# General mental and physical health

4

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## Summary

- This chapter explores two interrelated topics using data from the Health Survey for England (HSE) 2012: self-reported mental health, as assessed by the General Health Questionnaire (GHQ-12), and self-reported health state, as assessed using the EQ-5D questionnaire.
- Women were more likely than men to report a GHQ-12 score of 4 or more, indicative of probable mental ill health (18% of women, 12% of men).
- Prevalence was lowest among men aged 16-34, at 9%, and dipped to a similar level among those aged 65-84; among other age groups, 13% to 15% had a high score. Among women, prevalence also dipped among those aged 65-84.
- The prevalence of probable mental ill health was greatest among men and women in the lowest quintile of equivalised household income, with 24% of men and 27% of women reporting a GHQ-12 score of 4 or more, compared with 7% of men and 16% of women in the highest income quintile.
- There was a strong relationship between mental health, as measured by the GHQ-12, and self-reported general health. While 4% of men and 7% of women who reported their general health as 'very good' had a high GHQ-12 score, this rose to 61% of men and 75% of women who reported their general health as 'very bad'.
- Similarly, 34% of men and 42% of women with a longstanding illness had a high GHQ-12 score; by contrast, just 7% of men and 11% of women with no longstanding illness reported probable mental ill health.
- There were no significant changes in prevalence of a high GHQ-12 score between 1995 and 2012.
- Across the five EQ-5D dimensions, problems were most commonly reported for pain or discomfort (28% of men, 34% of women), and anxiety or depression (16% of men, 23% of women).
- Problems were more prevalent among women than men across all domains except for self-care, for which the prevalence of reported problems was lowest for both sexes (4% of men, 5% of women). Older people reported more problems on all dimensions; the effect of age was strongest for mobility and weakest for anxiety/depression.
- Significantly more men than women reported the absence of health problems (EQ-5D health state 11111), 63% of men and 55% of women overall.
- The proportion of participants who reported no health problems decreased from 72% of men and 62% of women in the highest income quintile to 48% of men and 46% of women in the lowest quintile.
- The EQ-5D Visual Analogue Scale (VAS) measures self-assessed health state on a scale of 0-100. Men had a median value of 82 and women a median of 80. Values fell as age increased for men and women, from a VAS value of 85 for men and women aged 16-24, to 70 for men and 60 for women aged 85 and over.
- Regression models were fitted to look at the factors associated with a high GHQ-12

score, and with being in the bottom quartile of EQ-5D VAS scores. Both measures of poor health were strongly related to the presence of limiting longstanding illness and physical inactivity; a high GHQ-12 score was also strongly associated with bad or very bad self-reported general health.

## 4.1 Introduction

Good mental health has been identified as an important factor behind improving life expectancy, quality of life and recovery from episodes of ill health.[1] Individuals who exhibit severe mental illness are significantly more likely to have worse physical health than those without, and bodies such as the Royal College of Psychiatrists have highlighted benefit to public health of achieving greater parity in the funding and implementation of mental and physical health services;[1] to date, the former has been subject to notable underinvestment.[2]

Following the publication of the *National Service Framework for Mental Health*[3] in 1999, improvements to mental wellbeing and the provision of quality mental health services have become formally mandated as major government priorities. That framework has since been updated and superseded by *New Horizons: A Shared Vision for Mental Health*[4] in 2009, and *No Health Without Mental Health*[5] in 2011, reaffirming across successive governments the importance of mental health to achieving a good quality of life.

As with those that preceded it, the government's most recent mental health strategy highlights the complex interrelationship that exists between mental ill health and wider social and economic problems, such as poor education, unemployment, homelessness, domestic abuse and drug misuse. Through continued collaboration with key stakeholders, including voluntary agencies and local communities, the government has restated its commitments to tackling the determinants of poor mental health and providing better support for those who experience it.

Such an undertaking is of utmost importance, with mental ill health continuing to present a pervasive public health problem. Of all non-communicable conditions in Europe, neuropsychiatric conditions were estimated by the World Health Organisation (WHO) to account for around 25% of all disability-adjusted life years in 2008, compared with the 15% attributed to known cancers.[6]

In England, the 2007 Adult Psychiatric Morbidity Survey (APMS) found that close to one fifth of adults aged 16-64 years met the criteria for at least one common mental disorder under study, from panic disorders and alcohol dependence to post-traumatic stress and eating disorders.[7] Notably, the reference period for such conditions ranged from one week to one year prior to interview, suggesting that the rate of lifetime mental ill health is likely to be even higher than these estimates indicate.

In addition, the total prevalence of common mental disorders measured by the APMS has increased marginally over time, from 15.5% of adults aged 16-64 in 1993, to 17.6% in 2007.[7] While it is possible that this rise is partly a product of a decline in the social stigmatisation of mental illness, increasing the likelihood of people disclosing their experience of mental ill health, the picture is complex. Since 1994, the Department of Health has commissioned a series of surveys exploring public attitudes toward mental illness. Although some improvement has been evident in public perceptions of mental ill health, the data are mixed. Despite a reduction in the proportion of participants who felt that *'people with mental illness are a burden on society',* from 10% to 6% between 1994 and 2011, the proportion who felt that *'people with mental illness deserve our sympathy'* also fell, from 92% to 88% over the period, while the proportion who *'would not want to live next door to someone who has been mentally ill'* rose from 8% to 11%.[8]

The costs associated with mental ill health in England are both high and growing. According to figures for 2009/10, the cost of health and social care services, lost economic productivity and intangible human costs were estimated to be in the region of £105bn, a rise of almost £28bn over equivalent figures for 2002/03.[9] These estimates assumed there to have been no change in the population prevalence of poor mental health between the two periods of estimation (figures from the APMS between 2000 and 2007 showed no significant rises in the prevalence of mental ill health[7]); rises in costs were deemed to have occurred largely as a function of increases in state expenditure on adult mental health services, and the result of growth in the size of the labour market and average earnings. The

cost of losses to economic output made up £23bn of the social and economic costs attributed to mental ill health,[9] with a separate study estimating a higher figure of £26bn.[10] Around £12bn was estimated by the Department of Health to have been invested in NHS mental health services in 2010/11.[11]

It is clear that mental ill health represents a complex and multifaceted public health problem, and one which has wide-ranging social and economic implications, as well as stark consequences for physical health. This chapter therefore explores two interrelated topics using data from the Health Survey for England (HSE) 2012: self-reported mental health, as assessed by the General Health Questionnaire (GHQ-12), and self-reported health state, as assessed using the EQ-5D questionnaire.

## 4.2 Methods and definitions

### 4.2.1 The General Health Questionnaire, GHQ-12

The 12-item General Health Questionnaire (GHQ-12) is a widely used and validated measure of mental health. It was originally intended for use in general practice settings as a screening instrument for general, non-psychotic psychiatric morbidity (probable mental ill health), and should not be used to diagnose specific psychiatric problems.[12] The 12-item version of the GHQ has comparable psychometric properties to the longer (60-item and 28-item) versions, and is often used in research studies where it is impractical to administer a longer form.[12] The GHQ-12 was administered via a self-completion booklet given to all participants aged 13 and over. Discussions of findings in this chapter are based on the analysis of responses only from adults aged 16 and over. The questionnaire concentrates on the broader components of psychological ill health and consists of 12 items measuring such characteristics as general levels of happiness, depression and self-confidence. Six questions are positively phrased and six questions negatively so.

Each of the 12 items is rated on a four-point response scale to indicate whether symptoms of mental ill health are 'not at all present', present 'no more than usual', present 'rather more than usual' or present 'much more than usual'. For the purpose of the HSE, the standard GHQ coding method was adopted for each of the four possible responses to each item, as advocated by the test author (a score of zero for the first two responses above, and a score of 1 for the third and fourth responses).[12] Using this method, the maximum score for any individual study participant is therefore 12.

No formal threshold exists for identifying probable mental ill health, with optimal values likely to be specific to the population under study. However, in keeping with previous HSE surveys, participants' scores are grouped according to three categories: 0 (indicating no evidence of probable mental ill health), 1-3 (indicating less than optimal mental health), and 4 or more (indicating probable psychological disturbance or mental ill health).[13] GHQ-12 data from previous HSE surveys (1995, 2000, 2004 and 2008) are also presented in this chapter for the assessment of trends over time.

### 4.2.2 The EQ-5D health questionnaire

The EQ-5D questionnaire is a standardised instrument used for the measurement of a person's health status and comes in two parts: a descriptive system and a visual analogue scale (VAS).[14] In 2012, both were administered in self-completion format to all HSE participants aged 16 and over.

The descriptive system consists of five dimensions: mobility, self-care, usual activities, pain or discomfort, and anxiety or depression. For each dimension, study participants are asked to rate their health state 'today' according to the following scale: no problems (1), some problems (2), or severe problems (3). This three-way classification gives rise to a possible 243 health states, described by way of a five-digit number. These range from no problems across all dimensions (health state 11111), to severe problems across all dimensions (health state 33333). Once a participant has been assigned one of 243 possible health states, it is

possible to derive a tariff score for each individual. The method by which these scores are calculated is detailed in Section 4.2.3.

In addition to the data obtained through the descriptive system, the VAS is used to document each participant's self-rated health according to a vertical, visual analogue scale. With a visual design akin to a thermometer with a scale from 0 to 100, the endpoints are labelled 'best imaginable health state' at the top, and 'worst imaginable health state' at the bottom.

### 4.2.3 The EQ-5D tariff

After providing a response to each of the five dimensions, a participant is assigned to one of 243 possible health states. It is possible to derive a single tariff score for each participant based on their individual five-digit health state, applying relative weights to each dimension as derived from a British general population sample using the time-trade off method. This process assigned the upper limit tariff of 1.00 to health state 11111, representing perfect health, and took the second reference point to be zero, representing death. The difference between these points represents a scale of severity in health states, whereby the closer to 1.00 a tariff score is, the better the self-reported health state is for that participant. It is possible for some health states to have negative values, as these states are judged to be worse than death. Once tariff scores have been assigned for all participants, it is possible to calculate mean tariff scores for sub groups. Detailed information concerning this process is available elsewhere.[15,16]

## 4.3 GHQ-12

### 4.3.1 GHQ-12 score, by age and sex

Women were more likely than men to report a GHQ-12 score of 4 or more, indicative of probable mental ill health (18% of women, 12% of men). Prevalence was lowest among men aged 16-34, at 9%, and dipped to 10-11% among those aged 65-84; among other age groups 13% to 15% had a high score. Among women, prevalence in most age groups was between 17% and 23%, and as for men there was a dip in prevalence among those aged 65-84 (11% to 14%). **Table 4.1**

### 4.3.2 GHQ-12 score (observed and age-standardised), by region

The proportion of men and women with a high GHQ-12 score varied significantly by region. Age-standardised levels were lowest in the South West (7% of men, 14% of women), and among women, in the South East (13%). Elsewhere levels ranged from 11% to 15% for men and from 17% to 22% for women, with no clear pattern. **Table 4.2**

### 4.3.3 GHQ-12 score, by equivalised household income

The prevalence of probable mental ill health was greatest among men and women in the lowest quintile of equivalised household income, with 24% of men and 27% of women reporting a GHQ-12 score of 4 or more, compared with 7% of men and 16% of women in the highest income quintile. **Table 4.3, Figure 4A**

### 4.3.4 GHQ-12 score, by self-reported general health and longstanding illness

There was a strong relationship between self-reported general health and mental health, as measured by the GHQ-12. Participants were asked to rate their health in general according to one of five categories: very good, good, fair, bad and very bad. Table 4.4 presents GHQ-12 scores within each category, and these are shown in Figure 4B.

Participants who reported worse general health were significantly more likely to have a high GHQ score. While 4% of men and 7% of women who reported their general health as 'very good' had a GHQ-12 score of 4 or more, the prevalence of probable mental ill health rose to 61% of men and 75% of women who reported their general health as 'very bad'.

Figure 4A

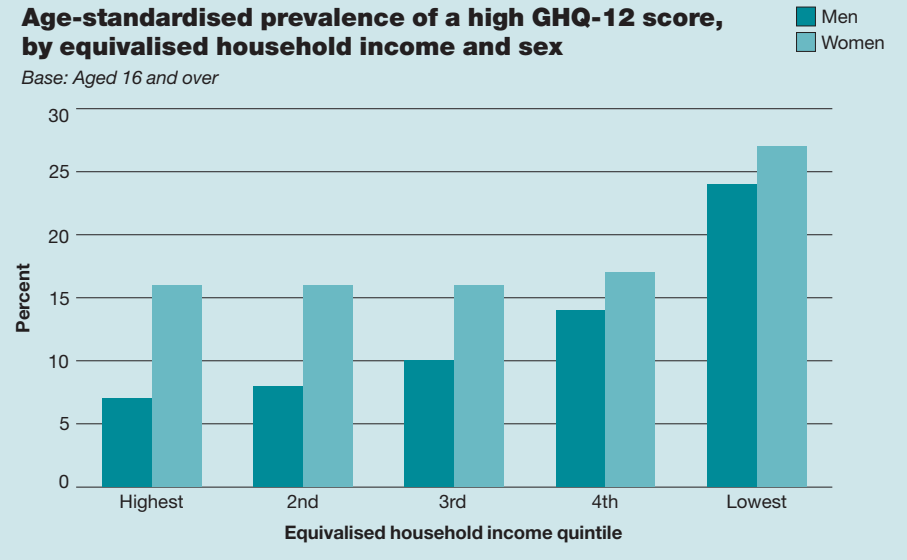
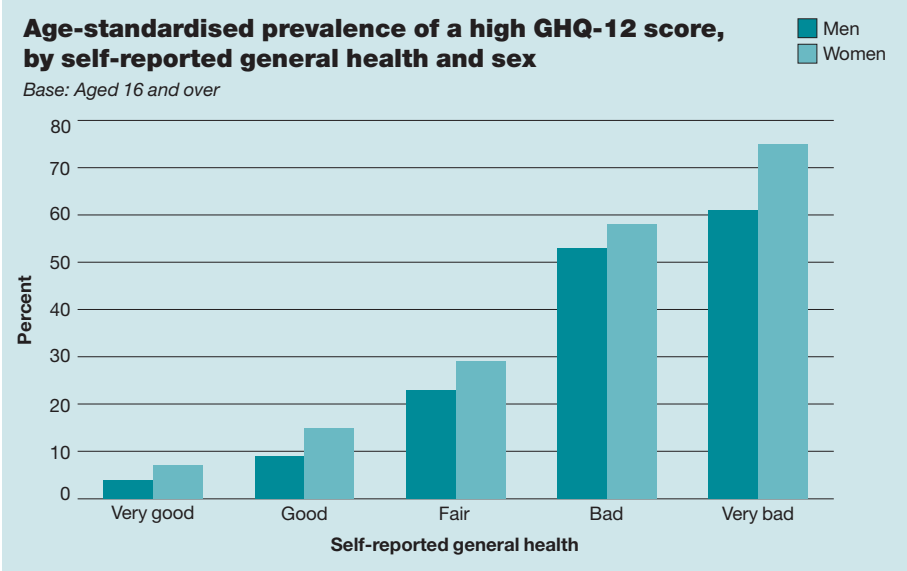



Figure 4B




Participants were also asked whether they had any physical or mental health conditions or illnesses lasting, or expected to last, 12 months or more.[17] Those who reported such a condition were asked whether it limited their daily activities in any way.

As with participants' self-reported general health, a significant association was found between GHQ-12 score and limiting longstanding illness. The prevalence of a GHQ-12 score of 4 or more was highest among participants reporting a limiting longstanding illness, at 34% of men and 42% of women. By contrast, just 7% of men and 11% of women with no longstanding illness reported probable mental ill health. Those with a non-limiting longstanding illness were little different from those with no longstanding illness.

**Tables 4.4, 4.5, Figures 4B, 4C**

### 4.3.5 Trends in GHQ-12 score, 1995, 2000, 2004, 2008 and 2012, by age and sex

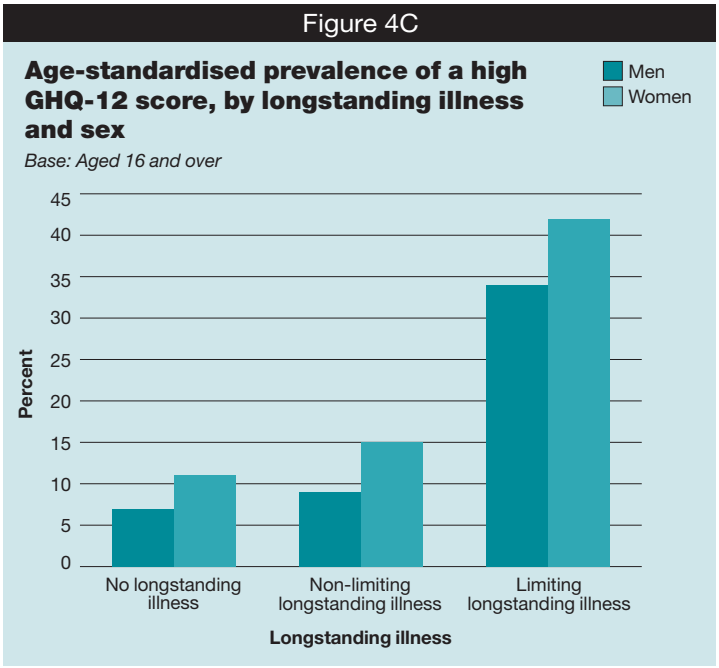
Changes in the prevalence of a GHQ-12 score of 4 or more were not significant in the period between 1995 and 2012, either between men and women or across each age group.

**Table 4.6**

### 4.3.6 Factors associated with a GHQ-12 score of 4 or more

This section presents the results of a logistic regression that examined the association between a number of potential risk factors and probable mental ill health (as indicated by a

Figure 4C




GHQ-12 score of 4 or more) among adults aged 16 and over. The analysis indicates the contribution of each factor once other variables have been taken into account.

The risk factors indicate associations, not causes. Variations in risk are expressed as odds ratios (ORs), the degree to which the probability of the key outcome increases or decreases relative to the reference category. Odds ratios greater than 1 indicate higher odds of probable mental ill health, while odds ratios below 1 indicate lower odds. The 95% confidence intervals are shown; if the confidence interval for a category does not include 1.0, it is significantly different from the reference category for the given variable.

A forward stepwise selection procedure was carried out to identify variables that contributed significantly to the regression model. The factors considered are shown in Table 4A below. Age and physical activity were significant risk factors only among men, and education only among women. Table 4.7 presents the results of the logistic regression including all risk factors significant for either men or women.

Table 4A

| Significant risk factors | Risk factors considered but not significant in either sex |
|---|---|
| Age | Equivalised household income |
| Marital status | Area deprivation |
| Education status | Cigarette smoking status |
| Economic activity | Alcohol consumption frequency |
| Longstanding illness | Body mass index status |
| Self-reported general health | |
| Physical activity | |

The odds of probable mental ill health were twice as high among men aged 35-44, relative to those aged 16-24 (OR 2.02). No significant differences were present in any other age group. Among women, probable mental ill health was not associated with age.

The effect of marital status differed between the sexes. While divorced, widowed or separated men had a 63% higher odds of reporting probable mental ill health than married men (OR 1.63), no such risk was evident among women. Single women exhibited the greatest odds of probable mental ill health (OR 1.50).

Similar differences between men and women were also evident according to education status. While there was no significant difference in the odds of probable mental ill health

across any education level for men, women qualified to below degree level reported 36% lower odds of probable mental ill health relative to women educated to degree level (OR 0.64).

Relative to those in employment, unemployed men and women each reported greater odds of probable mental ill health. The scale of this increase was greater among men (OR 3.25) than women (OR 1.63). Those who had other reasons for being economically inactive also had raised odds of probable mental ill health (OR 1.88 men, 1.49 women). Retired women had considerably lower odds of probable mental ill health (OR 0.63) than employed women, while retired men showed no significant difference.

The association between limiting longstanding illness and probable mental ill health was similar among men and women, with close to a three-fold increase in the odds of probable mental ill health relative to those with no longstanding illness (men: 2.82; women: 2.72). The largest odds of probable mental ill health for any risk factor were found among those who reported having 'bad' or 'very bad' general health, with around six times the odds relative to those who reported 'good' or 'very good' health (men: 6.09; women: 5.91).

Meeting government recommendations for levels of physical activity was associated with lower odds of probable mental ill health. Relative to those meeting recommendations, men and women classified as physically inactive reported greater odds of probable mental ill health (men: OR 1.56; women: OR 1.30). **Table 4.7**

## 4.4 EQ-5D

### 4.4.1 EQ-5D dimensions, by age and sex

The proportions of men and women who reported no problems, some problems or severe problems for each of the five EQ-5D dimensions are shown in Table 4.8. Problems were most commonly reported for pain or discomfort (28% of men, 34% of women), and anxiety or depression (16% of men, 23% of women).

Problems were more prevalent among women than men across all domains except for self-care, for which the prevalence of reported problems was lowest for both sexes (4% of men, 5% of women). For both men and women, the proportions reporting problems generally increased with age across all dimensions apart from anxiety or depression. Older people reported more problems on all dimensions; the effect of age was strongest for mobility and weakest for anxiety/depression. **Table 4.8**

### 4.4.2 Proportion with no health problems, by age and sex

Significantly more men than women reported the absence of health problems (EQ-5D health state 11111), at 63% of men and 55% of women overall. This pattern was observed across all but the oldest age group.

The proportions of men and women reporting no health problems declined with age, from 78% of men and 68% of women aged 16-24, to 22% of men and women aged 85 and over. **Table 4.9, Figure 4D**

### 4.4.3 Proportion with no health problems, by equivalised household income

The proportion of participants who reported no health problems (11111) decreased from 72% of men and 62% of women in the highest income quintile to 48% of men and 46% of women in the lowest quintile. Inequalities between the sexes were less pronounced among participants in lower income quintiles. **Table 4.10, Figure 4E**

### 4.4.4 EQ-5D tariff, by sex, age and equivalised household income

Table 4.13 presents median EQ-5D tariff scores by sex and age group; medians are presented since the distribution is heavily skewed. Reflecting the high proportion of participants reporting health state 11111 (63% of men and 55% of women), the median tariff score was 1.00 for both men and women. There was significant variation by age; the

Figure 4D

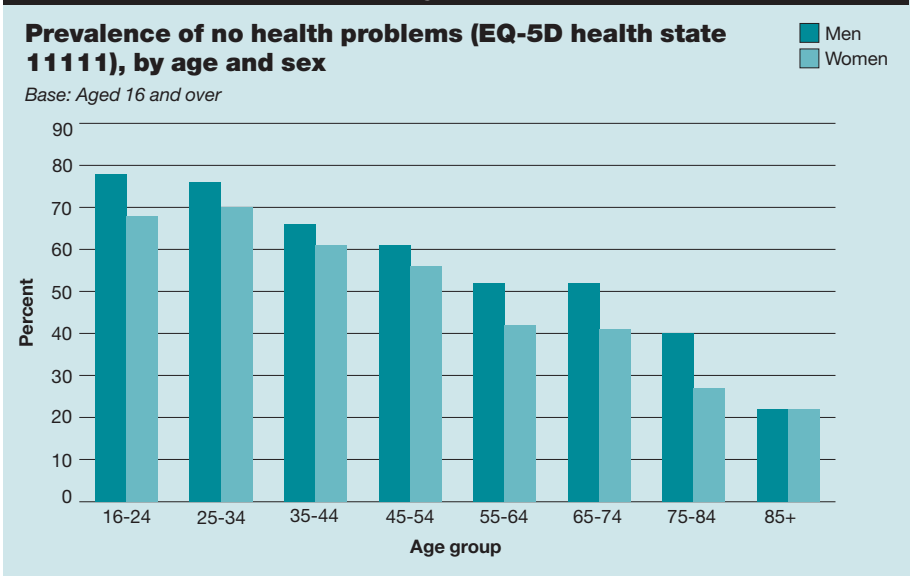
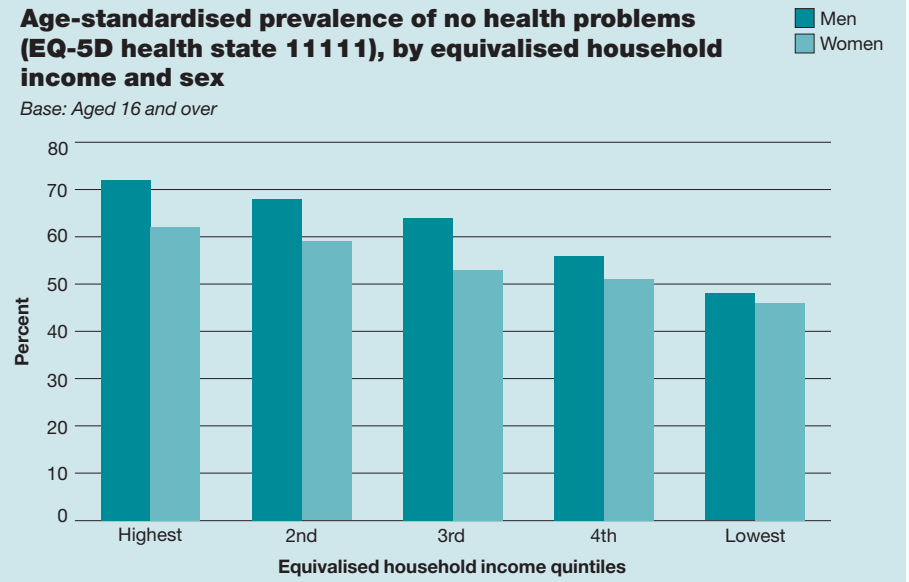



Figure 4E




median tariff score was 1.00 for age groups up to 45-54, and declined from there to 0.85 among men and 0.78 among women aged 85 and over.

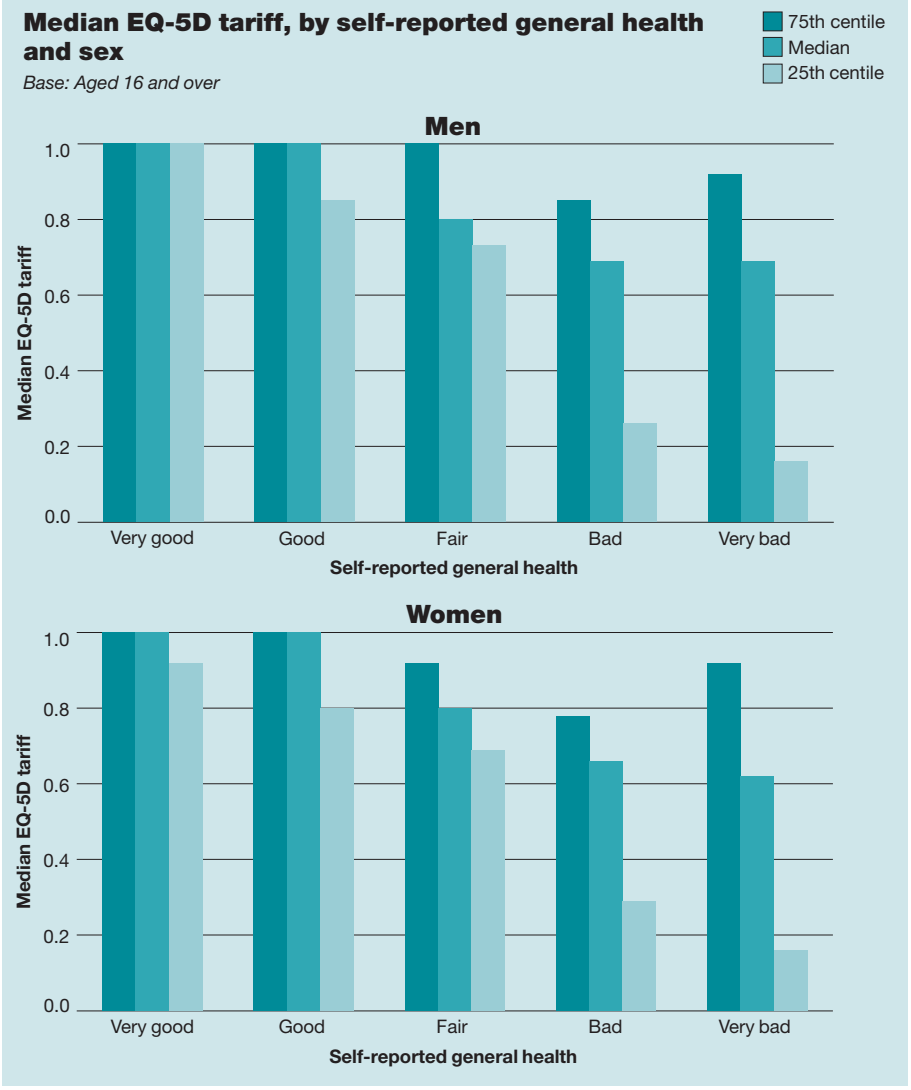
The median tariff score was 1.00 in the highest equivalised household income quintiles (the highest four quintiles for men, the highest two for women), and dropped to 0.92 in the lowest quintiles (the lowest for men, the lowest three for women). **Table 4.11, 4.12**

### 4.4.5 EQ-5D tariff, by self-reported general health and longstanding illness

The median EQ-5D tariff shows a strong association with self-reported general health, mirroring findings by GHQ-12 score. Median tariff scores were lowest among participants who reported the poorest general health, declining from 1.00 among men and women with 'very good' and 'good' general health, to 0.69 among men and 0.62 among women who reported 'very bad' general health.

Participants with a limiting longstanding illness had a lower median tariff (0.80 among men and 0.73 among women) than those who reported having no longstanding illness (1 for both sexes). **Table 4.13, 4.14, Figure 4F**

Figure 4F




### 4.4.6 EQ-5D visual analogue scale (VAS) values, by age and sex

Because responses to the EQ-5D were heavily skewed toward higher values, averages are reported for each age group as medians rather than means in Table 4.15. Men reported a median of 82 and women a median of 80. Values fell with age for men and women, from a VAS value of 85 for men and women aged 16-24, to 70 for men and 60 for women aged 85 and over. There was a more marked decrease with age for those whose health rating was in the lowest quartile, as shown by the greater fall in the 25th than the 75th centile.[18] **Table 4.15**

### 4.4.7 EQ-5D visual analogue scale (VAS) values, by equivalised household income

Median VAS values fell across equivalised household income quintiles, from 87 among men and 85 among women in the highest quintile, to 78 among men and 80 among women in the lowest quintile. As with age, there was a marked fall in the 25th centile of VAS values with falling income, but no change in the 75th centile. **Table 4.16**

### 4.4.8 Factors associated with being in the bottom quartile of VAS score

This section presents the results of a logistic regression that examined the association between several risk factors and being in the bottom quartile of VAS score, that is the quarter of the population that rated their health status the lowest. The analysis indicates the contribution of each factor once other variables have been taken into account.

A forward stepwise selection procedure was carried out to identify variables that contributed significantly to the regression model. The factors considered are listed in Table

4B below. Overall, age was significantly associated with a low VAS score in women, while economic activity and frequency of alcohol consumption were significant factors only in men. Table 4.17 presents the results of the logistic regression including all risk factors significant for either men or women.

Table 4B

| Significant risk factors | Risk factors considered but not significant in either sex |
|---|---|
| Age | Equivalised household income |
| Marital status | Area deprivation |
| Education status | Self-reported general health |
| Economic activity | |
| Longstanding illness | |
| Physical activity | |
| Cigarette smoking status | |
| Alcohol consumption frequency | |
| Body mass index status | |

The odds of giving a low rating of health status among women aged 55 and over were around half the odds of those aged 16-24, indicating that older women rated their health better than those in younger age groups, with all other factors held constant.

Odds of a low VAS score were higher among divorced, widowed or separated participants relative to those who were married, in a civil partnership or cohabiting. This was especially so among men (men: OR 2.16; women: OR 1.39). Raised odds were also seen among single men (OR 1.49).

Relative to those educated to degree level, those without any qualifications reported the highest odds of any education category, at OR 1.74 among men and OR 1.61 among women. Those educated to below degree level were also more likely to fall into the bottom VAS quartile, at OR 1.40 among men and OR 1.30 among women. Relative to those in employment, men defined as being economically inactive for reasons other than retirement or unemployment displayed significantly higher odds of a low VAS score (OR 1.64).

Having a limiting longstanding illness was by far the most important factor associated with being in the lowest quartile of VAS score, particularly for women. Participants who reported a limiting longstanding illness had significantly higher odds of being in the bottom VAS quartile than those with no longstanding illness, at more than five times the odds among men (OR 5.42) and almost ten times the odds among women (OR 9.89).

Current smokers also had greater odds of being in the bottom VAS quartile relative to those who had never smoked, with an odds ratio of 1.84 among men and 1.41 among women. Male former smokers also had higher odds (OR 1.46). With regard to alcohol consumption, male infrequent or non-drinkers exhibited higher odds of being in the bottom VAS quartile (once or twice a year OR 1.52, non-drinkers OR 1.88), relative to those who reported consuming alcohol at least weekly.

Relative to participants who were of a healthy weight or below (BMI up to 25kg/m$^2$), obese men and women (BMI 30kg/m$^2$ or more) had significantly increased odds, at OR 1.69 and OR 2.04 respectively. Overweight women (BMI 25 to less than 30kg/m$^2$) also experienced increased odds (OR 1.33).

Compared with those who met current government physical activity guidelines, the odds of being in the lowest VAS quartile were higher among men and women who reported falling short of recommended weekly physical activity (men: OR 1.47; women: OR 1.54), and higher still among those who were defined as inactive, achieving less than 30 minutes of moderate activity, or 15 minutes of vigorous activity per week (men: OR 2.25 women: OR 2.03). **Table 4.17**

## 4.5 Discussion

Most of the analyses in this chapter showed similar associations for both GHQ-12, an indicator of probable mental ill health, and EQ-5D, a broader assessment of health. The main difference was in the age distribution: prevalence of high GHQ-12 scores was lowest among men aged 16-34, and dipped to a similar level among those aged 65-84, while among women prevalence also dipped among those aged 65-84. In contrast, each of the three measures of EQ-5D showed health worsening with increasing age. This decrease with age was particularly noticeable for participants in the bottom quartile of the EQ-5D VAS, compared with those in the top quartile. Both measures of poor health were strongly related to the presence of limiting longstanding illness, and physical inactivity. The association between non-drinking and poor health may be due to reverse causality: some non-drinkers may have stopped drinking because of a health problem, either a consequence of excess alcohol consumption in the past or because of contraindications such as diabetes. The results presented also confirm that poor health in old age is by no means inevitable, as the 75th centile for EQ-5D tariff and VAS values changed little, showing that the top quartile[18] had few or no health problems even in the oldest age group.

Participants in lower equivalised household income quintiles consistently displayed a higher prevalence of probable mental ill health and poor health status relative to those in the top quintile, with multivariate regressions also highlighting unemployment as a strong predictor of probable mental ill health, particularly among men. Such findings are of notable concern given recent changes to the labour market following the 2007/2008 financial crisis. Using data from the Office for National Statistics, the Chartered Institute of Personnel and Development (CIPD) have estimated that close to 2.7m redundancies occurred between 2008 and 2011, with a potential one in ten of the UK workforce therefore having direct experience of redundancy.[19] The impact of redundancy was greatest among men, who were subject to 64% of recorded redundancies. This inequality was likely to be a consequence of the uneven distribution of job losses across industries, with construction and manufacturing having been hardest hit.[19] The impact of such factors are compounded by findings from the 2011 CIPD/YouGov Employee Attitudes to Pay report, which found that close to two-thirds of working adult participants who had previously been made redundant went on to earn less in their new job.[20]

While no significant change in the prevalence of probable mental ill health was evident across previous health surveys, recent economic trends suggest that, should the economy fail to gain sufficient momentum over the coming years, the burden of poor health – and poor mental health in particular – may increase to levels above those measured by the HSE 2012. However, negative socio-economic factors need not lead inexorably to an increase in poor mental health and health status. As a recent Organisation for Economic Co-operation and Development (OECD) report showed, this can be seen through marked inter-country differences in the effect of unemployment upon a range of health outcomes, including mortality,[21] psychiatric distress[22] and poor general health,[23] with social welfare and active labour market programmes found to be important modifiers. Accordingly, boosting or at least maintaining investment in these areas may help minimise any exacerbation the prevalence of psychiatric ill health brought about by increased unemployment and falling real terms incomes. To make more cost-effective use of limited resources, it may be prudent to direct services toward high-risk populations likely to be disproportionately affected by negative changes to the economic climate, such as those with insecure employment conditions and low incomes[24] or existing mental illness;[25] and those living in the North East of England.[26]

Overall, the multivariate regression models produced for this chapter support correlations found elsewhere that people of low socio-economic status typically experience the greatest risk of probable mental ill health. It has been hypothesised that reasons for such a relationship include stressful exposures and weak coping and social support mechanisms that are more prevalent in lower socio-economic groups.[27] However, the finding that women educated to degree level or equivalent were at increased risk of probable mental ill health

relative to those educated below degree level sat contrary to data from six different countries, including the USA, Canada and the Netherlands.[27] Given the complex inter-relationships between socio-economic status and health, such discordance may be attributable to a number of factors. For instance, in the case of a meta-analysis exploring associations between socio-economic indicators and depression, relationships were found to vary according to the precise exposure and outcome measures employed, as well as contextual factors such as the period of reference used.[28]

Looking beyond just socio-economic determinants, the Faculty of Public Health has recently developed a web-based portal for resources to promote good mental health, summarising the evidence on factors that contribute to poor mental health, and policies and interventions shown to be effective for promoting mental wellbeing and preventing mental illness.[29] These generally support population-wide approaches, rather than targeted interventions.

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18 Centiles are values of a distribution that divide it into 100 equal parts. For example the 75th centile is the value of a distribution where 75% of the cases have a value at or below the 75th centile, and 25% have values above it. The 25% with values above it comprise the top quartile. The bottom quartile includes those whose values lie on or below the 25th centile, as only 25% of participants have values at or below that level.

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## Tables



### Notes on the tables

1. The group on which the figures in the table are based is stated at the upper left corner of the table.
2. The data in most tables have been weighted. See Volume 2, Chapter 7, of this report for more detail. Both unweighted and weighted sample sizes are shown at the foot of each table.
3. Apart from tables showing age breakdowns, data have been age-standardised to allow comparisons between groups after adjusting for the effects of any differences in their age distributions. See Volume 2, Chapter 8.4, of this report for more detail.
4. The following conventions have been used in tables:
   - \- no observations (zero value)
   - 0 non-zero values of less than 0.5% and thus rounded to zero
   - [ ] used to warn of small sample bases, if the unweighted base is less than 50. If a group's unweighted base is less than 30, data are normally not shown for that group.
5. Because of rounding, row or column percentages may not add exactly to 100%.
6. 'Missing values' occur for several reasons, including refusal or inability to answer a particular question; refusal to co-operate in an entire section of the survey (such as the nurse visit or a self-completion questionnaire); and cases where the question is not applicable to the participant. In general, missing values have been omitted from all tables and analyses.

Table 4.1

## GHQ-12 score, by age and sex

*Aged 16 and over* *2012*

| GHQ-12 score[a] | Age group | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | 16-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65-74 | 75-84 | 85+ | |
| | % | % | % | % | % | % | % | % | % |
| **Men** | | | | | | | | | |
| Score 0 | 69 | 62 | 62 | 66 | 70 | 72 | 69 | 63 | 66 |
| Score 1-3 | 22 | 28 | 24 | 21 | 16 | 18 | 20 | 21 | 22 |
| Score 4 or more | 9 | 9 | 15 | 13 | 14 | 10 | 11 | 15 | 12 |
| **Women** | | | | | | | | | |
| Score 0 | 48 | 55 | 57 | 56 | 62 | 66 | 58 | 50 | 57 |
| Score 1-3 | 31 | 27 | 24 | 24 | 21 | 23 | 28 | 27 | 26 |
| Score 4 or more | 21 | 18 | 19 | 20 | 17 | 11 | 14 | 23 | 18 |
| *Bases (unweighted)* | | | | | | | | | |
| *Men* | *325* | *401* | *530* | *546* | *554* | *532* | *259* | *53* | *3200* |
| *Women* | *417* | *603* | *686* | *742* | *619* | *567* | *314* | *109* | *4057* |
| *Bases (weighted)* | | | | | | | | | |
| *Men* | *525* | *574* | *644* | *634* | *531* | *381* | *208* | *43* | *3539* |
| *Women* | *537* | *611* | *653* | *658* | *549* | *412* | *252* | *86* | *3757* |

[a] A score of 4 or more is referred to as a 'high GHQ-12 score', indicating probable psychological disturbance or mental ill health.

Table 4.2

## GHQ-12 score (observed and age-standardised), by region[a] and sex

*Aged 16 and over* *2012*

| GHQ-12 score[b] | Region | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | North East | North West | Yorkshire & the Humber | East Midlands | West Midlands | East of England | London | South East | South West |
| | % | % | % | % | % | % | % | % | % |
| **Men** | | | | | | | | | |
| **Observed** | | | | | | | | | |
| Score 0 | 66 | 66 | 63 | 70 | 67 | 62 | 64 | 70 | 68 |
| Score 1-3 | 22 | 19 | 25 | 19 | 19 | 26 | 24 | 18 | 24 |
| Score 4 or more | 12 | 14 | 12 | 11 | 14 | 12 | 12 | 12 | 8 |
| **Standardised** | | | | | | | | | |
| Score 0 | 67 | 66 | 63 | 70 | 67 | 62 | 64 | 70 | 68 |
| Score 1-3 | 22 | 19 | 25 | 19 | 20 | 26 | 23 | 18 | 24 |
| Score 4 or more | 11 | 15 | 12 | 11 | 14 | 12 | 13 | 12 | 7 |
| **Women** | | | | | | | | | |
| **Observed** | | | | | | | | | |
| Score 0 | 53 | 60 | 58 | 50 | 61 | 57 | 51 | 58 | 61 |
| Score 1-3 | 25 | 24 | 21 | 30 | 21 | 24 | 27 | 28 | 26 |
| Score 4 or more | 22 | 17 | 21 | 19 | 18 | 19 | 22 | 14 | 13 |
| **Standardised** | | | | | | | | | |
| Score 0 | 52 | 60 | 57 | 50 | 61 | 57 | 51 | 59 | 61 |
| Score 1-3 | 26 | 23 | 21 | 30 | 21 | 25 | 27 | 28 | 26 |
| Score 4 or more | 22 | 17 | 22 | 20 | 18 | 19 | 22 | 13 | 14 |
| *Bases (unweighted)* | | | | | | | | | |
| *Men* | *247* | *473* | *313* | *295* | *332* | *378* | *347* | *487* | *328* |
| *Women* | *317* | *577* | *382* | *353* | *421* | *459* | *496* | *662* | *390* |
| *Bases (weighted)* | | | | | | | | | |
| *Men* | *178* | *487* | *353* | *309* | *376* | *401* | *501* | *553* | *380* |
| *Women* | *188* | *502* | *364* | *321* | *392* | *423* | *567* | *630* | *369* |

[a] Regions defined as the former Government Office Regions.

[b] A score of 4 or more is referred to as a 'high GHQ-12 score', indicating probable psychological disturbance or mental ill health.

Table 4.3

## GHQ-12 score (age-standardised), by equivalised household income and sex

*Aged 16 and over* *2012*

| GHQ-12 score[a] | Equivalised household income quintile | | | | |
|---|---|---|---|---|---|
| | Highest | 2nd | 3rd | 4th | Lowest |
| | % | % | % | % | % |
| **Men** | | | | | |
| Score 0 | 71 | 72 | 68 | 65 | 54 |
| Score 1-3 | 22 | 20 | 22 | 21 | 22 |
| Score 4 or more | 7 | 8 | 10 | 14 | 24 |
| **Women** | | | | | |
| Score 0 | 59 | 60 | 56 | 56 | 48 |
| Score 1-3 | 25 | 24 | 28 | 27 | 25 |
| Score 4 or more | 16 | 16 | 16 | 17 | 27 |
| *Bases (unweighted)* | | | | | |
| *Men* | *561* | *655* | *534* | *446* | *451* |
| *Women* | *634* | *712* | *667* | *652* | *653* |
| *Bases (weighted)* | | | | | |
| *Men* | *619* | *722* | *577* | *465* | *509* |
| *Women* | *604* | *670* | *601* | *573* | *594* |

[a] A score of 4 or more is referred to as a 'high GHQ-12 score', indicating probable psychological disturbance or mental ill health.

Table 4.4

## GHQ-12 score (age-standardised), by self-reported general health and sex

*Aged 16 and over* *2012*

| GHQ-12 score[a] | Self-reported general health | | | | |
|---|---|---|---|---|---|
| | Very good | Good | Fair | Bad | Very bad |
| | % | % | % | % | % |
| **Men** | | | | | |
| Score 0 | 79 | 68 | 48 | 30 | 5 |
| Score 1-3 | 17 | 22 | 30 | 16 | 34 |
| Score 4 or more | 4 | 9 | 23 | 53 | 61 |
| **Women** | | | | | |
| Score 0 | 71 | 61 | 38 | 12 | 12 |
| Score 1-3 | 22 | 24 | 33 | 30 | 13 |
| Score 4 or more | 7 | 15 | 29 | 58 | 75 |
| *Bases (unweighted)* | | | | | |
| *Men* | *1088* | *1338* | *567* | *146* | *60* |
| *Women* | *1313* | *1708* | *744* | *220* | *72* |
| *Bases (weighted)* | | | | | |
| *Men* | *1303* | *1482* | *565* | *131* | *56* |
| *Women* | *1264* | *1585* | *654* | *195* | *60* |

[a] A score of 4 or more is referred to as a 'high GHQ-12 score', indicating probable psychological disturbance or mental ill health.

Table 4.5

## GHQ-12 score (age-standardised), by longstanding illness and sex

*Aged 16 and over* *2012*

| GHQ-12 score[a] | Longstanding illness | | |
|---|---|---|---|
| | No longstanding illness | Non-limiting longstanding illness | Limiting longstanding illness |
| | % | % | % |
| **Men** | | | |
| Score 0 | 74 | 68 | 38 |
| Score 1-3 | 19 | 23 | 28 |
| Score 4 or more | 7 | 9 | 34 |
| **Women** | | | |
| Score 0 | 67 | 58 | 29 |
| Score 1-3 | 22 | 27 | 29 |
| Score 4 or more | 11 | 15 | 42 |
| *Bases (unweighted)* | | | |
| *Men* | *1921* | *595* | *680* |
| *Women* | *2329* | *742* | *981* |
| *Bases (weighted)* | | | |
| *Men* | *2301* | *584* | *649* |
| *Women* | *2260* | *644* | *848* |

[a] A score of 4 or more is referred to as a 'high GHQ-12 score', indicating probable psychological disturbance or mental ill health.

Table 4.6

## Trends in GHQ-12 score, 1995, 2000, 2004, 2008 and 2012, by age and sex

*Aged 16 and over* — *1995, 2000, 2004, 2008, 2012*

| GHQ-12 score[a] | Age group | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | 16-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65-74 | 75+ | |
| | % | % | % | % | % | % | % | % |
| **Men** | | | | | | | | |
| **1995[b]** | | | | | | | | |
| Score 0 | 55 | 55 | 56 | 59 | 59 | 65 | 57 | 58 |
| Score 1-3 | 33 | 33 | 28 | 24 | 27 | 22 | 29 | 28 |
| Score 4 or more | 12 | 12 | 16 | 17 | 14 | 13 | 14 | 14 |
| **2000[b]** | | | | | | | | |
| Score 0 | 68 | 66 | 68 | 68 | 70 | 65 | 47 | 65 |
| Score 1-3 | 22 | 24 | 19 | 20 | 17 | 24 | 34 | 23 |
| Score 4 or more | 10 | 11 | 13 | 12 | 13 | 11 | 19 | 13 |
| **2004** | | | | | | | | |
| Score 0 | 70 | 67 | 68 | 68 | 69 | 68 | 61 | 68 |
| Score 1-3 | 20 | 22 | 22 | 18 | 20 | 23 | 25 | 21 |
| Score 4 or more | 10 | 12 | 10 | 14 | 12 | 9 | 14 | 11 |
| **2008** | | | | | | | | |
| Score 0 | 65 | 63 | 66 | 67 | 70 | 71 | 60 | 66 |
| Score 1-3 | 25 | 27 | 22 | 21 | 18 | 20 | 25 | 23 |
| Score 4 or more | 10 | 10 | 12 | 12 | 12 | 9 | 14 | 11 |
| **2012** | | | | | | | | |
| Score 0 | 69 | 62 | 62 | 66 | 70 | 72 | 68 | 66 |
| Score 1-3 | 22 | 28 | 24 | 21 | 16 | 18 | 20 | 22 |
| Score 4 or more | 9 | 9 | 15 | 13 | 14 | 10 | 12 | 12 |
| **Women** | | | | | | | | |
| **1995[b]** | | | | | | | | |
| Score 0 | 46 | 49 | 52 | 52 | 56 | 55 | 51 | 52 |
| Score 1-3 | 33 | 30 | 26 | 27 | 25 | 30 | 29 | 28 |
| Score 4 or more | 21 | 21 | 21 | 21 | 19 | 15 | 21 | 20 |
| **2000[b]** | | | | | | | | |
| Score 0 | 53 | 58 | 62 | 61 | 61 | 57 | 47 | 56 |
| Score 1-3 | 27 | 26 | 21 | 23 | 23 | 26 | 32 | 26 |
| Score 4 or more | 20 | 16 | 17 | 17 | 16 | 18 | 21 | 18 |
| **2004** | | | | | | | | |
| Score 0 | 52 | 64 | 60 | 61 | 66 | 65 | 62 | 61 |
| Score 1-3 | 31 | 22 | 25 | 22 | 21 | 22 | 27 | 24 |
| Score 4 or more | 17 | 14 | 15 | 18 | 13 | 13 | 11 | 15 |
| **2008** | | | | | | | | |
| Score 0 | 53 | 58 | 63 | 60 | 65 | 67 | 56 | 60 |
| Score 1-3 | 32 | 27 | 23 | 21 | 20 | 20 | 26 | 24 |
| Score 4 or more | 15 | 15 | 14 | 19 | 15 | 13 | 17 | 15 |
| **2012** | | | | | | | | |
| Score 0 | 48 | 55 | 57 | 56 | 62 | 66 | 56 | 57 |
| Score 1-3 | 31 | 27 | 24 | 24 | 21 | 23 | 28 | 25 |
| Score 4 or more | 21 | 18 | 19 | 20 | 17 | 11 | 16 | 18 |

[a] A score of 4 or more is referred to as a 'high GHQ-12 score', indicating probable psychological disturbance or mental ill health.

[b] No weighting was applied in 1995 or 2000. Data from 2003 onwards are weighted for non-response.

Continued…

*Table 4.6 continued*

*Aged 16 and over* *1995, 2000, 2004, 2008, 2012*

| GHQ-12 score[a] | Age group | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | 16-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65-74 | 75+ | |
| | % | % | % | % | % | % | % | % |
| *Bases (unweighted)* | | | | | | | | |
| *Men 1995[b]* | *912* | *1375* | *1357* | *1167* | *979* | *896* | *500* | *7186* |
| *Men 2000[b]* | *414* | *607* | *696* | *556* | *502* | *465* | *530* | *3770* |
| *Men 2004* | *261* | *415* | *494* | *408* | *470* | *340* | *233* | *2621* |
| *Men 2008* | *722* | *881* | *1133* | *1031* | *1125* | *835* | *604* | *6331* |
| *Men 2012* | *325* | *401* | *530* | *546* | *554* | *532* | *312* | *3200* |
| *Women 1995[b]* | *1066* | *1710* | *1484* | *1366* | *1104* | *1036* | *790* | *8556* |
| *Women 2000[b]* | *399* | *767* | *845* | *704* | *559* | *543* | *1105* | *4922* |
| *Women 2004* | *331* | *508* | *709* | *578* | *585* | *446* | *366* | *3523* |
| *Women 2008* | *865* | *1166* | *1441* | *1317* | *1308* | *944* | *849* | *7890* |
| *Women 2012* | *417* | *603* | *686* | *742* | *619* | *567* | *423* | *4057* |
| *Bases (weighted)* | | | | | | | | |
| *Men 2004* | *6143* | *7266* | *8434* | *6934* | *6227* | *4187* | *2759* | *41950* |
| *Men 2008* | *1062* | *1115* | *1311* | *1136* | *1033* | *691* | *502* | *6850* |
| *Men 2012* | *525* | *574* | *644* | *634* | *531* | *381* | *250* | *3539* |
| *Women 2004* | *6050* | *7362* | *8807* | *7044* | *6560* | *4759* | *4262* | *44845* |
| *Women 2008* | *1026* | *1159* | *1364* | *1179* | *1074* | *755* | *703* | *7260* |
| *Women 2012* | *537* | *611* | *653* | *658* | *549* | *412* | *338* | *3757* |

[a] A score of 4 or more is referred to as a 'high GHQ-12 score', indicating probable psychological disturbance or mental ill health.

[b] No weighting was applied in 1995 or 2000. Data from 2003 onwards are weighted for non-response.

Table 4.7

## Factors associated with a GHQ-12 score of 4 or more

*Aged 16 and over* *2012*

| Independent variable | N | Odds ratio | 95 C.I.[a] | |
|---|---|---|---|---|
| **Men** *Base (weighted)* | 3200 | | Lower | Upper |
| **Age (p=0.011)** | | | | |
| 16-24[b] | 325 | 1 | | |
| 25-34 | 401 | 1.43 | 0.77 | 2.66 |
| 35-44 | 530 | 2.02 | 1.12 | 3.63 |
| 45-54 | 546 | 1.22 | 0.67 | 2.21 |
| 55-64 | 554 | 0.95 | 0.51 | 1.76 |
| 65+ | 844 | 0.75 | 0.35 | 1.61 |
| **Marital status (p=0.026)** | | | | |
| Single | 669 | 1.15 | 0.80 | 1.67 |
| Married, civil partnership, cohabiting[b] | 2153 | 1 | | |
| Divorced, widowed, separated | 378 | 1.63 | 1.14 | 2.33 |
| **Education status (p=0.512)** | | | | |
| Degree or equivalent[b] | 844 | 1 | | |
| Below degree | 1706 | 0.85 | 0.61 | 1.19 |
| None | 650 | 0.80 | 0.53 | 1.20 |
| **Economic activity (p<0.001)** | | | | |
| In employment[b] | 1842 | 1 | | |
| Unemployed | 190 | 3.25 | 2.02 | 5.21 |
| Retired | 849 | 0.92 | 0.54 | 1.57 |
| Other economically inactive | 319 | 1.88 | 1.23 | 2.88 |
| **Longstanding illness (p<0.001)** | | | | |
| No longstanding illness[b] | 1925 | 1 | | |
| Non-limiting longstanding illness | 595 | 1.03 | 0.67 | 1.58 |
| Limiting longstanding illness | 680 | 2.82 | 1.90 | 4.17 |
| **Self-reported general health (p<0.001)** | | | | |
| Very good/Good[b] | 2427 | 1 | | |
| Fair | 567 | 2.53 | 1.77 | 3.61 |
| Bad/Very bad | 206 | 6.09 | 3.77 | 9.84 |
| **Physical activity (p=0.007)[c]** | | | | |
| Meets guidelines[b] | 2117 | 1 | | |
| Low/Some activity | 457 | 1.37 | 0.97 | 1.94 |
| Inactive | 626 | 1.56 | 1.16 | 2.09 |

| Independent variable | N | Odds ratio | 95 C.I.[a] | |
|---|---|---|---|---|
| **Women** *Base (weighted)* | 4057 | | Lower | Upper |
| **Age (p=0.141)** | | | | |
| 16-24[b] | 417 | 1 | | |
| 25-34 | 603 | 1.07 | 0.74 | 1.56 |
| 35-44 | 686 | 1.01 | 0.69 | 1.48 |
| 45-54 | 742 | 0.94 | 0.64 | 1.39 |
| 55-64 | 619 | 0.69 | 0.43 | 1.10 |
| 65+ | 990 | 0.57 | 0.32 | 1.01 |
| **Marital status (p=0.009)** | | | | |
| Single | 733 | 1.50 | 1.14 | 1.98 |
| Married, civil partnership, cohabiting[b] | 2473 | 1 | | |
| Divorced, widowed, separated | 851 | 1.26 | 0.97 | 1.64 |
| **Education status (p<0.001)** | | | | |
| Degree or equivalent[b] | 1016 | 1 | | |
| Below degree | 2154 | 0.64 | 0.50 | 0.80 |
| None | 887 | 0.57 | 0.42 | 0.79 |
| **Economic activity (p<0.001)** | | | | |
| In employment[b] | 2048 | 1 | | |
| Unemployed | 191 | 1.63 | 1.08 | 2.46 |
| Retired | 1070 | 0.63 | 0.43 | 0.93 |
| Other economically inactive | 748 | 1.49 | 1.14 | 1.95 |
| **Longstanding illness (p<0.001)** | | | | |
| No longstanding illness[b] | 2334 | 1 | | |
| Non-limiting longstanding illness | 742 | 1.14 | 0.86 | 1.52 |
| Limiting longstanding illness | 981 | 2.72 | 2.02 | 3.67 |
| **Self-reported general health (p<0.001)** | | | | |
| Very good/Good[b] | 3021 | 1 | | |
| Fair | 744 | 2.17 | 1.66 | 2.83 |
| Bad/Very bad | 292 | 5.91 | 3.95 | 8.84 |
| **Physical activity (p=0.061)[c]** | | | | |
| Meets guidelines[b] | 2293 | 1 | | |
| Low/Some activity | 770 | 1.02 | 0.79 | 1.31 |
| Inactive | 994 | 1.30 | 1.04 | 1.62 |

[a] Confidence interval.

[b] Reference category.

[c] *Meets guidelines:* At least 150 minutes of moderately intensive physical activity (MPA) or 75 minutes of vigorous physical activity (VPA) per week, or an equivalent combination of the two. This is the minimum level of activity recommended by the Department of Health to benefit health; these revised guidelines were introduced in 2011.
*Low/Some activity:* 30-149 minutes of MPA per week, or 15-74 minutes of VPA per week, or an equivalent combination of the two.
*Inactive:* Less than 30 minutes of MPA per week, or less than 15 minutes of VPA per week, or an equivalent combination of the two.

Table 4.8

## EQ-5D dimensions, by age and sex

*Aged 16 and over* *2012*

| EQ-5D dimension[a] | Age group | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | 16-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65-74 | 75-85 | 85+ | |
| | % | % | % | % | % | % | % | % | % |
| **Men** | | | | | | | | | |
| **Mobility** | | | | | | | | | |
| No problems with walking about | 96 | 95 | 92 | 86 | 77 | 74 | 61 | 53 | 86 |
| Some problems walking about | 4 | 5 | 8 | 13 | 22 | 26 | 39 | 47 | 14 |
| Confined to bed | - | 0 | - | 0 | 1 | 0 | - | - | 0 |
| **Self-care** | | | | | | | | | |
| No problems with self-care | 99 | 99 | 98 | 96 | 93 | 90 | 90 | 85 | 96 |
| Some problems with washing or dressing | 1 | 1 | 2 | 4 | 7 | 10 | 10 | 15 | 4 |
| Unable to wash or dress self | - | - | 0 | 0 | 0 | 1 | - | - | 0 |
| **Usual activities** | | | | | | | | | |
| No problems with performing usual activities | 95 | 95 | 91 | 87 | 83 | 79 | 75 | 64 | 88 |
| Some problems performing usual activities | 5 | 5 | 8 | 13 | 16 | 18 | 23 | 32 | 11 |
| Unable to perform usual activities | 0 | - | 1 | 1 | 1 | 3 | 3 | 4 | 1 |
| **Pain/discomfort** | | | | | | | | | |
| No pain or discomfort | 87 | 86 | 76 | 70 | 60 | 58 | 47 | 43 | 72 |
| Moderate pain or discomfort | 13 | 13 | 23 | 25 | 35 | 36 | 48 | 53 | 25 |
| Extreme pain or discomfort | 1 | 1 | 1 | 4 | 6 | 6 | 5 | 4 | 3 |
| **Anxiety/depression** | | | | | | | | | |
| Not anxious or depressed | 87 | 88 | 82 | 80 | 81 | 85 | 81 | 86 | 84 |
| Moderately anxious or depressed | 12 | 11 | 15 | 17 | 16 | 13 | 17 | 12 | 14 |
| Extremely anxious or depressed | 2 | 1 | 2 | 3 | 3 | 1 | 1 | 1 | 2 |
| **Women** | | | | | | | | | |
| **Mobility** | | | | | | | | | |
| No problems with walking about | 95 | 96 | 90 | 85 | 77 | 70 | 53 | 31 | 83 |
| Some problems walking about | 4 | 4 | 9 | 15 | 23 | 30 | 47 | 69 | 17 |
| Confined to bed | 0 | 0 | 0 | 0 | - | - | - | - | 0 |
| **Self-care** | | | | | | | | | |
| No problems with self-care | 98 | 99 | 97 | 95 | 93 | 93 | 88 | 69 | 95 |
| Some problems with washing or dressing | 1 | 1 | 3 | 4 | 7 | 6 | 11 | 30 | 5 |
| Unable to wash or dress self | 0 | - | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| **Usual activities** | | | | | | | | | |
| No problems with performing usual activities | 93 | 93 | 89 | 83 | 79 | 76 | 63 | 46 | 84 |
| Some problems performing usual activities | 6 | 6 | 10 | 15 | 20 | 22 | 32 | 46 | 15 |
| Unable to perform usual activities | 1 | 0 | 1 | 2 | 1 | 2 | 5 | 8 | 2 |
| **Pain/discomfort** | | | | | | | | | |
| No pain or discomfort | 85 | 82 | 74 | 65 | 52 | 47 | 35 | 38 | 66 |
| Moderate pain or discomfort | 14 | 17 | 23 | 31 | 41 | 46 | 55 | 53 | 30 |
| Extreme pain or discomfort | 0 | 1 | 3 | 4 | 7 | 7 | 10 | 9 | 4 |
| **Anxiety/depression** | | | | | | | | | |
| Not anxious or depressed | 79 | 84 | 75 | 75 | 75 | 78 | 73 | 72 | 77 |
| Moderately anxious or depressed | 19 | 14 | 22 | 21 | 22 | 20 | 26 | 26 | 20 |
| Extremely anxious or depressed | 1 | 2 | 3 | 3 | 3 | 2 | 1 | 2 | 2 |
| *Bases (unweighted)*[b] | | | | | | | | | |
| *Men* | *335* | *411* | *545* | *557* | *559* | *542* | *271* | *60* | *3280* |
| *Women* | *429* | *606* | *696* | *749* | *635* | *581* | *335* | *112* | *4143* |
| *Bases (weighted)*[b] | | | | | | | | | |
| *Men* | *539* | *592* | *663* | *647* | *535* | *388* | *217* | *49* | *3631* |
| *Women* | *550* | *614* | *664* | *661* | *565* | *422* | *270* | *89* | *3834* |

[a] a The wording for each dimension varies; the three statements represent no problems, moderate problems and severe problems in each case.

[b] The bases shown here are for mobility. Other bases are of a similar magnitude.

Table 4.9

## Proportion with no health problems (EQ-5D), by age and sex

*Aged 16 and over* *2012*

| EQ-5D profile | Age group | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | 16-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65-74 | 75-85 | 85+ | |
| | % | % | % | % | % | % | % | % | % |
| **Men** | | | | | | | | | |
| No problems (health state 11111)[a] | 78 | 76 | 66 | 61 | 52 | 52 | 40 | 22 | 63 |
| Some problems (other health state) | 22 | 24 | 34 | 39 | 48 | 48 | 60 | 78 | 37 |
| **Women** | | | | | | | | | |
| No problems (health state 11111)[a] | 68 | 70 | 61 | 56 | 42 | 41 | 27 | 22 | 55 |
| Some problems (other health state) | 32 | 30 | 39 | 44 | 58 | 59 | 73 | 78 | 45 |
| *Bases (unweighted)* | | | | | | | | | |
| *Men* | *328* | *410* | *543* | *553* | *552* | *531* | *262* | *57* | *3236* |
| *Women* | *428* | *603* | *689* | *737* | *621* | *559* | *316* | *105* | *4058* |
| *Bases (weighted)* | | | | | | | | | |
| *Men* | *528* | *591* | *660* | *643* | *529* | *380* | *211* | *46* | *3587* |
| *Women* | *549* | *611* | *657* | *651* | *552* | *406* | *254* | *83* | *3764* |

[a] For each EQ-5D dimension there is a three way classification: no problems 1, moderate problems 2, and severe problems 3. Health states are defined based on this classification, with the health state 11111 representing no problems on any of the dimensions.

Table 4.10

## Proportion with no health problems (EQ-5D, age-standardised), by equivalised household income and sex

*Aged 16 and over* *2012*

| EQ-5D profile | Equivalised household income quintile | | | | |
|---|---|---|---|---|---|
| | Highest | 2nd | 3rd | 4th | Lowest |
| | % | % | % | % | % |
| **Men** | | | | | |
| No problems (health state 11111)[a] | 72 | 68 | 64 | 56 | 48 |
| Some problems (other health state) | 28 | 32 | 36 | 44 | 52 |
| **Women** | | | | | |
| No problems (health state 11111)[a] | 62 | 59 | 53 | 51 | 46 |
| Some problems (other health state) | 38 | 41 | 47 | 49 | 54 |
| *Bases (unweighted)* | | | | | |
| *Men* | *575* | *657* | *545* | *444* | *455* |
| Women | 636 | 709 | 669 | 647 | 652 |
| *Bases (weighted)* | | | | | |
| *Men* | *636* | *726* | *589* | *464* | *516* |
| *Women* | *605* | *667* | *604* | *569* | *593* |

[a] For each EQ-5D dimension there is a three way classification: no problems 1, moderate problems 2, and severe problems 3. Health states are defined based on this classification, with the health state 11111 representing no problems on any of the dimensions.

Table 4.11

## EQ-5D tariff, by age and sex

*Aged 16 and over* *2012*

| EQ-5D tariff[a] | Age group | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | 16-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65-74 | 75-85 | 85+ | |
| **Men** | | | | | | | | | |
| Median | 1.00 | 1.00 | 1.00 | 1.00 | 0.92 | 0.92 | 0.85 | 0.85 | 1.00 |
| 25th centile[b] | 0.92 | 0.92 | 0.85 | 0.80 | 0.80 | 0.80 | 0.73 | 0.73 | 0.80 |
| 75th centile | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.92 | 1.00 |
| **Women** | | | | | | | | | |
| Median | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 0.85 | 0.80 | 0.78 | 1.00 |
| 25th centile | 0.85 | 0.85 | 0.85 | 0.80 | 0.76 | 0.73 | 0.69 | 0.62 | 0.80 |
| 75th centile | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.92 | 0.92 | 1.00 |
| *Bases (unweighted)* | | | | | | | | | |
| *Men* | *371* | *482* | *585* | *592* | *591* | *564* | *286* | *80* | *3551* |
| *Women* | *462* | *679* | *742* | *783* | *639* | *587* | *360* | *125* | *4377* |
| *Bases (weighted)* | | | | | | | | | |
| *Men* | *592* | *693* | *714* | *692* | *569* | *405* | *230* | *65* | *3960* |
| *Women* | *594* | *689* | *706* | *696* | *573* | *426* | *287* | *99* | *4070* |

[a] Each participant is assigned to one of 243 possible 5-digit health states. A single tariff score is allocated to each health state, applying relative weights to each EQ-5D dimension as derived from a British general population sample using the time-trade off method. This process assigned the upper limit tariff of 1.00 to health state 11111, representing perfect health, and the second reference point is 0.00, representing death. The difference between these points represents a scale of severity in health states, with higher scores representing better self-reported health states. It is possible for some health states to have negative values, for health states judged to be worse than death.

[b] Centiles are values of a distribution that divide it into 100 equal parts. For example, the 75th centile is the value of a distribution where 75% of the cases have values at or below the 75th centile and 25% have values above it. The 50th centile is the median.

Table 4.12

## EQ-5D tariff (age-standardised), by equivalised household income and sex

*Aged 16 and over* *2012*

| EQ-5D tariff[a] | Equivalised household income quintile | | | | |
|---|---|---|---|---|---|
| | Highest | 2nd | 3rd | 4th | Lowest |
| **Men** | | | | | |
| Median | 1.00 | 1.00 | 1.00 | 1.00 | 0.92 |
| 25th centile[b] | 0.85 | 0.85 | 0.80 | 0.80 | 0.73 |
| 75th centile | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| **Women** | | | | | |
| Median | 1.00 | 1.00 | 0.92 | 0.92 | 0.92 |
| 25th centile | 0.80 | 0.80 | 0.80 | 0.76 | 0.73 |
| 75th centile | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| *Bases (unweighted)* | | | | | |
| *Men* | *605* | *700* | *581* | *466* | *494* |
| *Women* | *666* | *741* | *702* | *677* | *701* |
| *Bases (weighted)* | | | | | |
| *Men* | *671* | *772* | *633* | *492* | *567* |
| *Women* | *634* | *700* | *640* | *597* | *636* |

[a] Each participant is assigned to one of 243 possible 5-digit health states. A single tariff score is allocated to each health state, applying relative weights to each EQ-5D dimension as derived from a British general population sample using the time-trade off method. This process assigned the upper limit tariff of 1.00 to health state 11111, representing perfect health, and the second reference point is 0.00, representing death. The difference between these points represents a scale of severity in health states, with higher scores representing better self-reported health states. It is possible for some health states to have negative values, for health states judged to be worse than death.

[b] Centiles are values of a distribution that divide it into 100 equal parts. For example, the 75th centile is the value of a distribution where 75% of the cases have values at or below the 75th centile and 25% have values above it. The 50th centile is the median.

Table 4.13

## EQ-5D tariff (age-standardised), by self-reported general health and sex

*Aged 16 and over* *2012*

| EQ-5D tariff[a] | Self-reported general health | | | | |
|---|---|---|---|---|---|
| | Very good | Good | Fair | Bad | Very bad |
| **Men** | | | | | |
| Median | 1.00 | 1.00 | 0.80 | 0.69 | 0.69 |
| 25th centile[b] | 1.00 | 0.85 | 0.73 | 0.26 | 0.16 |
| 75th centile | 1.00 | 1.00 | 1.00 | 0.85 | 0.92 |
| **Women** | | | | | |
| Median | 1.00 | 1.00 | 0.80 | 0.66 | 0.62 |
| 25th centile | 0.92 | 0.80 | 0.69 | 0.29 | 0.16 |
| 75th centile | 1.00 | 1.00 | 0.92 | 0.78 | 0.92 |
| *Bases (unweighted)* | | | | | |
| *Men* | *1204* | *1496* | *633* | *154* | *62* |
| *Women* | *1416* | *1855* | *825* | *229* | *52* |
| *Bases (weighted)* | | | | | |
| *Men* | *1450* | *1675* | *636* | *138* | *59* |
| *Women* | *1365* | *1728* | *723* | *209* | *45* |

[a] Each participant is assigned to one of 243 possible 5-digit health states. A single tariff score is allocated to each health state, applying relative weights to each EQ-5D dimension as derived from a British general population sample using the time-trade off method. This process assigned the upper limit tariff of 1.00 to health state 11111, representing perfect health, and the second reference point is 0.00, representing death. The difference between these points represents a scale of severity in health states, with higher scores representing better self-reported health states. It is possible for some health states to have negative values, for health states judged to be worse than death.

[b] Centiles are values of a distribution that divide it into 100 equal parts. For example, the 75th centile is the value of a distribution where 75% of the cases have values at or below the 75th centile and 25% have values above it. The 50th centile is the median.

Table 4.14

## EQ-5D tariff (age-standardised), by longstanding illness and sex

*Aged 16 and over* *2012*

| EQ-5D tariff[a] | Longstanding illness | | |
|---|---|---|---|
| | No longstanding illness | Non-limiting longstanding illness | Limiting longstanding illness |
| **Men** | | | |
| Median | 1.00 | 1.00 | 0.80 |
| 25th centile[b] | 0.92 | 0.80 | 0.66 |
| 75th centile | 1.00 | 1.00 | 0.92 |
| **Women** | | | |
| Median | 1.00 | 0.92 | 0.73 |
| 25th centile | 0.85 | 0.80 | 0.62 |
| 75th centile | 1.00 | 1.00 | 0.85 |
| *Bases (unweighted)* | | | |
| *Men* | *2161* | *643* | *742* |
| *Women* | *2542* | *786* | *1044* |
| *Bases (weighted)* | | | |
| *Men* | *2596* | *640* | *718* |
| *Women* | *2465* | *693* | *907* |

[a] Each participant is assigned to one of 243 possible 5-digit health states. A single tariff score is allocated to each health state, applying relative weights to each EQ-5D dimension as derived from a British general population sample using the time-trade off method. This process assigned the upper limit tariff of 1.00 to health state 11111, representing perfect health, and the second reference point is 0.00, representing death. The difference between these points represents a scale of severity in health states, with higher scores representing better self-reported health states. It is possible for some health states to have negative values, for health states judged to be worse than death.

[b] Centiles are values of a distribution that divide it into 100 equal parts. For example, the 75th centile is the value of a distribution where 75% of the cases have values at or below the 75th centile and 25% have values above it. The 50th centile is the median.

Table 4.15

## EQ-5D visual analogue scale[a] (VAS) values, by age and sex

*Aged 16 and over* *2012*

| EQ-5D VAS values | Age group | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | 16-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65-74 | 75-85 | 85+ | |
| **Men** | | | | | | | | | |
| Median | 85 | 85 | 84 | 83 | 80 | 80 | 75 | 70 | 82 |
| 25th centile[b] | 79 | 75 | 70 | 71 | 70 | 70 | 60 | 60 | 70 |
| 75th centile | 93 | 91 | 90 | 90 | 90 | 90 | 89 | 85 | 90 |
| **Women** | | | | | | | | | |
| Median | 85 | 85 | 85 | 81 | 80 | 80 | 71 | 60 | 80 |
| 25th centile | 73 | 75 | 72 | 70 | 70 | 69 | 55 | 50 | 70 |
| 75th centile | 90 | 90 | 90 | 90 | 90 | 90 | 80 | 80 | 90 |
| *Bases (unweighted)* | | | | | | | | | |
| *Men* | *305* | *356* | *484* | *503* | *502* | *480* | *237* | *50* | *2917* |
| *Women* | *388* | *515* | *568* | *675* | *560* | *506* | *287* | *102* | *3601* |
| *Bases (weighted)* | | | | | | | | | |
| *Men* | *492* | *514* | *584* | *585* | *484* | *343* | *190* | *40* | *3232* |
| *Women* | *498* | *524* | *544* | *595* | *501* | *368* | *231* | *81* | *3341* |

[a] The VAS is part of the EQ-5D. A 'thermometer' scale is presented to participants, with zero representing the worst imaginable health state and 100 representing the best imaginable health state. Participants were asked to indicate how good or bad their own health state was that day.

[b] Centiles are values of a distribution that divide it into 100 equal parts. For example, the 75th centile is the value of a distribution where 75% of the cases have values at or below the 75th centile and 25% have values above it. The 50th centile is the median.

Table 4.16

## EQ-5D visual analogue scale (VAS) values (age-standardised), by equivalised household income and sex

*Aged 16 and over* *2012*

| EQ-5D VAS values[a] | Equivalised household income quintile | | | | |
|---|---|---|---|---|---|
| | Highest | 2nd | 3rd | 4th | Lowest |
| **Men** | | | | | |
| Median | 87 | 85 | 84 | 80 | 78 |
| 25th centile[b] | 78 | 75 | 75 | 69 | 60 |
| 75th centile | 91 | 90 | 90 | 90 | 90 |
| **Women** | | | | | |
| Median | 85 | 85 | 80 | 80 | 80 |
| 25th centile | 75 | 75 | 70 | 66 | 60 |
| 75th centile | 90 | 90 | 90 | 90 | 90 |
| *Bases (unweighted)* | | | | | |
| *Men* | *534* | *612* | *496* | *396* | *391* |
| *Women* | *586* | *648* | *588* | *570* | *555* |
| *Bases (weighted)* | | | | | |
| *Men* | *594* | *678* | *538* | *411* | *442* |
| *Women* | *562* | *609* | *533* | *496* | *504* |

[a] The VAS is part of the EQ-5D. A 'thermometer' scale is presented to participants, with zero representing the worst imaginable health state and 100 representing the best imaginable health state. Participants were asked to indicate how good or bad their own health state was that day.

[b] Centiles are values of a distribution that divide it into 100 equal parts. For example, the 75th centile is the value of a distribution where 75% of the cases have values at or below the 75th centile and 25% have values above it. The 50th centile is the median.

Table 4.17

## Factors associated with being in the bottom quartile of EQ-5D visual analogue scale (VAS) score[a]

*Aged 16 and over* — *2012*

| Independent variable | N | Odds ratio | 95% C.I.[b] | | Independent variable | N | Odds ratio | 95% C.I.[b] | |
|---|---|---|---|---|---|---|---|---|---|
| **Men** *Base (weighted)* | 2917 | | Lower | Upper | **Women** *Base (weighted)* | 3601 | | Lower | Upper |
| **Age (p=0.064)** | | | | | **Age (p=0.042)** | | | | |
| 116-24[c] | 305 | 1 | | | 16-24[c] | 388 | 1 | | |
| 25-34 | 356 | 1.78 | 1.05 | 3.03 | 25-34 | 515 | 0.95 | 0.64 | 1.40 |
| 35-44 | 484 | 2.05 | 1.25 | 3.36 | 35-44 | 568 | 0.88 | 0.60 | 1.28 |
| 45-54 | 503 | 1.52 | 0.92 | 2.51 | 45-54 | 675 | 0.88 | 0.58 | 1.33 |
| 55-64 | 502 | 1.61 | 0.95 | 2.72 | 55-64 | 560 | 0.54 | 0.34 | 0.86 |
| 65+ | 767 | 2.07 | 1.11 | 3.84 | 65+ | 895 | 0.52 | 0.31 | 0.88 |
| **Marital status (p<0.001)** | | | | | **Marital status (p=0.022)** | | | | |
| Single | 599 | 1.49 | 1.08 | 2.06 | Single | 647 | 1.05 | 0.77 | 1.42 |
| Married, civil partnership, cohabiting[c] | 1988 | 1 | | | Married, civil partnership, cohabiting[c] | 2190 | 1 | | |
| Divorced, widowed, separated | 330 | 2.16 | 1.55 | 3.00 | Divorced, widowed, separated | 764 | 1.39 | 1.10 | 1.76 |
| **Education status (p=0.003)** | | | | | **Education status (p=0.014)** | | | | |
| Degree or equivalent[c] | 804 | 1 | | | Degree or equivalent[c] | 923 | 1 | | |
| Below degree | 1560 | 1.40 | 1.08 | 1.80 | Below degree | 1907 | 1.30 | 1.01 | 1.66 |
| None | 553 | 1.74 | 1.26 | 2.40 | None | 771 | 1.61 | 1.17 | 2.22 |
| **Economic activity (p=0.055)** | | | | | **Economic activity (p=0.138)** | | | | |
| In employment[c] | 1686 | 1 | | | In employment[c] | 1798 | 1 | | |
| Unemployed | 165 | 1.45 | 0.94 | 2.24 | Unemployed | 167 | 0.98 | 0.61 | 1.57 |
| Retired | 770 | 0.97 | 0.68 | 1.39 | Retired | 978 | 1.39 | 0.94 | 2.06 |
| Other economically inactive | 296 | 1.64 | 1.11 | 2.43 | Other economically inactive | 658 | 1.32 | 1.02 | 1.70 |
| **Longstanding illness (p<0.001)** | | | | | **Longstanding illness (p<0.001)** | | | | |
| No longstanding illness[c] | 1742 | 1 | | | No longstanding illness[c] | 2039 | 1 | | |
| Non-limiting longstanding illness | 550 | 1.46 | 1.12 | 1.90 | Non-limiting longstanding as illness | 673 | 2.06 | 1.64 | 2.60 |
| Limiting longstanding illness | 625 | 5.42 | 4.20 | 6.98 | Limiting longstanding illness | 889 | 9.89 | 7.86 | 12.46 |
| **Cigarette smoking status (p<0.001)** | | | | | **Cigarette smoking status (p=0.007)** | | | | |
| Never smoker[c] | 1331 | 1 | | | Never smoker[c] | 1957 | 1 | | |
| Former smoker | 1015 | 1.46 | 1.15 | 1.86 | Former smoker | 1061 | 0.91 | 0.74 | 1.12 |
| Current smoker | 571 | 1.84 | 1.38 | 2.45 | Current smoker | 583 | 1.41 | 1.10 | 1.81 |
| **Alcohol consumption frequency (p<0.001)** | | | | | **Alcohol consumption frequency (p=0.321)** | | | | |
| At least weekly[c] | 1875 | 1 | | | At least weekly[c] | 1777 | 1 | | |
| Less but at least every couple of months | 556 | 1.24 | 0.94 | 1.63 | Less but at least every couple of months | 803 | 1.10 | 0.88 | 1.38 |
| Once or twice a year | 151 | 1.52 | 1.03 | 2.25 | Once or twice a year | 362 | 1.30 | 0.96 | 1.74 |
| Not in the last year/Non-drinker | 335 | 1.88 | 1.37 | 2.59 | Not in the last year/Non-drinker | 659 | 1.19 | 0.91 | 1.56 |
| **Body mass index status (p=0.002)** | | | | | **Body mass index status (p<0.001)** | | | | |
| Not overweight or obese (BMI less than 25kg/m$^2$)[c] | 787 | 1 | | | Not overweight or obese (BMI less than 25kg/m$^2$)[c] | 1282 | 1 | | |
| Overweight (BMI 25 to less than 30kg/m$^2$ | 1157 | 1.13 | 0.85 | 1.51 | Overweight (BMI 25 to less than 30kg/m$^2$ | 999 | 1.33 | 1.04 | 1.69 |
| Obese (BMI 30kg/m$^2$ or more) | 666 | 1.69 | 1.23 | 2.34 | Obese (BMI 30kg/m$^2$ or more) | 794 | 2.04 | 1.57 | 2.65 |
| Not measured | 307 | 1.25 | 0.87 | 1.80 | Not measured | 526 | 1.47 | 1.12 | 1.93 |
| **Physical activity (p=0.003)[d]** | | | | | **Physical activity (p<0.001)[d]** | | | | |
| Met guidelines[c] | 1930 | 1 | | | Met guidelines[c] | 2032 | 1 | | |
| Low/Some activity | 426 | 1.47 | 1.11 | 1.96 | Low/Some activity | 675 | 1.54 | 1.20 | 1.97 |
| Inactive | 561 | 2.25 | 1.74 | 2.90 | Inactive | 894 | 2.03 | 1.63 | 2.53 |

[a] The VAS is part of the EQ-5D. A 'thermometer' scale is presented to participants, with zero representing the worst imaginable health state and 100 representing the best imaginable health state. Participants were asked to indicate how good or bad their own health state was that day.

[b] Confidence interval.

[c] Reference category.

[d] *Met guidelines:* At least 150 minutes of moderately intensive physical activity (MPA) or 75 minutes of vigorous physical activity (VPA) per week, or an equivalent combination of the two. This is the minimum level of activity recommended by the Department of Health to benefit health; these revised guidelines were introduced in 2011.
*Low/Some activity:* 30-149 minutes of MPA per week, or 15-74 minutes of VPA per week, or an equivalent combination of the two.
Inactive: Less than 30 minutes of MPA per week, or less than 15 minutes of VPA per week, or an equivalent combination of the two.