if crisis resolution/home treatment services had been considered for 60–100 per cent of potential admissions. By 2010 health care savings could be £16.4 million if early intervention services were provided to 75 per cent of new cases of bipolar disorder. This could increase to £21.9 million if coverage were 100 per cent. If early detection services could be rolled out to achieve 100 per cent coverage for people with bipolar disorder by 2026 then savings of £4.5 million could be realised.

Introduction

This chapter covers mood disorders including bipolar disorder, mania and hypomania. Bipolar disorder is characterised by fluctuating episodes of depression and mania. The ICD-10 system of disease classification characterises bipolar disorder according to whether the current episode is mania (or hypomania which is less severe) or depression, and these states are further divided according to whether psychotic symptoms are present or not. ICD-10 also includes categories for mixed symptoms and bipolar disorder that is currently in remission. ICD-10 allows for diagnoses of mania (with or without psychotic symptoms) and hypomania alone. DSM-IV has categories for Bipolar Type I and Bipolar Type II. The latter is less extreme, often with the occurrence of hypomania rather than mania. In addition DSM-IV has a category for sub-threshold bipolar disorder. Current treatment options are summarised in Appendix 2 (*see* pp 130–131).

62 TWELVE-MONTH PREVALENCE OF BIPOLAR DISORDER AND RELATED CONDITIONS BY AGE GROUP



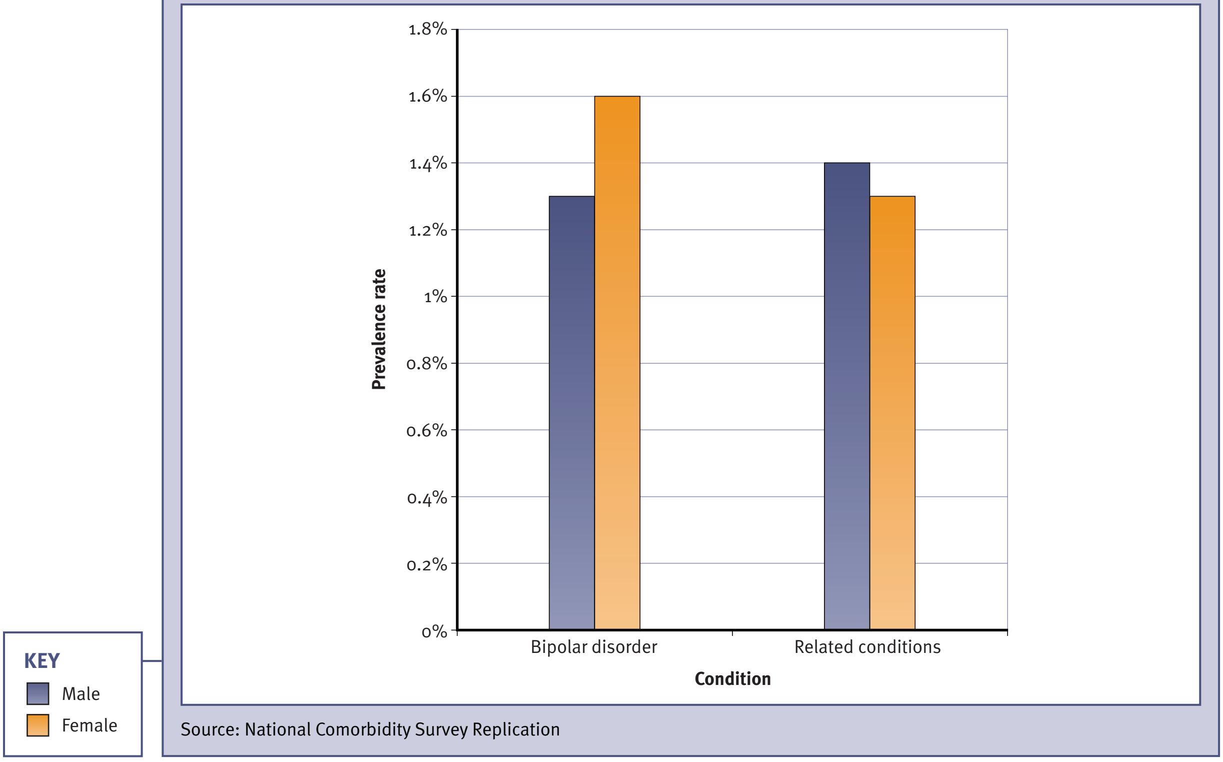
Source: National Comorbidity Survey Replication

Prevalence estimates

Estimates of the prevalence of bipolar disorder and related conditions show substantial variation. A recent review by Waraich *et al* (2004) arrived at a 12-month prevalence estimate of 0.72 per cent for Bipolar Type I. Another review of prevalence rates across European countries reported 12-month prevalence rates ranging from 0.5 per cent to 1.1 per cent for bipolar disorder (Pini *et al* 2005). One of the largest community surveys of mental health problems was the National Comorbidity Survey Replication (NCS-R) in the United States. This estimated twelve-month prevalence rates for Bipolar Type I of 0.6 per cent, Bipolar Type II of 0.8 and sub-threshold bipolar disorder of 1.4 per cent (Merikangas *et al* 2007).

A limited number of studies have examined differences in prevalence rates according to age and gender. The review by Pini *et al* (2005) reports slightly higher rates of bipolar disorder in women and lower prevalence rates in older adults. The inverse relationship with age is also reported by Merikangas *et al* (2007), although Waraich *et al* (2004) show that prevalence is stable in 18–64 year olds. In our analysis we have applied figures derived from the National Comorbidity Survey Replication (Merikangas *et al* 2007). This is a dataset from the United States and prevalence rates might not fully apply to England. However, the size of the survey (9,282 respondents) allows us to estimate age- and gender-specific prevalence rates for bipolar disorder, sub-threshold bipolar disorder, mania and hypomania, and similar data were not available from this country. The prevalence rate of bipolar disorder and related conditions is highest in the under 45 age

63 TWELVE-MONTH PREVALENCE OF BIPOLAR DISORDER AND RELATED CONDITIONS BY GENDER



Source: National Comorbidity Survey Replication

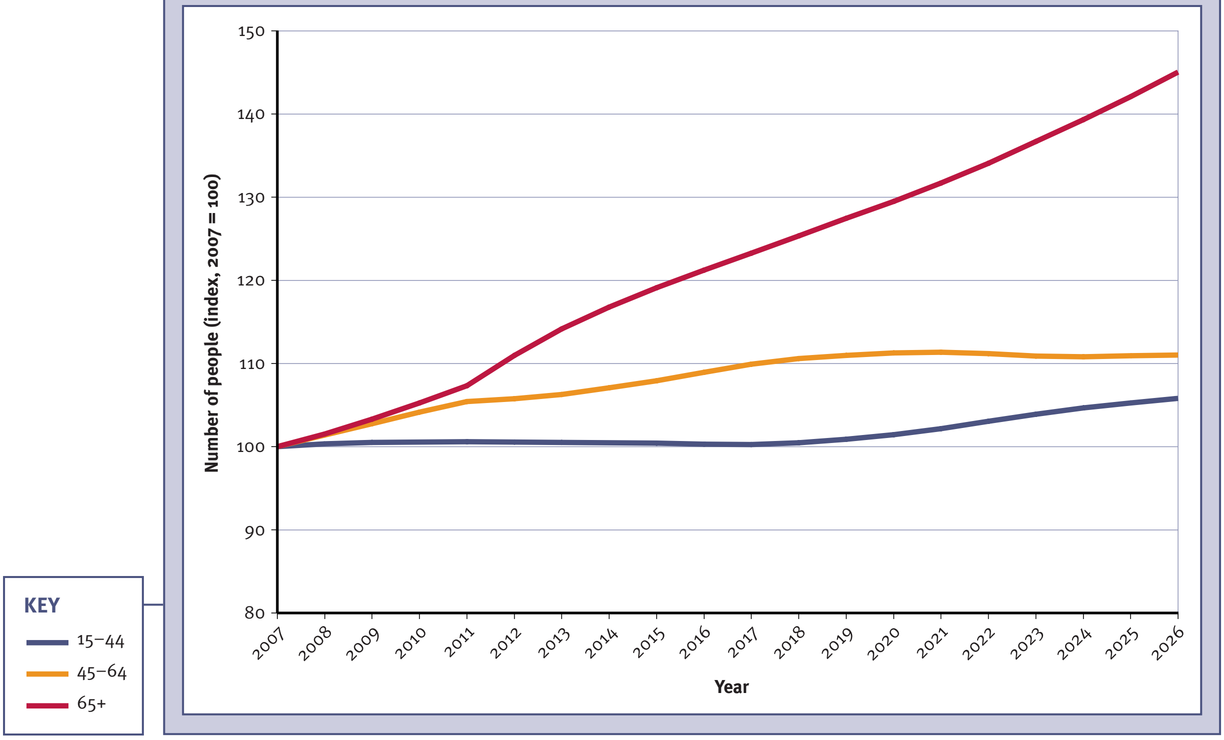
group and is markedly lower for adults aged 65 or over (*see* Figure 62, opposite). In the 45–64 age group the prevalence rate for bipolar disorder is noticeably higher than for related conditions.

The small gender difference in prevalence rates for bipolar disorder is illustrated in Figure 63 above. However, as can be seen from the chart, the National Comorbidity Survey Replication found similar prevalence rates between men and women for related conditions.

Population estimates

In 2007 it was estimated that there were 1.14 million people with these conditions, and by 2026 the number is projected to be 1.23 million – an increase of 7.9 per cent. The increased number of older adults in the population does not significantly impact on the total number of cases because of the lower prevalence rates in that group. However, as Figure 64, overleaf, shows, the greatest proportional increase in the number of people with bipolar disorder and related conditions is still in those aged 65 and over. The figures have not been adjusted for ethnicity. Data produced by Lloyd *et al* (2005) indicates that while the incidence of bipolar disorder is higher among certain black and minority ethnic (BME) groups compared to the white population, the difference is not as large as for schizophrenia, and Chapter 6 revealed that the impact of adjusting for ethnicity in schizophrenia was marginal.

64 PROJECTED CHANGE IN NUMBER OF PEOPLE WITH BIPOLAR DISORDER AND RELATED CONDITIONS, 2007 TO 2026



Service costs and lost employment

The elements used to estimate total costs for bipolar disorder and related conditions were: prescribed drugs, inpatient care, other NHS services, supported accommodation, day care, other social services, informal care and lost employment. Other costs may also be incurred but we could not quantify them for this review and they would be unlikely to add substantially to the totals here. However, it does need to be recognised that our figures are likely to be underestimates of the true cost.

Service costs

Service use data for bipolar patients was taken from a study which evaluated the cost-effectiveness of relapse-prevention by means of cognitive therapy with standard care (Lam *et al* 2005). Patients included in the study had Bipolar Disorder Type I and were therefore atypical of all patients with bipolar disorder and related conditions. This is dealt with below.

The total sample of patients in the original study was 103 who were randomly allocated to either standard care (52) or cognitive therapy (51). Participants were interviewed using the Client Service Receipt Inventory (Beecham and Knapp 2001) at baseline and at three-monthly follow up visits.

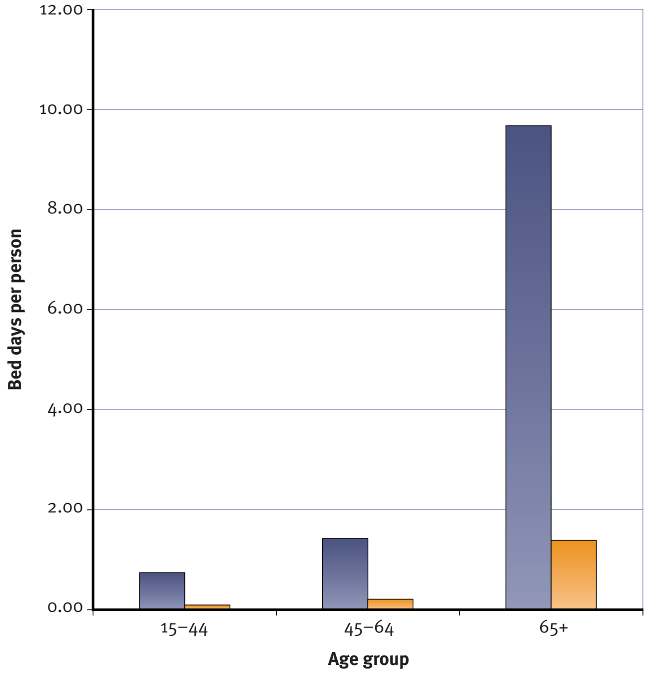
Services measured included contacts with mental health care services (psychiatrists, psychologists, community mental health nurses, day centres, counsellors and other therapists), general practitioners, social workers, and hospital services (inpatient care, outpatient care, day hospital contacts).

In the original study, appropriate unit costs were applied to the service use and data to generate service costs per patient for the financial year of 1999. Medication costs were taken from the British National Formulary (BF/BMA 2001). The data were divided into gender-specific age groups for merging with Hospital Episode Statistics (HES) inpatient data. However, no data were available from this study for those in the 75–84 and 85+ age groups. Therefore, costs for those aged 65+ were assumed to apply to all age groups above 65.

Costs were originally collected for three months only, and converted to annual costs by multiplying by four. Since the original year of costing was for the 1998/9 financial year, we updated these to the present period, using a health and social care inflation multiplier of 1.38 (Curtis and Netten 2006).

As the patients included in the study had Bipolar Disorder Type I, it is very likely that their service use and subsequent costs would be higher than for patients with less severe conditions. We used data from HES to calculate inpatient costs and these were available for the full range of conditions. The number of bed days per person reveals that people with bipolar disorder used disproportionately more inpatient days than people with related conditions (*see* Figure 65, below). (These days seem low but this is because they have been averaged over all people with these disorders, not just those with inpatient stays.) Across the three age groups, bed days used by people with related conditions is

65 INPATIENT BED DAYS PER PERSON WITH BIPOLAR DISORDER



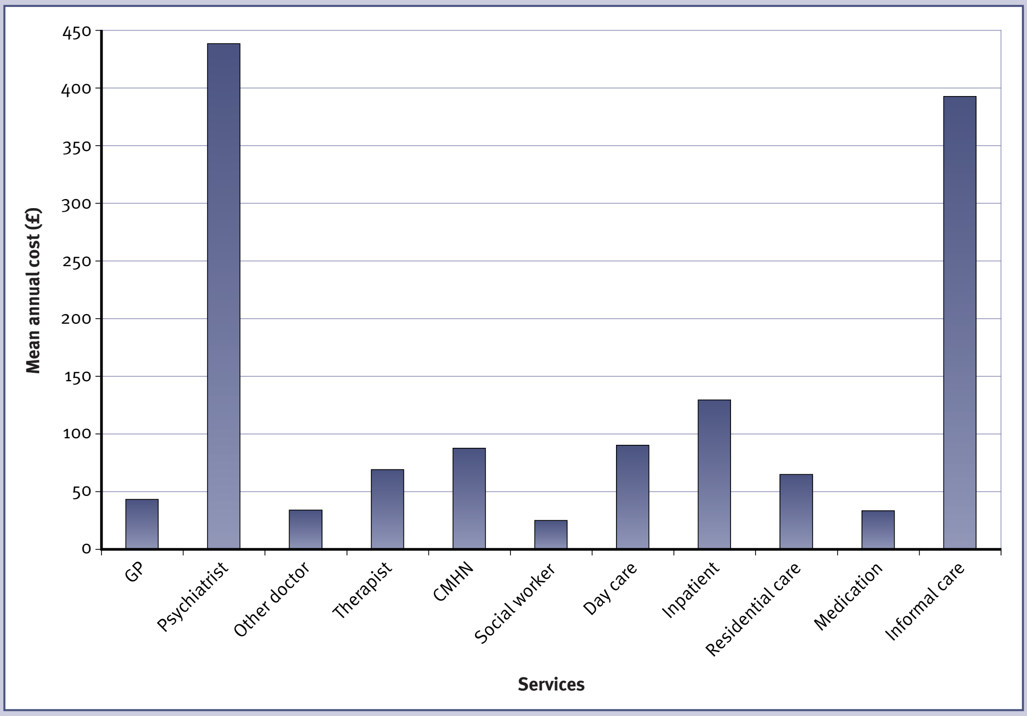
KEY

▨ Bipolar disorder

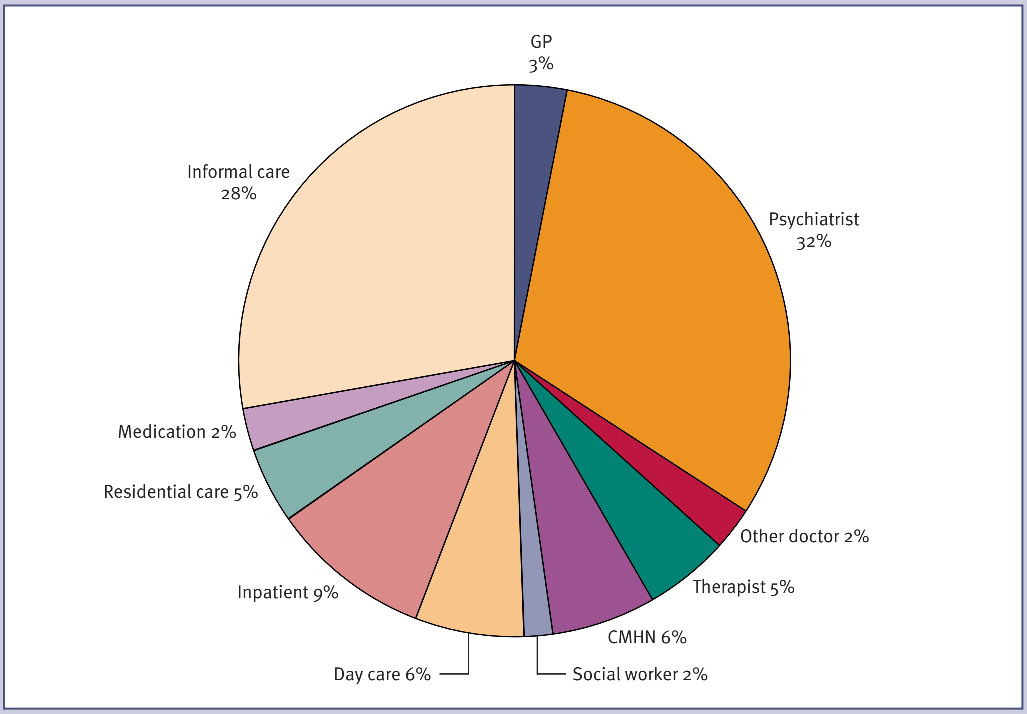
🟧 Related conditions

Source: Hospital Episode Statistics (2004/5)

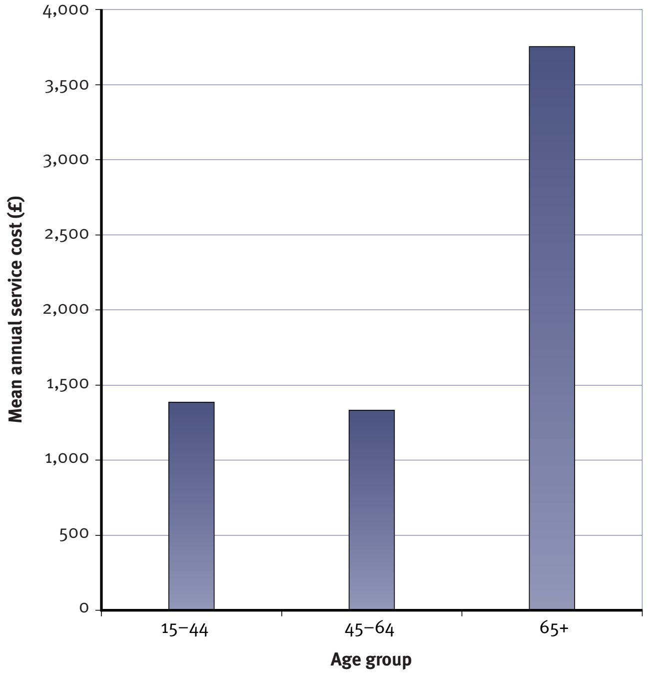
66 MEAN ANNUAL SERVICE COSTS FOR PEOPLE WITH BIPOLAR DISORDER AND RELATED CONDITIONS, 2005/6



67 DISTRIBUTION OF TOTAL SERVICE COSTS FOR PEOPLE WITH BIPOLAR DISORDER AND RELATED CONDITIONS



68 DISTRIBUTION OF SERVICE COSTS FOR PEOPLE WITH BIPOLAR DISORDER AND RELATED CONDITIONS BY AGE, 2005/6

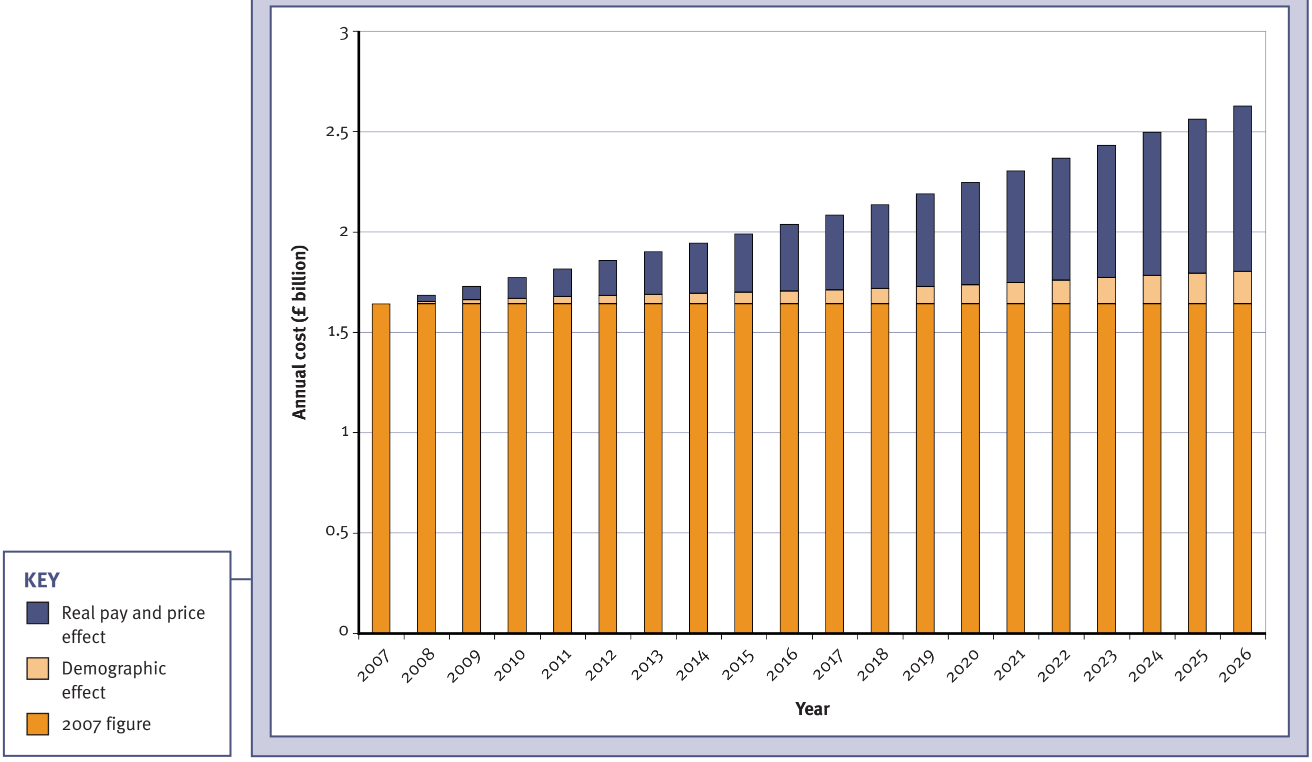


equal to 14 per cent of the bed days used by people with bipolar disorder, and we used this figure to adjust costs from Lam *et al* (2005) for related conditions. The costs from the Lam *et al* study may also remain too high for Bipolar Disorder Type II and so we multiplied them by 0.5 to arrive at a more realistic cost estimate. These adjustments were not necessary for inpatient costs or for residential care costs. The former were derived from the HES dataset, while we derived residential care costs from residential care studies (Lelliott *et al* 1996; Chisholm *et al* 1997) in which 12.3 per cent of adults under the age of 65 who were in residential care had bipolar disorder and the survey of older adults in residential care in which 1 per cent had this condition (Bowman *et al* 2004). We also included informal care costs (key for this disorder) with costs obtained from the PRiSM Psychosis Study (McCrone *et al* 1998) and updated to 2005/6 figures.

The mean service cost per year in 2007 was estimated to be £1,424. Figures 66 and 67, opposite, show that contacts with psychiatrists account for the largest proportion of costs. While this appears to be a substantial amount of psychiatrist contact, it actually equates to about four appointments a year. Informal care from family/friends accounts for a similar amount of cost.

Costs per person are similar for people aged 15–44 and 45–64. The average for those aged 65 and over is approximately four times greater than the costs for the younger age groups (*see* Figure 68, above). This is due to higher average inpatient and residential care costs than for younger people with these conditions.

69 PROJECTED SERVICE COST OF BIPOLAR DISORDER AND RELATED CONDITIONS, 2007 TO 2026

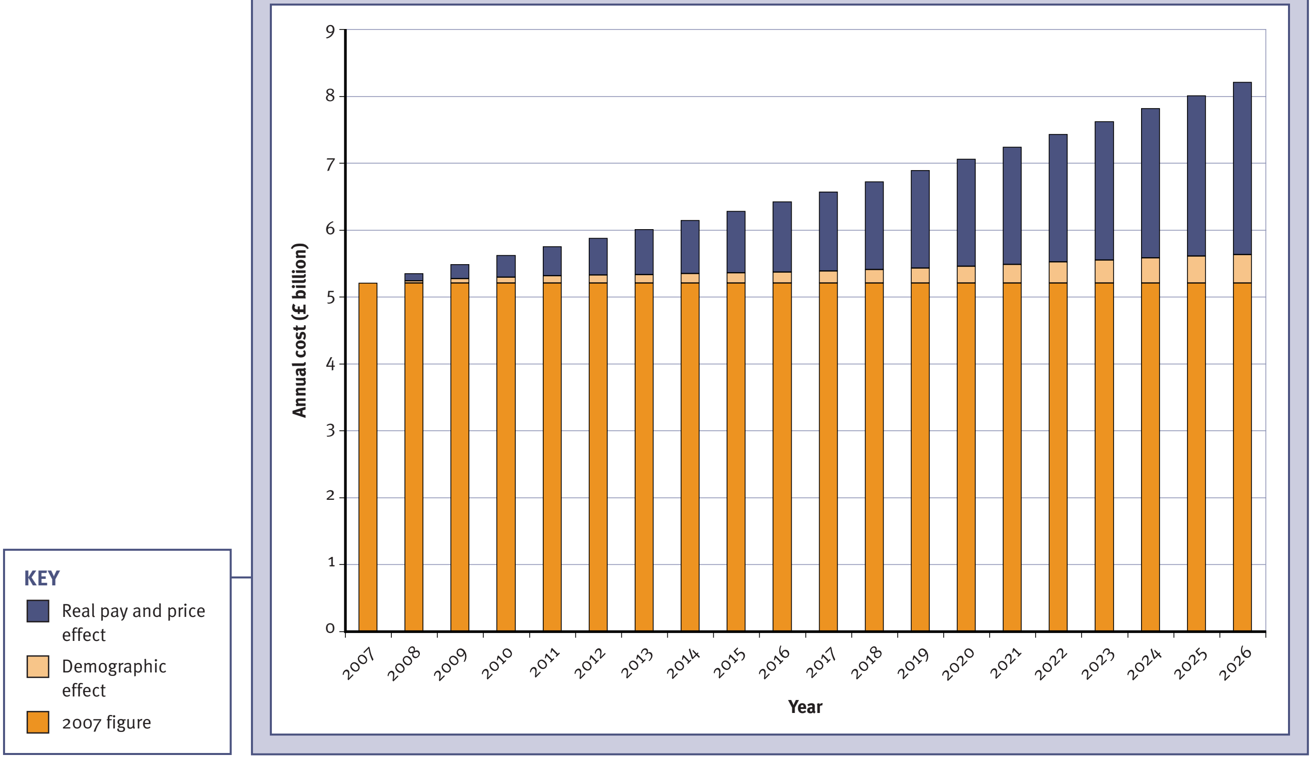


Total service costs (calculated by summing the individual service components) in 2007 for bipolar disorder and related conditions were estimated to be £1.6 billion. This is projected to increase to £2.6 billion by 2026 – a rise of 62.5 per cent (*see* Figure 69, above). Excluding the real increase in the price of care results in a rise of 12.5 per cent.

Lost employment costs

In a previous estimate of the costs associated with bipolar disorder, Das Gupta and Guest (2002) used employment figures provided by Hill *et al* (1996) to calculate lost production costs. It was estimated that 46 per cent of people with bipolar disorder were unemployed and of these 60 per cent were available for work, that is 27.6 per cent were unemployed and could work. In May 2007 the official unemployment figure in England was 5.4 per cent (National Statistics 2007a), and therefore 22.2 per cent of people with bipolar disorder were estimated to be available for work but not in employment because of their condition. We would expect a lower proportion of people with related conditions to be out of work, and applying the figure of 0.14, in line with the difference in bed days, results in an excess unemployment rate of 3.1 per cent. Applying these percentages to the number of people with bipolar disorder and related conditions suggests employment losses for approximately 145,000 people in 2007. The average salary in the United Kingdom in 2006 was £24,301 (National Statistics 2007b). We multiplied this by 1.02 to represent wage increases over and above inflation to arrive at a figure of £24,544. Consequently, in 2007 the estimated cost of lost employment was £3.6 billion, rising to £5.6 billion. The total cost in 2007 was estimated at £5.2 billion, with 69 per cent accounted for by lost employment.

70 PROJECTED TOTAL COST OF BIPOLAR DISORDER AND RELATED CONDITIONS, 2007 TO 2026



Projected costs

By 2026 the cost total is projected to be £8.2 billion (*see* Figure 70, above). Excluding the real change in prices and earnings would see a 7.7 per cent increase in total costs to £5.6 billion.

Scenario modelling

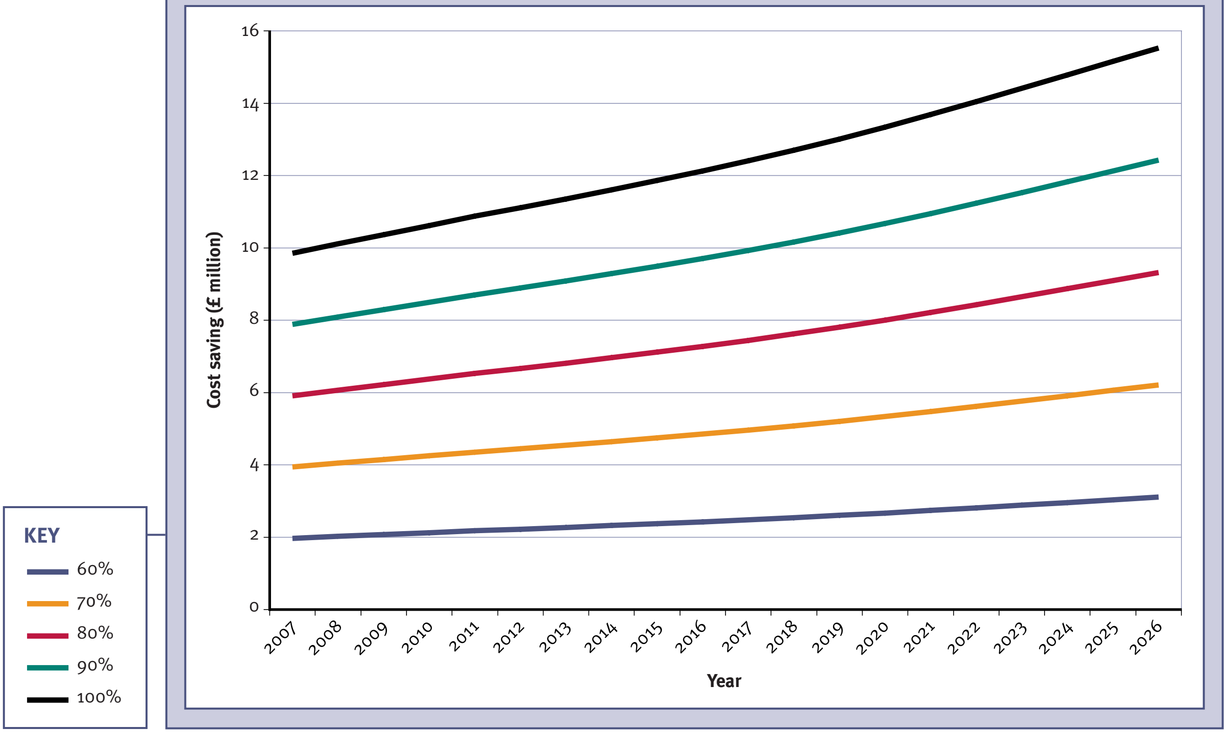
The crisis resolution, early intervention and early detection interventions modelled in the previous chapter have been modelled to assess their impact on the costs of bipolar disorder and related conditions.

Scenario 1 interventions

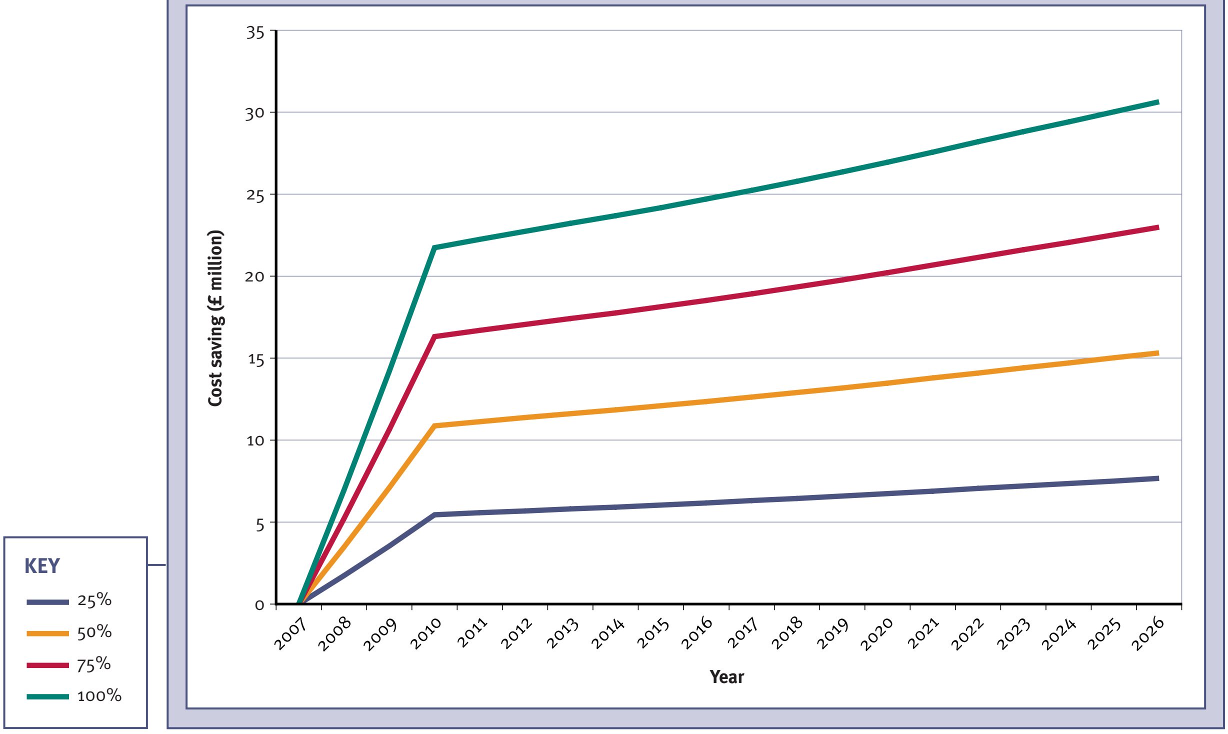
CRISIS RESOLUTION/HOME TREATMENT AS AN ALTERNATIVE TO ADMISSION

The National Audit Office (NAO) model estimates that there are 1.47 non-admissions of people in crisis for every admission. Based on HES admission data this implies 32,303 crises per year for people with bipolar disorder and related conditions. It is estimated that currently home treatment is considered in 50 per cent of cases. Increasing this rate to 60–100 per cent results in estimated savings shown in Figure 71 overleaf. If in 2007 consideration of home treatment were 60 per cent then there would be extra savings of £1.9 million. The savings would be £9.8 million if the coverage were 100 per cent. Savings are quite low in relation to total service costs because many home treatment referrals are not accepted, and a proportion of those that are accepted are still admitted.

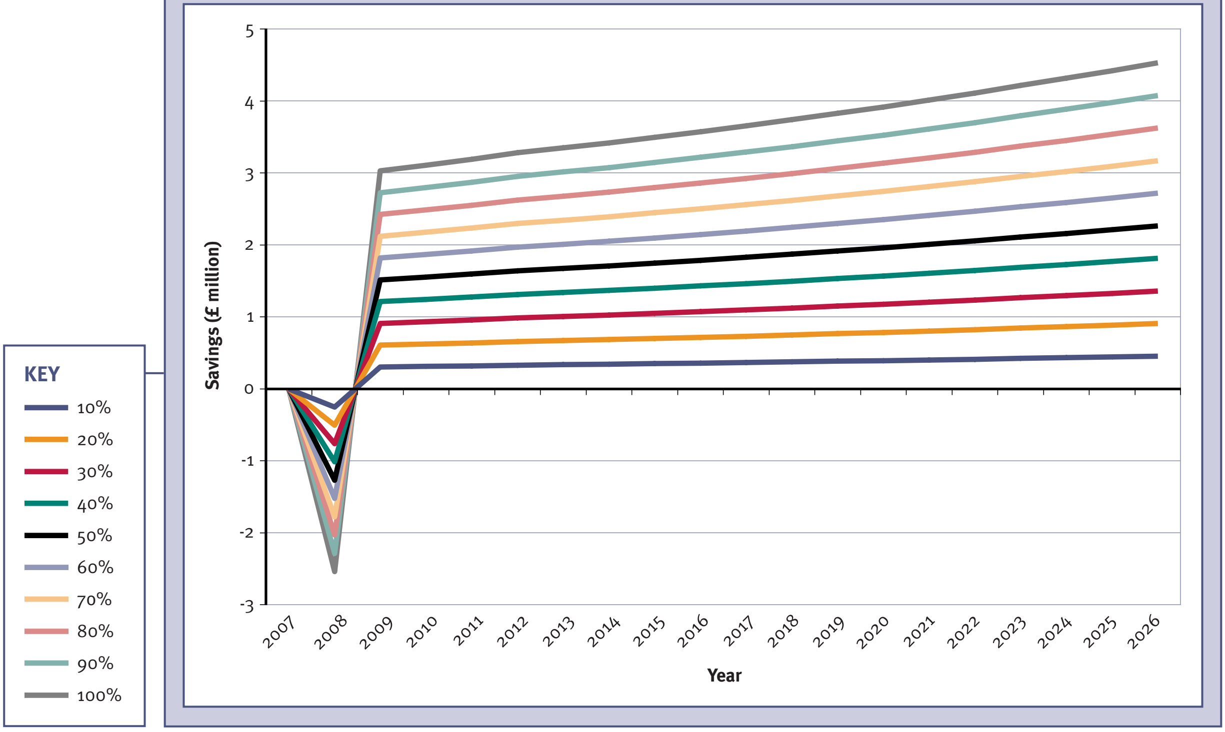
71 PROJECTED SAVINGS FROM INCREASING PERCENTAGE OF PEOPLE WITH BIPOLAR DISORDER AND RELATED CONDITIONS IN CRISIS FOR WHOM HOME TREATMENT IS CONSIDERED



72 POTENTIAL SAVINGS FROM EXPANDING PROVISION OF EARLY INTERVENTION TEAMS FOR BIPOLAR DISORDER AND RELATED CONDITIONS



73 POTENTIAL SAVINGS FROM EXPANDING PROVISION OF EARLY DETECTION SERVICES FOR BIPOLAR DISORDER AND RELATED CONDITIONS



EARLY INTERVENTION (EI) FOR PSYCHOSIS

Applying the EI model described in Chapter 6 to bipolar disorder shows that relatively large cost savings might be realised. The incidence rate based on the AESOP study (Lloyd *et al* 2005) is 4 per 100,000 people aged 16–64. The model assumes annual savings of £5,000 for each person receiving EI, but it may be unrealistic to achieve 100 per cent EI treatment. Figure 72, opposite, shows projected savings for different treatment rates. The steep rise in savings is because savings do not start until one year after EI teams are implemented and occur over a three-year period (the time someone is in contact with EI team). By 2010 health care savings could be £16.4 million if EI services were provided to 75 per cent of new cases of bipolar disorder. This could increase to £21.9 million if coverage were 100 per cent.

Scenario 2 intervention

EARLY DETECTION FOR PSYCHOSIS

Chapter 6 also describes a model to show the economic impact of intervening when people show the first (prodromal) signs of psychosis. If coverage with early detection services of 10 per cent had been achieved by 2008, then by 2009 there could be savings of £0.3 million for patients with bipolar disorder (*see* Figure 73, above). If coverage increased to 100 per cent by 2026 the savings would increase to £4.5 million.

8 Eating disorders

SUMMARY

The eating disorders included in this chapter are relatively uncommon and in many cases are not treated. The numbers of people with these eating disorders is likely to increase slightly over time due to the changing demography of the country. We have not been able to model specific interventions due to limited data on the cost impact of different interventions. However, we do show what the potential impact on costs is of increased service provision.

Key points

- The estimated prevalence rates of anorexia nervosa and bulimia nervosa in females are 0.3 per cent and 1 per cent respectively. Rates in males are approximately one-tenth of these.
- In 2007 it was estimated that 26,981 people aged under 35 have anorexia nervosa and 89,935 had bulimia nervosa. By 2026 the projected figures are 28,037 and 93,748 respectively.
- Service costs for eating disorders in 2007 were estimated to be £15.7 million, with 95 per cent of this related to anorexia nervosa. Costs are projected to increase to £23.8 million by 2026. Including lost employment costs brings the total to £50.6 million in 2007 and £76.4 million in 2026. Lost employment accounts for 69 per cent of total costs.
- Increasing outpatient coverage for anorexia nervosa from the current estimate of 34 per cent to 40 per cent is expected to result in a cost increase of £0.7 million. If coverage reached 100 per cent by 2026 the extra cost is projected to be £12.6 million.
- Increasing outpatient coverage for bulimia nervosa from the current estimate of 6 per cent to 20 per cent is estimated to result in a cost increase of £0.7 million. If coverage reached 100 per cent by 2026 the extra cost is projected to be £6.6 million.
- Cost increases may be offset by reduced lost employment, but data were not available to inform this.

Introduction

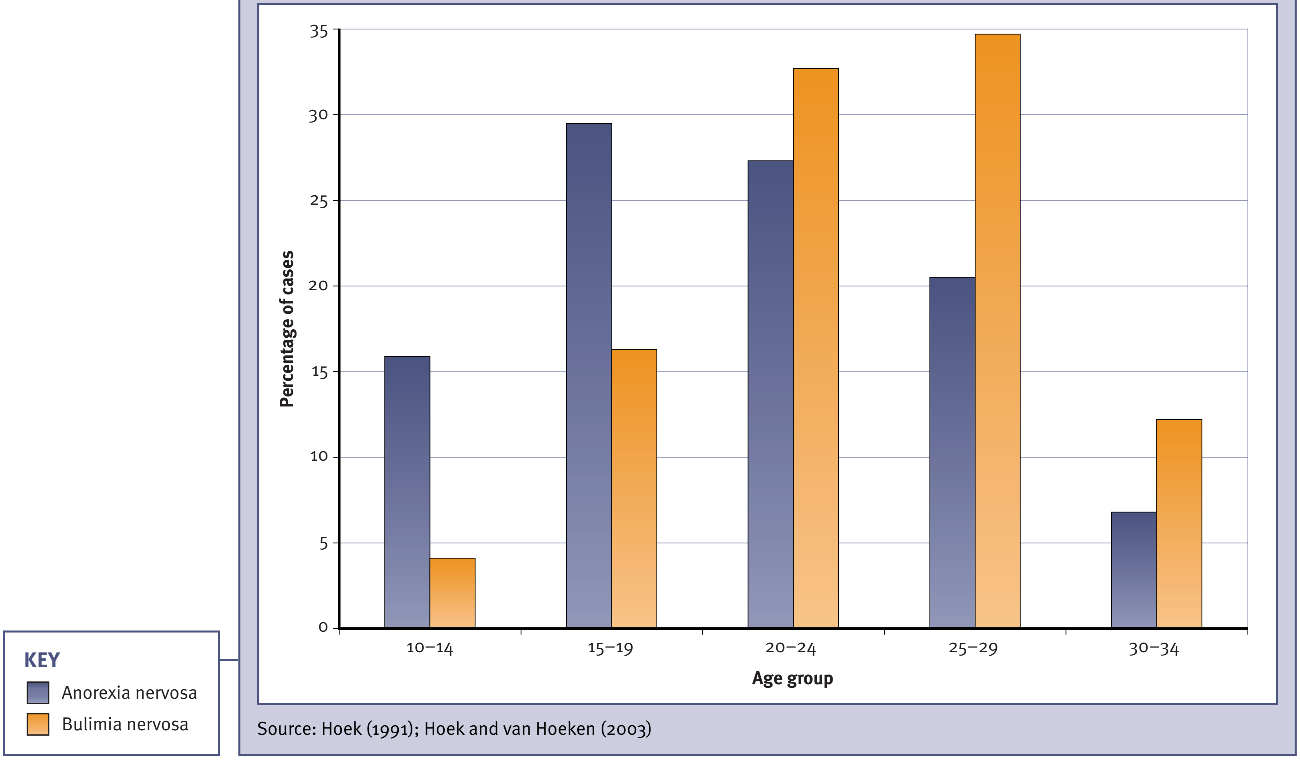
The ICD-10 includes the following eating disorders: anorexia nervosa, atypical anorexia nervosa, bulimia nervosa, atypical bulimia nervosa, overeating associated with psychological disturbances, vomiting associated with psychological disturbances, other eating disorders and unspecified eating disorders (www.who.int/classifications/en). More research has been conducted into anorexia nervosa and bulimia nervosa and they are the focus of this chapter.

The characteristics of anorexia nervosa and bulimia nervosa, according to ICD-10 classifications, have been summarised by Nicholls and Viner (2005). Anorexia nervosa is characterised by body image distortion, low weight, avoidance of perceived fattening foods and engaging in specific activities to reduce weight (self-induced vomiting, excessive exercise, use of appetite suppressants and so on). Bulimia nervosa is characterised by normal weight, preoccupation with eating at specific times and engaging in specific activities to reduce weight to counteract effects of overeating. Bulimia nervosa is often preceded by anorexia nervosa. Both of these conditions are more common in females than males and usually start in adolescence and young adulthood. Both also have a detrimental effect on physical health and often co-exist with other mental health problems, particularly depression and anxiety. Eating disorders have among the highest mortality rates of any mental health problem (Harris and Barraclough 1998). Current treatment recommendations are outlined in Appendix 2 (*see* pp 131–132).

Prevalence estimates

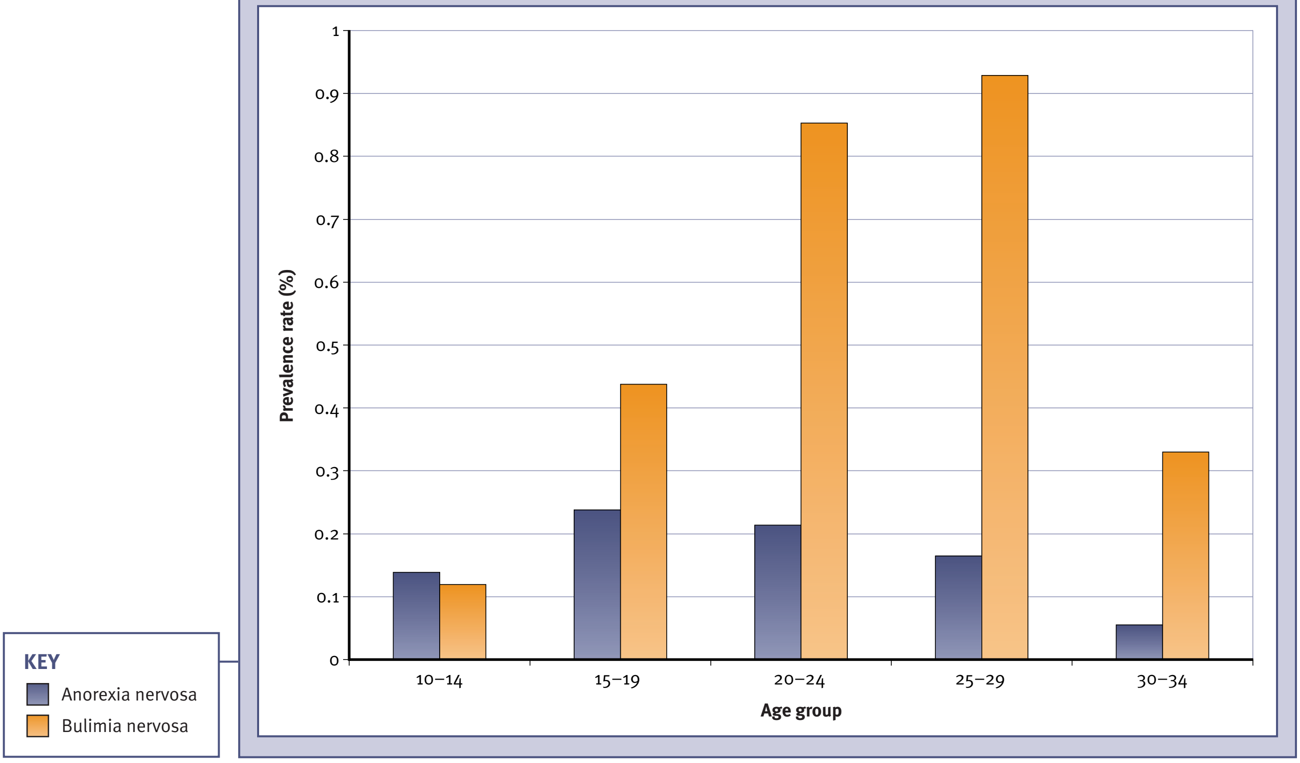
Establishing the prevalence of eating disorders is difficult. Anorexia nervosa is a relatively rare condition, and it is also a disorder that may not come to the attention of service providers. Bulimia nervosa is more common but it too will often go undetected. As such, epidemiological studies that focus on general practice and hospital clinic data will be unlikely to identify the true number of people with the condition. Community surveys are therefore the best source of prevalence data. Unfortunately the Psychiatric Morbidity Survey (PMS) did not measure the prevalence of eating disorders and therefore rates for anorexia nervosa and bulimia nervosa have been obtained from other sources.

74 AGE DISTRIBUTION OF PEOPLE WITH ANOREXIA NERVOSA AND BULIMIA NERVOSA ATTENDING PRIMARY CARE CLINICS



Source: Hoek (1991); Hoek and van Hoeken (2003)

75 PREVALENCE OF EATING DISORDERS BY AGE



Recently, a meta-analysis has estimated a prevalence rate for anorexia nervosa of 3.7 per 1,000 young women and a rate for bulimia nervosa of 15 per 1,000 (Hoek and van Hoeken 2003). However, the treated rates have been estimated as 1.6 per 1,000 and 1.7 per 1,000 respectively, showing that most people with these disorders do not receive treatment. For both anorexia nervosa and bulimia nervosa there is a ratio of female to male cases of approximately 10 to 1 (that is around 0.37 per 1,000 for anorexia nervosa and 1.5 per 1,000 for bulimia nervosa). Based on the studies reviewed by Hoek and van Hoeken we have taken 'young' to mean 35 or under, and have used rates of 0.3 per cent for anorexia nervosa and 1 per cent for bulimia nervosa for females and with rates of 0.03 per cent and 0.1 per cent for men.

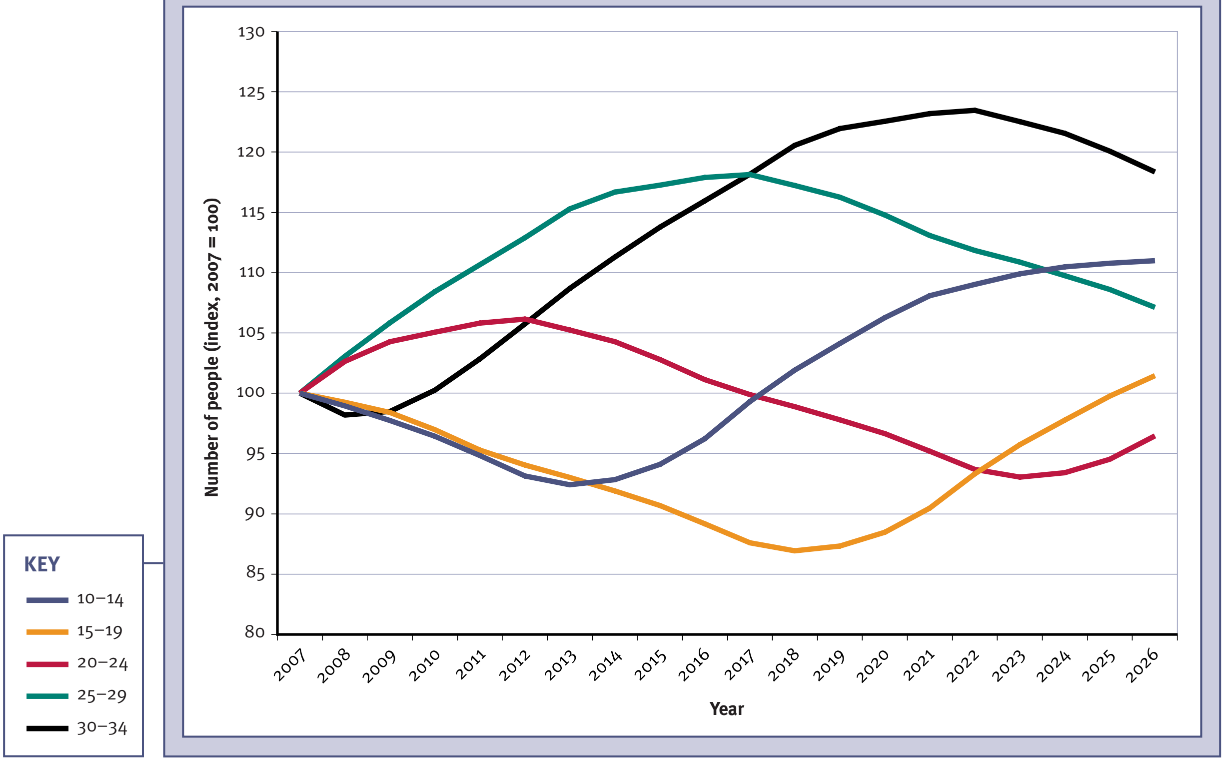
Age distribution of anorexia nervosa and bulimia nervosa

To make projections of the number of people with anorexia nervosa and bulimia nervosa it is necessary to obtain age-specific prevalence rates. In a study of GP attendees (Hoek 1991) it was shown that anorexia nervosa tends to start in younger people than bulimia nervosa (*see* Figure 74, opposite), a finding that has been reported elsewhere (*see*, for example, Striegel-Moore *et al* 2000). The data in Figure 74 has been used to adjust the overall prevalence rates according to age (*see* Figure 75, above).

Population estimates

Using the above prevalence rates we are able to estimate the number of people who currently have anorexia nervosa and bulimia nervosa and make projections to 2026. The

76 CHANGE IN NUMBER OF PEOPLE WITH EATING DISORDERS, 2007 TO 2026



findings reveal that in 2007 there were estimated to be 26,981 people with anorexia nervosa and 89,935 with bulimia nervosa. By 2026 the projected figures are 28,037 and 93,748 respectively. These represent increases of 3.9 per cent for anorexia nervosa and 4.2 per cent for bulimia nervosa over the next 20 years.

The total number of people with these two conditions was estimated to be 116,916 in 2007 and 121,785 in 2026. While the total number of people with eating disorders is expected to remain relatively constant over time, there is much fluctuation within this period, as can be seen in Figure 76 above.

Service costs and lost employment

The elements used to estimate total costs for eating disorders were: inpatient care, outpatient care and lost employment. Other costs may also be incurred but we could not quantify them for this review. They may though add substantially to the totals here and as such our figures are likely to be underestimates of the true cost.

Service costs

There have been relatively few studies that have measured the service use and costs associated with eating disorders, as shown by Simon *et al* (2005). The authors of that review also pointed out that existing studies have omitted key cost components and non-health costs have generally been neglected.

TABLE 11: BED DAYS USED BY PATIENTS WITH EATING DISORDERS, 2004/5

	Anorexia nervosa	Bulimia nervosa
<15	12,328	47
15–44	53,399	3,555
45–64	3,379	8
65+	437	0
Total	69,543	3,610

TABLE 12: INPATIENT COSTS FOR PATIENTS WITH ANOREXIA NERVOSA AND BULIMIA NERVOSA

	Anorexia nervosa	Bulimia nervosa
<15	£2.5 million	£0.01 million
15–34	£8 million	£0.7 million

INPATIENT COSTS

As with other mental health conditions, Hospital Episode Statistics (HES) data are available for patients admitted to NHS beds in England. The figures show that in 2004/5 there were 73,153 bed days used by people with anorexia nervosa and bulimia nervosa, with the former accounting for 95 per cent of the total (*see* Table 11, above). Bed days used by patients aged under 15 account for 18 per cent of the total for anorexia nervosa but only 1 per cent for bulimia nervosa, reflecting the different age distributions of these disorders.

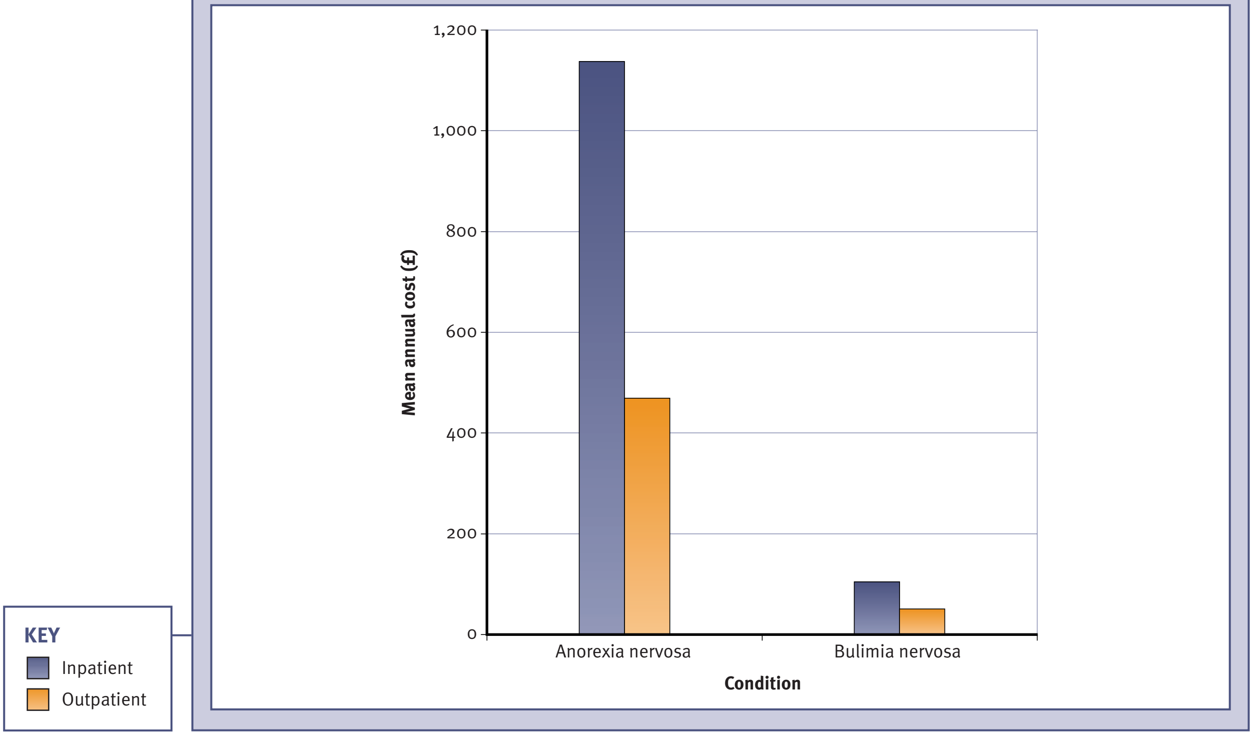
In this chapter we are focusing on people under the age of 35. Therefore, some adjustment needs to be made to the inpatient data for those aged 15–44, and we have here assumed that three-quarters of this group are aged below 35. Applying this adjustment and using a unit cost of an inpatient day of £201 (Curtis and Netten 2006) results in inpatient costs shown in Table 12 above.

OUTPATIENT COSTS

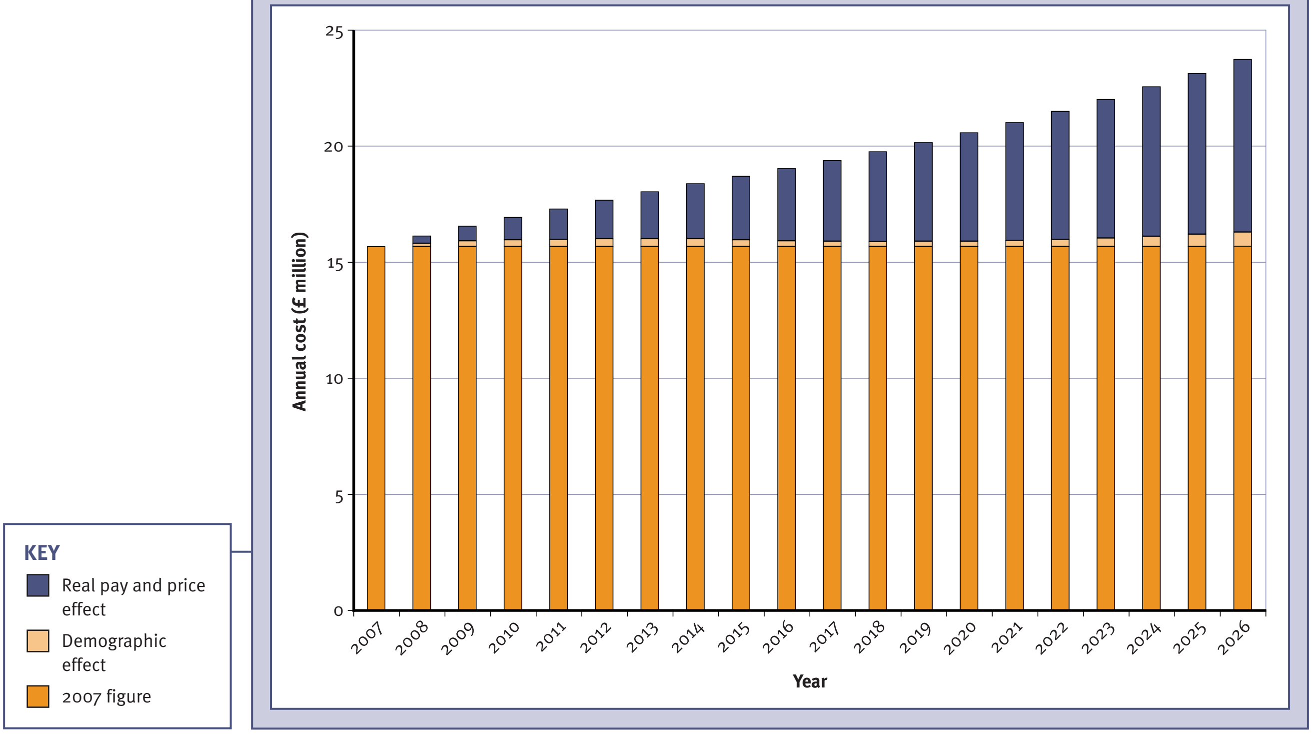
Data were not readily available for the costs of outpatient care for eating disorders. In a study conducted in the United States, the costs of both inpatient and outpatient care for 1995 were calculated (Striegel-Moore *et al* 2000), and these show that for anorexia nervosa outpatient costs are 41 per cent of inpatient costs whilst for bulimia nervosa the figure is 49 per cent. These proportions have been applied to the HES data to estimate outpatient costs for England, but it is recognised that the health care system is different in the United States and therefore different proportions might apply.

It is known that many people with anorexia nervosa and bulimia nervosa are not in contact with services. From data on treated prevalence rates published by Hoek and van Hoeken (2003) we have estimated that 34.3 per cent of all people with anorexia nervosa are in contact with mental health services while the figure is just 5.8 per cent for bulimia nervosa.

77 MEAN SERVICE COSTS FOR PATIENTS IN CONTACT WITH SERVICES FOR ANOREXIA NERVOSA AND BULIMIA NERVOSA, 2005/6



78 PROJECTED SERVICE COSTS FOR PEOPLE WITH ANOREXIA NERVOSA AND BULIMIA NERVOSA, 2007 TO 2026



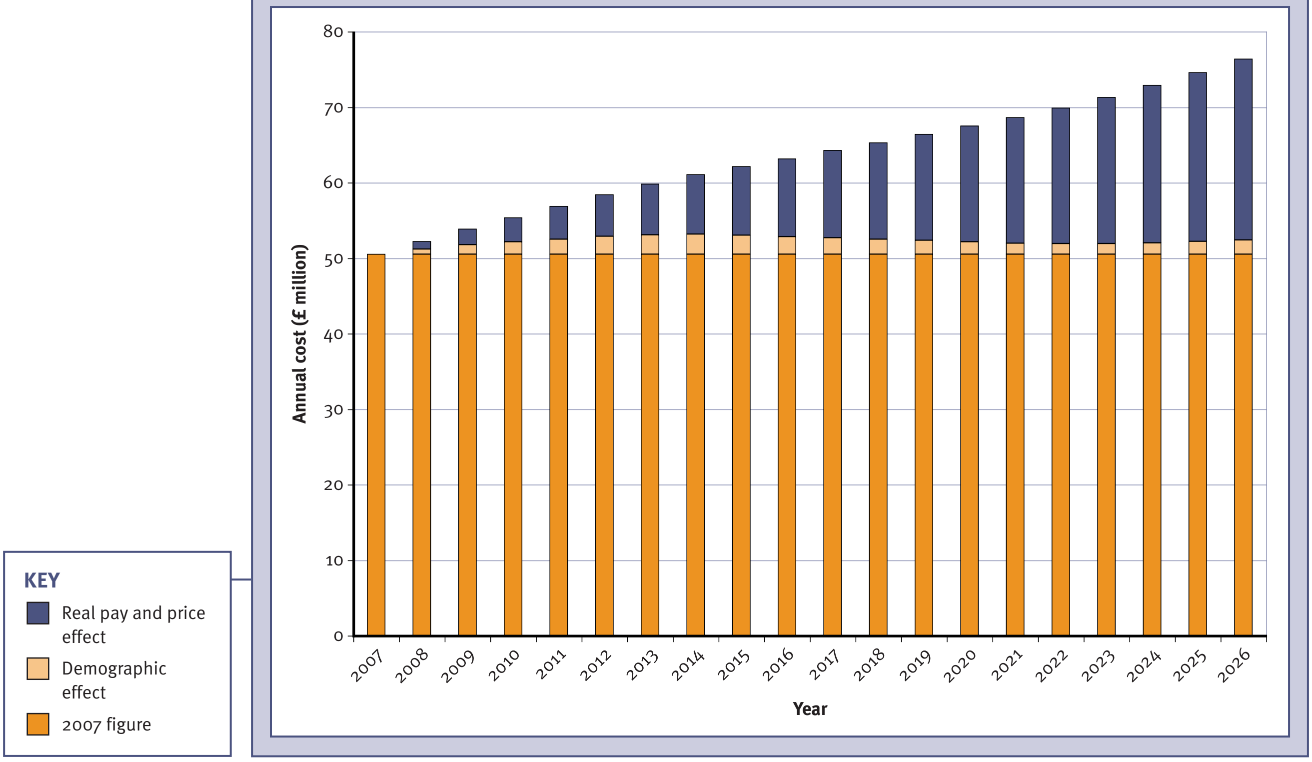
If the inpatient costs and outpatient costs are assumed to apply to just these people then the mean costs for those in contact with services can be derived (*see* Figure 77, opposite).

Based on these data the total service costs for England are £15.7 million a year (£14.9 million for anorexia nervosa and £0.8 million for bulimia nervosa). Projected costs for 2026 (incorporating a real increase in health prices of 2 per cent a year) are £23.8 million – an increase of 52 per cent (*see* Figure 78, opposite). Excluding the real increase in prices results in projected costs of £16.3 million a year (that is an increase of £0.6 million).

Lost employment costs

It might be expected that anorexia nervosa and bulimia nervosa would have a negative impact on employment. Again though, the availability of data regarding this is limited. In May 2006 there were 1,830 people claiming Incapacity Benefit as a result of having an eating disorder (DWP personal communication 2007). If we assume that these would otherwise be in work, and using a weighted annual salary of £19,051 that reflects the likelihood that 90 per cent of claimants are women (National Statistics 2007b), this suggests that the annual cost of long-term lost employment is £34.9 million. However, this is likely to be an underestimate of total lost employment costs as many people will take time off work without receiving Incapacity Benefit. (We have assumed that Incapacity Benefit is paid due to the inability to work and therefore that if these people did not have eating disorders they would be in employment. Of course, some may not be employed anyway and this may therefore be an overestimate. However, this is likely to be more than offset by the fact that we have not included lost work time for those currently in work.)

79 **PROJECTED TOTAL COST OF EATING DISORDERS, 2007 TO 2026**



Projected costs

Total costs (service costs plus costs of lost employment) were estimated to be £50.6 million in 2007. This figure is projected to increase to £76.4 million by 2026 (*see* Figure 79, p 87). Lost employment costs account for 69 per cent of the total. If real price changes are excluded the projected total costs in 2026 are £52.4 million – an increase of 3.6 per cent.

Scenario modelling

Scenario 1 interventions

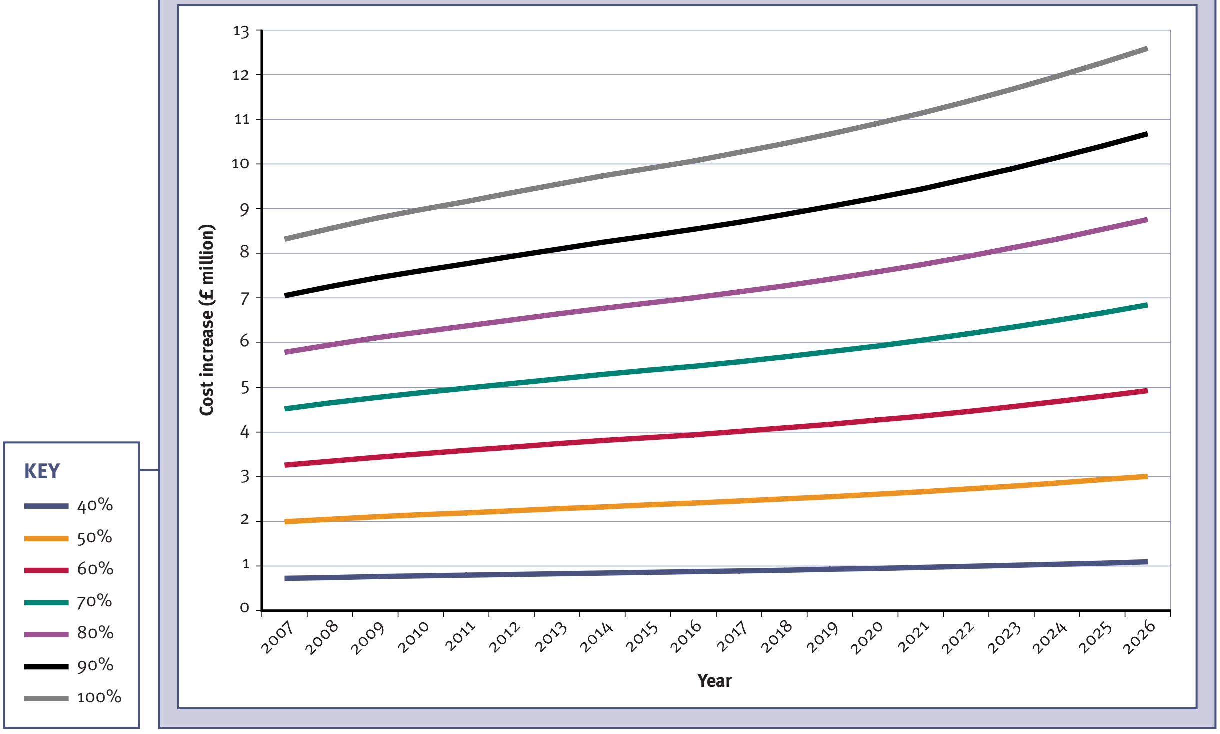
Although there are clear NICE recommendations regarding the treatment of eating disorders, modelling the impact of treatments has not been possible due to the lack of data on what services are currently used.

Scenario 2 intervention

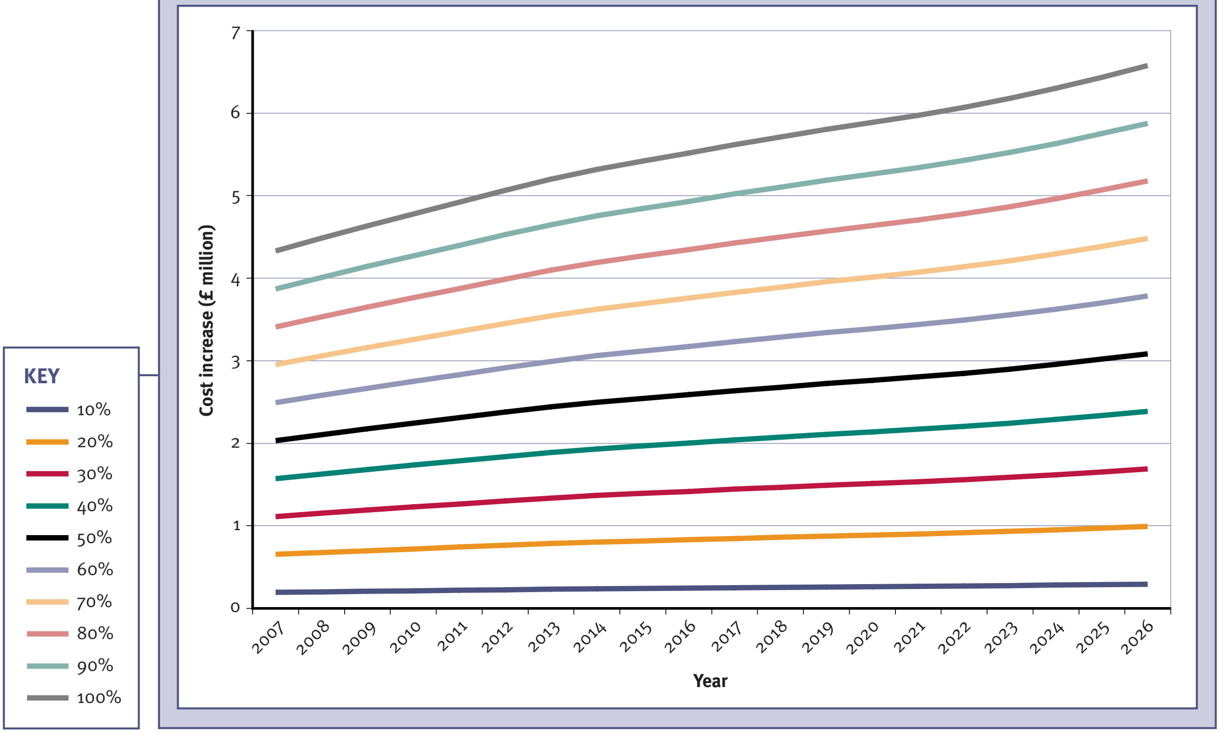
INCREASED ACCESS OF SERVICES

As stated above, most people with eating disorders (65.7 per cent of those with anorexia nervosa and 94.2 per cent of those with bulimia nervosa) will not be in contact with mental health services. If these were in contact then obviously service costs would increase. However, we would expect their average costs to be less than those already in contact if the likelihood of service receipt is in some way linked to illness severity (but this does not mean that all of those with the most severe conditions are in service contact). Unfortunately, no data are available that allow us to compare the severity of those in contact with services and those who are not.

80 IMPACT ON SERVICE COSTS OF INCREASED USE OF OUTPATIENT SERVICES BY PEOPLE WITH ANOREXIA NERVOSA, 2007 TO 2026



81 IMPACT ON SERVICE COSTS OF INCREASED USE OF OUTPATIENT SERVICES BY PEOPLE WITH BULIMIA NERVOSA, 2007 TO 2026



To make some adjustment for severity in the data below we have assumed that those who are not currently in contact with services would not require inpatient care but that they would benefit from outpatient services. If outpatient services were received by 40 per cent of people with anorexia nervosa rather than the current estimate of 34 per cent costs would increase by £0.7 million (shown by the lower line in Figure 80, opposite). If coverage increased to 100 per cent by 2026, costs would increase on the 2026 figure by £12.6 million (indicated by the right end of the upper line). Similar analyses can be performed for bulimia nervosa (*see* Figure 81, above). If the current assumed 5 per cent uptake of outpatient care were 20 per cent then costs would increase by £0.7 million. If coverage reached 100 per cent by 2026 the overall increase in service costs for that year over current projections would be £6.6 million.

Of course we would expect increased use of services to have benefits for people with eating disorders. This might include employment gains which would offset some or all of the increased service costs. Unfortunately, data were not available to inform this.

9 Personality disorders

SUMMARY

Personality disorders affect a large number of people in England, but due to the lower prevalence rate in older adults the total numbers are expected to remain fairly constant over the next 20 years. The costs in this chapter are based on a study of people who have some primary care contact with services, and we have estimated that these account for two-thirds of people with personality disorder. We have allocated all inpatient costs to these two-thirds. Lost employment accounts for over 90 per cent of total costs.

Key points

- Prevalence of personality disorder in the community is estimated at 5.8 per cent and prevalence rates fall steadily with age.
- The estimated number of people with personality disorders is 2.46 million and this is projected to rise slightly to 2.69 million by 2026.
- Annual service costs for people with personality disorder who are in contact with GPs are estimated to be £286. Outpatient care forms the most expensive service.
- Total service costs in 2007 were estimated to be £704 million for those in contact with primary care. This figure is projected to be £1.1 billion by 2026. With the inclusion of lost employment costs the figures are £7.9 billion and £12.3 billion respectively.

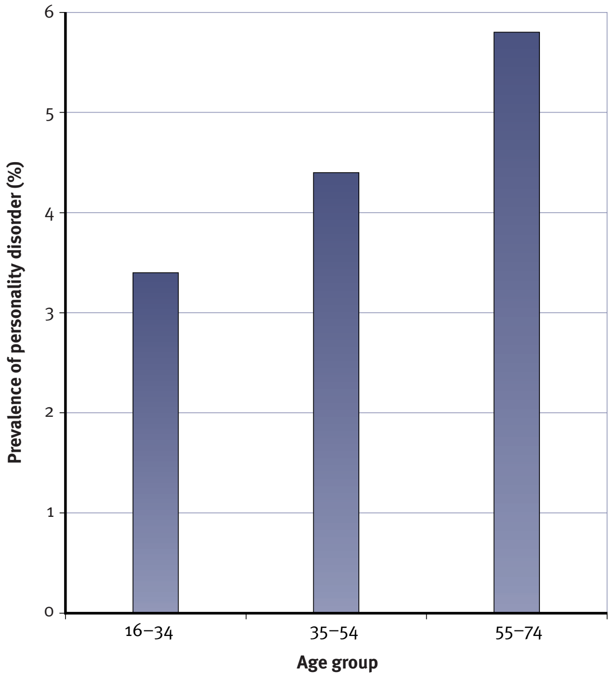
Introduction

There is much controversy surrounding personality disorders, both as a concept and in terms of measurement and treatment. Personality disorders are conditions where functioning is affected by specific personality traits (McMurran 2001) Three clusters of personality disorders have been defined (Moran 2003):

cluster A – 'odd or eccentric' types (paranoid, schizoid, schizotypal)
cluster B – 'dramatic, emotional or erratic' types (histrionic, narcissistic, anti-social, borderline)
cluster C – 'anxious and fearful' types (obsessive-compulsive, avoidant, dependent).

Personality disorders have been of major interest to policy-makers and to clinicians, and there has been much debate as to whether some of these conditions are treatable or not. Anti-social personality disorder is of particular interest as it is the condition most commonly associated with criminal behaviour. Current treatment recommendations are summarised in Appendix 2 (*see* pp 132–133).

82 PREVALENCE OF PERSONALITY DISORDER IN UNITED KINGDOM BY AGE



Source: Coid *et al* (2006)

Prevalence estimates

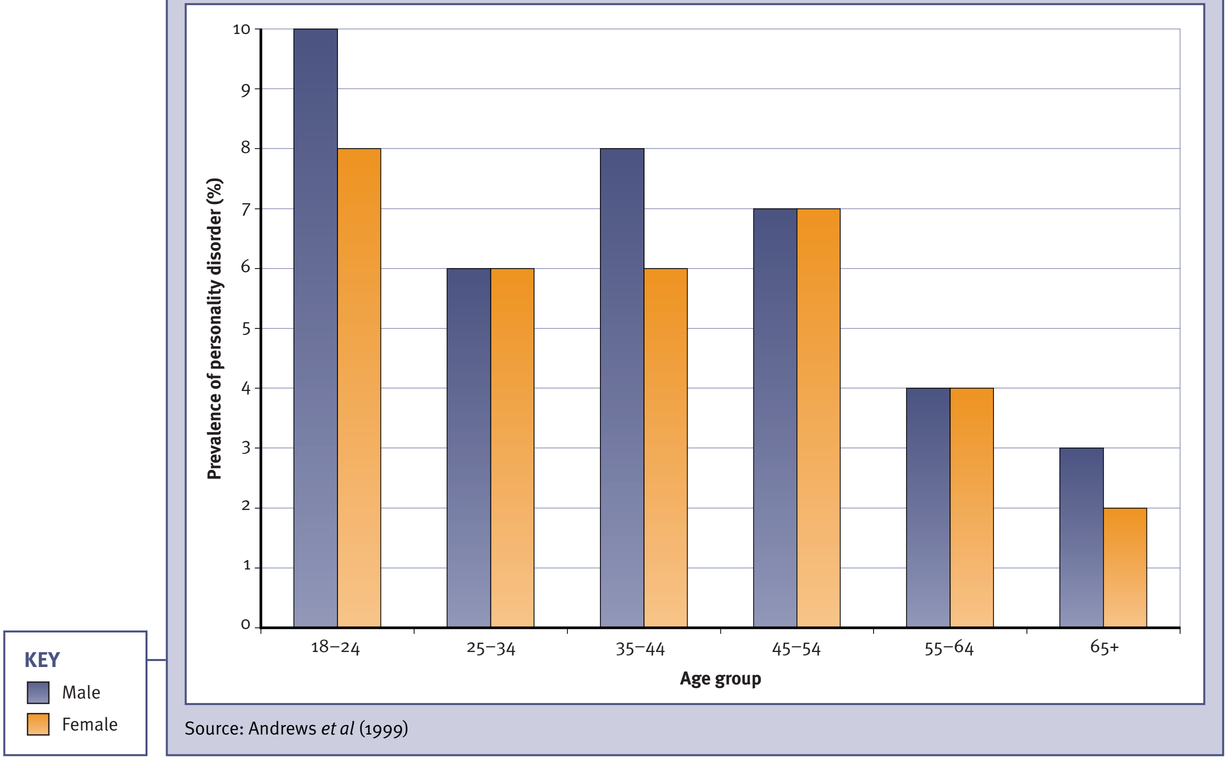
A number of recent surveys have assessed the prevalence of personality disorders. Two reviews report very similar rates in the community – 10–13 per cent according to de Girolamo and Dotto (2000) and 13.5 per cent according to Torgersen *et al* (2001).

The Psychiatric Morbidity Survey (PMS) did measure personality disorders in the UK and recently Coid *et al* (2006) have analysed these data. They reported that the weighted prevalence of 4.4 per cent was substantially less than most other studies. The authors also reported higher prevalence rates for older respondents which is in contrast to other studies. The prevalence rates from this study are shown in Figure 82 above.

We considered the most suitable data were from an Australian survey (Andrews *et al* 1999), which produced prevalence figures for different age bands with the findings being consistent with those from other studies. These were based on a community sample of more than 10,000 people which included older adults. These rates decrease with age as reported elsewhere (*see* Figure 83, opposite). The overall prevalence rate in England when these age-specific rates are applied is 5.8 per cent which is reasonably consistent with Coid *et al* (2006).

83

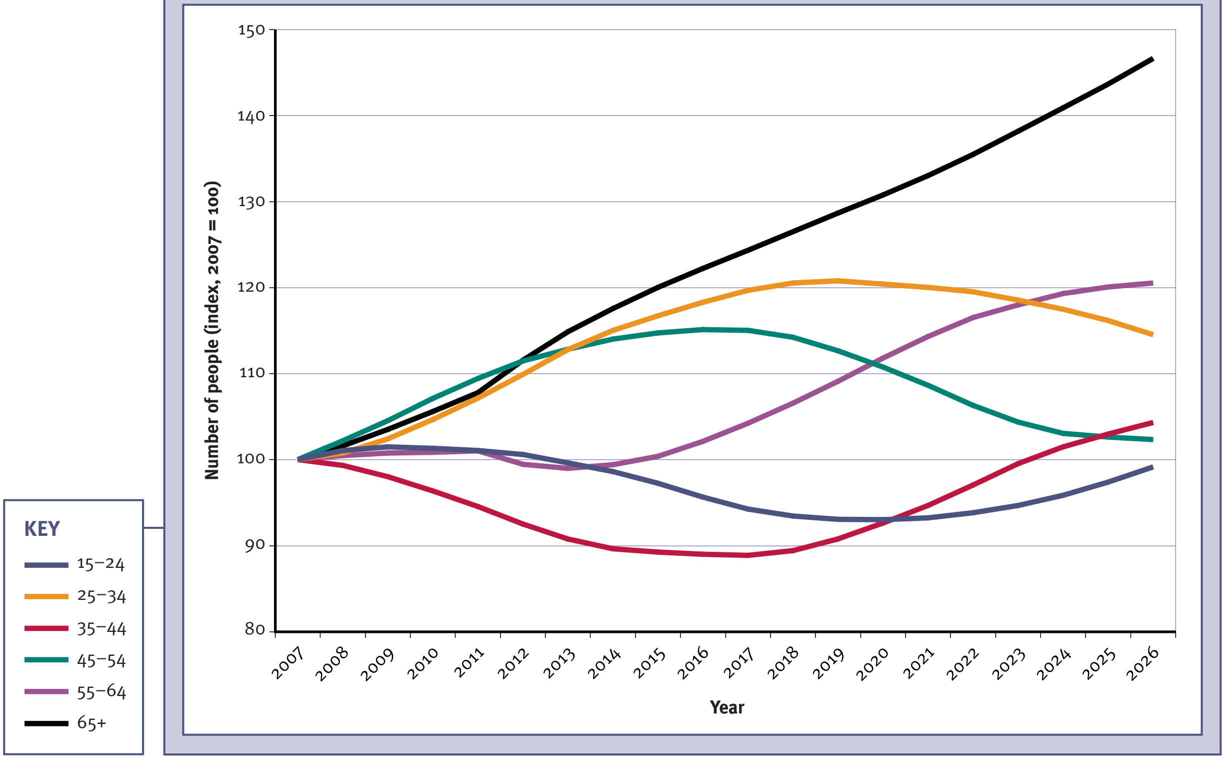
PREVALENCE OF PERSONALITY DISORDER IN AUSTRALIA BY AGE AND GENDER



Source: Andrews *et al* (1999)

84

CHANGE IN NUMBER OF PEOPLE WITH PERSONALITY DISORDER, 2007 TO 2026



Population estimates

The total number of people with personality disorders is estimated to be 2.46 million. Of this total 53 per cent are male. By 2026 the projected number is 2.69 million, which is an increase of 9.3 per cent. While there is a steady increase in the projected number of people aged over 65 with personality disorders, there is substantial variation in those in younger age groups (*see* Figure 84, p 93).

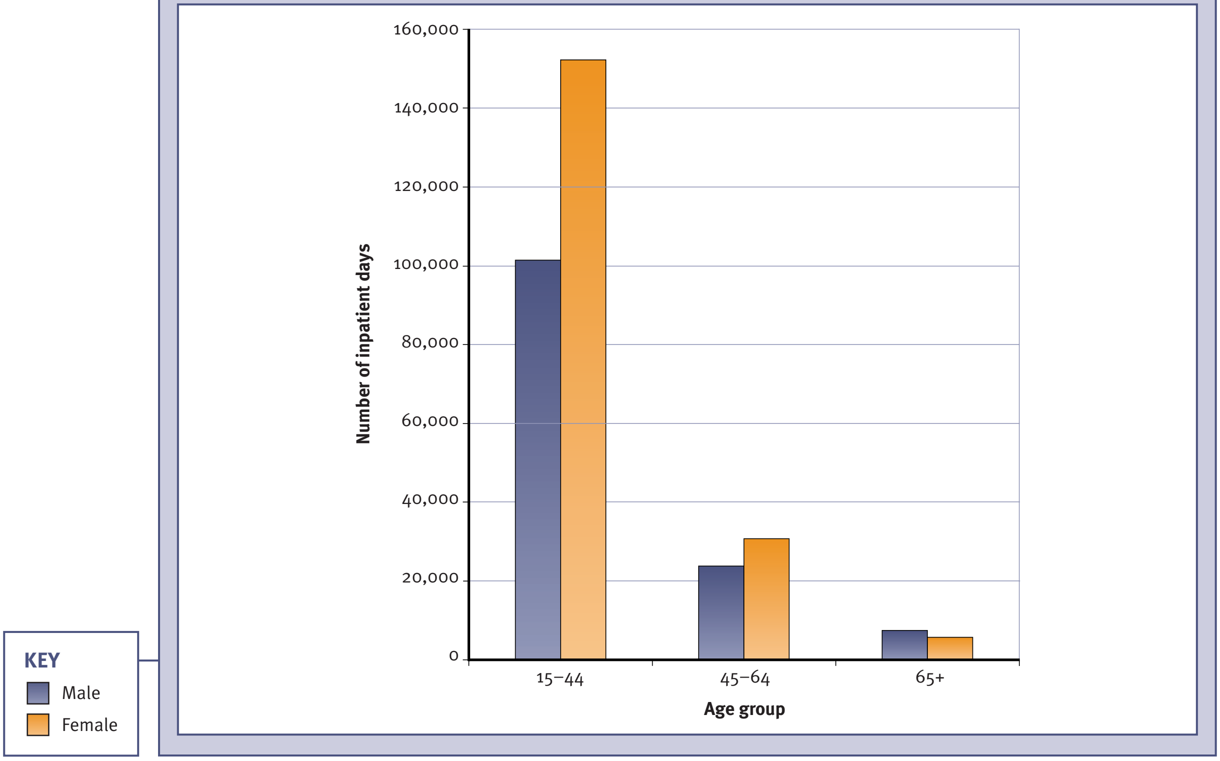
Service costs and lost employment

The elements used to estimate total costs for personality disorder were: prescribed drugs, inpatient care, outpatient visits, GP contacts and lost employment. Other costs may also be incurred – especially criminal justice services – but we could not quantify them for this review. This may be quite high and as such it needs to be recognised that our figures are likely to be underestimates of the true cost.

Service costs

A prospective cohort study assessed the economic cost of personality disorders presenting in primary care settings (Rendu *et al* 2002). The sample was selected from four GP practices in the London area. Service use data were collected using the Client Service Receipt Inventory (CSRI) questionnaire and covered GP contacts, psychiatrist consultations, practice nurse visits, hospital inpatient stays, hospital outpatient episodes, contacts with social workers, counsellors and therapists. Information was also collected on employment status and time taken off work because of ill health.

85 INPATIENT BED USE BY PEOPLE WITH PERSONALITY DISORDERS IN ENGLAND



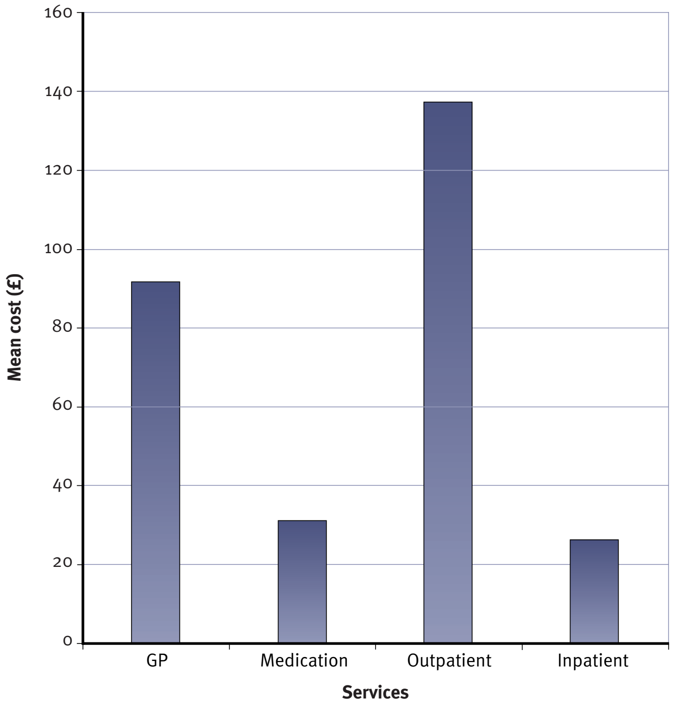
Costs were originally calculated using 1998/9 price levels by combining the number of contacts and the average duration of each contact. Service cost estimates were based on widely used unit costs. Costs that were due to time taken off work were calculated based on national average gross earnings by occupational status. Mean costs were multiplied by 1.38 to represent 2005/6 values (Curtis and Netten 2006).

As with other conditions in this report we used Hospital Episode Statistics (HES) data to calculate inpatient costs. The number of days spent in hospital by gender and age groups show higher figures for women under the age of 65 even though prevalence rates are higher for men (*see* Figure 85, opposite).

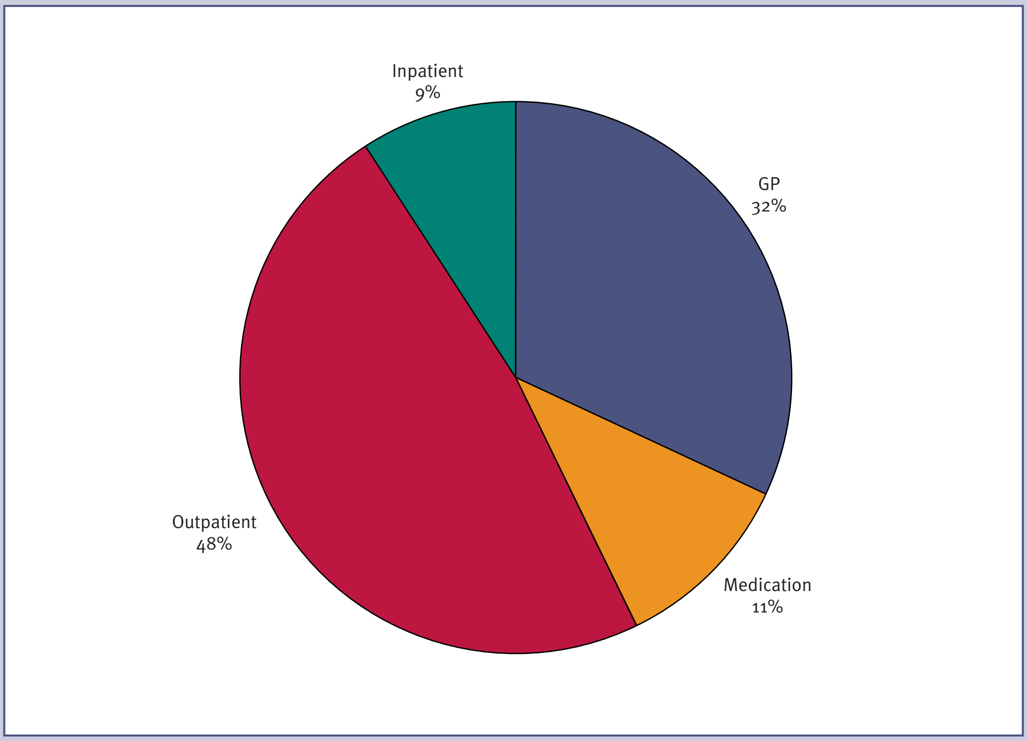
The service use data collected by Rendu *et al* (2002) are for primary care attendees and can not therefore be applied to all people with personality disorder. We do not know how likely people with personality disorder are to visit their GP and there may be reasons for it being both higher and lower than national norms. The PMS shows that 64.6 per cent of all people have consulted their GP for some reason in the previous year. We have assumed that people with personality disorder have the same rate of use. (In actual fact the use of GP services could be more or less than average, but definitive data were unavailable.) This suggests that 1.59 million people with personality disorders are in contact with their GP. This is clearly a rather broad assumption. Unfortunately, robust data were not available to provide more sophisticated estimates.

The service costs for the 64.6 per cent of people with personality disorders who are in contact with primary care are shown in Figure 86, below, and the distribution of service

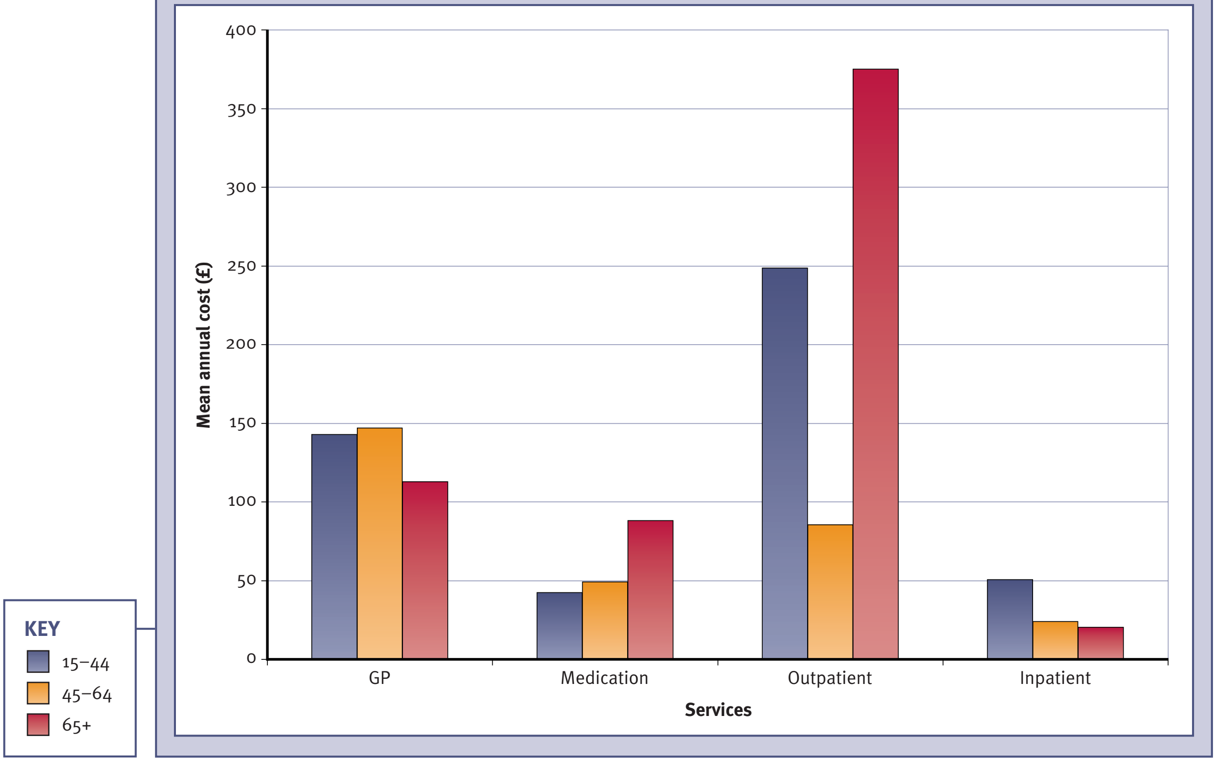
86 AVERAGE SERVICE COSTS FOR PERSONALITY DISORDER, 2005/6



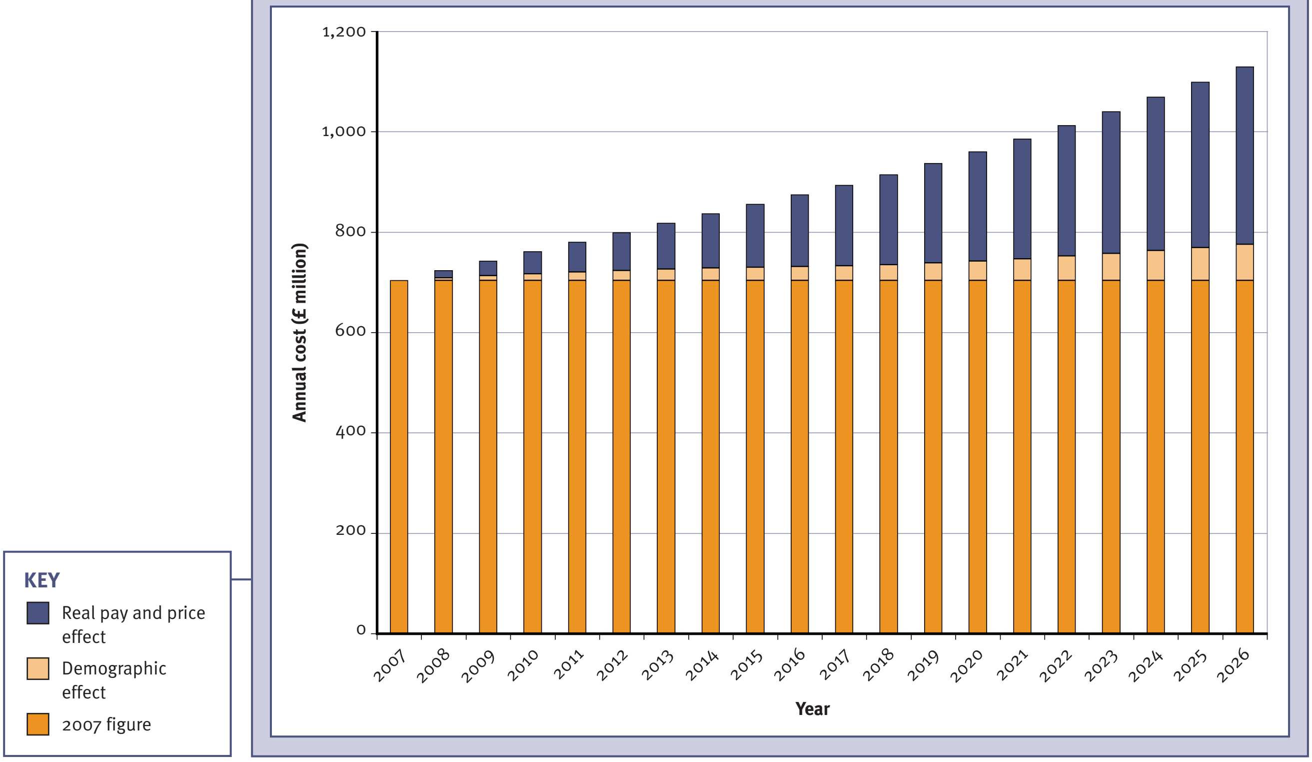
87 DISTRIBUTION OF SERVICE COSTS FOR PERSONALITY DISORDER



88 AVERAGE SERVICE COSTS FOR PERSONALITY DISORDER BY AGE, 2005/6



89 PROJECTED SERVICE COSTS FOR PERSONALITY DISORDER, 2007 TO 2026



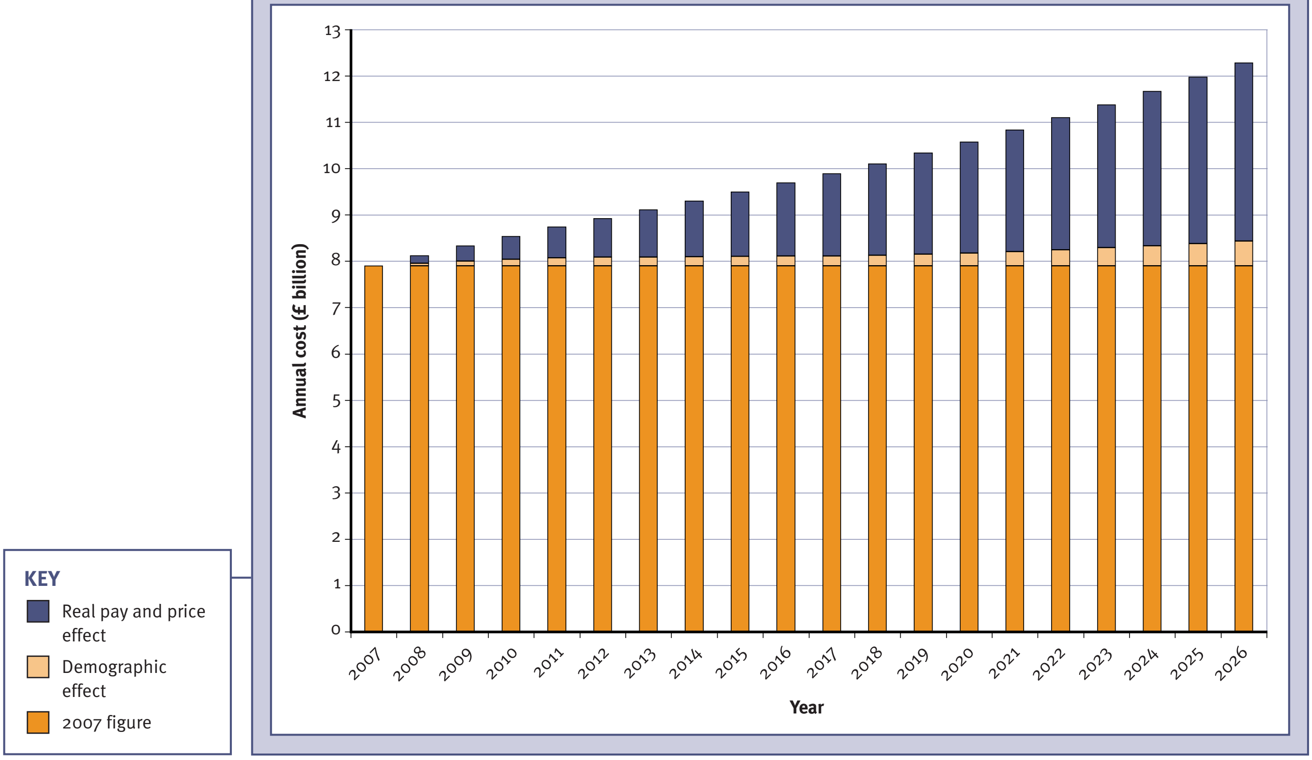
costs in Figure 87, above. Although expensive at the individual level, inpatient costs are lower than other forms of care due to the relatively low level of admission. Outpatient care is the most expensive service. Total service costs are estimated to be on average £286 per year. Service costs by age group show noticeable variation, especially for outpatient care which is particularly high for the oldest age group (*see* Figure 88, opposite).

Total service costs in 2007 were estimated to be £704 million for those in contact with primary care. This figure is projected to be £1.1 billion by 2026, which represents an increase of 56 per cent (*see* Figure 89, above). However, if real price increases are excluded the projected figure for 2026 is £775 million – an increase of 10 per cent.

Lost employment

In the Rendu *et al* study 30 per cent of men and 12.5 per cent of women were unemployed. Comparative figures in the population as a whole are 5.7 per cent and 5 per cent respectively (National Statistics 2007b). This suggests that 24.3 per cent of men with personality disorders and 7.5 per cent of women are unemployed but would probably not be if they did not have these conditions. Using average annual salaries of £30,689 for men and £17,758 for women and multiplying by 0.243 and 0.075 (derived from the above percentages) gives expected lost earnings of £7,457 and £1,332 for men and women respectively. Across the whole sample men experience 0.88 weeks off work while the figure for women is 0.26. This increases the above lost earnings to £7,976 and £1,421. Applying these figures to the number of people with personality disorders under the age of

90 PROJECTED TOTAL COSTS FOR PERSONALITY DISORDER, 2007 TO 2026



65, but also assuming that the relevant population is 64.6 per cent of all people with personality disorders (see above) results in a total cost of lost employment in 2007 of £7.2 billion.

Projected costs

Total costs for 2007 were estimated at £7.9 billion with a projected increase to £12.3 billion by 2026 (*see* Figure 90, above). Without the assumed real rise in earnings of 2 per cent the projected total for 2026 is £8.4 billion.

Scenario modelling

Ideally we would want to model specific interventions in this chapter. However, there have been a limited number of studies that have estimated the economic impact of such services. Clearly though an evidence base is growing and future research would be able to provide this sort of modelling.

10 Conditions affecting children and adolescents

SUMMARY

Mental health problems in children are common, affecting up to 1 in 10 of the younger population, depending on age. Given the likely demographic changes in England the number of children with these disorders is projected to be almost unchanged by 2026, although there will be a dip in cases over the next five or so years as a result of a falling birth rate. Sufficient good data were not available to model specific scenarios for child/adolescent disorders, and so it has not been possible to calculate savings from childhood interventions.

Key points

- 7.3 per cent of children aged 5–10 and 10.1 per cent of those aged 11–15 have a mental health problem.
- Emotional disorder and conduct disorder are the most frequently occurring conditions.
- It is estimated that in 2007 there were 607,402 children with conduct disorder, emotional disorder, hyperkinetic disorder and co-morbid disorders.
- By 2026 the number of children with these conditions is projected to be 687,969, an increase of 13.3 per cent.
- Total service costs are estimated to be £143 million in 2007, increasing to £237 million by 2026.

Introduction

Mental health problems can occur in a person's early years and there are some conditions that are specifically related to childhood. This chapter focuses on disorders that have been assessed by two large British surveys of mental health in children conducted in 1999 and 2004 (Meltzer *et al* 2000; Green *et al* 2005). The key disorders included in these surveys, and the characteristics as described by Green *et al* (2005) were:

- hyperkinetic disorders – characterised by hyperactivity, impulsiveness, inattention
- conduct disorders – characterised by temper outbursts, arguing with parents, disobedience, telling lies, fighting, bullying, cruelty, criminal behaviour and so on
- emotional disorders – depression, separation anxiety, specific phobias, social phobia, generalised anxiety.

The surveys also included data on children with autistic spectrum disorders. These are not covered in this chapter as this report is not including learning difficulties (or disabilities). The age range of children in the surveys was 5–15. Treatment recommendations are summarised in Appendix 2 (*see* p 133).

TABLE 13: PREVALENCE (%) OF MENTAL HEALTH PROBLEMS IN CHILDREN BY AGE

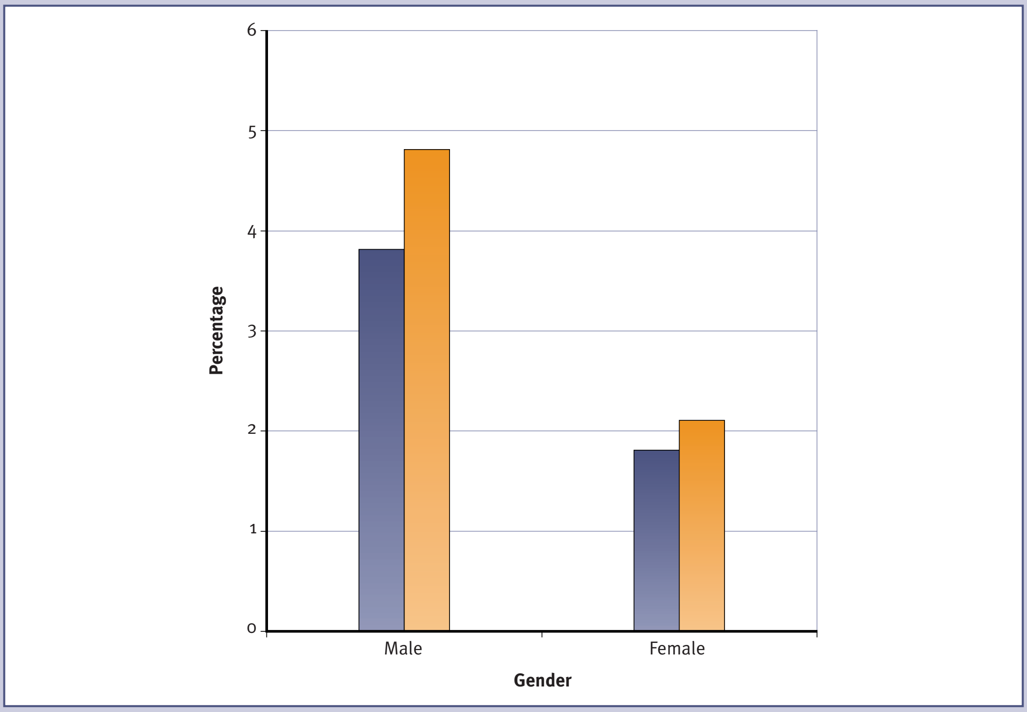
Disorders	**Age group**	
	5–10	**11–15**
Conduct disorder	2.8	3.5
Hyperkinetic disorder	0.6	0.3
Emotional disorder	2.5	4.3
Conduct disorder + emotional disorder	0.6	1.1
Conduct disorder + hyperkinetic disorder	0.6	0.8
Hyperkinetic disorder + emotional disorder	0.1	<0.1
Conduct disorder + hyperkinetic disorder + emotional disorder	0.1	0.1

Source: Mental Health of Children and Young People (1999)

Prevalence estimates

The prevalence rates for the analyses in this chapter have been taken from the 1999 survey (Meltzer *et al* 2000). The 2004 survey showed very similar prevalence rates (suggesting little change over time) and the 1999 survey contained more appropriate service use data. The sample size was large (more than 10,000 children) which allows robust estimates of illness prevalence to be made.

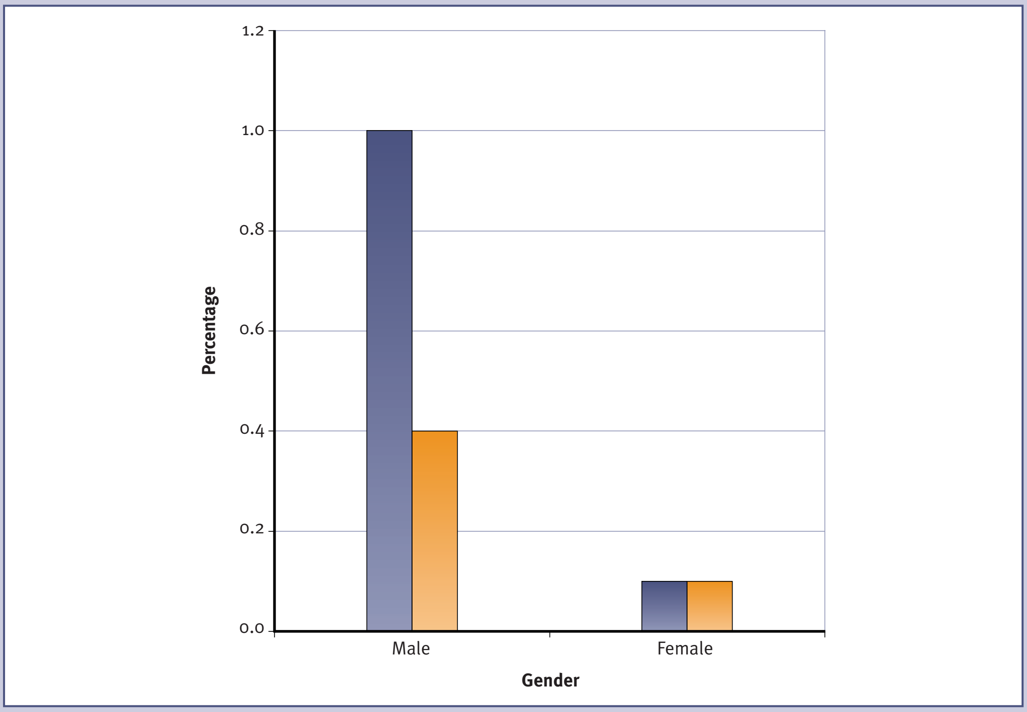
91 PREVALENCE OF CONDUCT DISORDER IN CHILDREN



Source: Mental Health of Children and Young People (1999)

KEY
- ▨ 5–10 years old
- ▨ 11–15 years old

92 PREVALENCE OF HYPERKINETIC DISORDER IN CHILDREN

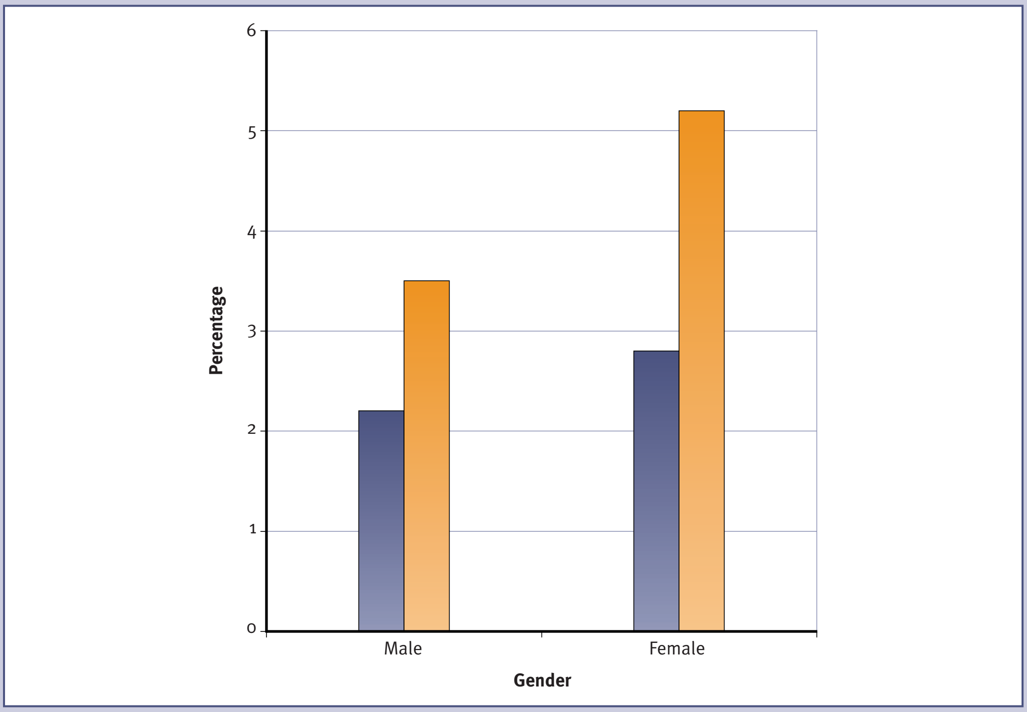


KEY

- 🟦 5–10 years old
- 🟧 11–15 years old

Source: Mental Health of Children and Young People (1999)

93 PREVALENCE OF EMOTIONAL DISORDER IN CHILDREN

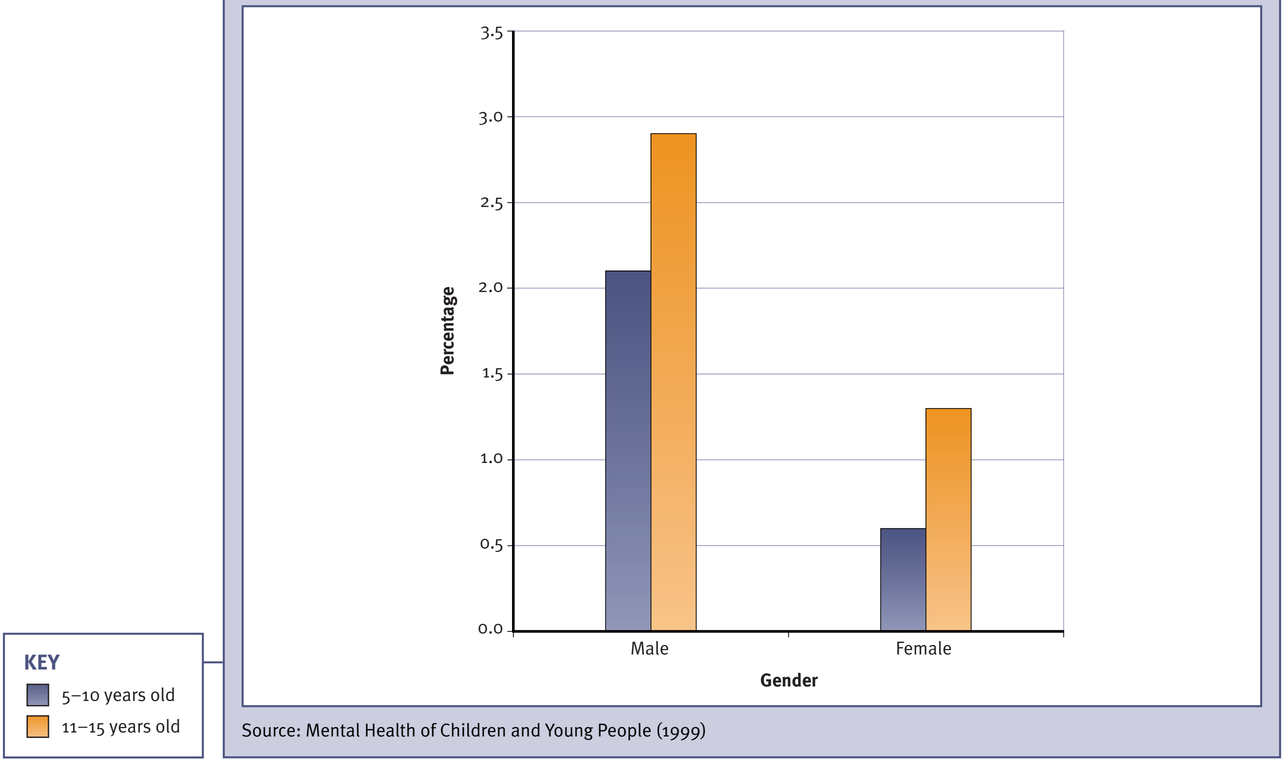


KEY

- 🟦 5–10 years old
- 🟧 11–15 years old

Source: Mental Health of Children and Young People (1999)

94 PREVALENCE OF CO-MORBID DISORDER IN CHILDREN



Source: Mental Health of Children and Young People (1999)

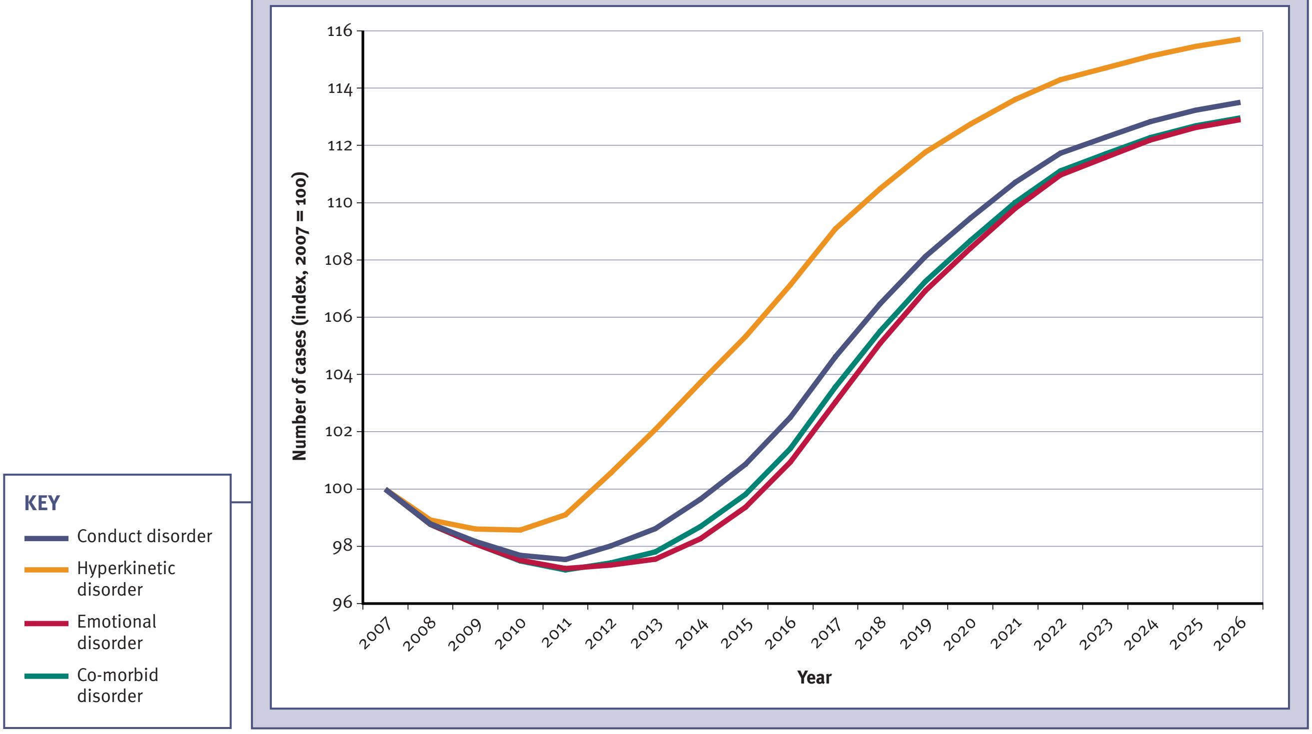
For the purposes of these analyses we focused on the three disorder groups described above plus a separate group for co-morbid disorders. The prevalence of having any one of these disorders was 7.3 per cent for those aged 5–10 and 10.1 per cent for those aged 11–15. Conduct disorders and emotional disorders were the most commonly occurring and increased with age (*see* Table 13, p 100). Hyperkinetic disorder was less common and frequently existed with other conditions.

Conduct disorder on its own is more prevalent in boys than girls (*see* Figure 91, p 100) while the same is true for hyperkinetic disorder (*see* Figure 92, p 101). Emotional disorders increase with age and are higher in girls (*see* Figure 93, p 101). Co-morbid disorders are more frequent in males and increase with age (*see* Figure 94, above). We did not extract data by ethnicity and this is a possible limitation if service use differs by ethnic group. However, as previous chapters have shown, the impact of changes in the ethnic distribution of the population probably will not affect costs to a major degree.

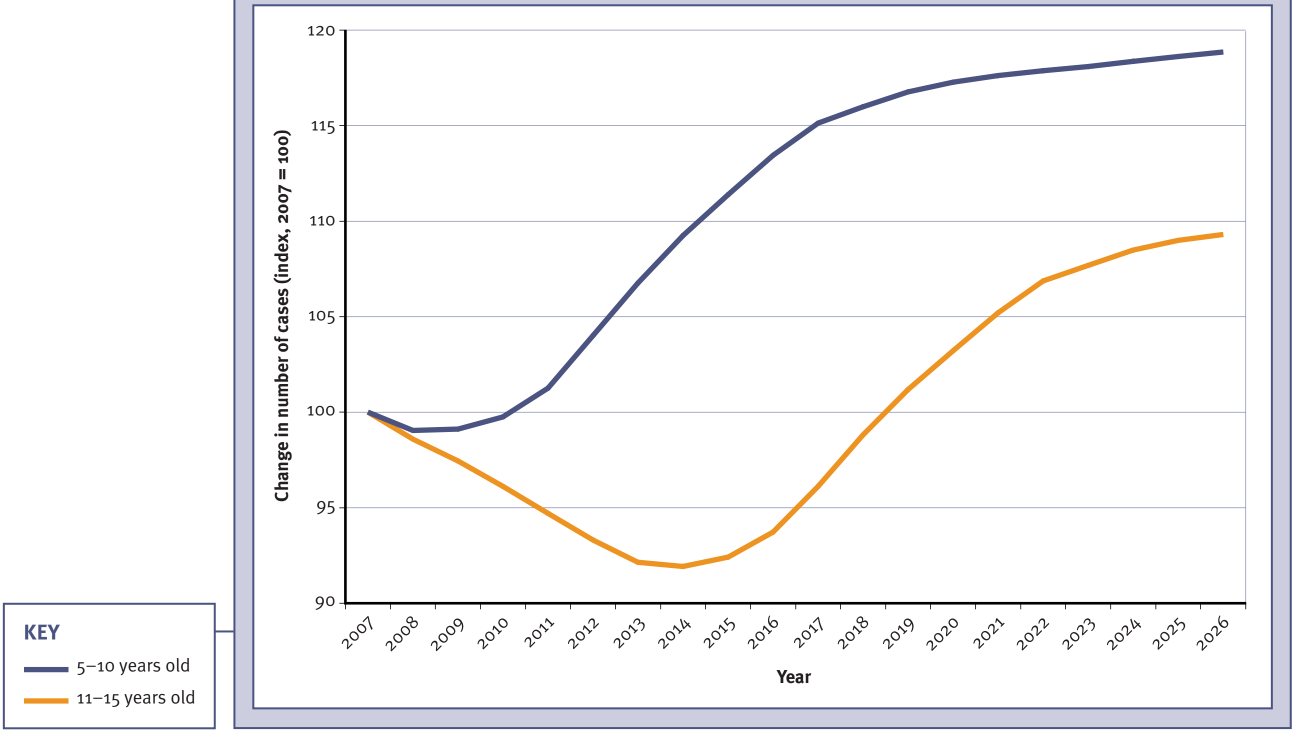
Population estimates

Based on the prevalence data above it is estimated that in 2007 there were 607,402 children with conduct disorder, emotional disorder, hyperkinetic disorder and co-morbid disorders. Around one-third have conduct disorder only and one-third emotional disorder only. Hyperkinetic disorder with no co-morbidity accounts for just 5 per cent of cases but many of the co-morbid group also have hyperkinetic disorder.

95 CHANGE IN NUMBER OF CASES OF CONDUCT DISORDER, HYPERKINETIC DISORDER, EMOTIONAL DISORDER AND CO-MORBID DISORDER



96 CHANGE IN NUMBER OF CASES OF CONDUCT DISORDER, HYPERKINETIC DISORDER, EMOTIONAL DISORDER AND CO-MORBID DISORDER BY AGE



By 2026 the figure is estimated to increase by 13.3 per cent to 687,969. There are interesting trends in the change in the number of cases over time, with decreases for all conditions up to around 2011 followed by an increase thereafter (*see* Figure 95, p 103). From Figure 96 (*see* p 103) we see that there is projected to be a greater relative fall in numbers of children with these disorders in the 11–15 year group compared to those aged 5–10.

While many children will cease to have mental health problems as they get older, clearly some will continue to do so. Early chapters have described mental health problems in adulthood and it is likely that many of these adults will have experienced some of the problems described here. In addition, it is known that disorders in childhood can lead to high levels of resource use later in life (Scott *et al* 2001; Knapp *et al* 2002).

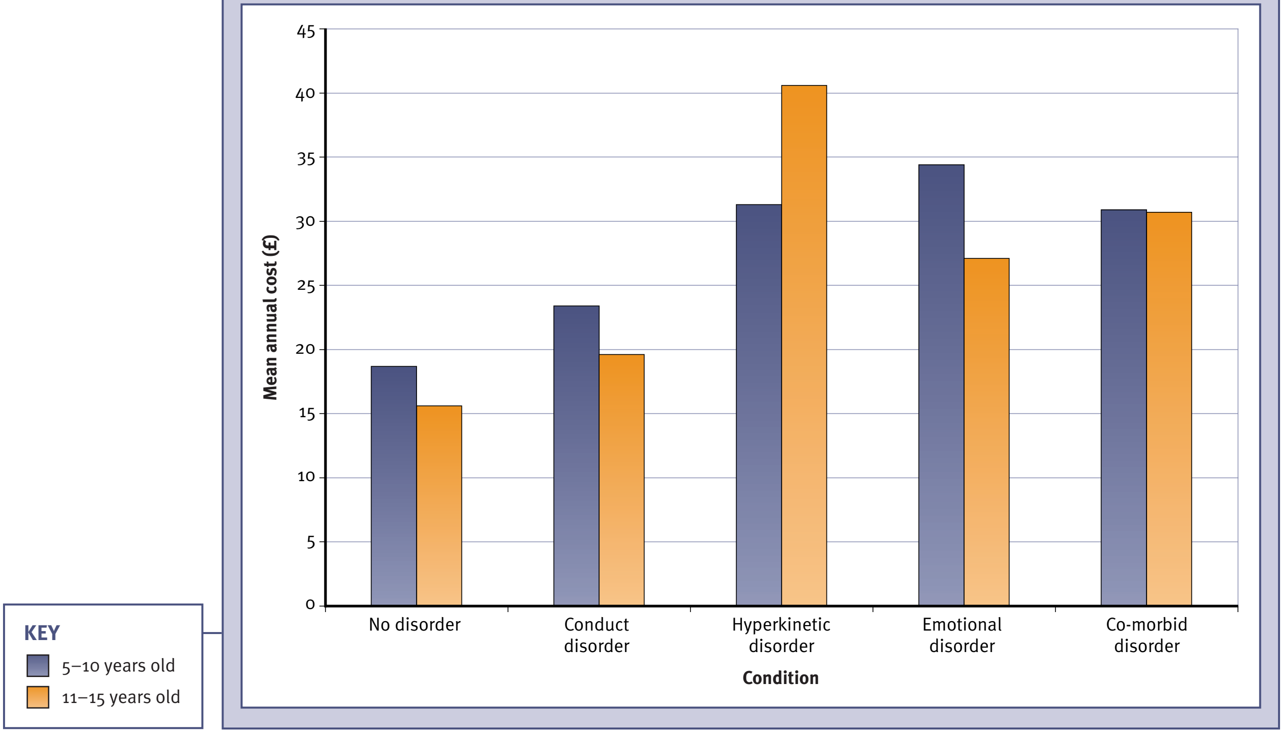
Service costs

The elements used to estimate total costs for disorders affecting children and adolescents were: prescribed drugs, inpatient care, GP contacts, accident and emergency (A&E) visits and outpatient attendances. Due to the age range of this group, there are no lost employment costs. Other costs may be incurred but we could not quantify them for this review and they would be unlikely to add substantially to the totals here. However, it does need to be recognised that our figures are likely to be underestimates of the true cost.

Service costs

The 1999 survey asked parents how many times their children had been in contact with GPs, visited A&E departments, seen clinicians in outpatient settings and spent time as an

97 MEAN GP COSTS FOR CONDUCT DISORDER, HYPERKINETIC DISORDER, EMOTIONAL DISORDER AND CO-MORBID DISORDER, 2005/6



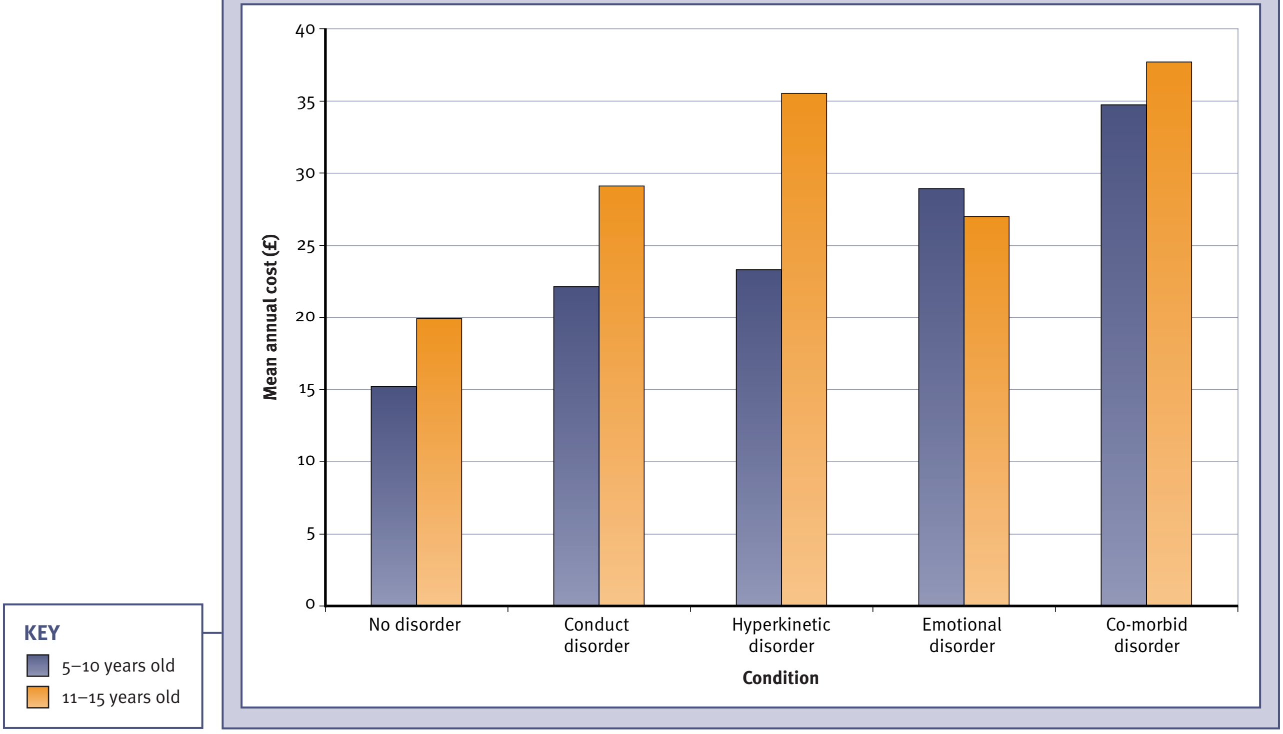
inpatient in hospital. Data were coded as never, once, twice, three times and four or more times. In the case of the latter we conservatively assumed four contacts (which means that costs will be underestimated to some extent).

Although inpatient use was recorded we decided to use Hospital Episode Statistics (HES) inpatient data given that it should be a complete record of all NHS inpatient activity. The HES data for 2004/5 revealed that children aged 5–14 spent a total of 2,043 days in hospital for conduct disorder, 2,387 for hyperkinetic disorder and 1,148 for emotional disorders. Given that we are focusing on the 5–15 age group here, the above figures were increased by 10 per cent to take into account those aged 15. Bed days were not available specifically for children with co-morbid disorders, and such cases will be included in the above figures.

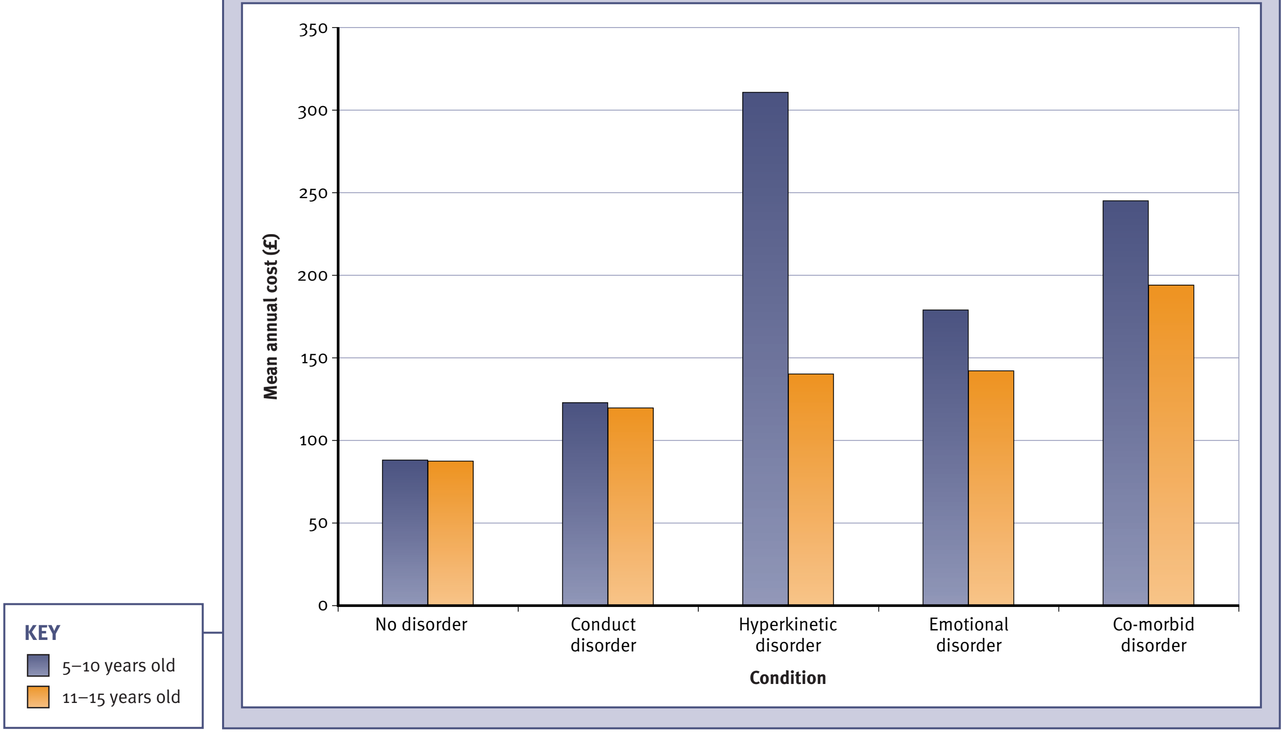
GP service use data were combined with the unit cost of a GP contact, which is currently on average £22 (Curtis and Netten 2006). Average costs for the four diagnostic groups and for those with no mental health disorder are shown in Figure 97 opposite. The highest GP costs are for older children with hyperkinetic disorders, while the lowest costs (excluding those with no detected mental health problem) are for conduct disorders.

The most recent unit cost for A&E visits (for adults and children) is £77 (Curtis and Netten 2006). With the exception of emotional disorders, A&E costs increase with age (*see* Figure 98, below). The highest A&E costs are for children with co-morbid disorders.

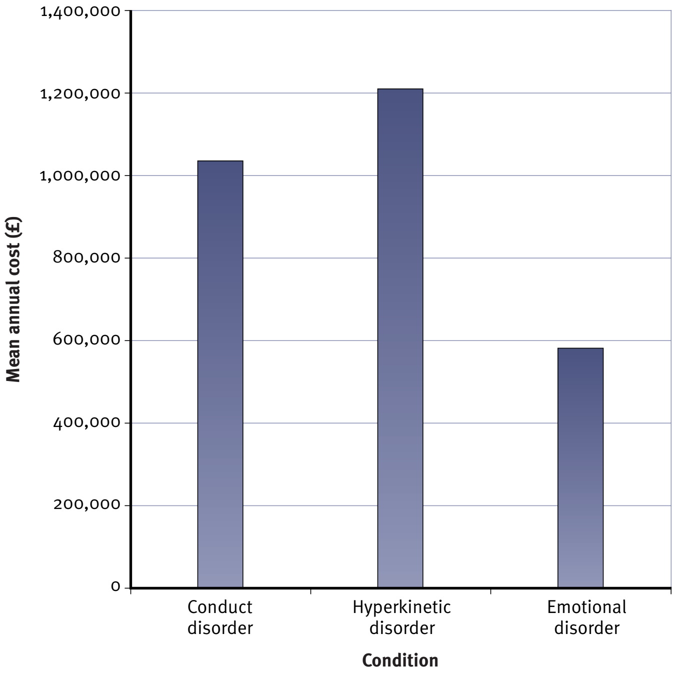
98 **MEAN A&E COSTS FOR CONDUCT DISORDER, HYPERKINETIC DISORDER, EMOTIONAL DISORDER AND CO-MORBID DISORDER, 2005/6**



99 MEAN OUTPATIENT COSTS FOR CONDUCT DISORDER, HYPERKINETIC DISORDER, EMOTIONAL DISORDER AND CO-MORBID DISORDER, 2005/6



100 TOTAL INPATIENT COSTS FOR CONDUCT DISORDER, HYPERKINETIC DISORDER AND EMOTIONAL DISORDER, 2005/6

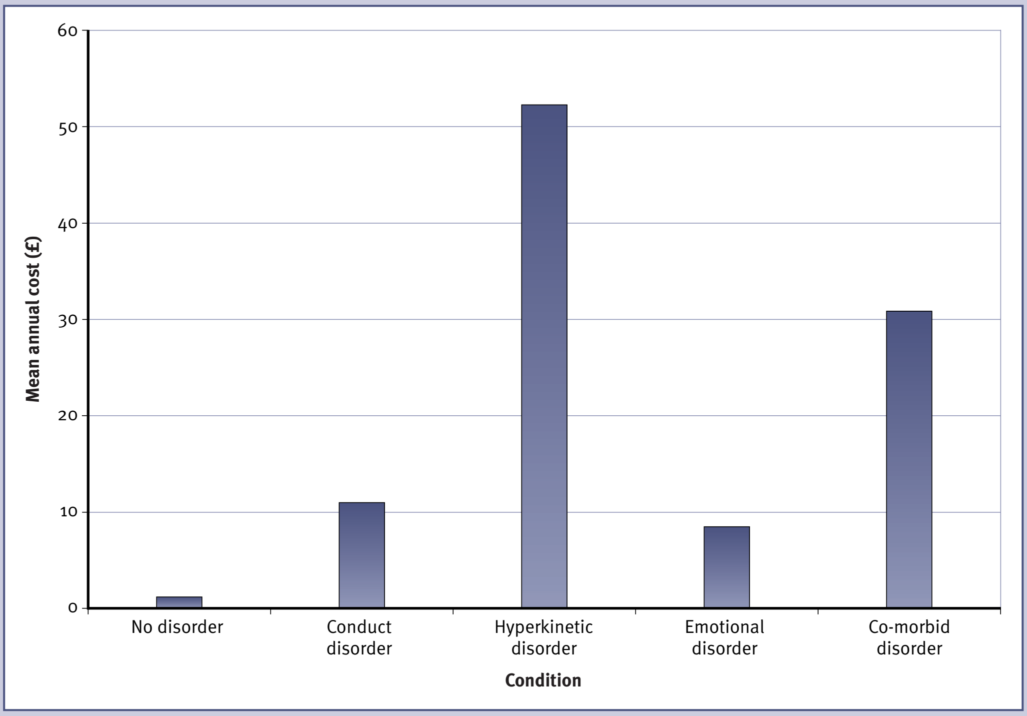


Outpatient contacts were combined with a unit cost of £228 per child attendance (Curtis and Netten 2006). Among the younger age group, outpatient costs were highest for hyperkinetic disorder, whilst for those aged 11–15 the costs were greatest for children with co-morbid disorders (*see* Figure 99, p 106).

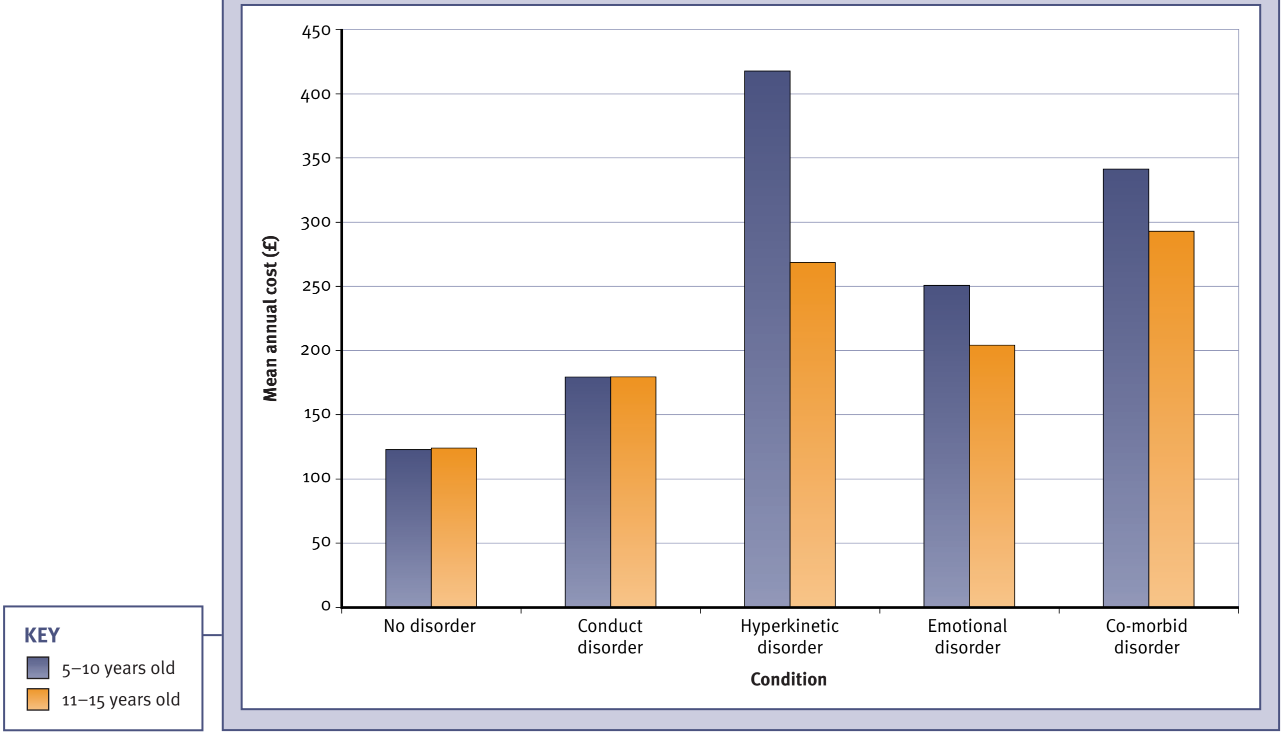
The average cost of an inpatient day for children is currently £461, which is substantially greater than the cost (£201) of a day in acute bed for adults (Curtis and Netten 2006). Total inpatient costs for children with conduct disorder, hyperkinetic disorder and emotional disorder are £2.8 million with conduct disorder and hyperkinetic disorder accounting for 37 per cent and 43 per cent of these costs respectively (*see* Figure 100, p 106).

Data on medication were not available from the 1999 survey but were obtained from the 2004 survey. This showed that 43 per cent of children with hyperkinetic disorder were in receipt of medication, and this was usually methylphenidate hydrochloride (Ritalin). The proportion of children with conduct disorder and emotional disorder who received medication was much less (9 per cent and 7 per cent respectively). Of the children in the survey who had co-morbid disorders, 59 per cent of these had hyperkinetic disorder. We assumed that 43 per cent of these also received medication (that is 25 per cent of the co-morbid group). We did not distinguish between age groups with regard to medication. The cost of medication was calculated on the basis of the per milligram price of methylphenidate hydrochloride calculated from the British National Formulary (BF/BMA 2007) and an assumption that the typical dose was 20mg per day. This resulted in a cost per year of £121. We did not separately cost other drugs but instead used the above figure. (While this is a limitation, we infer that the very small numbers of other forms of

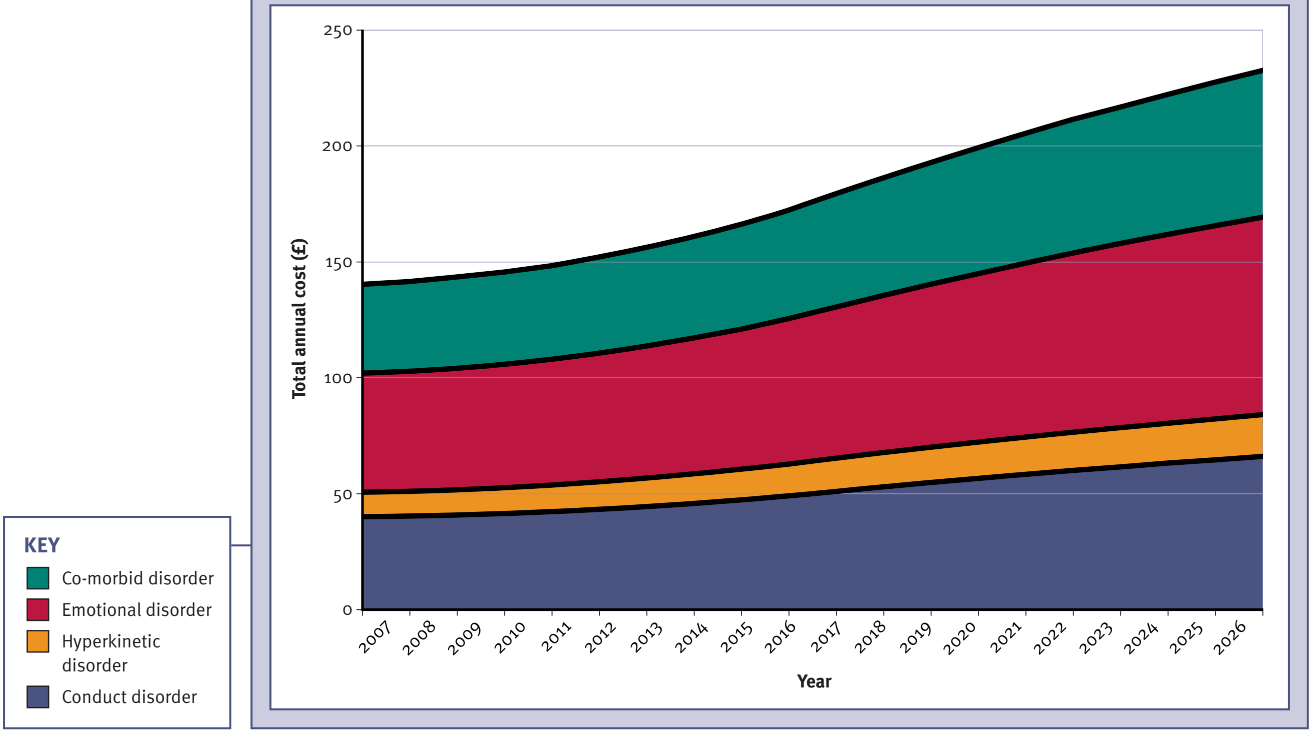
101 MEAN MEDICATION COSTS FOR CONDUCT DISORDER, HYPERKINETIC DISORDER, EMOTIONAL DISORDER AND CO-MORBID DISORDER, 2005/6



102 MEAN NON-INPATIENT COSTS FOR CONDUCT DISORDER, HYPERKINETIC DISORDER, EMOTIONAL DISORDER AND CO-MORBID DISORDER, 2005/6



103 PROJECTED NON-INPATIENT COSTS FOR CONDUCT DISORDER, HYPERKINETIC DISORDER, EMOTIONAL DISORDER AND CO-MORBID DISORDER, 2007 TO 2026



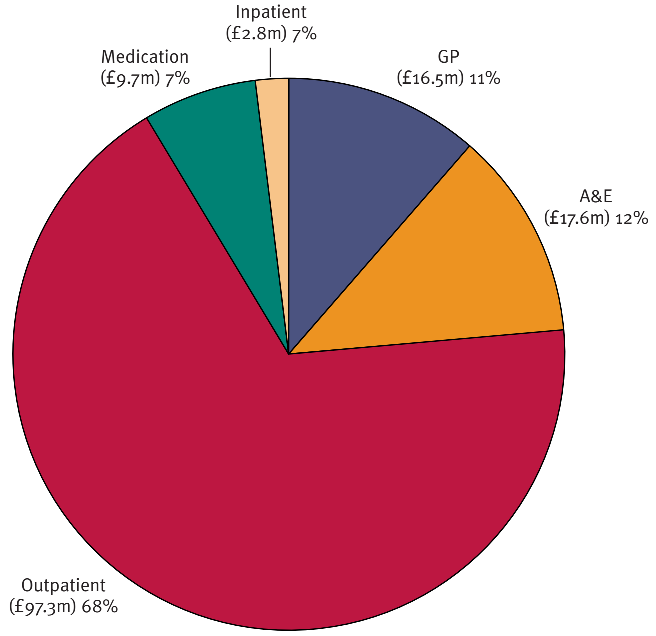
medication means that the different drug costs could only have a minor effect on the total costs.) Not surprisingly, the medication costs were highest for the hyperkinetic disorder group followed by those with co-morbid disorders (*see* Figure 101, p 107).

Combining inpatient costs with other costs by disorder is problematic given that we cannot separate out of the former co-morbid disorders. Average non-inpatient costs are highest for younger children with hyperkinetic disorder, but costs are rather lower for the older children with this mental health problem (*see* Figure 102, opposite). Health costs are lowest for conduct disorder. Total non-inpatient costs were estimated to be £141 million in 2007. If we combine inpatient costs with non-inpatient costs across all disorders the total for 2007 was £143 million. Outpatient care costs £97 million and accounted for two-thirds of the total service costs (*see* Figure 103, opposite). GP contacts and A&E attendances accounted for similar amounts of the total, while inpatient care was only 2 per cent of the total.

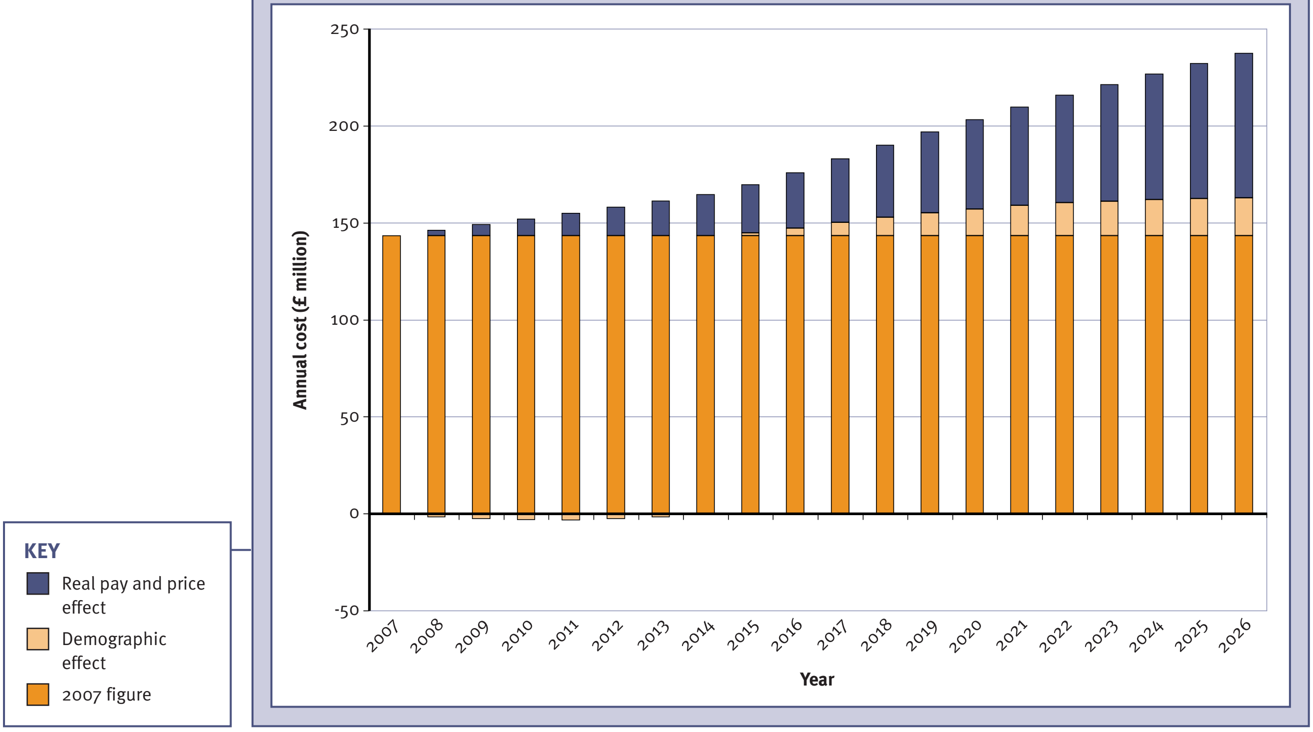
Projected costs

Total non-inpatient costs are projected to rise to £233 million by 2026 (*see* Figure 103, opposite). This increase of 65 per cent is largely due to the assumption of a year-on-year rise in health prices of 2 per cent above general inflation (*see* Chapter 2). By 2026 costs are projected to be £237 million (*see* Figure 105, p 110). Without the real increase in service prices the projected costs for 2026 come to £163 million – an increase of 14 per cent.

104 DISTRIBUTION OF SERVICE COSTS FOR CONDUCT DISORDER, HYPERKINETIC DISORDER, EMOTIONAL DISORDER AND CO-MORBID DISORDER



105 PROJECTED TOTAL COSTS FOR CONDUCT DISORDER, HYPERKINETIC DISORDER, EMOTIONAL DISORDER AND CO-MORBID DISORDER, 2007 TO 2026



Scenario modelling

As with the previous chapter we have not provided modelling of specific treatment interventions due to lack of data. However, an area of future work that would be informative would be to assess the impact of reducing prevalence rates of mental health problems in children on service costs in adulthood. This would continue the work of others (Scott *et al* 2001; Knapp *et al* 2002) but at a national level.

11 Dementia

SUMMARY

Dementia stands out from all the other disorders included in this report in two ways:

- the number of people with dementia is expected to increase substantially over the next 20 years
- the costs per person are higher than for all other conditions. By 2026 the total projected cost of dementia is £34.8 billion with a large proportion of this accounted for by informal care from family/friends.

Key points

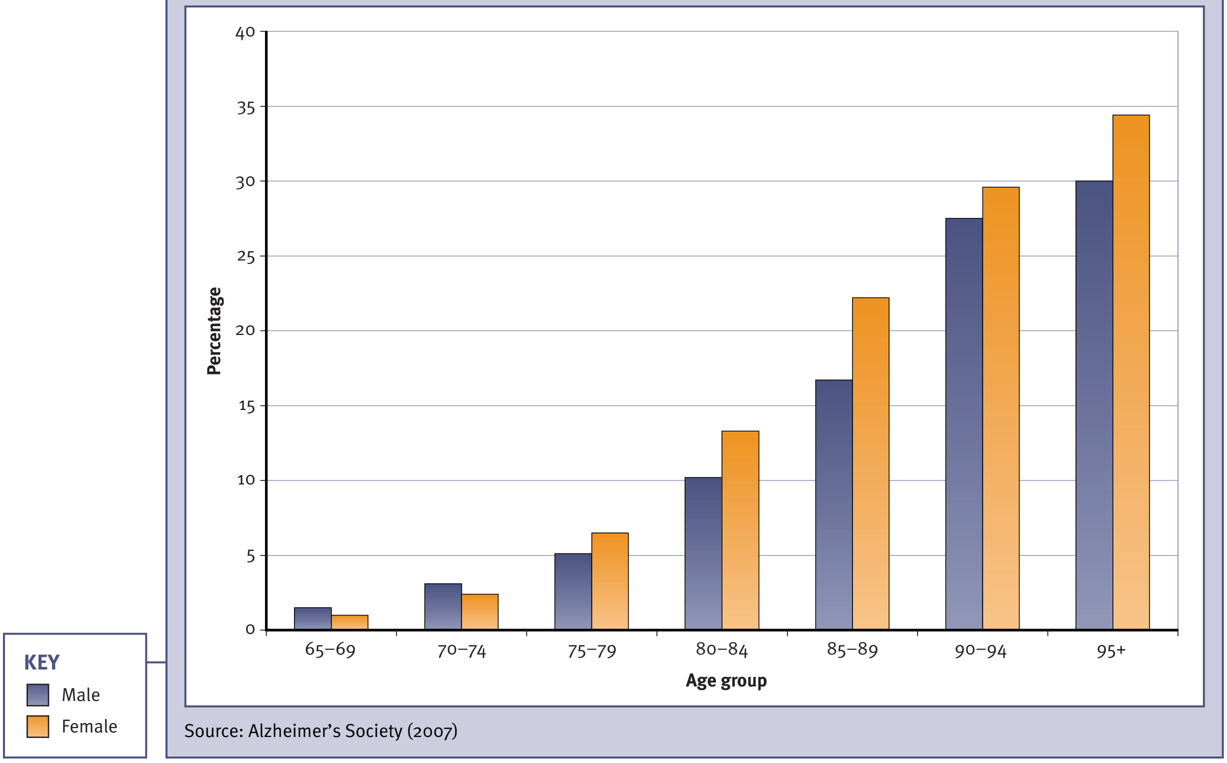
- The estimated prevalence of dementia in those aged 65 and over is 7.1 per cent.
- The estimated rates in those aged 65–69 is 1.5 per cent for men and 1 per cent for women. Among those aged 95 and over the rates are 30 per cent and 34.4 per cent respectively.
- In 2007 it was estimated that 582,827 people in England had dementia. By 2026 it is projected that this will rise to 937,636 – an increase of 61 per cent.
- The Alzheimer's Society report that the annual cost of dementia care is on average £25,472.
- The total cost of care in 2007 for England was estimated to be £14.8 billion. This is projected to rise to £34.8 billion by 2026, an increase of 135 per cent.

Introduction

Previous chapters of this report (with the exceptions of Chapters 8 and 10) have covered specific conditions (or groups of conditions) that potentially affect all adults, and data has been presented for those aged 65 and over. This chapter covers dementias, which are conditions that predominantly occur in older adults. The information in this chapter has been derived from a recent report published by the Alzheimer's Society (2007), and that report should be consulted for further details.

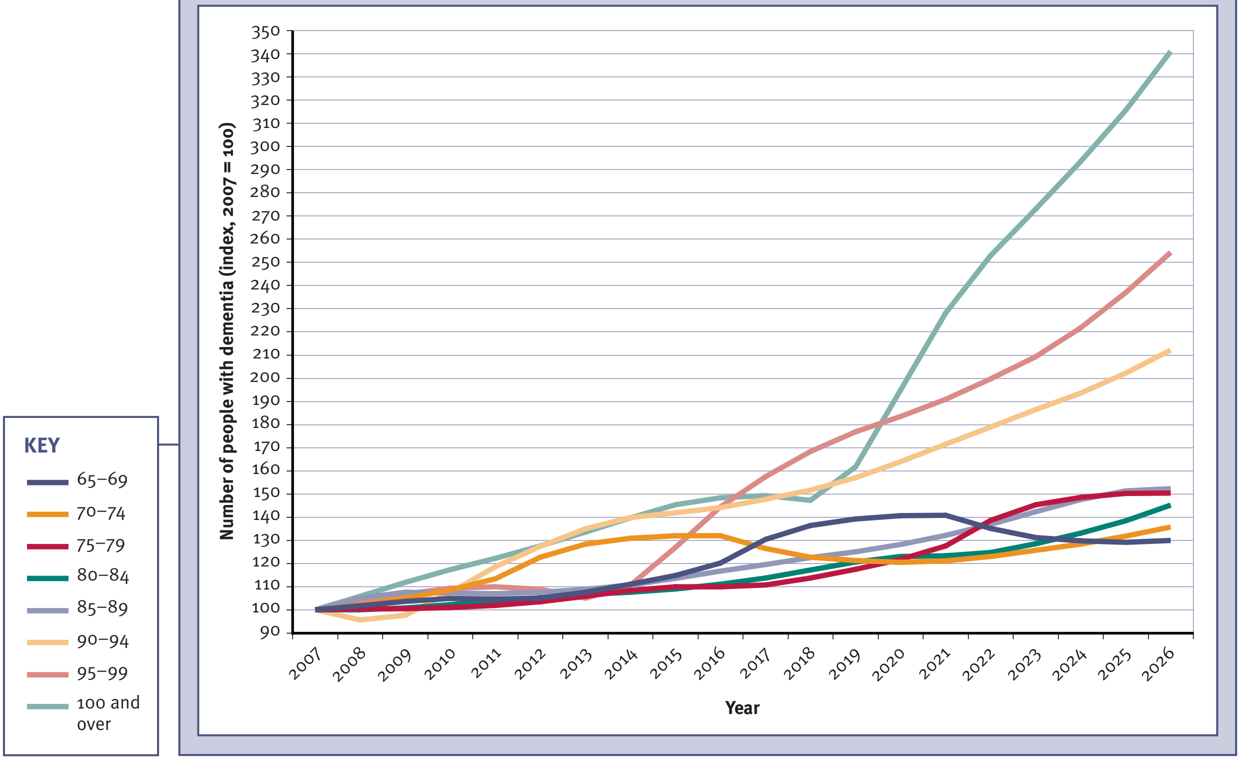
The main types of dementia are: Alzheimer's disease, vascular dementia, fronto-temporal dementia, dementia with Lewy bodies and mixed dementia. Alzheimer's disease is the most frequently occurring dementia. Dementia results in increasing levels of disability and dependence for those with the condition, and as will be seen below the impact of dementia is strongly associated with expected demographic changes. Treatment recommendations are summarised in Appendix 2 (*see* p 133).

106 PREVALENCE OF DEMENTIA IN MEN AND WOMEN OVER 65 YEARS OF AGE



Source: Alzheimer's Society (2007)

107 CHANGE IN NUMBER OF PEOPLE WITH DEMENTIA, 2007 TO 2026



Prevalence estimates

A key component of the Alzheimer's Society report was to conduct a consensus exercise among experts to arrive at gender- and age-specific prevalence rates for dementia. The rates are shown in Figure 106, opposite, and it can be seen that there is a steep increase with age. Rates among those aged below 75 are higher for men, while rates in those aged 75 and over are higher for women. The overall prevalence rate for older adults based on these age-specific rates and numbers of people in these age groups is 7.1 per cent.

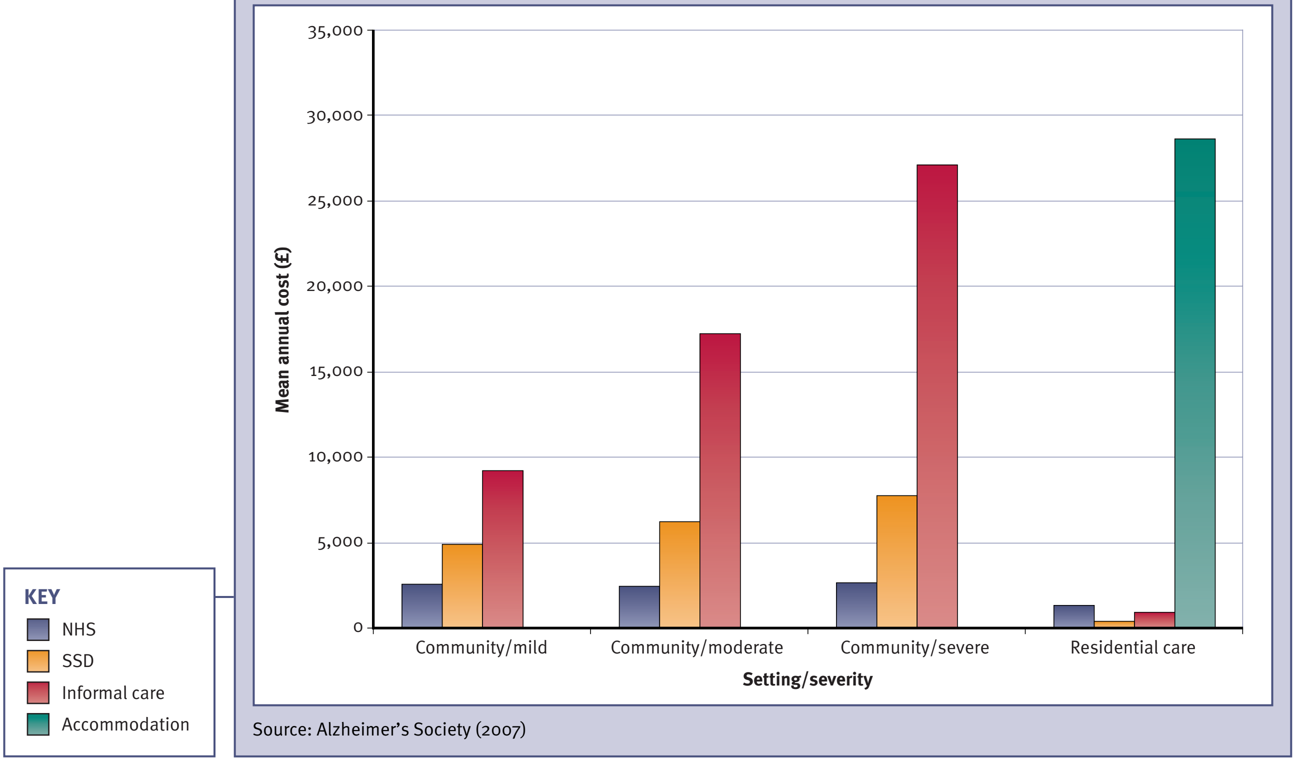
Population estimates

These prevalence rates suggest that in 2007 there were 582,827 people with dementia. By 2026 this is projected to rise to 937,636 – an increase of 61 per cent. The rate of change is particularly high for those aged 85 and over (*see* Figure 107, opposite).

Service costs and lost employment

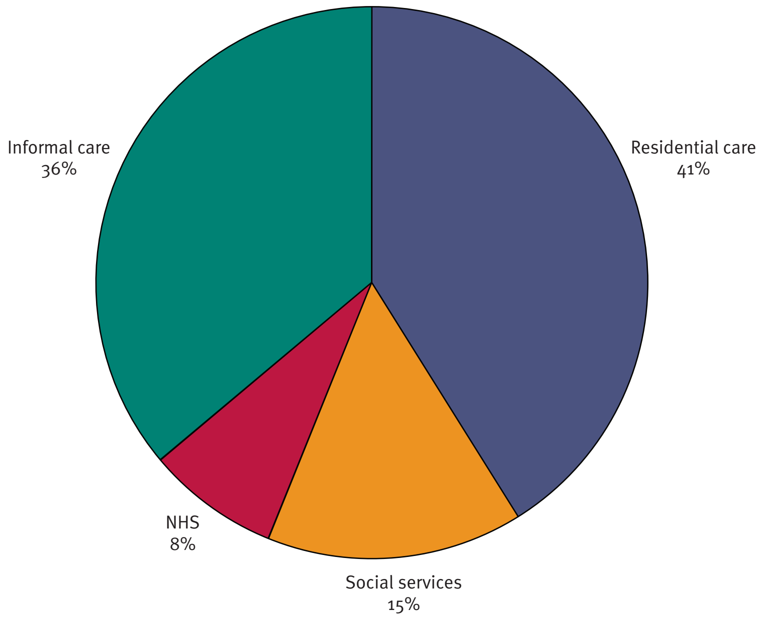
The elements used to estimate total costs for dementia were: inpatient care, other NHS services, supported accommodation, day care, other social services and informal care. Due to the age range of the population with this condition, lost employment costs are not a factor considered. Other costs may be incurred but we could not quantify them for this review and they would be unlikely to add substantially to the totals here. However, it does need to be recognised that our figures are likely to be underestimates of the true cost.

108 ANNUAL COST OF SERVICES USED BY PEOPLE WITH LATE-ONSET DEMENTIA BY SETTING AND SEVERITY, 2005/6

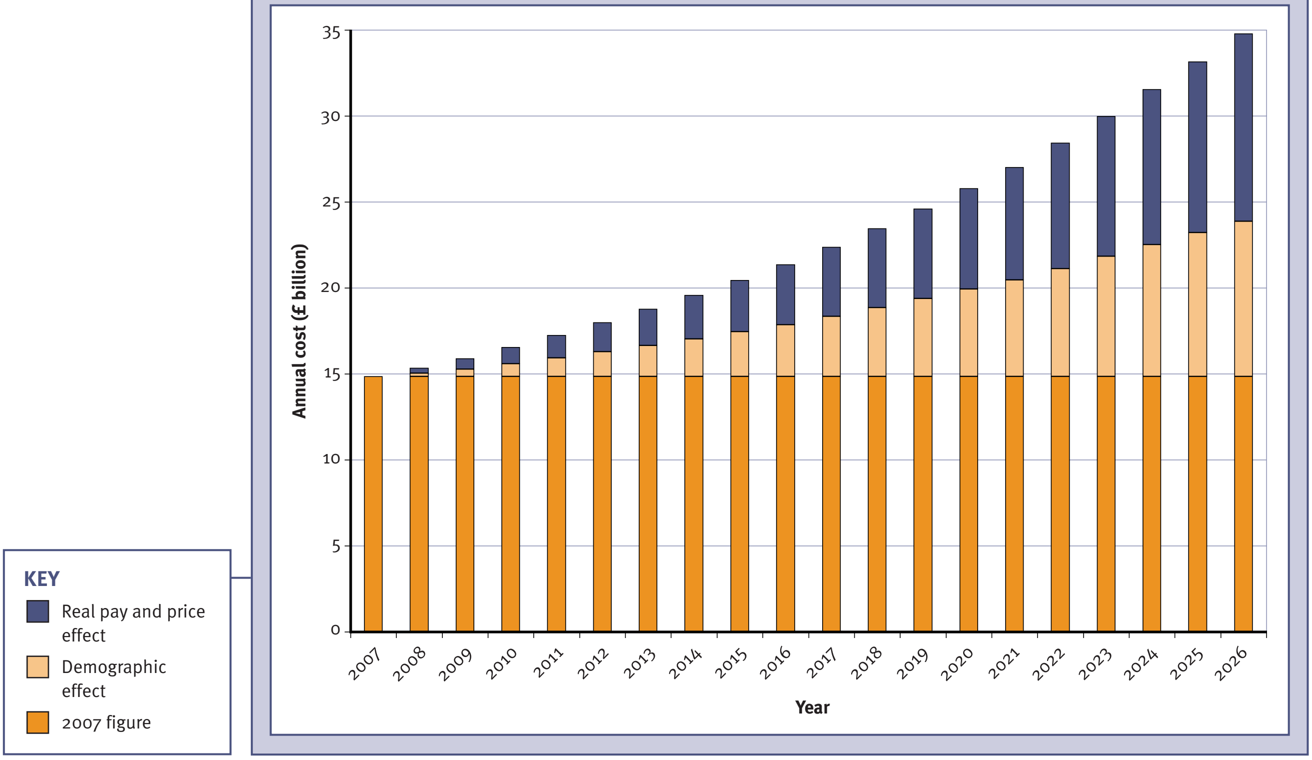


Source: Alzheimer's Society (2007)

109 DISTRIBUTION OF SERVICE COSTS FOR DEMENTIA



110 PROJECTED COST OF DEMENTIA CARE IN ENGLAND, 2007 TO 2026



Service costs

The Alzheimer’s Society report suggests that the average annual cost of dementia care was £25,472. Costs are estimated to differ according to setting and severity level as shown in Figure 108 (*see* p 113).

Figure 109, opposite, shows the distribution of service costs. Residential care accounts for the largest proportion of costs with informal care accounting for one-third. NHS costs account for a relatively small amount of the service costs.

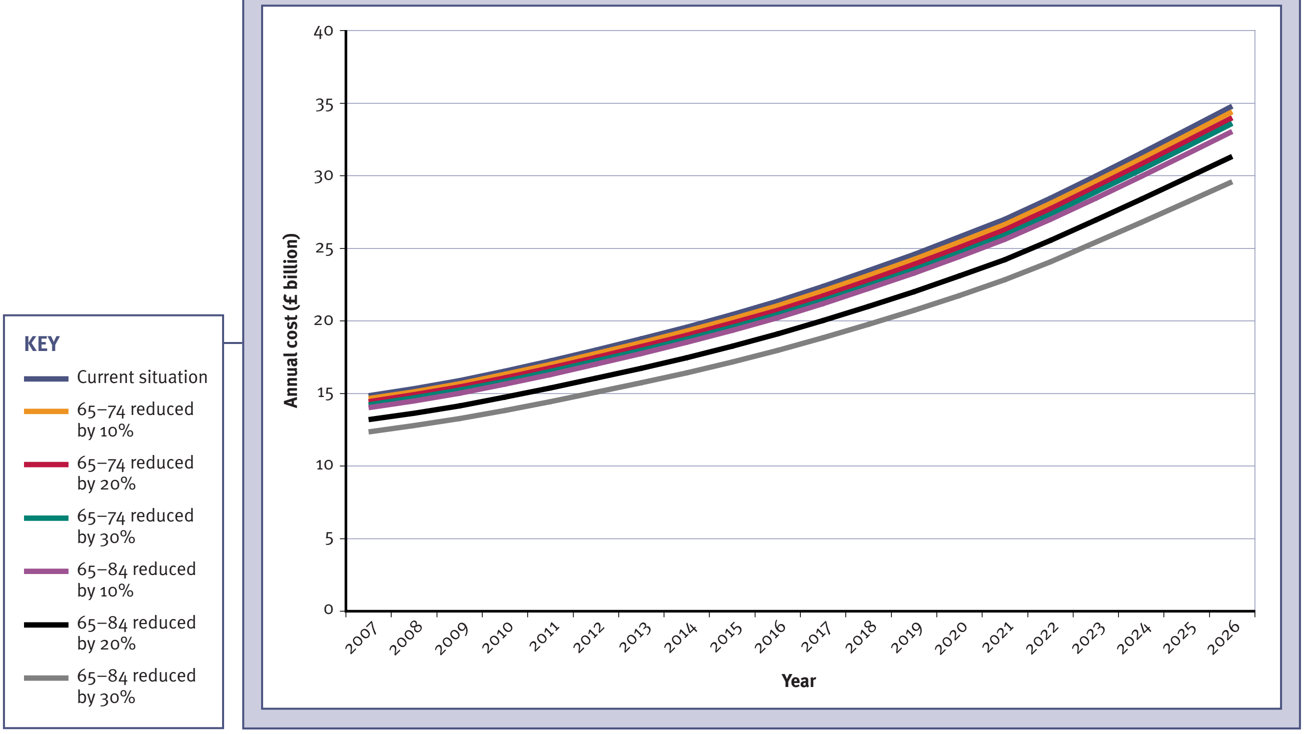
Projected costs

We have assumed that these service costs increase by 2 per cent ahead of inflation each year. The total cost of dementia care in England in 2007 is estimated to be £14.8 billion. This is projected to rise to £34.8 billion by 2026 (*see* Figure 110, opposite). This increase of 135 per cent is due to the ageing of the population plus the increase in the real costs of care. If the latter is excluded the projected costs for 2026 are £23.9 billion.

Scenario modelling

We have not modelled specific interventions for the treatment of dementia, again due to lack of robust data. However, given that disease-modifying drugs are available and that much research is being undertaken in this area we have examined the impact of reducing the prevalence rates for dementia for those aged 65–74 and 65–84. Figure 111, below, shows that compared to the current situation, costs can be reduced by around £2.4 billion

111 IMPACT ON SERVICE COSTS OF REDUCING PREVALENCE OF DEMENTIA AMONG 65–74 AND 65–84-YEAR-OLDS



if the prevalence among 65–84-year-olds was reduced by 30 per cent. Clearly this is hypothetical, although drug treatments are continually being developed for dementia, with the aim of slowing the progression of these conditions. Even with a more modest reduction of 10 per cent for this age group the costs would be reduced by £0.8 billion. Clearly, the savings associated with reducing the prevalence among 65–74 years olds are much less.

12

Conclusions, discussion and recommendations

Introduction

This review has:

- made estimates of the number of people with specific mental health problems in England
- estimated the costs associated with these conditions
- assessed the impact that specific interventions may have on cost.

This chapter summarises the findings, draws out their implications and makes a number of recommendations.

Limitations

Although we regard the data in this report as representing reasonable estimates of the costs of mental health disorders there are naturally a number of limitations.

We consider that perhaps the main limitation is that of the availability of data. We obtained data on prevalence from a mixture of national surveys and published literature. While we have confidence in the robustness of these data, we were not able to obtain good estimates of how prevalence rates may change over time. However, the two Psychiatric Morbidity Surveys of 1993 and 2000 show little change in prevalence rates and epidemiologists we consulted generally do not feel that rates are changing.

Data on service use and costs were also limited. We have attempted to take a comprehensive approach to costing but the data did not allows this as we would have liked. One area where the costs are underestimated is for forensic mental health care. For example, the cost data for schizophrenia were obtained from community studies and while inpatient data were from the Hospital Episode Statistics these will not capture stays in private sector secure units.

Finally, there were limitations with the intervention modelling. We confined ourselves to those for which there was reasonable data on effectiveness, but other interventions such as employment schemes, court diversion programmes and anti-stigma initiatives could potentially also have a noticeable economic impact.

Conclusions

This report has estimated that there are currently 8.65 million people with the mental health problems analysed (*see* Table 14, overleaf). This number is projected to increase by 14 per cent by 2026. Figure 112 (*see* p 119) shows the distribution of service costs by agency. Clearly much of the cost falls on informal carers and social care agencies.

TABLE 14: NUMBER OF PEOPLE WITH SPECIFIC DISORDERS AND CURRENT AND PROJECTED COSTS

Disorder	**Number of people (million)**		**Service costs (£ billion)**			**Lost earnings (£ billion)**			**Total costs (£ billion)**		
	2007	**2026**	**2007**	**2026 (2007 prices)**	**2026 including real pay and price effect[c]**	**2007**	**2026 (2007 prices)**	**2026 including real pay and price effect[c]**	**2007**	**2026 (2007 prices)**	**2026 including real pay and price effect[c]**
Depression	1.24	1.45	1.68	2.03	2.96	5.82	6.31	9.19	7.50	8.34	12.15
Anxiety disorders	2.28	2.56	1.24	1.40	2.04	7.7	8.34	12.15	8.94	9.74	14.19
Schizophrenic disorders	0.21	0.244	2.23	2.52	3.67	1.78	1.94	2.83	4.01	4.46	6.5
Bipolar disorder/ related conditions	1.14	1.23	1.64	1.8	2.63	3.57	3.83	5.58	5.21	5.63	8.21
Eating disorders	0.117	0.122	0.016	0.016	0.024	0.035	0.036	0.052	0.051	0.052	0.076
Personality disorder[a]	2.47	2.64	0.7	0.78	1.13	7.2	7.65	11.16	7.9	8.43	12.29
Child/adolescent disorders[b]	0.61	0.69	0.14	0.16	0.24	0	0	0	0.14	0.16	0.24
Dementia[b]	0.58	0.94	14.85	23.88	34.79	0	0	0	14.85	23.88	34.79
Total	8.65	9.88	22.5	32.59	47.48	26.1	28.1	40.97	48.6	60.69	88.45

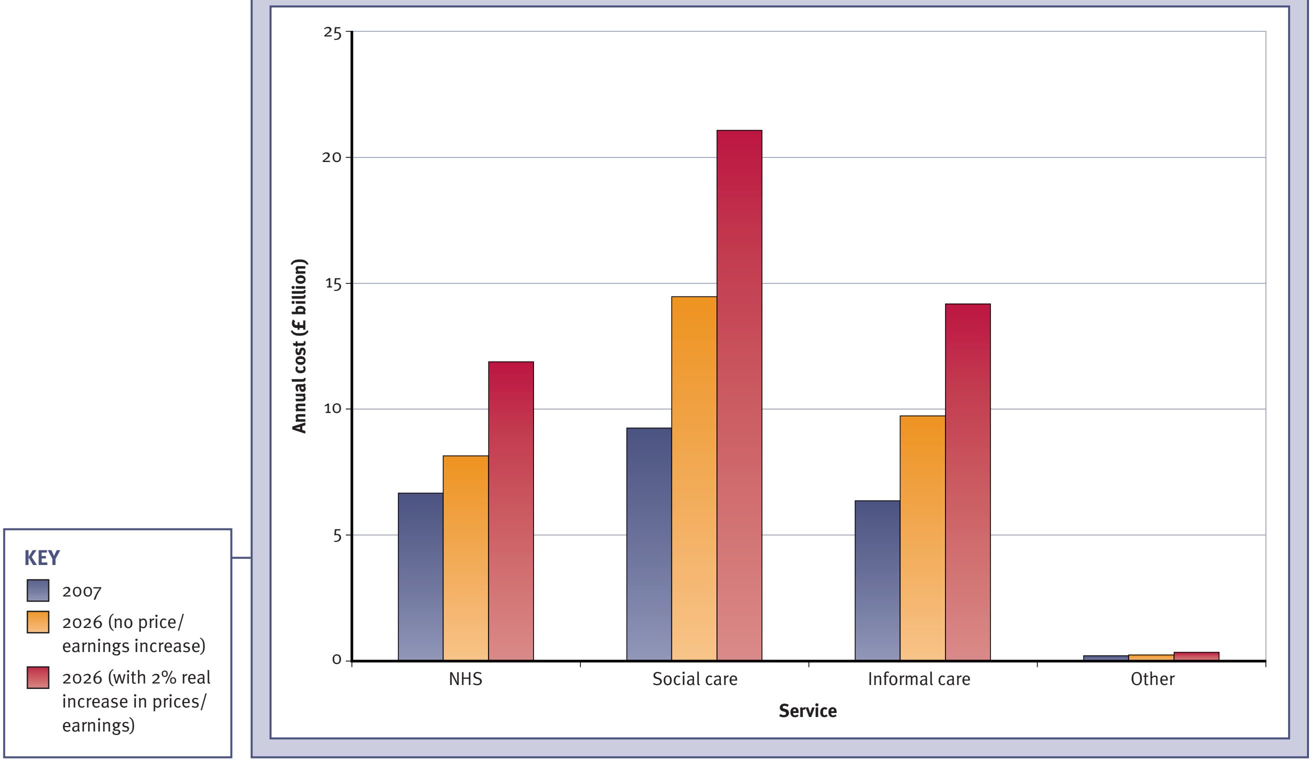
Notes: [a] The costs for personality disorders related to 64.6 per cent of people with the condition (*see* Chapter 9). [b] The total costs are the same as the service costs as we have assumed that there is no lost employment for people with these conditions. [c] It has been assumed that real pay and prices increase by two percentage points above the GDP deflator.

However, this is largely due to the impact of dementia – the NHS costs dominate the overall costs of care for other disorders. The costs to the NHS and social services (£16 billion) are slightly more than the £12.5 billion estimated by the Sainsbury Centre for Mental Health for 2002/3, while the lost employment costs shown in Table 14, above, (£26 billion) are very similar to the £23 billion reported in that report (Sainsbury Centre for Mental Health 2003b).

Mental health problems in England result in substantial costs in terms of service requirements, informal care and lost employment. This report concludes that they will continue to do so. The prevalence of specific mental disorders are likely to remain broadly stable over the next 20 years, but the costs are projected to increase substantially. Two main factors lie behind this increase – first, an estimated 300,000 increase in the number of people with dementia (accounting for 36 per cent of the increase in costs) and second the assumption of a real pay and price increase of 2 per cent per annum (accounting for 64 per cent).

The cost of lost employment is currently more than the cost of providing health and social care services. Although by 2026 it will have fallen proportionately to less than the costs of providing services (the increase in the number of people with dementia having little or no impact on lost employment) it will remain a significant drain on resources at some £28 billion (at 2007 prices).

112 ANNUAL SERVICE COSTS OF MENTAL ILL HEALTH BY SECTOR



The current service cost (£22.5 billion) is equivalent to 1.7 per cent of the Gross Domestic Product (GDP). The projected cost for 2026 including real changes in prices (£47.5 billion) is equivalent to 3.5 per cent of GDP. If we consider total costs (that is including lost employment), currently the costs of these mental health problems (£48.6 billion) are equal to 3.6 per cent of GDP, rising to 6.6 per cent (£88.5 billion) by 2026 with real changes in prices and earnings included. We need to be somewhat cautious with these figures as the costs of mental health care include unpaid informal care which is not typically included in GDP. (In our total cost estimates we included lost earnings which also are not part of GDP calculations.)

Summary of results from scenarios modelling

We have assessed the impact that a number of interventions might potentially have on service costs. For depression and anxiety disorders (Chapters 4 and 5), increasing the number of people who are currently in treatment and who receive evidence-based intervention (many people with mental disorders are either not in contact with services or are in contact but are not receiving any treatment) would increase service costs but could result in overall savings if effective treatment results in increased employment. This appears to be particularly the case if medication is prescribed to more of those who could benefit. Psychological therapies such as cognitive behavioural therapy (CBT) seem to produce similar gains compared to medication but are far more expensive and it is therefore much more difficult for these extra service costs to be offset by increased employment, the key issue here being the rate of increase in the real earnings from employment. A 2 per cent increase (our basic assumption) would see long-term net savings; a 1 per cent increase would see initial savings but these would be lost by around 2020. However, therapy is often preferred to medication by patients and cheaper, though still effective, modes of delivery such as computer-based psychological interventions might result in greater savings.

With regard to schizophrenia and bipolar disorder and related conditions (Chapters 6 and 7) savings could also be realised by expanding the use of crisis intervention and early intervention services. For both of these there is reasonable evidence of reduced inpatient stays, particularly in the short term. We also examined the use of early detection services for psychosis. This is one of the few ways in which the prevalence of mental illness might actually be reduced. If this happens we have shown that cost savings will occur.

We also modelled the impact of reducing the rate of dementia (Chapter 11) in those aged 65–74 and 65–84. This could result in substantial cost savings (up to £5.2 billion by 2026).

We did not model the impact of specific interventions for eating disorders, personality disorders and disorders affecting children/adolescents. This was primarily due to the lack

TABLE 15: POTENTIAL ANNUAL SAVINGS FROM INTERVENTIONS TO TREAT DEPRESSION, ANXIETY DISORDERS, SCHIZOPHRENIA, BIPOLAR DISORDER AND DEMENTIA

Condition and interventions	2007	2026
Depression		
Medication for those currently untreated	£5–36 million	£8–61 million
Medication plus psychological therapy for those currently untreated	£1–9 million	£2–16 million
Anxiety disorders		
Medication for those currently untreated	£8–66 million	£13–102 million
Medication plus psychological therapy for those currently untreated	£1–7 million	£2–11 million
Schizophrenia		
Expansion of crisis intervention teams	£4–22 million	£7–37 million
Expansion of early intervention services	£0 million	£13–65 million
Introduction of early detection services	£0 million	Up to £19 million
Bipolar disorder		
Expansion of crisis intervention teams	£2–10 million	£3–16 million
Expansion of early intervention services	£0 million	£8–31 million
Introduction of early detection services	£0 million	Up to £4 million
Dementia		
Reduction in prevalence among those aged 65–74	£0.2–0.6 billion	£0.4–1.2 billion
Reduction in prevalence among those aged 65–84	£0.8–2.4 billion	£1.7–5.2 billion

The range of potential savings depends on how many more patients are treated and how quickly new services come online of robust data. However, we did show that there were potential cost increases in increasing the proportion of people with eating disorders who were in contact with services. One might assume that this would be offset by productivity gains, but we have not modelled this.

A summary of the potential cost savings from the various interventions we have modelled is shown in Table 15 opposite.

Discussion

Certain evidence-based interventions, such as increasing the number of people who take medication, crisis resolution teams and early intervention in psychosis, can reduce costs in the medium to long term and are worth pursuing for their clinical, social and economic benefits. However, only a reduction in incidence of mental disorders – leading over time to reduced prevalence – would have a significant impact on the future costs of mental health problems. This poses a considerable challenge to both the government and local service providers.

It became apparent that while all the interventions examined had the potential to reduce costs, in no cases would this account for a substantial amount of the overall total cost – an increase from £48.6 billion in 2007 to £88.45 billion in 2026 (including real pay and price increase of 2 per cent above the GDP deflator), about half of which will be due to an increase in the number of people with dementia. However, significant sums could still be released as a result of interventions, to reduce the prevalence rate of dementia and in schizophrenia and bipolar disorder and related conditions, for investment elsewhere in the system.

The cost of lost employment

Of the estimated £88.45 billion total cost of mental health in 2026, nearly half (£40.97 billion) is a result of lost earnings. Reducing this figure will require major efforts on behalf of service providers, employment agencies and employers. The government's announcement in October 2007 of substantial funding to increase access to psychological therapies is a step in the right direction but whether or not it leads to net savings through reducing the cost of lost employment depends on the rate at which real earnings increase over the next 20 years. We know, though, that employment (including voluntary work, part-time work and paid work) can bring great benefits to individuals experiencing mental health problems in terms of self-esteem, personal income and quality of life, and these are strong reasons for improving training and employment support over and above any anticipated cost benefits.

Who benefits?

There is the question of which organisations benefit from efforts to treat and support people with mental disorders. The cost of psychological therapies, for example, falls to the NHS through primary care trust (PCT) commissioning of such services. The benefits, however, may be largely felt by the Treasury and the Department for Work and Pensions in terms of reductions in lost employment costs, fewer benefits payments and increased tax revenue. The NHS may invest significant resources in reducing the prevalence of dementia in older populations, with local authorities taking the bulk of the benefit in reduced pressure on residential and social care support services. The NHS may also commit resources to assertive outreach and crisis resolution services which could lead to savings within police forces and the criminal justice system. This suggests that there needs to be a discussion among all stakeholders (health and social care services, schools, local authorities, housing agencies, criminal justice services and so on) about how each might contribute towards cost-effective interventions for people with mental disorders, bearing in mind the financial benefits that can accrue to a range of organisations as a result of such interventions.

Reducing the prevalence rate

The prevalence rates of the disorders discussed in this report have been broadly stable in recent years and are estimated to remain broadly stable for the next 20 years. One way of looking at this is to be positive about the expectation that the prevalence of mental disorders will not rise (although absolute numbers of people with disorders will rise due to an increasing, and increasingly ageing, population).

Nevertheless, it is clear that efforts should be focused on how to reduce the prevalence rate, not only in terms of improving the overall mental health of people in England, but in terms of making some significant reduction to the enormous future costs of mental health care that this report sets out. Our review does suggest considerable savings in the costs of dementia care, for example, if prevalence rates could be cut.

In this respect, there are two developments which might, theoretically, produce the desired results. The first would need to involve a medical breakthrough in terms of the treatment (and even 'cure') of some, or all, of the disorders, leading to prevalence rates dropping. However, past experience suggests that the continuing progress made in terms of better, more effective treatments, with fewer side-effects, has had little or no impact on overall prevalence rates. Perhaps the area with most potential is that of dementia, where the development of new drugs that slow the progress of dementia and allow people to remain living independently with minimal informal or formal support, could have a substantial impact on costs.

The second development which might impact on prevalence rates would be the establishment of effective mental health promotion and prevention strategies and practice. This would also accord with the Prime Minister's call for a 'new drive for a more preventive health service' and an NHS 'focused on prevention as much as cure' (Brown 2008).

The World Health Organization has pointed out the health, social and economic benefits of primary prevention and mental health promotion, stating that 'In view of the high and increasing burden of mental and behavioural disorders and the recognised limitations in their treatment, the only sustainable method for reducing their burden is prevention' (Saxena *et al* 2006). A sustained increase in effective mental health promotion and prevention initiatives – both for those who have not experienced a mental disorder as well as those who have – might lead, in time, to a reduction in both incidence and prevalence of mental disorders.

We noted the point made by those we interviewed in our consultation exercise (*see*

Appendix 1, pp 127–128) that much of mental health care – and therefore money – is concerned with addressing problems once they have occurred rather than preventing their occurrence in the first place and tackling the stigma that surrounds mental illness and acts as a barrier to recovery. There was a strong feeling that a more preventive approach, focusing particularly on social inclusion and children's emotional well-being, linked to early detection and intervention services, should be adopted as a way of minimising the development of mental disorders. However, as noted in the introduction, very little NHS money is currently devoted to mental health promotion (around one-tenth of one per cent of NHS mental health spend for adults of working age). Initiatives to improve people's emotional well-being have been made outside the NHS, such as the establishment of the emotional health and well-being strand of the Personal, Social and Health Education (PSHE) schools initiative (Department for Education and Employment 2000).

Some evidence for the cost-effectiveness of mental health promotion and prevention does exist. A study looking at the economic case for mental health promotion, commissioned by the Northern Ireland Association for Mental Health (Friedli and Parsonage 2007), states that 'the scale of the economic benefits of preventing mental illness is considerable' and suggests that preventing conduct disorders in children who are most disturbed would save £150,000 per case in lifetime costs and that promoting positive mental health in children with moderate mental health would produce a lifetime benefit of around £75,000 per case. The report concludes that investment in support for parents is the 'best buy' in promoting mental health.

A NICE evidence briefing (National Institute for Health and Clinical Excellence 2007b) looked at review-level evidence of effective ways to promote positive mental health and prevent mental disorders, and aimed to identify cost-effectiveness data for non-pharmacological interventions. Although it did not cover children and young people, it found some evidence for the cost-effectiveness of family interventions in cases of schizophrenia, compared to standard care. However, overall the briefing found significant gaps in the evidence base and little review-level evidence of the cost-effectiveness of mental health promotion interventions. It recommended further work to provide information on the impact and cost-effectiveness of mental health promotion interventions where evidence does not exist, and particularly interventions in primary care (targeting people who are not receiving medication), interventions in the workplace and interventions that aim to reduce social inequalities for individuals and communities (given the strong links between social deprivation and mental disorder).

Despite widespread acceptance that mental health promotion and prevention work should lead to medium- to long-term savings in terms of reduced service costs, the lack of a substantial body of published research on the cost-effectiveness of such work means that it has not been possible in this report to estimate the impact on future costs that such interventions might have.

Supervised Community Treatment

The Department of Health has estimated that savings may occur through the introduction of Supervised Community Treatment for some patients with serious and chronic mental disorders via the Mental Health Act 2007 (Department of Health 2007b). By the time a 'steady state' is reached in 2014/15, the potential annual savings to the NHS in England through released bed days has been calculated at £45 million, although this would be offset by some £20 million of extra costs to the NHS and local authorities, making a potential annual net saving of £25 million. However, it is not known whether mental health trusts will in fact re-use the released bed days for other mental health patients or for other services, and accordingly we have not assumed such savings will in fact occur, and have not built them into our calculations.

Recommendations

On the basis of the findings in this study on the future costs of mental health we make the following recommendations.

- Future governments should ensure that funding for health and social care services for people with mental disorders is commensurate with expected future increases in mental health costs, including the real pay and price effect.

- Mental health and training and employment agencies should sustain and expand present efforts to support people with mental health needs of working age who are not in employment to return to work, including the use of evidence-based vocational support services. The Department of Health and Department for Work and Pensions should establish programmes designed to involve employers' understanding of mental health and the mental health of their workforce and to generate greater employment opportunities for people with mental health problems.

- Primary care trusts should commission more evidence-based interventions in primary care settings for people with depression and anxiety disorders, and providers should aim to treat more people who have these disorders but currently do not receive treatment. The reduction in lost employment costs should outweigh the cost of increased service provision. Psychological therapies are evidence-based and popular, and access to such services should be extended. However, depending on their success rate and the growth in real earnings among people who return to work as a result, they may be a costly option. As such, more focus should be placed on the most cost-effective ways of delivering such care (for example, through computer-delivered cognitive behavioural therapy).

- For people with schizophrenic and bipolar and related conditions, primary care trusts should maintain and expand the commissioning of crisis services in the community as these have been shown to provide good support while reducing expensive inpatient care.

- Early intervention services for psychosis have also demonstrated their effectiveness in helping to reduce costs and demands on mental health services in the medium to long term, and should be extended to provide care for people as soon as their illness emerges. Early detection services evaluated in research studies appear able to reduce the incidence of psychosis and these should be explored further in routine settings.

- Given the major cost impact of dementia, which underlies much of the estimated increase in mental health costs by 2026, health professionals, and in particular GPs, should make it a priority to establish better systems of early detection and treatment of dementia, and pharmaceutical companies should maintain their efforts to develop cost-effective treatments that will help people remain independent for as long as possible.

- Health research funding bodies should commission research to establish better data on the cost-effectiveness of :
  - interventions for eating disorders and personality disorders
  - interventions in primary care settings for people with depression and anxiety disorders
  - interventions designed to delay the onset of dementia, allowing people to live independently for as long as possible.

- Echoing the NICE recommendation for further work to provide information on the impact and cost-effectiveness of mental health promotion interventions where evidence does not exist, health research funding bodies should also commission research to establish better data on the cost-effectiveness of mental health promotion and prevention initiatives in reducing the future incidence and prevalence of mental health problems, and on their impact on costs. In particular, the programme should prioritise research into:
  - interventions with children and young adults, given that many mental disorders experienced later in life result from problems in childhood
  - interventions in the workplace aimed at reducing mental health problems among employees.

- The Department of Health should, every three years, publish good-quality data on the incidence and prevalence of mental disorders and on services used by those with these conditions. While some data are available routinely, these are limited and access to information from some sources, for example the Mental Health Minimum Dataset, is not always straightforward.

Appendix 1
Feedback from consultation

A number of individuals were consulted regarding this report. These were:

Paul Corry	Rethink
Vanessa Pinfold	Rethink
Angela Greatley	Sainsbury Centre for Mental Health
Mike Parsonage	Sainsbury Centre for Mental Health
Bob Grove	Sainsbury Centre for Mental Health
Jed Boardman	Sainsbury Centre for Mental Health
David Shiers	NIMHE
Jo Smith	NIHME
Gary Hogman	SHIFT
Robin Murray	Institute of Psychiatry
Judy Weleminsky	Mental Health Providers Forum

In addition we sent a short questionnaire by email to a number of people and received 12 responses.

Some of the key issues that emerged through this consultation process were as follows.

- There was seen to be a need to provide alternatives to inpatient care, with other services becoming the core component of mental health care.
- The importance of involving voluntary organisations in developing and providing services was emphasised.
- There was a recognition that mild to moderate mental health problems were a key unmet need, especially in London (and by implication other inner city areas).
- Placing increased emphasis on cannabis reduction was seen as a way of reducing the incidence of schizophrenia.
- It was felt that mental health promotion and prevention of illnesses still lack adequate support and that anti-discriminatory programmes should be in place to tackle issues of stigma and being disadvantaged because of the condition. It was felt that a national mental health promotion strategy was needed which could dovetail with anti-stigma programmes. It was noted that there have been some positive developments in the way media now projects those affected with mental disorders, but still a lot of prejudices remain and need to be tackled. Mental health promotion should also take place in schools. It soon became apparent in conducting this review that much of mental health care is concerned with addressing problems once they have occurred rather than preventing their occurrence in the first place.

- Tying into the above, a few respondents touched on the importance of developing a strong social capital which is about building healthy relationships in the community, finding employment and a general satisfaction with one's overall condition. Social inclusion is a form of 'bridge building' which, although it might have initial costs, future benefits could be expected to far outweigh. Having 'community mentors' in place was seen as one way of achieving this. There are other broader social determinants of health and it was felt that interventions should be undertaken to minimise the impact of social deprivation on mental health as it is normally the poor who are most affected and have difficulty in accessing appropriate care. Mental toxicity associated with social environments and modern urban life needed to be further explored and understood.

- Care provided to children and young people was felt to be neglected and investment in this area should be increased.

- Linked to the above point was the view of a number of respondents that early intervention and early detection services were required and should be expanded. Early intervention services should also be targeted at offenders as this is where a gap between service providers often exists.

- Some respondents said that the guidelines and recommendations of the National Institute for Health and Clinical Excellence (NICE) and the National Service Framework were not universally implemented and that a lot more needed to be done. There was a need to have 'joined up' mental health care. Established guidelines and pathways to care were also not being followed because of financial resources. Not everyone could access services such as psychological therapies and early intervention services. Services for specific conditions like personality disorders, adult attention deficit hyperactivity disorder and Asperger's syndrome were also limited.

- Some felt that greater emphasis should be placed on models of recovery.

- Vocational rehabilitation schemes were felt to be important.

The original objective was to use the feedback from this process to develop models that could be assessed. However, the data requirements for this would have been substantial and we have focused on interventions for which there is either a good evidence base or for which there exists official guidance. However, evidence is emerging on many of the above areas that have not been included in the analysis and future work should take this forward.

Appendix 2
Treatment recommendations

Depression

Although depression can be a long-term disabling condition, a large proportion of people will recover without any intervention. However many people will require treatment and, even for those who would otherwise recover with time, appropriate treatment may accelerate this process. Official guidance from NICE has recently been published for the treatment of depression in England (National Institute for Health and Clinical Excellence 2007c). Guidance is based on a stepped care approach:

- screening for depression in primary care and general hospital settings
- primary care treatment for mild depression
- primary care treatment for moderate/severe depression
- specialist mental health care for treatment resistant, recurrent, atypical and psychotic depression, and people who are considered to be at high risk
- depression needing inpatient care.

For mild depression, ‘watchful waiting’ is recommended if clinicians feel that recovery may happen naturally. If an active intervention is considered to be appropriate then this should take the form of guided self-help. For mild to moderate depression NICE recommends psychological interventions including problem-solving therapy, cognitive behavioural therapy and counselling. Where drug treatment is used the guidance suggests that it should initially be in the form of a selective serotonin re-uptake inhibitor (SSRI). Other forms of medication include the (older) tricyclic anti-depressants and monoamine oxidase inhibitors, plus more recent drugs including venlafaxine, reboxetine and mirtazapine (Spigset and Mårtensson 1999).

Anxiety disorders

NICE has issued guidelines on treating panic disorder and generalised anxiety disorder (National Institute for Health and Clinical Excellence 2007c) and obsessive compulsive disorder (National Institute for Health and Clinical Excellence 2005a). The main recommendations regarding treatment for panic disorder are:

- pharmacotherapy using an SSRI
- psychological therapy using cognitive behavioural therapy (CBT)
- self-help
- specialist help from psychiatric services.

The same options apply to generalised anxiety disorder with the addition of treatment using benzodiazepines for up to four weeks. Similarly for obsessive compulsive disorder NICE recommends treatment with CBT (group, individual or self-help) or in some cases SSRIs.

Schizophrenic disorders

NICE guidelines for treatment are laid out in four phases: general points, initiation of treatment at the first episode, acute phase, and promotion of recovery (National Institute for Clinical Excellence 2002). The guidelines call for a comprehensive assessment addressing medical, social, psychological, occupational, economic, physical and cultural issues. It is emphasised that family and friends should be included in the process and that a supportive and empathic relationship with service users and carers should be established.

NICE recommends initial treatment through early intervention services. This involves identifying schizophrenia quickly and providing appropriate care with a minimal delay. Early intervention services should include a correct mix of specialist pharmacological, psychological, social, occupational and educational interventions at the earliest opportunity. Where services are not able to cope with the demand, the individual should be referred to crisis resolution and home treatment teams, acute day hospitals or inpatient services. When showing acute symptoms, individuals should be started on an atypical anti-psychotic drug as soon as possible. Atypical anti-psychotic medication such as amisulpride, olanzapine, quetiapine, risperidone and zotepine is to be considered in the choice of first line treatments for individuals with newly diagnosed schizophrenia. Pharmacotherapy with an atypical anti-psychotic drug at a dosage at the lower end of the standard range is the preferred treatment for a person experiencing a first episode of schizophrenia.

During acute episodes use should be made of crisis resolution teams, which have as an objective home treatment management of crises as a way of reducing the need for inpatient care. Crisis teams are also helpful for indicating when patients might be discharged from hospital early. Early intervention teams, community mental health teams and day care services are also crucial components of community care services.

With regard to psychological treatments NICE recommends that CBT should be available as an option for those who prefer it and are likely to benefit. In addition, family interventions should be available for the families of those affected. CBT should be undertaken for at least six months and include more than 10 planned sessions. Family interventions and therapy should also be of at least six months duration and include 10 planned sessions.

People with a tendency to be lost from ordinary services should be monitored by assertive outreach teams (assertive community treatment). Assertive outreach teams should be provided for people with higher levels of morbidity and with high levels of inpatient care due to frequent relapses and with a history of poor service engagement, and those who are homeless.

Bipolar disorder and related conditions

NICE has made a number of recommendations regarding the treatment of bipolar disorder (National Institute for Health and Clinical Excellence 2006). There is specific guidance on pharmacological therapy, including:

- lithium, olanzapine or valproate should be considered for long-term treatment
- valproate is contra-indicated in women of child bearing age
- if patient has functional impairment then either switch the mono-therapy or add another prophylactic agent.

- in the case of non response to the above the patient should be referred to a specialist and/or prescribed lamotrigine or carbmazepine.

NICE also recommends regular monitoring of physical health, with an annual health review. It is recognised that it is crucial to establish and maintain collaborative relationships with patients and their families and carers. Regarding the identification of bipolar disorder, it is recommended that new or suspected cases of bipolar disorder in primary care should always be referred to specialist services. When a patient is solely managed in primary care, a review should be done by secondary care services or the number of contacts in primary care should be increased. Bipolar patients should see the same health professionals throughout the duration of their treatment for better long-term outcomes.

It is recommended that referrals to community mental health teams should take place for those who:
- have problems engaging with and keeping in contact with services
- experience frequent relapses and/or functional impairment
- are at risk of suicide or self-harm or risk to others
- have problems with medication adherence.

As with care for people with schizophrenia, specialist teams (crisis resolution, assertive outreach and early intervention) should be available for people with bipolar disorder.

The above recommendations relate to bipolar disorder. NICE has not issued guidance regarding the treatment and management of mania and hypomania. Elsewhere (Paykel and Scott 2000) it has been suggested that lithium or valproate should be used as first line treatments. For severe cases electroconvulsive therapy may occasionally be an option. While psychological therapies would probably be seen as appropriate, the evidence base for them in this area is still limited.

Eating disorders

Studies have shown that there is a reluctance amongst people with anorexia nervosa and bulimia nervosa to seek help and therefore a key aspect of service development would be to increase access to and uptake of services. NICE has published guidance and recommendations regarding the treatment of anorexia nervosa and bulimia nervosa (National Institute for Clinical Excellence 2004b).

Treatment for anorexia nervosa

Anorexia nervosa is currently mostly managed in primary care. This should be supplemented with outpatient care and psychological therapy (normally over the course of about six months). Family interventions that directly address the problem should be offered. Patients who are not in contact with secondary care services should be given an annual physical and mental health review. Some patients require inpatient care and NICE recommends that units should normally have facilities for skilled implementation of re-feeding with careful physical monitoring in combination with psychosocial interventions.

The goals of psychological interventions are to reduce risk, encourage weight gain, encourage healthy eating, reduce other symptoms related to an eating disorder, and facilitate psychological and physical recovery. Normally recommended therapies include:

- cognitive analytic therapy (CAT)
- cognitive behavioural therapy (CBT)
- interpersonal psychotherapy (IPT)
- focal psychodynamic therapy
- family interventions
- psychological treatment not otherwise specified (psychotherapy NOS).

Drugs are often used to treat the depressive symptoms in anorexia nervosa and the three main classes of drugs that are considered include anti-depressants, anti-histamines and anti-psychotics. However pharmacological treatment should not be the mainstay of treatment and there should be regular monitoring of any side-effects or complications.

Treatment for bulimia nervosa

NICE recommends that an evidence-based self-help programme should be used for bulimia nervosa and if necessary anti-depressant drugs may be prescribed. Cognitive behavioural therapy for bulimia nervosa (CBT-bulimia nervosa), a specifically adapted form of CBT, should be offered to adults with bulimia nervosa in 16 to 20 sessions over four to five months. If the patient is not responding to therapy, then it should be stopped and the patient switched to interpersonal psychotherapy which should be continued over a period of 8 to 12 months.

Personality disorder

NICE guidelines for personality disorder are, at the time of writing, under development. Therefore, recommendations based on a previous review of treatments for severe personality disorder by the Home Office are summarised here. Guiding principles regarding services are that they should:

- be well structured
- achieve adherence
- have a clear focus
- be theoretically coherent to both therapist and patient
- be relatively long term
- be well integrated with other services available to the patient.

The review indicates that service provision for personality disorder should focus on the development of specialist multi-disciplinary personality disorder teams to target those with significant distress or difficulty who present with complex problems. In addition it is recommended that there be development of specialist day patient services in areas with high concentrations of morbidity. Specific recommended interventions include:

- intensive residential treatment
- psychodynamic psychotherapy, cognitive behavioural therapy (CBT), dialectical behaviour therapy (DBT), cognitive analytic therapy (CAT)
- psychodynamic day hospital based programmes with highly structured therapeutic programmes which have some promising evidence of effectiveness to treat relatively poorly functioning self-harming borderline patients
- other ‘composite’ treatments such as the psychoanalytically-oriented partial hospitalisation programmes should be considered for adaptation to higher levels of security.

Disorders affecting children and adolescents

NICE has issued guidance on the treatment of depression in children/adolescents (National Institute for Health and Clinical Excellence 2005b). When treatment is required the first option should be psychological therapy. For moderate to severe depression pharmacotherapy can be used but only in combination with psychological therapy and only with strict monitoring for adverse effects. Guidelines are not available for conduct disorder but one is in development for attention deficit hyperactivity disorder.

Dementia

There is no cure for dementia. However drug treatments do have the potential to slow progression of Alzheimer's disease but donepezil, galantamine and rivastigmine are only recommended by NICE for those with moderate severity rather than those in the early stages of the disease. Most care for dementia takes the form of social care, residential care and informal care from family members.

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