Health Survey for England 2016
Well-being and mental health

Published 13 December 2017

This report examines the prevalence of subjective well-being and mental ill-health in England in 2016, using the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) and the 12-item General Health Questionnaire (GHQ-12). It compares well-being and mental ill health in different population groups by age, sex, region, household income and area deprivation as well as lifestyle factors, BMI and physical activity.

Key findings

- WEMWBS is scored on a range from 14 to 70; average well-being scores for men and women in England were 50.1 and 49.6 respectively. This is a decline from 2015 when the scores were 51.7 and 51.5 respectively.
- Men and women living in more deprived areas had lower well-being scores, on average, than those living in less deprived areas. Those living in the most deprived areas had average well-being scores of 48.6 for men and 47.3 for women, compared with 51.5 and 51.0 respectively among those living in the least deprived areas.
- The GHQ-12 is scored on a range from 0 to 12, with a score of 4 or more indicative of probable mental ill health. Women were more likely than men to report a GHQ-12 score of 4 or more (21% of women and 16% of men).
- 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 13% of men and 17% of women in the highest income quintile.
- Men and women with a high GHQ-12 score had lower average well-being scores than those with lower GHQ-12 scores. Average well-being scores for those who scored at least 4 on the GHQ-12 were 40.8 for both men and women compared with 53.3 for men and 53.4 for women with a GHQ-12 score of 0.
- The proportion of adults with high GHQ-12 scores has increased since 2012, from 15% to 19%. This increase is particularly apparent among young men aged between 16 and 34, and young women aged between 16 and 24.

Authors: Sarah Morris and Kate Earl, NatCen Social Research
Responsible Statistician: Alison Neave, Population Health
ISBN: 978-1-78734-099-2

www.digital.nhs.uk
@nhsdigital

Contents

Key findings 1

This is a National Statistics publication 3

Introduction 4

Contents 4

Background 4

Methods and definitions 5

Methods 5

Definitions 6

The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) 6

The General Health Questionnaire (GHQ-12) 7

Body mass index (BMI) 7

Physical activity 8

Index of Multiple Deprivation 8

Age-standardisation 9

About the survey estimates 9

Well-being 10

Well-being scores, by sex and age 10

Well-being scores, by region, equivalised household income and Index of Multiple Deprivation (IMD) 10

Well-being scores, by 12-item General Health Questionnaire (GHQ-12) scores and sex 12

Well-being scores, by Body Mass Index (BMI) status and physical activity 12

Well-being scores from 2010 to 2016 14

GHQ-12 scores 15

GHQ-12 scores, by sex and age 15

GHQ-12 scores, by region and sex 15

GHQ-12 scores, by equivalised household income and Index of Multiple Deprivation (IMD) 16

GHQ-12 scores, by Body Mass Index (BMI) status and physical activity 17

Trends over time in GHQ-12 scores 19

This is a National Statistics publication

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value.

All official statistics should comply with all aspects of the Code of Practice for Official Statistics. They are awarded National Statistics status following an assessment by the Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is NHS Digital's responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

Find out more about the Code of Practice for Official Statistics at www.statisticsauthority.gov.uk/assessment/code-of-practice

ISBN 978-1-78734-099-2

This report may be of interest to members of the public, policy officials, people working in public health and to commissioners of health and care services to see subjective well-being scores and self-reported mental health among adults in England.

Introduction

Contents

This report explores subjective well-being as measured by the Warwick Edinburgh Mental Well-Being Scale (WEMWBS), and self-reported mental health, as assessed by the General Health Questionnaire (GHQ-12). The data were based on measurements of a representative sample of the general population aged 16 and over, and were used to show the overall prevalence of well-being and probable mental ill health, with comparisons by sex, age, region, household income and deprivation, as well as lifestyle factors, physical activity and Body Mass Index (BMI).

Detailed tables accompanying this report can be accessed via http://digital.nhs.uk/pubs/hse2016

Background

Mental well-being is important as an indicator of quality of life.[1] Mental well-being is not just the absence of mental ill health; it includes the way that people feel about themselves and their lives. In the absence of a singular definition, it is generally thought to be made up of things like the experience of positive emotions, people's perceptions that the things they do in their lives are meaningful and worthwhile, and life satisfaction. Mental well-being is a critical measure of the population's overall health status and a key marker of health inequalities.[2]

The World Health Organization (WHO) considers mental well-being to be fundamental to their definition of mental health.[3] Recent UK government policy has included a focus on well-being across a broad range of areas, not confined to public health.[4] Although this includes a focus on improving national well-being in order to reduce the proportion of the population with mental ill health, in 2014 Chief Medical Officer, Dame Sally Davies, suggested that there was a lack of evidence that the promotion of well-being does have an effect on the number of people currently experiencing mental ill health.[5]

The relationship between well-being and mental health is complex with a number of factors affecting both, including socioeconomic circumstances, personality and changes across the life course. Mental disorders are the largest cause of disability within the UK and have been identified as a predictor of life expectancy, quality of life,

[1] Department of Health. *Healthy Lives, Healthy People: Our strategy for public health in England.* Department of Health, 2010. http://webarchive.nationalarchives.gov.uk/20130315114143/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_122347.pdf

[2] HM Government, *No Health Without Mental Health: A cross-government mental health outcomes strategy for people of all ages.* HM Government, 2011. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213761/dh_124058.pdf

[3] World Health Organization. *Mental Health Action Plan 2013-2020*. World Health Organization, 2013. apps.who.int/iris/bitstream/10665/89966/1/9789241506021_eng.pdf?ua=1

[4] Cabinet Office. *Wellbeing: policy and analysis.* Cabinet Office, 2014. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224910/Wellbeing_Policy_and_Analysis_FINAL.PDF

[5] Davies, S, C. *Annual Report of the Chief Medical Officer 2013, Public Mental Health Priorities: Investing in the Evidence.* Department of Health, London, 2014. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/413196/CMO_web_doc.pdf

life satisfaction and recovery from episodes of physical ill health.[6] Individuals with severe mental disorders are more likely to have co-morbid physical health problems and a higher risk of premature death, and experience worse physical health in general when compared to the general population.[7]

The latest Adult Psychiatric Morbidity Survey (2014) showed that the prevalence rates of common mental disorder (CMD) have increased since 2000 among women, although they have remained largely stable for men. One adult in six had a CMD. Young women in particular were identified as a high-risk group, with high rates of CMD, self-harm and positive screens for post-traumatic stress disorder (PTSD) and bipolar disorder.[8]

Early support for mental health disorders can reduce subsequent problems and improve people's life expectancy. Recognition of this has led to recent initiatives directed towards improving mental health and well-being.[9] The NHS Outcomes Framework for 2015/16 outlined premature mortality in people with mental disorder as a target area for improvement.[10]

In 2014, NHS England published the *Five Year Forward Review*, setting out a vision for the future of the NHS, with particular ambitions for mental health, focusing on care for mental health at the local community level and better integration of mental health services between hospital and primary care providers.[11] Assessments of progress since its publication were outlined in 2017 in the NHS report *Next Steps on the NHS Five Year Review* and included increased investment in mental health funding, more people receiving specialist mental health treatment and meeting waiting time standards. The NHS has since published a Mental Health Implementation Plan, outlining additional funding of £1bn per year for mental health services by 2020/21 to support delivery of the recommendations. Priorities were identified as increase of access to perinatal care, providing care closer to and at home for young people and adults, increased crisis care liaison services in emergency departments and patient wards and suicide prevention.

This report presents key findings, charts and tables from the 2016 Health Survey for England. Further details of trends for well-being are given in the HSE 2016 Trend tables.

Methods and definitions

Methods

The HSE 2016 survey included questions on well-being and mental health in a paper

[6] Public Health England. *Well-being in mental health: Applying All Our Health*. Public Health England, 2017. https://www.gov.uk/government/publications/well-being-in-mental-health-applying-all-our-health/well-being-in-mental-health-applying-all-our-health.

[7] Steptoe A, Deaton A, & Stone A. A. *Psychological wellbeing, health and ageing. Lancet 385*(9968), 640–648, 2015.

[8] McManus S, Bebbington P, Jenkins R, Brugha T. (eds.). *Mental health and wellbeing in England: Adult Psychiatric Morbidity Survey 2014.* NHS Digital, Leeds, 2016.

[9] Royal College of Psychiatrists. *No health without public mental health: The case for action.* Royal College of Psychiatrists, 2010.

[10] Department of Health*. The NHS Outcomes Framework 2015/16.* Department of Health, 2015.

[11] NHS England. *Five Year Forward Review 2014.* NHS England, 2014. https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf

self-completion questionnaire, which was administered to adults during the face to face interview. Data on well-being was collected using the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS), and data on self-reported mental health using the General Health Questionnaire (GHQ-12).

Well-being data has been collected using WEMWBS in the HSE every year since 2010. The GHQ-12 has been included in the HSE in past years, every four years since 2000. The HSE 2016 survey also included one of the four Office for National Statistics personal well-being questions, covering life satisfaction.[12] This question was not included for analysis in this report.[13]

Definitions

The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS)

The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) is a widely used and validated measure of subjective and psychological functioning.[14] It was developed to capture a broad concept of positive mental well-being and incorporates both eudaimonic and hedonic perspectives on well-being.[15] A eudaimonic perspective on well-being relates to the degree to which a person is fully functioning and focuses on social relationships, and self-realisation; perceptions of whether the things they do in life are meaningful or worthwhile. A hedonic perspective on well-being focuses on the subjective experience of happiness and life satisfaction, and relates to experience of pleasure and the avoidance of pain.

WEMWBS has 14 statements which cover psychological functioning, cognitive-evaluative dimensions and affective-emotional aspects of well-being. For each statement participants are asked to tick the box that best describes their experience over the previous two weeks. Responses are presented as a Likert scale: 'None of the time', 'Rarely', 'Some of the time', 'Often', or 'All of the time'. The statements are all expressed positively – for example, 'I've been feeling optimistic about the future'. The scale is scored by summing responses to each item. The responses, from 1 to 5, are aggregated to form the Index, which can range from 14 (those who answer 'None of the time' on every statement) to 70 (those who answer 'All of the time' to all statements).

WEMWBS scores are presented as means, medians and as the 10th and 90th centiles.[16] They are not further classified into categories.

[12] Office for National Statistics. *Harmonised Concepts and Questions for Social Data Sources: Personal Well-being.* Office for National Statistics, Version 1.1, 2015.

[13] Office for National Statistics measures of well-being are reported in full here: https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/measuringnationalwellbeing/july2016tojune2017

[14] The Warwick-Edinburgh Mental Scale was funded by the Scottish Government National Programme for Improving Mental Health and Well-being, commissioned by NHS Health Scotland, developed by the University of Warwick and the University of Edinburgh, and is jointly owned by NHS Health Scotland, the University of Warwick and the University of Edinburgh.

[15] Tennant R, Hiller L, Fishwick R, Platt S, Joseph S et al. *The Warwick-Edinburgh mental scale (WEMWBS): development and UK validation.* Health and Quality of Life Outcomes 2007;5:1-13.

[16] Centiles are values of a distribution that divide it into 100 equal parts. For example, the 10th centile is the value of a distribution where 10% of the cases have values at or below the 10th centile and 90% have values above it. The 50th centile is the median.

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.[17]

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. The GHQ-12 concentrates on the broader components of psychological morbidity (ill health) and consists of 12 items measuring such characteristics as general levels of happiness, depression, anxiety, sleep disturbance and self-confidence. Six questions are positively phrased and six questions negatively so. Response options are not uniform but 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', or, if present, 'no more than usual', 'rather more than usual', or '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. Each symptom was scored either 0 if 'not at all present' or present 'no more than usual', or 1 for symptoms that were present 'rather more than usual' or 'much more than usual').[17] 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 to 3 (indicating less than optimal mental health), and 4 or more (indicating probable psychological disturbance or mental ill health).[18]

Body mass index (BMI)

BMI is a calculation which considers an individual's weight in relation to their height. For each participant with a valid height and weight measurement, their BMI status was calculated by dividing their weight in kilograms by the square of their height in metres (kg/m^2).

Adult survey participants were classified into the following BMI groups according to the World Health Organization (WHO) BMI classification, shown in the table below.[19]

[17] Goldberg D, Williams PA. *User Guide to the General Health Questionnaire.* NFER-Nelson, Windsor, UK, 1988.

[18] A threshold score of 4 was chosen as the suggested level for identifying 'cases' of mental illness, i.e. individuals with a possible psychiatric illness. Although this threshold is known to generate quite a high level of false positives (individuals who have a score of 4 and above but on psychiatric examination have no psychiatric illness), it was found to be the most suitable cut-off point for the purposes of the HSE reports, providing large enough numbers for analysis. There is no universally used 'threshold' score for GHQ-12 because the populations it is used on vary considerably. The author of the questionnaire suggested that a threshold is chosen which is the same as that used on surveys among similar populations, hence both the original choice of 4 as the threshold for HSE reports, to be comparable with existing surveys, and the continued use of the same threshold in subsequent HSE reports. See note 17.

[19] World Health Organization. *World Health Organization body mass index (BMI) classification*. http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi

BMI (kg/m^2)	Description
Less than 18.5	Underweight
18.5 to less than 25	Normal
25 to less than 30	Overweight, not obese
30 or more	Obese, including morbidly obese
40 or more	Morbidly obese

For a more detailed discussion of BMI, see the HSE 2016 Adult Overweight and Obesity report.

Physical activity

The Chief Medical Officers have outlined the benefits of physical activity on well-being and mental health by reducing the risk of depression and improving self-perception and self-esteem, mood and reducing levels of anxiety and fatigue.[20] As part of the face to face interview, participants were asked detailed questions about types and amounts of physical activity they had done in the last four weeks. From this data levels of physical activity were calculated in relation to government recommendations.[21] The activity groups used in analysis were as follows:

- Meets aerobic guidelines: At least 150 minutes moderately intensive physical activity or 75 minutes vigorous activity per week or an equivalent combination of these
- Some activity: 60 to 149 minutes moderate activity or 30-74 minutes vigorous activity per week or an equivalent combination of these
- Low activity: 30 to 59 minutes moderate activity or 15 to 29 minutes vigorous activity per week or an equivalent combination of these
- Inactive: Less than 30 minutes moderate activity or less than 15 minutes vigorous activity per week or an equivalent combination of these.

For a more detailed discussion of physical activity levels, see the 2016 Adult physical activity report.

Index of Multiple Deprivation

The English Indices of Deprivation 2015, which measure and rank local levels of deprivation, are calculated by the Department for Communities and Local Government. The indices are based on 37 indicators, across seven domains of deprivation.[21] The Index of Multiple Deprivation (IMD) is a measure of the overall deprivation experienced by people living in a neighbourhood.[22]

[20] Department of Health. *Start Active, Stay Active. A report on physical activity for health from the four home countries'.* Chief Medical Officers, 2011.
https://www.sportengland.org/media/2928/dh_128210.pdf

[21] The seven domains used to calculate IMD are: income deprivation; employment deprivation; health deprivation and disability; education; skills and training deprivation; crime; barriers to housing and services; and living environment deprivation.

[22] Department for Communities and Local Government. *The English Indices of Deprivation 2015,* London, 2015.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/465791/English_Indices_of_Deprivation_2015_-_Statistical_Release.pdf

In this publication IMD rankings have been split into quintiles. The lowest quintile indicates the lowest levels of deprivation; the highest quintile indicates that the neighbourhood experiences the highest levels of deprivation. Not everyone who lives in a deprived neighbourhood will be deprived themselves.

Age-standardisation

Age-standardised data are presented in this report for most analyses shown in the text, tables and charts. Age-standardisation allows comparisons between groups after adjusting for the effects of any differences in their age distributions.

For regions, both observed and age-standardised data are provided. Those wishing to ascertain the actual levels of WEMWBS and GHQ-12 scores, etc. in each region should use the observed data, while those making comparisons between regions should use the age-standardised data. The comments on region in this report are based on age-standardised results.

About the survey estimates

The Health Survey for England, in common with other surveys, collects information from a sample of the population. The sample is designed to represent the whole population as accurately as possible within practical constraints, such as time and cost. Consequently, statistics based on the survey are estimates, rather than precise figures, and are subject to a margin of error, also known as a 95% confidence interval. For example the survey estimate might be 24% with a 95% confidence interval of 22% to 26%. A different sample might have given a different estimate, but we expect that the true value of the statistic in the population would be within the range given by the 95% confidence interval in 95 cases out of 100.

Where differences are commented on in this report, these reflect the same degree of certainty that these differences are real, and not just within the margins of sampling error. These differences can be described as statistically significant.[23]

Confidence intervals are quoted for key statistics within this report and are also shown in more detail in the Excel tables accompanying the Methods report. Confidence intervals are affected by the size of the sample on which the estimate is based. Generally, the larger the sample, the smaller the confidence interval, and hence the more precise the estimate.

[23] Statistical significance does not imply substantive importance; differences that are statistically significant are not necessarily meaningful or relevant.

Well-being

Well-being scores, by sex and age

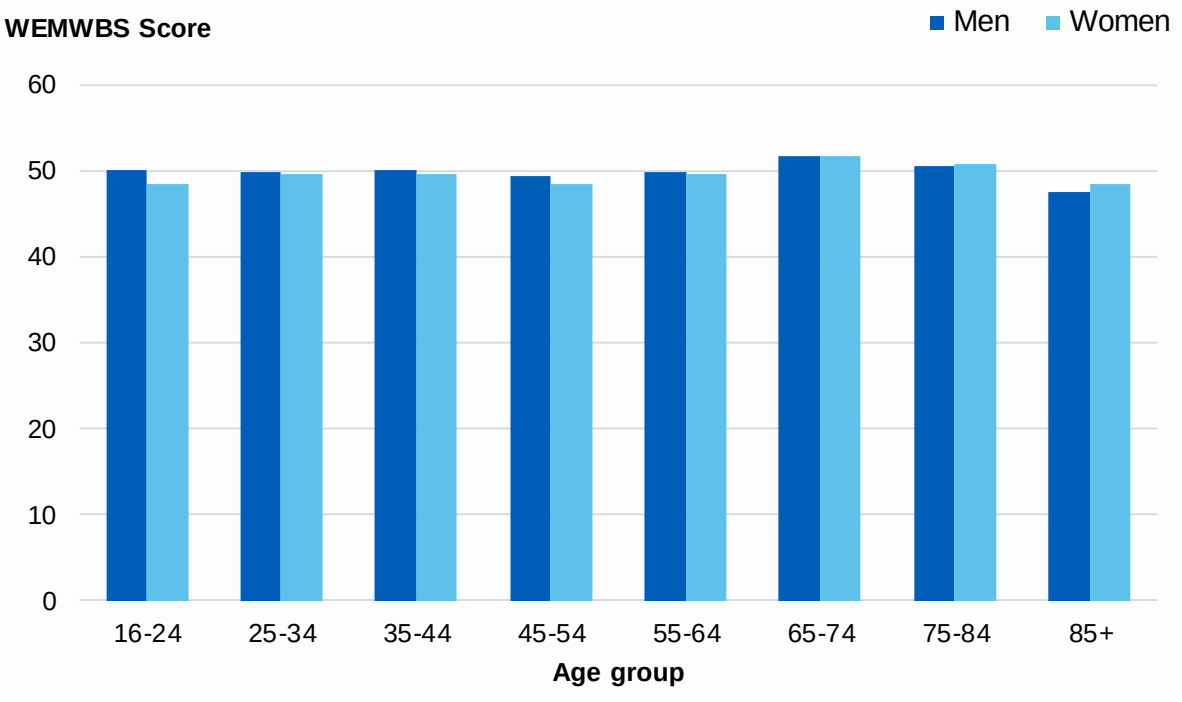
The mean well-being score for all adults was 49.9. As explained in the Introduction to this report, survey estimates are subject to a margin of error. It is likely that the mean score for adults in the population is between 49.6 and 50.1.

Mean well-being scores were higher for men than women (50.1 and 49.6 respectively). There was little variation among men and women aged under 65. The highest mean well-being scores were reported in the 65 to 74 year age group (51.7 for both men and women), before declining for both men and women aged 75 years and over.

Figure 1, Table 1

Figure 1: WEMWBS mean score, by sex and age

Base: Aged 16 and over



Source: NHS Digital

Well-being scores, by region, equivalised household income and Index of Multiple Deprivation (IMD)

Estimates by region are shown in the tables both as observed and age-standardised to account for the different age profiles across different regions. After age-standardisation, there was variation across regions in mean well-being. Age-standardised mean scores were highest in the south and east, lower elsewhere.

Table 2

Figure 2 shows the association between mean well-being scores and equivalised household income. Equivalised income takes into account the number of people living

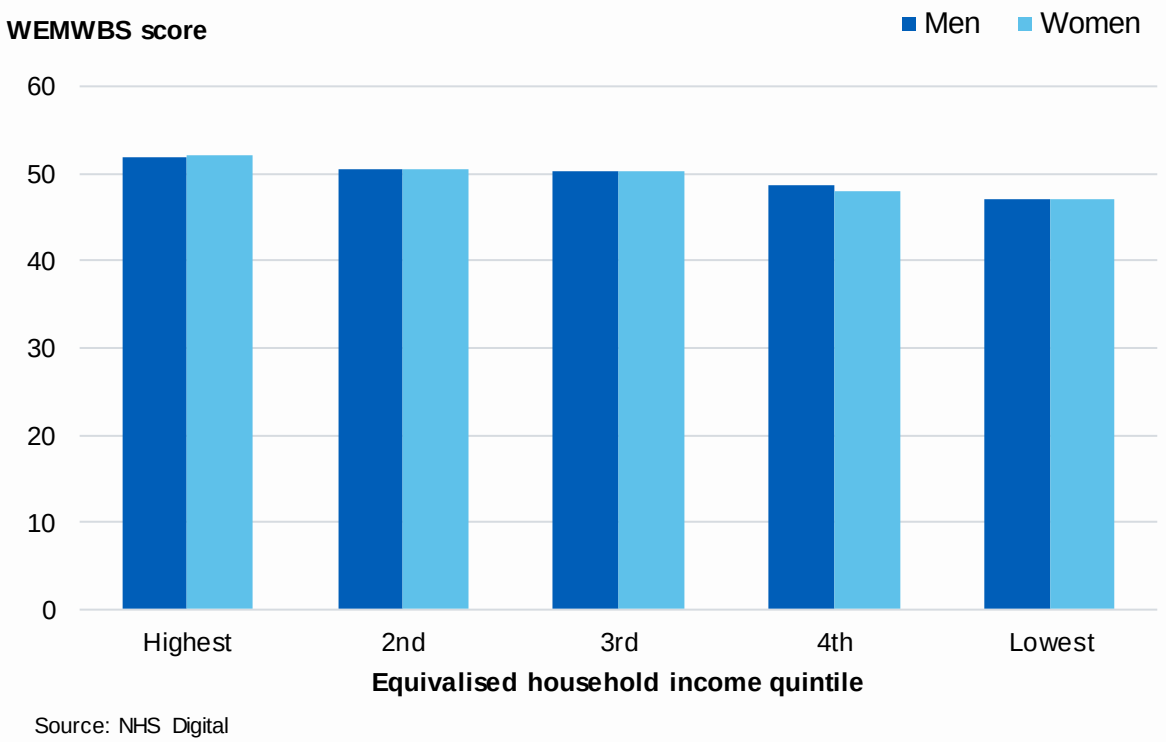
in the household. The quintiles (fifths) are based on the distribution of income across households, and by definition approximately one fifth of the whole HSE sample falls into each quintile. Equivalised household income estimates are age-standardised in the tables to account for the different age profiles across household incomes.

Average well-being scores decreased as household income decreased. Men and women in the lowest quintile of equivalised household income reported the lowest well-being scores, 47.1 for both men and women, increasing to 52.0 for both men and women in the highest quintile.

Figure 2, Table 3

Figure 2: WEMWBS mean score (age-standardised), by equivalised household income and sex

Base: Aged 16 and over



Source: NHS Digital

IMD is a measure of area deprivation, described in the Methods and definitions section of this report. To enable comparisons, areas are classified into quintiles (fifths). Scores within IMD quintiles have been age-standardised to account for different area age profiles.

Mean well-being scores varied by area deprivation for both men and women. Age-standardised scores were lower for men and women living in the most deprived areas (48.0 for all adults; 48.6 and 47.3 respectively for men and women), while adults living in the least deprived areas reported the highest mean well-being scores (51.2 for all adults, 51.5 for men, 51.0 for women).

Table 4

Well-being scores, by 12-item General Health Questionnaire (GHQ-12) scores and sex

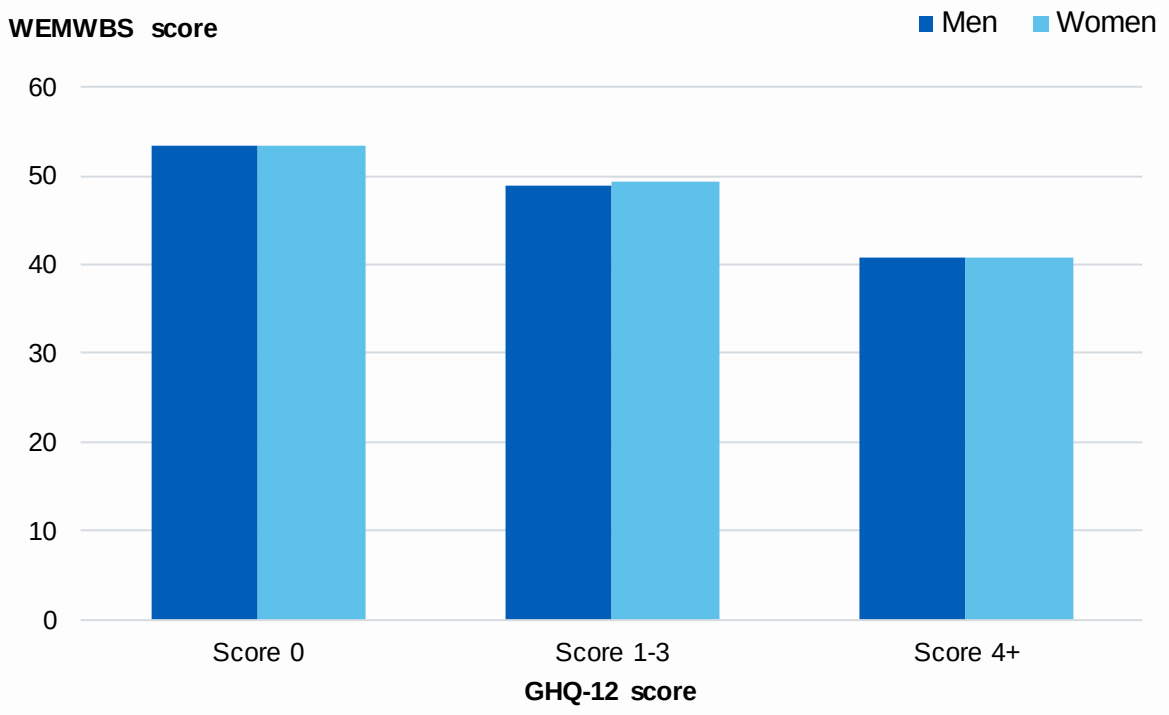
For an explanation of the GHQ-12 categories, see the Methods and definitions section of this report. The data for each category have been age-standardised to account for differences in age profiles between categories.

There was significant variation in average well-being scores according to GHQ-12 score, even after age had been taken into account. A high GHQ-12 score indicates probable psychological disturbance or mental ill health. Both men and women with high GHQ-12 scores (4 and over) had, on average, lower well-being scores than those with a GHQ-12 score of 0. The mean WEMWBS scores were 40.8 for both men and women with a high GHQ-12 score compared with 53.3 for men and 53.4 for women with a score of 0.

Figure 3, Table 5

Figure 3: WEMWBS mean score, by GHQ-12 score and sex

Base: Aged 16 and over



Source: NHS Digital

Well-being scores, by Body Mass Index (BMI) status and physical activity

BMI is a measurement that is used to define overweight or obesity. Physical activity has been categorised in relation to current government recommendations for adults aged between 19 and 65. For more information on each, see the Methods and definitions section of this report. For both measures, the data for each category have been age-standardised to account for differences in age profiles between categories.

Mean well-being scores varied according to BMI status, although in a different way for men and women. Men and women with a BMI status of obese had the lowest mean well-being scores (49.5 for men and 48.3 for women). Men classified as overweight had the highest mean well-being scores, while for women the highest mean well-being scores were among those who were not overweight or obese.

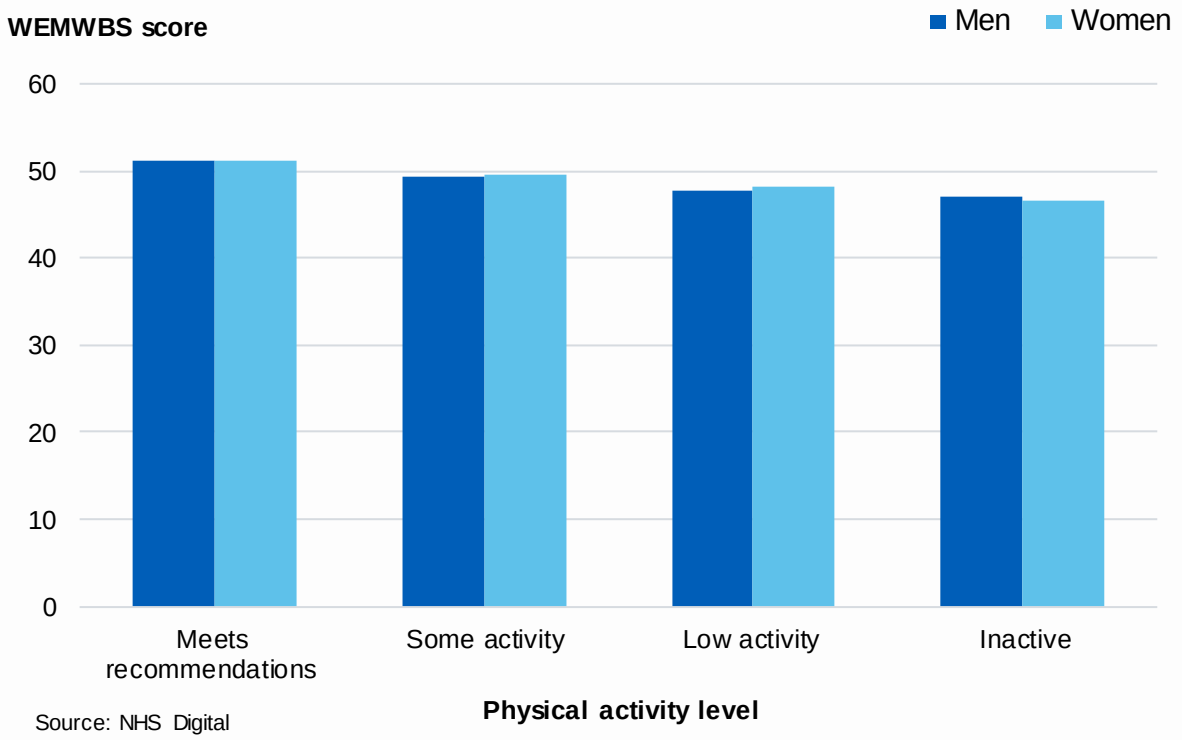
Table 6

Average well-being scores also varied according to the levels of physical activity participants reported. Those who were inactive had the lowest well-being scores (47.1 in men and 46.6 in women). Men and women who reported meeting current government recommendations had the highest well-being scores (51.3 for men and 51.1 for women).

Figure 4, Table 7

Figure 4: WEMWBS mean score, by physical activity and sex

Base: Aged 16 and over



Source: NHS Digital

Well-being scores from 2010 to 2016

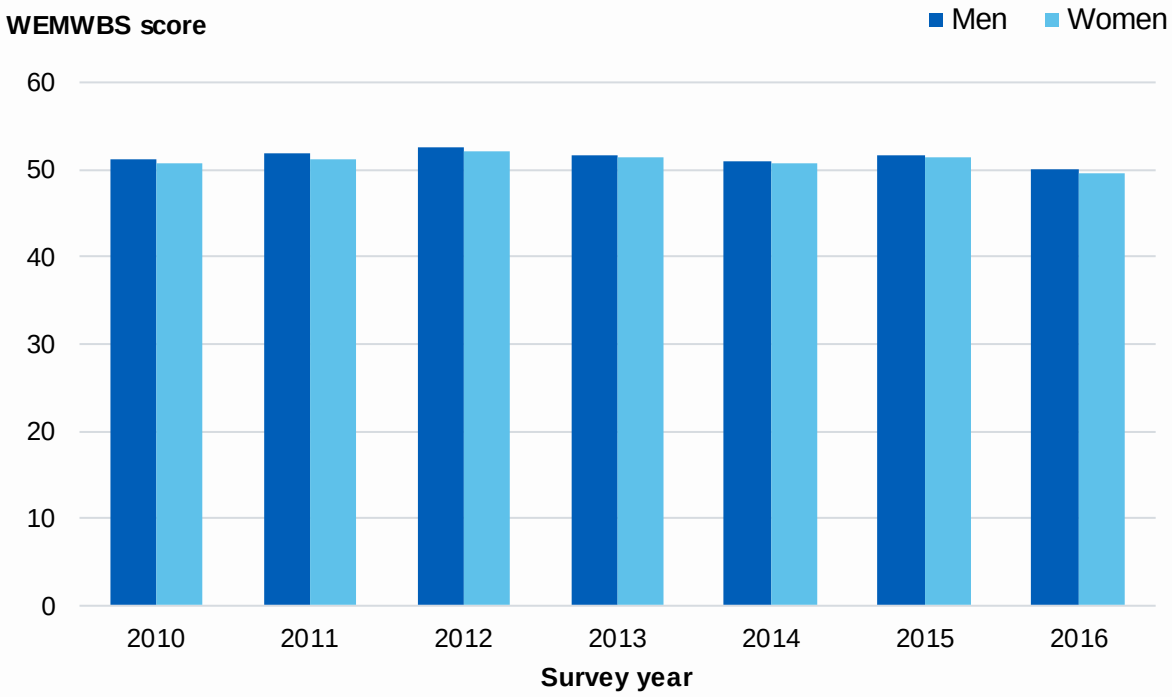
Trend data on mean well-being scores is presented in the HSE 2016 Adult Health Trends report.[24] From 2010 to 2015, mean well-being scores varied between 51 and 53 for both men and women, with no clear trend.

In 2016, mean well-being scores for both men and women were lower than in 2015 (50.1 for men in 2016, compared with 51.7 in 2015; 49.6 for women in 2016, compared with 51.5 in 2015). Additional years' data will be required to show whether this is the start of a downward trend, or an anomalous result.

Figure 5

Figure 5: WEMWBS mean score, by survey year, age and sex

Base: Adults aged 16 and over



Source: NHS Digital

[24] Available at http://digital.nhs.uk/pubs/hse2016

GHQ-12 scores

GHQ-12 scores, by sex and age

More than half (54%) of adults had a GHQ-12 score of 0, 28% had a score of 1 to 3, and 19% had a score of 4 or more, indicative of probable mental ill health. As explained in the Introduction to this report, survey estimates are subject to a margin of error. It is likely that the proportion of adults in the population with a GHQ-12 score of 4 or more is between 17% and 20%.

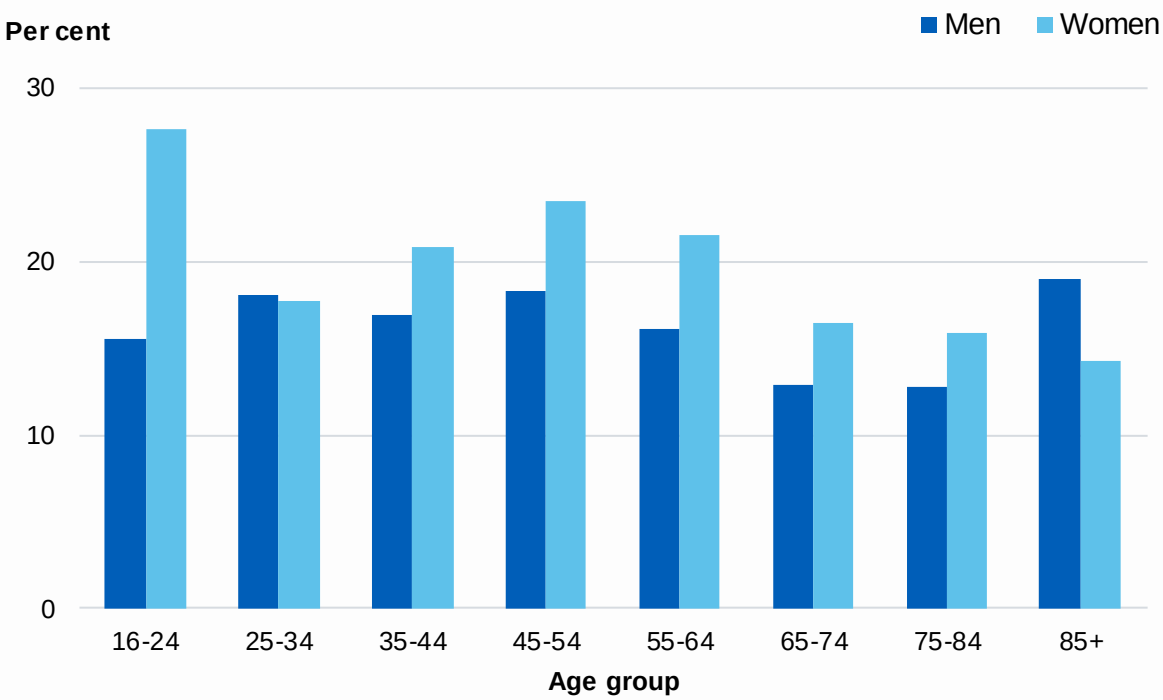
Women were more likely than men to report a GHQ-12 score of 4 or more, 21% of women compared with 16% of men. Among women, prevalence of a high GHQ-12 score was highest for young women aged 16 to 24 (28%). It was lower among women aged between 25 and 34 (18%), but increased to 24% of women aged between 45 and 54, and then declined thereafter with age to 14% among those aged 85 and over.

Among men, prevalence was between 16% and 18% for men aged 16 to 64, and dipped to 13% among men aged 65 to 84, reaching a peak of 19% among men aged 85 and over.

Figure 6, Table 8

Figure 6: Prevalence of a high GHQ-12 score, by sex and age

Base: Aged 16 and over



Source: NHS Digital

GHQ-12 scores, by region and sex

The proportions of men and women with a high GHQ-12 score varied across regions. Among men, the age-standardised proportions with a GHQ-12 score of 4 or more

ranged from 14% in London and the South East to 22% in the North East. Among women, the range was from 16% in the East Midlands and the South East to 26% in Yorkshire and the Humber.

Table 9

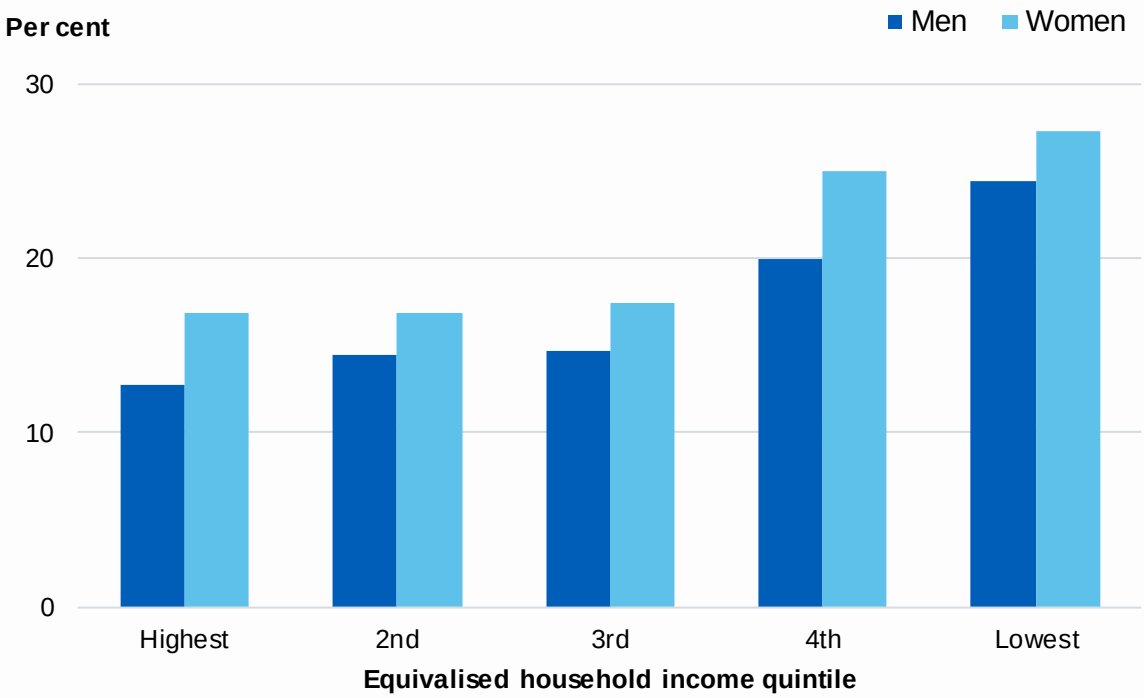
GHQ-12 scores, by equivalised household income and Index of Multiple Deprivation (IMD)

The prevalence of probable mental ill health varied with equivalised household income. After age-standardisation, for both men and women, the proportions with high GHQ-12 scores were higher in the two lowest quintiles than in the three higher income quintiles. 24% of men and 27% of women in the lowest quintile of equivalised household income recorded a high GHQ-12 score, as did 20% of men and 25% of women in the next lowest quintile. The prevalence of high scores in the three higher income quintiles varied between 13% and 15% for men and was 17% across quintiles for women.

Figure 7, Table 10

Figure 7: Age-standardised prevalence of a high GHQ-12 score, by equivalised household income

Base: Aged 16 and over



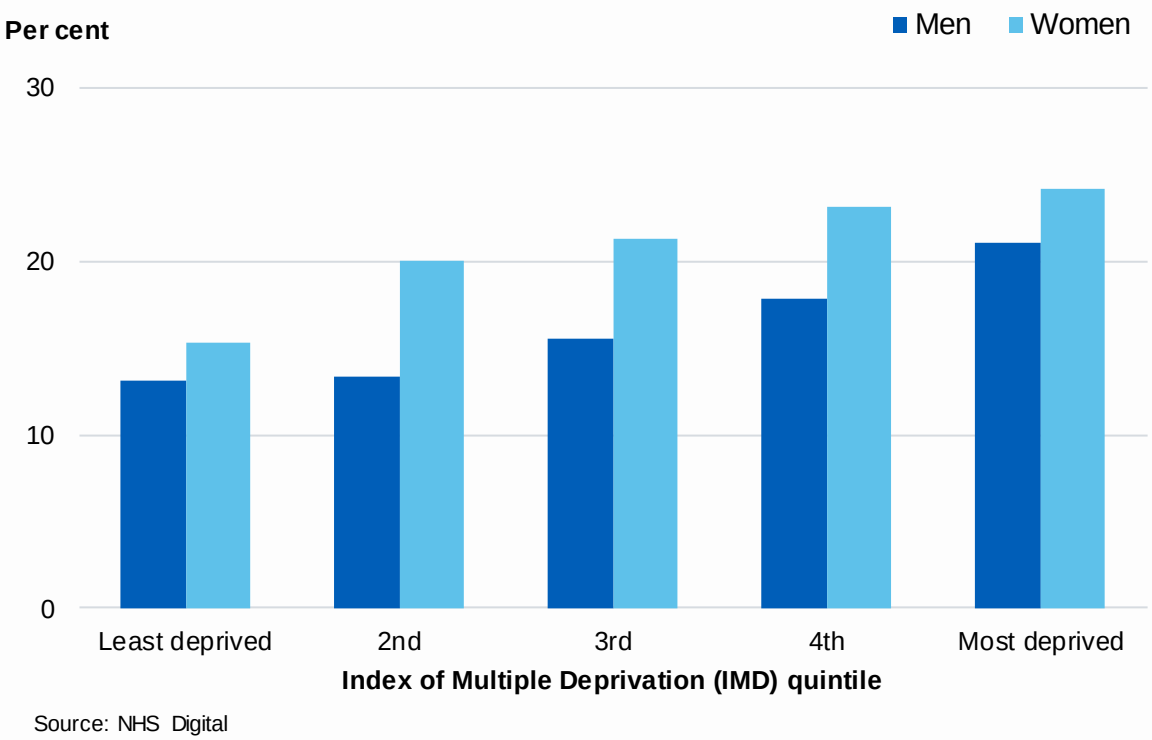
Source: NHS Digital

Prevalence of high GHQ-12 scores, indicating probable mental ill health, also increased with area deprivation among both men and women. In the least deprived IMD quintile, 13% of men and 15% of women had a GHQ-12 score of 4 or more, compared with 21% of men and 24% of women in the most deprived quintile.

Figure 8, Table 11

Figure 8: Age-standardised prevalence of a high GHQ-12 score, by Index of Multiple Deprivation (IMD) and sex

Base: Aged 16 and over



Source: NHS Digital

GHQ-12 scores, by Body Mass Index (BMI) status and physical activity

BMI is a measurement that is used in the HSE to define overweight or obesity, as described in the Methods and definitions section of this report. Among men and women, prevalence of probable mental ill health as indicated by a high GHQ-12 score was highest among those who were obese (19% of men and 26% of women). Overweight men were less likely than those who were neither overweight nor obese to have high GHQ-12 scores (13% compared to 16%), whereas among women prevalence was similar among both groups (18% among those who were overweight, and 17% neither overweight nor obese).

Table 12

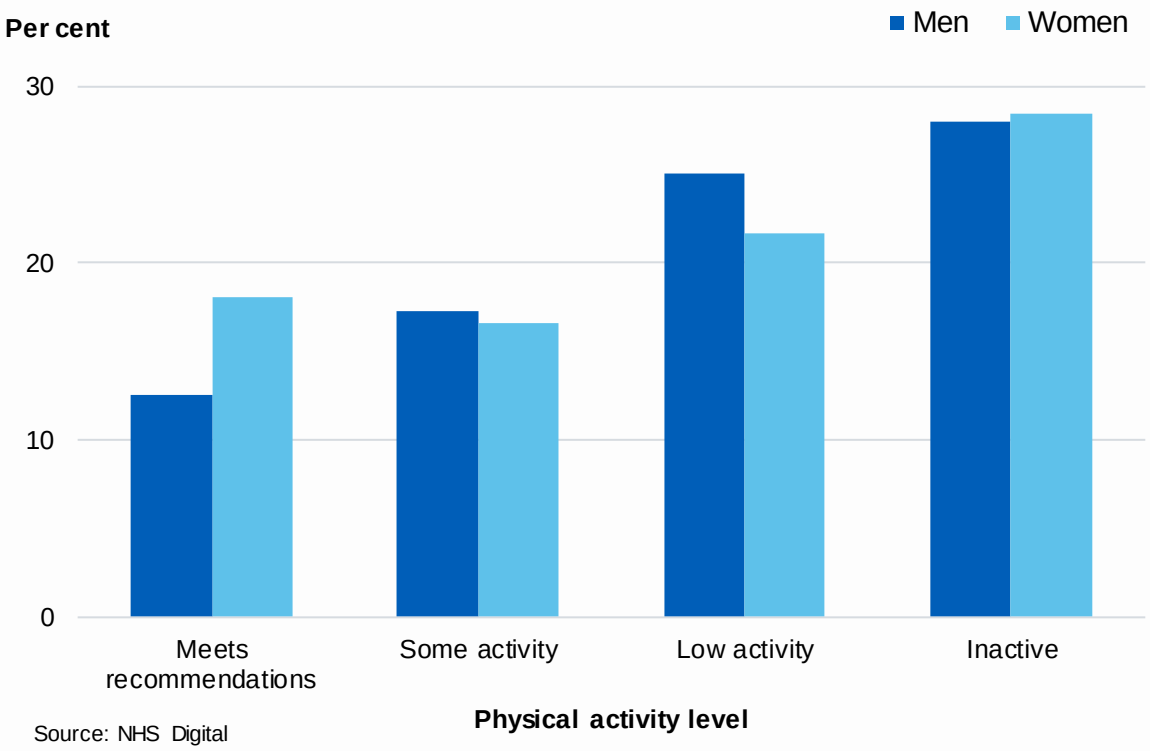
Figure 9 shows the relationship between physical activity and prevalence of a high GHQ-12 score. Levels of exercise were linked to probable mental ill health, with slightly different patterns for men and women. For men, the proportions with a high GHQ-12 score increased as activity levels decreased, from 13% of those who met the recommendations to 28% of those who were inactive. Among women, the proportions

with high scores were similar among those who met recommendations and those who did half an hour to an hour of moderate activity or equivalent per week (18% and 17%). The proportion increased among the low activity group and was 29% among inactive women.

Figure 9, Table 13

Figure 9: Age-standardised prevalence of a high GHQ-12 score, by physical activity and sex

Base: Aged 16 and over



Source: NHS Digital

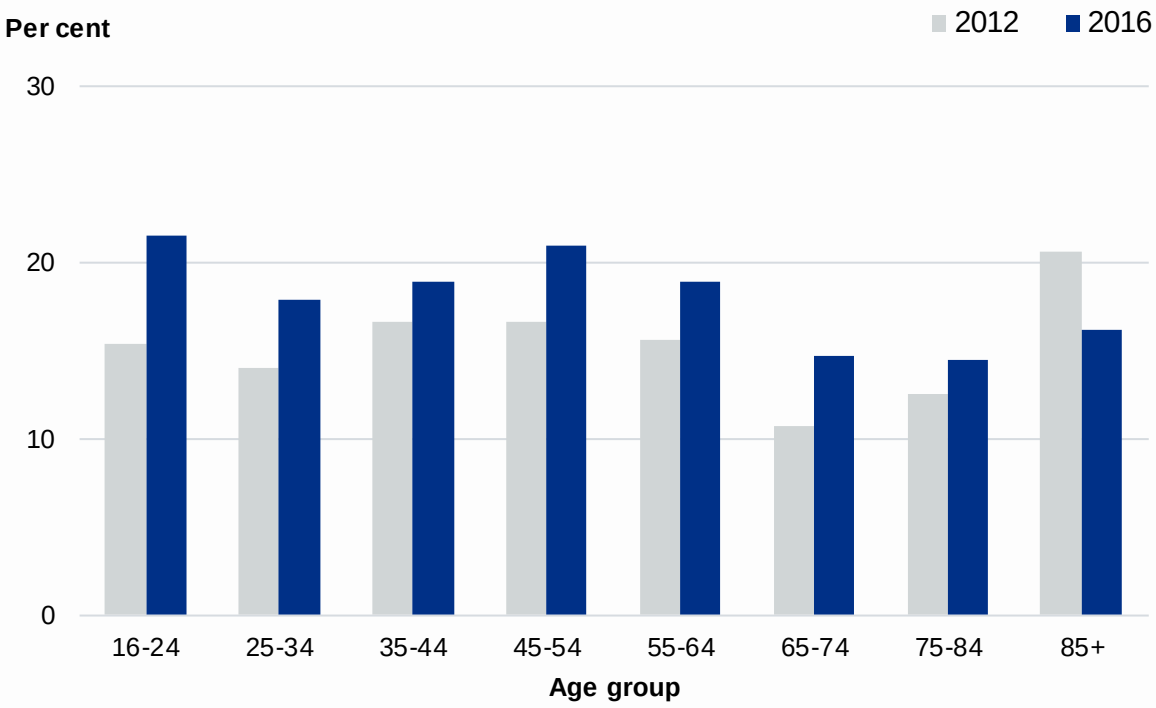
Trends over time in GHQ-12 scores

The GHQ-12 was included in the HSE in most years between 1993 and 2010, and then every other year since. Between 1995 and 2012, the prevalence of a high GHQ-12 score varied between 11% and 14% for men and between 15% and 20% for women. These variations were not statistically significant.[25] Between 2012 and 2016, the overall prevalence of a high GHQ-12 score increased from 15% to 19%. This increase was seen for both men and women, and in all age groups except for the very oldest.

Figure 10, Table 14

Figure 10: Prevalence of a high GHQ-12 score, by age: 2012 and 2016

Base: Aged 16 and over



Source: NHS Digital

The greatest increases were seen among young people; between 6 and 9 percentage points among young men aged between 16 and 34, and young women aged between 16 and 24.[26]

Table 14

[25] Knott C *General mental and physical health.* Chapter 4 in Craig R, Mindell J (eds). *Health Survey for England 2012*. Health and Social Care Information Centre, Leeds, 2013.

[26] In contrast, the prevalence of high GHQ-12 scores was stable for young women aged between 25 and 34 between 2012 and 2016.

Information and technology
for better health and care

www.digital.nhs.uk

0300 303 5678

enquiries@nhsdigital.nhs.uk

@nhsdigital

ISBN 978-1-78734-099-2

This publication may be requested
in large print or other formats.

**Published by NHS Digital, part of the
Government Statistical Service**