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The Scottish Health Survey

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A National Statistics Publication for Scotland

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Editors' acknowledgements

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Joanne McLean, Lucy Dean and Stephen Hinchliffe.

Foreword from the Chief Medical Officer

This report presents the findings of the 2018 Scottish Health Survey. The survey provides data extending back over 23 years. The 2012-2018 surveys were commissioned by the Scottish Government and produced by a collaboration between ScotCen Social Research, the MRC/CSO Social and Public Health Sciences Unit at the University of Glasgow, The Centre for Population Health Sciences at the University of Edinburgh and The Public Health Nutrition Research Group at Aberdeen University.

The survey provides us with an immensely valuable collection of data on cardiovascular disease and related risk factors including smoking, alcohol, diet, physical activity and obesity. Information on general health, mental health and dental health are also included. The survey's rotating module, which asks certain questions every two years, includes information on respiratory symptoms and eating habits.

The 2018 report presents the first Scotland level estimates of Nicotine Replacement Therapy (NRT) to aid smoking cessation and types of doctor-diagnosed diabetes.

With each additional survey year, the ability to analyse trends adds considerably to the usefulness of this data source, while combining data from previous surveys allows for more detailed analysis of specific health conditions, risk factors and related health behaviours.

I am pleased to welcome this valuable report and to thank the consortium led by ScotCen Social Research for their hard work in conducting the survey and preparing this report. Most importantly, I would also like to thank the 6,790 people who gave their time to participate in the survey. The information they have provided is invaluable in developing and monitoring public health policy in Scotland.

Dr Catherine Calderwood
Chief Medical Officer for Scotland
Scottish Government Health Directorates

INTRODUCTION

Joanne McLean and Lucy Dean

POLICY CONTEXT

Scotland currently faces significant challenges in the health of its population given that it has one of the lowest life expectancies in Western Europe and the lowest of all UK countries.[1]

In July 2018, the Scottish Government launched a revised National Performance Framework (NPF)[2], developed together with the public, practitioners and experts to reflect the values of the people and the aspirations held for the future of people living in Scotland. The overarching core purpose guiding the NPF is 'to focus on creating a more successful country with opportunities for all of Scotland to flourish through increased wellbeing, and sustainable and inclusive economic growth'. Related to this is the value that 'we are a society which treats all our people with kindness, dignity, and compassion, respects the rule of law, and acts in an open and transparent way'. There are eleven National Outcomes which contribute to measuring progress towards this vision for Scotland of which one is focussed solely on health - 'we are healthy and active'. Underpinning this National Outcome are a number of national indicators:

- Healthy life expectancy
- Mental wellbeing
- Healthy weight
- Health risk behaviours
- Physical activity
- Journeys by active travel
- Quality of care experience
- Work related ill health
- Premature mortality

In addition, the National Outcomes have been designed to link with a number of the United Nation's Sustainable Development Goals. The specific goals that this health outcome relates to are:

- Gender equality
- Reduced inequalities
- Responsible production and consumption
- Good health and well-being

Many of the National Indicators that track progress towards the national outcomes have relevance to health[3]. The Scottish Health Survey (SHeS) is used to monitor progress towards the following National Indicators:

- **Mental Wellbeing**
- **Healthy Weight**
- **Health Risk Behaviours**
- **Physical Activity**

- **Child wellbeing**
- **Food insecurity**

The Scottish Government's Programme for Government: Delivering for Today, Investing for Tomorrow 2018-19[4], published on 4th September 2018, sets out the need to address health inequalities as well as improve population health overall. It includes action to reform the way we respond to and treat mental ill-health, tackle poor diet and obesity and increase physical activity.

As a study of public health, the Scottish Health Survey plays an important role in assessing health outcomes, health risks and the extent of health inequalities in Scotland and how these have changed over time. As well as being the official source for measuring progress on a number of NPF indicators, SHeS is used to monitor numerous health strategies, programmes and initiatives.

Each of the chapters included in this volume addresses an aspect of health that relates either directly or indirectly to the Government's objective that 'we are healthy and active'.

THE SCOTTISH HEALTH SURVEY SERIES

The Scottish Health Survey has been carried out annually since 2008 and prior to this was carried out in 1995[5], 1998[6], and 2003[7]. The 2018 survey was the fourteenth in the series.

Commissioned by the Scottish Government Health Directorates, the series provides regular information on aspects of the public's health and factors related to health which cannot be obtained from other sources. The SHeS series was designed to:

- estimate the prevalence of particular health conditions in Scotland
- estimate the prevalence of certain risk factors associated with these health conditions and to document the pattern of related health behaviours
- look at differences between regions and subgroups of the population in the extent of their having these particular health conditions or risk factors, and to make comparisons with other national statistics for Scotland and England
- monitor trends in the population's health over time
- make a major contribution to monitoring progress towards health targets

Each survey in the series includes a set of core questions and measurements (height and weight and, if applicable, blood pressure, waist circumference, and saliva samples), plus modules of questions on specific health conditions and health risk factors that vary from year to year. Each year the main sample has been augmented by an additional boosted sample for children. Since 2008 NHS Health Boards have also had the opportunity to boost the number of adult interviews carried out in their area.

The 2018 survey was undertaken by ScotCen Social Research and the Office of National Statistics (ONS). From 2012 to 2018 survey contributors included the

MRC/CSO Social and Public Health Sciences Unit (MRC/CSO SPHSU) based in Glasgow, The Centre for Population Health Sciences at the University of Edinburgh and The Public Health Nutrition Research Group at Aberdeen University.

THE 2018 SURVEY

Topics

Cardiovascular disease (CVD) and related risk factors remains the principal focus of the survey. The main components of CVD are ischaemic heart disease (IHD) (or coronary heart disease) and stroke, both of which are clinical priorities for the NHS in Scotland[8,9,10]. Diseases of the circulatory system are the second most common causes of death in Scotland after cancer, accounting for 26% of deaths in 2017. This includes 12% of deaths which are caused by IHD, with a further 7% caused by cerebrovascular disease (e.g. stroke)[11]. Stroke remains the third biggest killer in Scotland and the leading cause of disability[12]. Early mortality from heart disease and stroke have both improved in recent years (surpassing targets in both cases), but concern remains about continuing inequalities in relation to morbidity and mortality linked to these conditions[8]. The SHeS series now has trend data going back over two decades and providing time series data remains an important function of the survey.

Many of the key behavioural risk factors for CVD are in themselves of particular interest to health policy makers and the NHS. For example, smoking, poor diet, lack of physical activity, obesity and problematic alcohol use are all the subject of specific strategies targeted at improving the nation's health. SHeS includes detailed measures of all these factors which are reported on separately in Chapters 3-7. The other three chapters focus on health conditions - Mental Health and Wellbeing (Chapter 1), General Health, Cardiovascular Disease and Caring (Chapter 2) and Respiratory Health (Chapter 8).

Sample

The Scottish Health Survey is designed to yield a representative sample of the general population living in private households in Scotland every year.

The current survey design also means that estimates at NHS Health Board level are available by combining four consecutive years of data. NHS board results for the period 2015-2018 have been published at the same time as this report.

Those living in institutions, who are likely to be older and, on average, in poorer health than those in private households, were outwith the scope of the survey. This should be borne in mind when interpreting the survey findings.

A random sample of 6,080 addresses was selected from the Postcode Address File (PAF), using a multi-stage stratified design. Where an address was found to have multiple dwelling units, one was selected at random. Where there were multiple households at a dwelling unit, a single household was selected at random. Each individual within a selected household was eligible for inclusion. Where there were more than two children in a household, two were randomly selected for inclusion, to limit the burden on households. The individuals interviewed at these addresses form the 'main sample'.

Two further samples were selected for the survey in 2018: a child boost sample (5,448 addresses) in which up to two children in a household were eligible to be interviewed but adults were not, and a Health Board boost sample (224 addresses) for those Health Boards which opted to boost the number of adults interviewed in their area.

Fieldwork

A letter stating the purpose of the visit was sent to each sampled address in advance of the interviewer visit. Interviewers sought the permission of each eligible adult in the household to be interviewed, and both parents' and children's' permission to interview up to two children aged 0-15.

Interviewing was conducted using a combination of Computer Assisted Interviewing (CAI), where the questionnaire answers are input directly to a laptop, and self-completed paper questionnaires. The content of the interview and full documentation are provided in the accompanying technical report.

Adults (aged 16 and over) and children aged 13-15 completed the interview themselves. Parents of children aged 0-12 completed the interview on behalf of their child.

Those aged 13 and over were also asked to complete a short paper self-completion questionnaire on more sensitive topics during the interview. Parents of children aged 4-12 years selected for interview were also asked to fill in a self-completion booklet about the child's strengths and difficulties designed to detect behavioural, emotional and relationship difficulties.

Towards the end of the interview height and weight measurements were taken from those aged 2 and over.

In a sub-sample of households, interviewers sought permission from adults (aged 16 and over) to take part in an additional 'biological module'. The biological module was administered by specially trained interviewers. In the module, participants were asked questions about prescribed medication and anxiety, depression, self-harm and suicide attempts. In addition, the interviewer also took participants' blood pressure readings and waist measurement, as well as samples of saliva. Data from the biological module are reported every second year

to allow two years of survey data to be combined. Data was last reported in 2017 on the combined 2016/17 data therefore will not be reported in 2018. Further details of these samples and measurements are available both in the Glossary and in the accompanying technical report.

Survey response

In 2018, across all sample types, interviews were held in 3,899 households with 4,810 adults (aged 16 and over), and 1,983 children (aged 0-15). Of these, 1,204 adults completed the biological module. The number of participating households and adults in 2018 is listed in the table below. Further details on survey response in 2018 are presented in Chapter 1 of the technical report.

Main and Health Board boost samples	
Participating households	3,216
Eligible households responding	57%
Adult interviews	4,810
Eligible adults responding	50%
Adults eligible for biological module	1,797
Adults who completed biological module	1,204
Child boost sample	
Participating households	683
Eligible households responding	57 %
Child interviews (child boost sample only)	1,031
Child interviews (main and child boost sample combined	1,983

Ethical Approval

Ethical approval for the 2018 survey was obtained from the REC for Wales committee (reference number 17/WA/0371).

DATA ANALYSIS

Weighting

Since addresses and individuals did not all have equal chances of selection, the data had to be weighted for analysis. SHeS comprises of a general population (main sample) and a boost sample of children screened from additional addresses. Therefore, slightly different weighting strategies were required for the adult sample (aged 16 or older) and the child main and boost samples (aged 0-15). Additional weights have been created for the biological module and for use on combined datasets (described below). A detailed description of the weights is available in Chapter 1 of the technical report.

Weighted and unweighted data and bases in report tables

All data in the report are weighted. For each table in the report both weighted and unweighted bases are presented. Unweighted bases indicate the number of participants involved. Weighted bases indicate the relative sizes of sample elements after weighting has been applied.

Standard analysis variables

As in all previous SHeS reports, data for men, women, boys and girls are presented separately where possible. Many of the measures are also reported for the whole adult or child population. Survey variables are tabulated by age groups and in some cases also by Scottish Index of Multiple Deprivation (SIMD).

Statistical information

The SHeS 2018 used a clustered, stratified multi-stage sample design. In addition, weights were applied when obtaining survey estimates. One of the effects of using the complex design and weighting is the standard errors for the survey estimates are generally higher than the standard errors that would be derived from an unweighted simple random sample of the sample size. The calculations of standard errors shown in tables, and comment on statistical significance throughout the report, have taken the clustering, stratifications and weighting into account. Full details of the sample design and weighting are given in the technical report, Chapter 1.

Presentation of trend data

In this report trends based on the twelve surveys from 2003 onwards are presented for all adults aged 16 and over. Prior to this the survey eligibility criteria were set at a maximum age of 64 in 1995 and then a maximum age of 74 in 1998. Trends for children are based on the 2-15 years age group from 1998 onwards, and 0-15 years from 2003 onwards.

Presentation of results

Commentary in the report highlights differences that are statistically significant at the 95% confidence level. Statistical significance is not intended to imply substantive importance. A summary of findings is presented at the beginning of each chapter. Each chapter then includes a brief overview of the relevant policy area. These overviews should be considered alongside the higher level policies noted above and related policy initiatives covered in other chapters. A description of the methods and key definitions are also outlined in detail in each chapter. Tables showing the results discussed in the text are presented at the end of each chapter.

Availability of further data and analysis

As with surveys from previous years, a copy of the SHeS 2018 data will be deposited at the UK Data Archive along with copies of the combined datasets for 2016/2018, 2017/2018 and 2015/2016/2017/2018. In addition, trend tables showing data for key variables are available on the Scottish Government SHeS website along with a detailed set of web tables for 2018, providing analysis by age, area deprivation, equivalised income and long-term condition for a large range of measures[13].

Key indicators for local areas are available in the new Scottish Health Survey App published on the Scottish Government SHeS website alongside this report.

Further breakdowns are also available for smoking, long-term conditions, general health and caring indicators from the Scottish Survey Core Questions, which asks harmonised questions across the three major Scottish Government household surveys, available here: https://www2.gov.scot/Topics/Statistics/About/Surveys/SSCQ.

Comparability with other UK statistics

Guidance on the comparability of statistics across the UK is included in the introductory section of individual chapters.

CONTENT OF THIS REPORT

This volume contains chapters with substantive results from the SHeS 2018, and is one of two volumes based on the survey, published as a set as 'The Scottish Health Survey 2018':

Volume 1: Main Report

1. Mental Wellbeing
2. General Health, Cardiovascular Diseases and Caring
3. Alcohol
4. Smoking
5. Diet
6. Physical Activity
7. Obesity
8. Respiratory Health

Volume 2: Technical Report

Volume 2 includes a detailed description of the survey methods including: survey design and response; sampling and weighting procedures; and, information on laboratory analysis of saliva samples.

Both volumes are available from the Scottish Government's SHeS website. A summary report of the key findings from the 2018 report and a set of web tables are also available on the survey website: www.gov.scot/scottishhealthsurvey.

References and notes

[1] *Public Health Priorities for Scotland,* Edinburgh: Scottish Government/COSLA, 2018. Available from: https://www.gov.scot/publications/scotlands-public-health-priorities/pages/9/

[2] See: http://nationalperformance.gov.scot//

[3] See: http://nationalperformance.gov.scot/

[4] Delivering for Today, Investing for Tomorrow - The Government's Programme for Scotland 2018-19. Edinburgh, Scottish Government. 2018. Available from: https://www.gov.scot/Publications/2018/09/6276

[5] Dong W and Erens B. *The 1995 Scottish Health Survey.* Edinburgh: The Stationery Office. 1997

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[8] *Better Heart Disease and Stroke Care Action Plan*. Edinburgh, Scottish Government, 2009. www.gov.scot/Resource/Doc/277650/0083350.pdf

[9] *Heart Disease Improvement Plan*. Edinburgh, Scottish Government. 2014. www.gov.scot/Publications/2014/08/5434

[10] *Stroke Improvement Plan*. Edinburgh, Scottish Government. 2014. www.gov.scot/Publications/2014/08/9114

[11] See: https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/general-publications/vital-events-reference-tables/2017/section-6-death-causes

[12] NSS Information and Intelligence, NHS National Services Scotland (2018). *Scottish Stroke Improvement Programme: 2018 Report.* [Online] Available from:. https://www.strokeaudit.scot.nhs.uk/Publications/docs/2018-07-10-SSCA-Report.pdf

[13] See: www.gov.scot/scottishhealthsurvey

NOTES TO TABLES

1 The following conventions have been used in tables:

n/a	no data collected
-	no observations (zero value)
0	non-zero values of less than 0.5% and thus rounded to zero
[ ]	normally 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.)

2 Because of rounding, row or column percentages may not add exactly to 100%.

3 A percentage may be quoted in the text for a single category that aggregates two or more of the percentages shown in a table. The percentage for the single category may, because of rounding, differ by one percentage point from the sum of the percentages in the table.

4 Values for means, medians, percentiles and standard errors are shown to an appropriate number of decimal places. Standard Errors may sometimes be abbreviated to SE for space reasons.

5 '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 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.

6 The population sub-group to whom each table refers is stated at the upper left corner of the table.

7 Both weighted and unweighted sample bases are shown at the foot of each table. The weighted numbers reflect the relative size of each group in the population, not numbers of interviews conducted, which are shown by the unweighted bases.

8 The term 'significant' refers to statistical significance (at the 95% level) and is not intended to imply substantive importance.

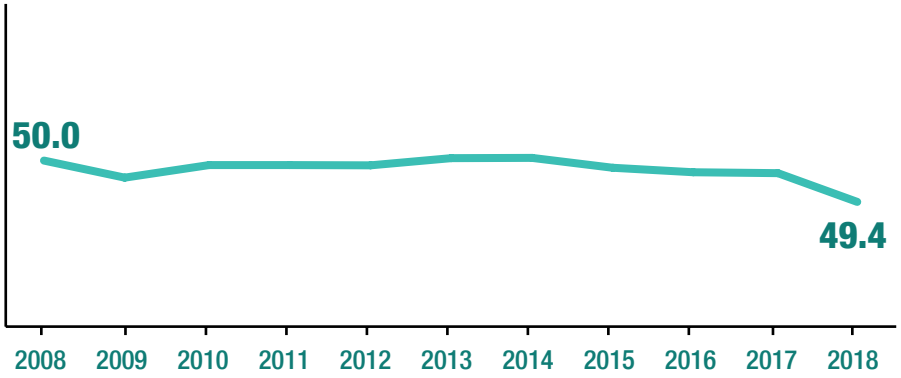
9 Within the report Figures have generally been produced using data rounded to the nearest whole number. There are a small number of Figures which show data to the nearest decimal place to aid interpretation.

Chapter 1

Mental Health and Wellbeing

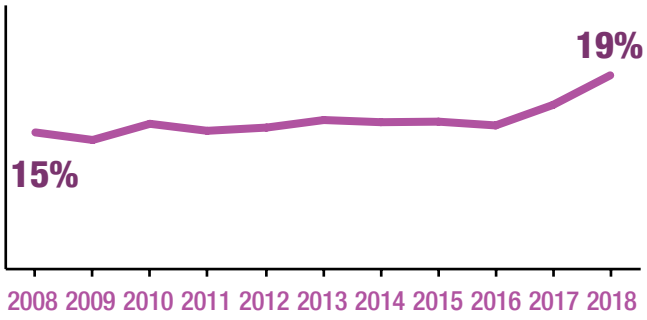
SUMMARY

In 2018, the WEMWBS mean score (measuring mental wellbeing) for adults was 49.4, not significantly different to 2017 but the lowest since the time series began in 2008.

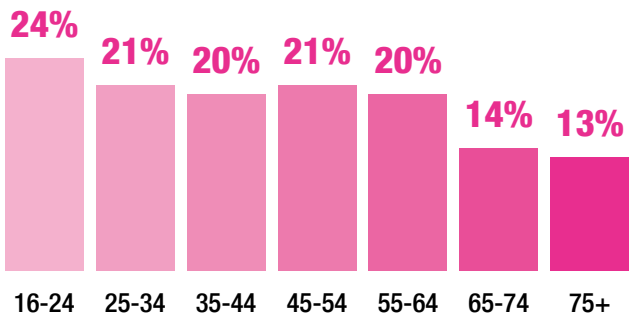


- The lowest WEMWBS mean scores among all adults were for men aged 35-44 (47.2) and men aged 45-54 (47.6); the lowest WEMWBS mean score among women was for those aged 16-24 at 48.2.

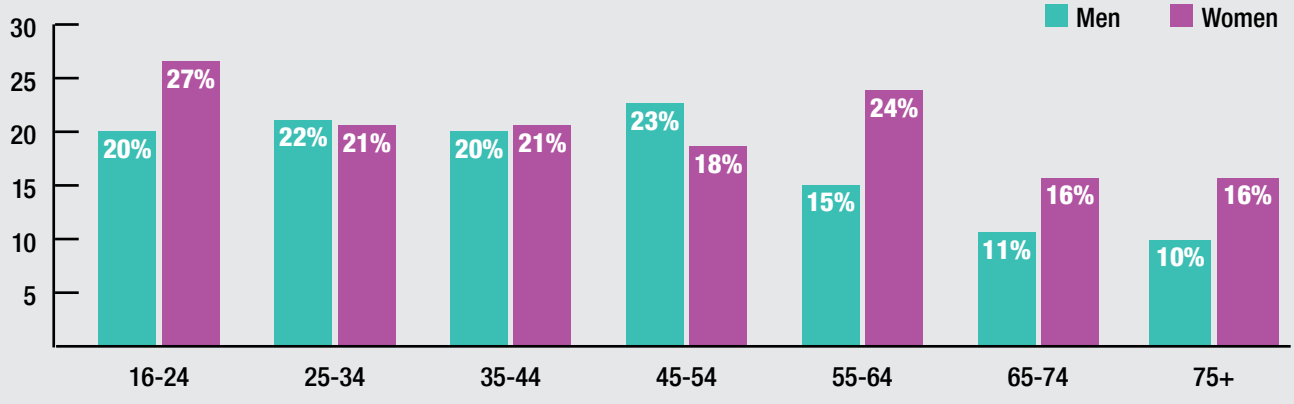
In 2018, 19% of adults exhibited signs of a possible psychiatric disorder (GHQ-12 score of four or more) the highest in the time series.



The percentage of adults with a GHQ-12 score of four or more significantly decreased with age from 24% among those aged 16-24, to 13% among those aged 75 and above.



The highest proportions of a GHQ-12 score of four or more were found among women aged 16-24 and 55-64; the highest proportion of men with a GHQ-12 score of four or more was found among those aged 45-54.



Mental health and wellbeing continued to be clearly linked to deprivation.

1 MENTAL HEALTH AND WELLBEING

Isla Dougall

1.1 INTRODUCTION

Mental health is a major determinant of overall health which has increasing international recognition[1,2]. Mental wellbeing is defined by the World Health Organization as a state of well-being in which every individual realises their own potential, can cope with the stresses of life, can work productively, and is able to make a contribution to their community[3]. Positive mental wellbeing encourages better quality of life overall, healthier lifestyles, better physical health and improved recovery from illness, better social relationships, and higher educational attainment[4]. As such all public services have a role to play in supporting the mental health and wellbeing of Scotland's population from Local Government services to primary care and education providers as well as specialist mental health services[5].

One in three people are estimated to be affected by mental health problems in Scotland in any one year[6]. Globally, both depression and anxiety are more prevalent among women than men[7], however, rates of suicide remain consistently higher for men than for women around the world[8]. Given the evidence that mental ill health in adolescence increases the risk of subsequent mental ill health later in life[9], investing in the mental wellbeing of young people is key to the prevention of mental illness.

Poor mental health, including mental disorder, has a considerable impact on individuals, their families and the wider community[10]. Mental disorders often co-exist with other diseases, including cancers and cardiovascular disease, diabetes, respiratory illnesses and HIV/AIDS[11]. People with severe mental disorders have a life-expectancy 15-20 years shorter than the general population[12] with most of those premature deaths being due to physical health conditions[13]. Many of the risk factors covered in this report, such as obesity, excessive alcohol consumption and low levels of physical activity, are common to both mental disorders and other non-communicable diseases, with outcomes being critically interdependent. Mental health is also strongly associated with both poverty and social exclusion[14] and as a result it is a key indicator of health inequalities in the Scottish population[15].

This chapter examines adult mental health and wellbeing in Scotland.

1.1.1 Policy background

The Scottish Government is now in the third year of delivering the 10 year **Mental Health Strategy: 2017-2027**[16]. The strategy is one of many measures to help create a **Fairer Scotland and a Healthier Scotland**[17]. The guiding ambition for the strategy is to prevent and treat mental health problems with the same commitment, passion and drive as is given to physical health problems. Failing to recognise, prioritise and treat mental health problems costs the economy, and harms individuals and communities. As a result, the strategy focusses on prevention, early intervention and physical wellbeing, equal access to

safe and effective treatment and accessible services. The strategy works to ensure protection and promotion of rights, better information use and planning. The importance of improving measurement of outcomes in mental health is emphasised, to include not just data on service activity but also on effect and the experience for people.

The strategy contains 40 initial actions to better join up services and to ensure that those who need help, only need to ask once. Underpinning these actions is a commitment to tackle mental health inequalities and embed a human-rights based approach across services with high aspirations for service users. The strategy aims to ensure that people in the most marginalised of situations are prioritised in achieving health.

There is also emphasis on improving support and services for children and young people, including those who come into contact with the criminal justice system. Recently, there has been increased national policy focus on the link between adverse childhood experiences including abuse, neglect and poor parenting and an increased risk of mental health problems in early adulthood[18,19]. Reducing adverse childhood experiences and promoting resilience in those that experience them are now policy priorities for the Scottish Government[20]. Questions on adverse childhood experiences have been included in the Scottish Health Survey in 2019 and will be reported on in next year's report.

The Government recognises that the support available for young people is not currently enough and that to meet the Government's obligations, including those under the UN Convention on the Rights of Persons with Disabilities and the UN Convention on the Rights of the Child, reform is needed[21]. The 2018-19 programme for Government **Delivering for Today, Investing in Tomorrow** lists a range of actions to make these changes. In December 2018, the **Better Mental Health in Scotland** delivery plan was published; it sets out actions to implement the above including:

- reforming children and young people's mental health services
- improving specialist services for children and young people and adults
- taking a 21st century approach to adult mental health
- respecting, protecting and fulfilling rights; and
- making suicide prevention everybody's business.

One of the Scottish Government's National Outcomes is the overall strategic objective for health: We are healthy and active[22]. This is supported by a number of National Indicators including **'mental wellbeing'**[23] which is monitored using data from the Scottish Health Survey (SHeS). The 15 year, on average, premature mortality in people with severe and enduring mental illness[24] has a major impact on other National Indicators; on '**premature mortality'** and **'healthy life expectancy'**. Scotland also has a set of national, sustainable mental health indicators for adults and children, covering both outcomes and

contextual factors that confer increased risks of, or protection from, poor mental health outcomes[25]. SHeS is the data source for 28 of the 54 indicators for adults[26] and over 20 of the indicators for children[27].

1.1.2 Reporting on mental wellbeing in the Scottish Health Survey (SHeS)

This chapter updates trends in mental health and wellbeing for adults including data on Warwick-Edinburgh Mental Wellbeing Scale **(**WEMWBS) and General Health Questionnaire 12 **(**GHQ-12). Figures are also reported by age, sex and area deprivation.

The area deprivation data are presented in Scottish Index of Multiple Deprivation (SIMD) quintiles. To ensure that the comparisons presented are not confounded by the different age profiles of the quintiles, the data have been age-standardised. Readers should refer to the Glossary at the end of this Volume for a detailed description of both SIMD and age-standardisation.

Supplementary tables on mental wellbeing are also published on the Scottish Health Survey website[28].

1.2 METHODS AND DEFINITIONS

1.2.1 Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)

Wellbeing is measured using the WEMWBS questionnaire. It has 14 items designed to assess: positive affect (optimism, cheerfulness, relaxation) and satisfying interpersonal relationships and positive functioning (energy, clear thinking, self-acceptance, personal development, mastery and autonomy)[29]. The scale uses positively worded statements with a five-item scale ranging from ‘1 - none of the time’ to ‘5 - all of the time’. The lowest score possible is therefore 14 and the highest score possible is 70; the tables present mean scores.

The scale was not designed to identify individuals with exceptionally high or low levels of positive mental health so cut off points have not been developed[30].

WEMWBS is used to monitor the National Indicator 'mental wellbeing’[31] and the mean score for parents of children aged 15 years and under on WEMWBS is included in the mental health indicator set for children[32].

1.2.2 General Health Questionnaire 12 (GHQ 12)

GHQ-12[33] is a widely used standard measure of mental distress and mental ill-health consisting of 12 questions on concentration abilities, sleeping patterns, self-esteem, stress, despair, depression, and confidence in the previous few weeks. Responses to each of the GHQ-12 items are scored, with one point allocated each time a particular feeling or type of behaviour is reported to have been experienced 'more than usual' or 'much more than usual' over the previous few weeks.

These scores are combined to create an overall score of between zero and twelve. A score of four or more (referred to as a high GHQ-12 score) has been used here to indicate the presence of a possible psychiatric disorder. A score of zero on the GHQ-12 questionnaire can, in contrast, be considered to be an indicator of psychological wellbeing. GHQ-12 measures deviations from people's usual functioning in the previous few weeks and therefore cannot be used to detect chronic conditions.

1.3 WARWICK-EDINBURGH MENTAL WELLBEING SCALE (WEMWBS)

1.3.1 Trends in adult WEMWBS mean scores since 2008

In 2018, the WEMWBS mean score for adults was 49.4. This is not significantly lower than the WEMWBS mean score for adults in 2017 (49.8), however it is the lowest since the timeseries began in 2008 (mean scores had previously ranged between 49.7 and 50.0).

There was no significant difference between the WEMWBS mean scores for men and women in 2018 (49.3 and 49.6, respectively). Further, there was no significant change in the scores of men or women compared to last year (in 2017 the WEMWBS mean score was 49.9 for men and 49.7 for women.

Since 2008, WEMWBS mean scores have been stable for women, fluctuating between 49.4 and 49.9. For men, scores fluctuated between 49.8 and 50.4 between 2008 and 2012, followed by what appears to be a downward trend, with a significant decrease from 50.4 in 2012 to 49.3 in 2018. **Table 1.1**

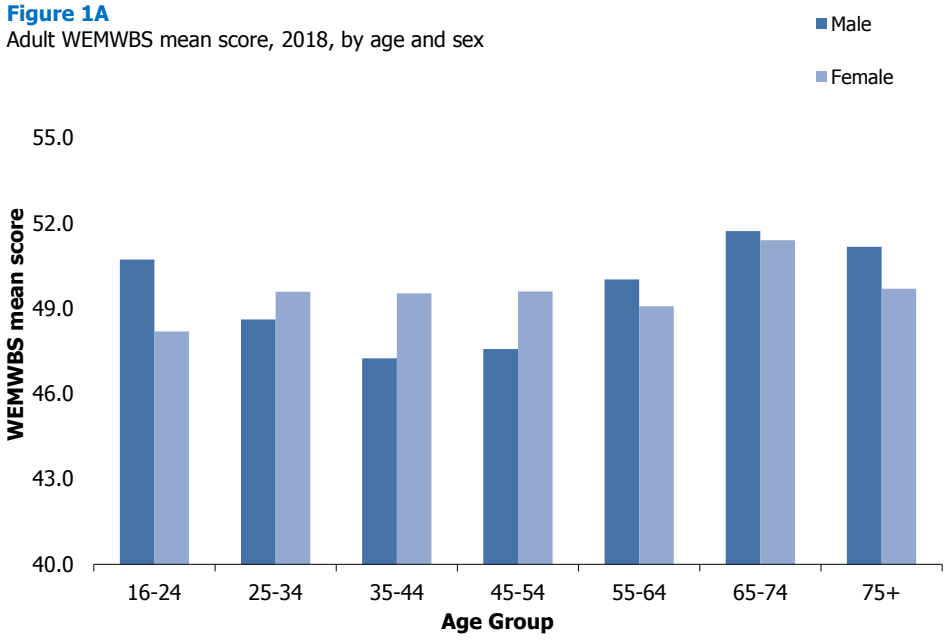
1.3.2 Adult WEMWBS mean scores in 2018, by age and sex

In 2018, WEMWBS mean scores varied significantly by age with scores decreasing between the youngest and the middle-age groups, and then increasing again in older age groups. As in previous years, those aged 65-74 had the highest WEMWBS mean score (51.6) and those aged 35-44 had the lowest mean score (48.4).

This pattern by age was primarily driven by men with significant differences between the patterns for men and women. Among men, mean WEMWBS scores dropped from 50.7 among those aged 16-24 to a low of 47.2 among those 35-44. Mean WEMWBS scores then gradually increased to a peak of 51.7 among men aged 65-74.

Among women, there was less variation in WEMWBS mean scores across age groups than for men. WEMWBS mean scores were lowest for those aged 16-24 (48.2). There were only minor fluctuations in the scores of those aged 25-64 (49.1 to 49.6), before scores increased to a peak in those aged 65-74 (51.4). **Figure 1A, Table 1.2**

Figure 1A
Adult WEMWBS mean score, 2018, by age and sex

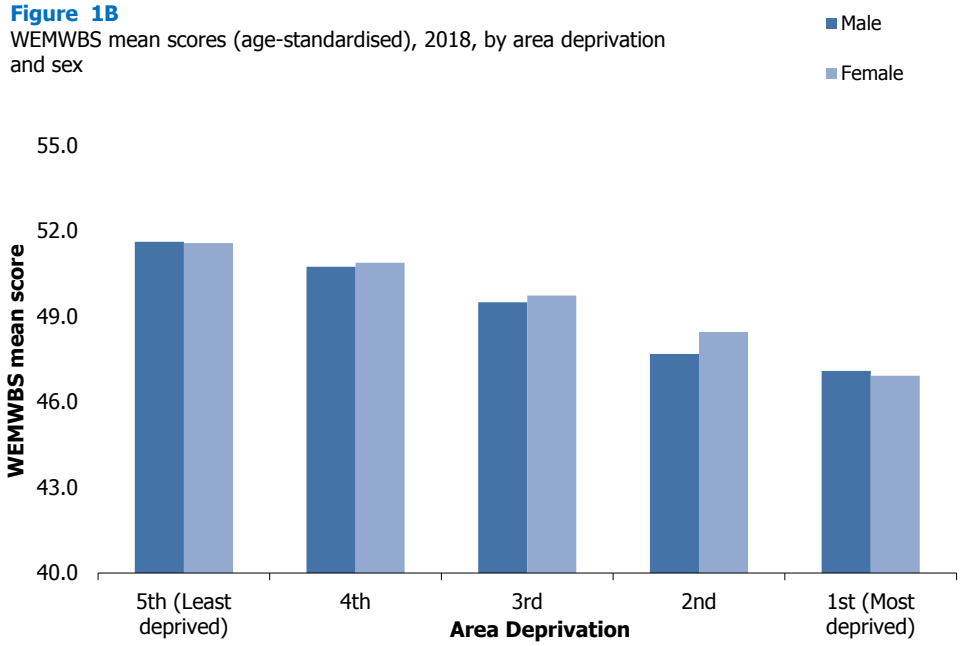


1.3.3 WEMWBS mean scores (age-standardised), in 2018, by area deprivation and sex

As in previous years, age-standardised WEMWBS mean scores significantly decreased as area deprivation increased. In the most deprived quintile, the mean WEMWBS score was significantly lower (47.0) than in the least deprived quintile (51.6).

This pattern was observed for both men and women. Men in the most deprived quintile had a WEMWBS mean score of 47.1 whilst men in the least deprived quintile had a significantly higher mean score of 51.6. Similarly, women in the most deprived quintile had a WEMWBS mean score of 46.9 whilst women in the least deprived quintile had a significantly higher mean score of 51.6. **Figure 1B, Table 1.3**

Figure 1B
WEMWBS mean scores (age-standardised), 2018, by area deprivation and sex



1.4 GENERAL HEALTH QUESTIONNAIRE 12

1.4.1 GHQ-12 scores, 2003-2018

Looking across the time series since 2003, GHQ-12 scores remained relatively static between 2003 and 2017. Between these years the proportion of adults with a GHQ-12 score of four or more (indicating a possible psychiatric disorder) fluctuated between 14-17%. In 2018, 19% of adults had a GHQ-12 score of four or more which is significantly higher than all years since the timeseries began in 2003.

Similarly, in 2018, the proportion of adults with a score of one to three also rose significantly from 23% in 2017 to 28% in 2018 and there was a corresponding decline in the proportion with a score of zero (indicating good psychological wellbeing with no symptoms of mental distress evident) from 60% in 2017 to 53% in 2018.

More men (55%) had GHQ-12 scores of zero, than women (50%) in 2018. This is typical of the pattern since 2003, where a consistently higher proportion of men than women had GHQ-12 scores of zero. Correspondingly, from 2003 to 2018, women were more likely than men to have a GHQ-12 score of 4 or more, however in 2018 this difference was not significant (21% among women and 18% among men).

Table 1.4

1.4.2 GHQ-12 scores in 2018, by age and sex

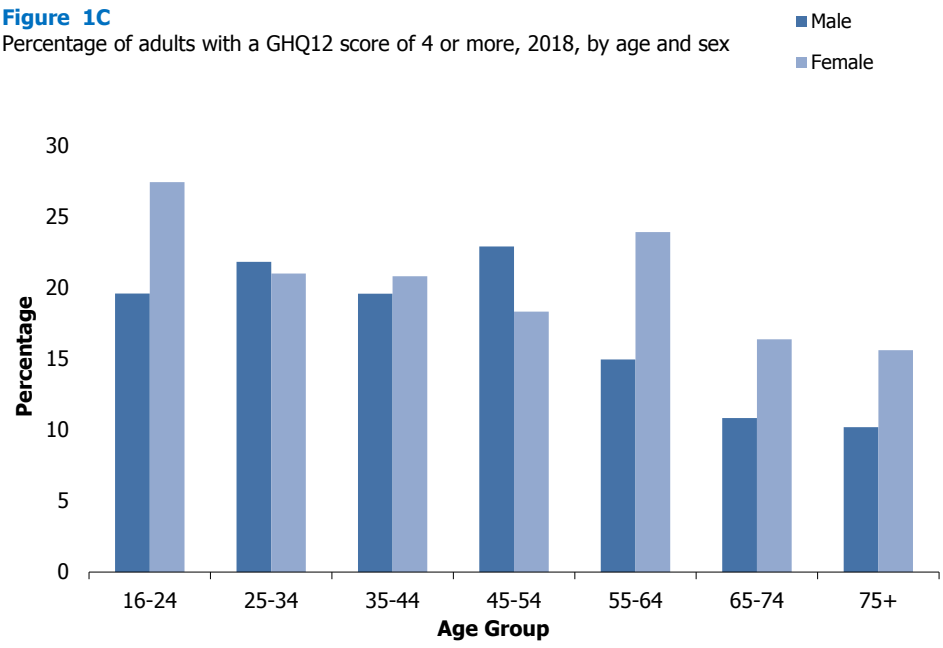
The percentage of adults with a GHQ-12 score of four or more (indicative of a possible psychiatric disorder) significantly decreased with age. Of those aged 16-24, 24% had a GHQ-12 score of four or more, prevalence ranged between 20% and 21% for those aged 25-64 and then significantly decreased to 13% among those aged 75 and

above. Conversely, the percentage of adults with a GHQ-12 score of zero (indicative of good psychological wellbeing and no evident symptoms of mental distress) significantly increased with age. Forty-two percent of those aged 16-24 had a GHQ-12 score of zero, significantly increasing to 62% among those aged 65-74. Consistent with previous years there was then a decline in the percentage of adults with a score of zero among those aged 75+ (56%).

The patterns of GHQ-12 score by age were different for men and women. Among men, the percentage with a GHQ-12 score of four or more was relatively stable between the ages of 16-54 (20-23%). This then decreased to 15% among those aged 55-64 and continued to decrease with age to 10% among those aged 75 and above.

Among women, the percentage with a GHQ-12 score of four or more was highest in young women and peaked again among late middle-aged women before dropping again for older women. Among those aged 16-24, 27% had a GHQ-12 score of four or more, this decreased with age to 18% among those aged 45-54, before peaking again at 24% among those aged 55-64. Of those aged 65 and above, 16% had a GHQ-12 score of four or more. **Figure 1C, Table 1.5**

Figure 1C
Percentage of adults with a GHQ12 score of 4 or more, 2018, by age and sex



1.4.3 GHQ-12 scores (age-standardised), in 2018, by area deprivation and sex

Adults living in the most deprived areas were significantly more likely to have a GHQ-12 score of four or more than those in the least deprived areas. The percentage of adults with a GHQ-12 score of four or more was relatively stable among the 5th (least deprived), 4th and 3rd deprivation quintiles (14-17%) but increased to 24 and 26%, respectively, among the 2nd and 1st (most deprived) quintiles. The percentage of adults with a GHQ-12 score of zero was similar among

the 5th (least deprived), 4th and 3rd deprivation quintiles at 55-57%, but decreased in the 2nd and 1st (most deprived) quintiles to 50% and 47%, respectively.

Similar patterns of GHQ-12 scores by area deprivation were found for men and women. Among men, the proportion with a GHQ-12 score of four or more significantly increased from 12% in the least deprived quintile to 23-25% in the two most deprived quintiles. Among women, the proportion significantly increased from 16% in the least deprived quintile to 28% in the most deprived quintile. **Figure 1D, Table 1.6**

Figure 1D
Percentage of adults with a GHQ12 score of 4 or more, 2018, by area deprivation

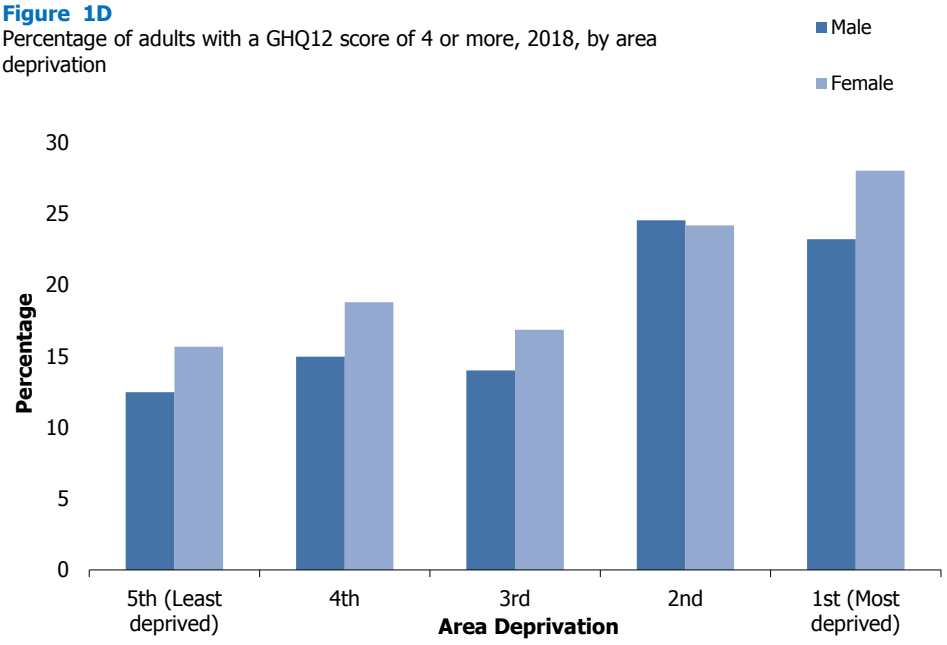


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Table list

Table 1.1: Adult WEMWBS mean score, 2008 to 2018

Base: Aged 16 and over — *2008 - 2018*

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
WEMWBS Score[a]												
Men	Mean	50.2	49.9	50.2	50.2	50.4	50.3	50.1	49.9	49.8	49.9	49.3
	SE of the mean	0.20	0.16	0.19	0.19	0.24	0.25	0.25	0.25	0.25	0.28	0.35
	Standard deviation	8.55	8.02	8.37	8.35	8.34	8.56	8.49	8.40	8.44	8.58	9.06
Women	Mean	49.7	49.7	49.6	49.7	49.4	49.7	49.9	49.9	49.8	49.7	49.6
	SE of the mean	0.16	0.16	0.17	0.17	0.22	0.21	0.22	0.22	0.24	0.25	0.21
	Standard deviation	8.48	8.51	8.67	8.37	8.63	8.72	8.47	8.69	8.77	8.83	8.86
All adults	Mean	50.0	49.7	49.9	49.9	49.9	50.0	50.0	49.9	49.8	49.8	49.4
	SE of the mean	0.14	0.12	0.14	0.14	0.18	0.17	0.18	0.19	0.18	0.20	0.21
	Standard deviation	8.52	8.28	8.54	8.36	8.50	8.65	8.48	8.55	8.61	8.71	8.96
Unweighted base	*Men*	*2539*	*2994*	*2842*	*2900*	*1909*	*1938*	*1851*	*1961*	*1708*	*1380*	*1856*
	Women	*3248*	*3886*	*3805*	*3845*	*2431*	*2561*	*2369*	*2452*	*2192*	*1814*	*2443*
	All adults	*5787*	*6880*	*6647*	*6745*	*4340*	*4499*	*4220*	*4413*	*3900*	*3194*	*4299*
Weighted base	*Men*	*2785*	*3282*	*3171*	*3191*	*2063*	*2110*	*2001*	*2117*	*1859*	*1550*	*2076*
	Women	*3026*	*3586*	*3478*	*3540*	*2256*	*2351*	*2204*	*2326*	*2023*	*1641*	*2229*
	All adults	*5812*	*6868*	*6649*	*6731*	*4319*	*4461*	*4205*	*4443*	*3882*	*3191*	*4305*

a WEMWBS scores range from 14 to 70. Higher scores indicate greater wellbeing. Mean WEMWBS score is part of the national mental health indicator set for adults.

Table 1.2: Adult WEMWBS mean score, 2018, by age and sex

Base: Aged 16 and over									*2018*
		Age							Total
WEMWBS Score[a]		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Men	Mean	50.7	48.6	47.2	47.6	50.0	51.7	51.2	49.3
	SE of the mean	0.79	0.55	1.57	0.58	0.61	0.49	0.66	0.35
	Standard deviation	8.87	7.46	10.53	8.56	9.67	8.22	8.70	9.06
Women	Mean	48.2	49.6	49.5	49.6	49.1	51.4	49.7	49.6
	SE of the mean	0.65	0.52	0.48	0.47	0.52	0.47	0.56	0.21
	Standard deviation	8.53	7.75	8.49	9.03	10.00	8.91	8.88	8.86
All adults	Mean	49.5	49.1	48.4	48.6	49.5	51.6	50.3	49.4
	SE of the mean	0.53	0.40	0.86	0.39	0.43	0.37	0.44	0.21
	Standard deviation	8.78	7.62	9.60	8.86	9.85	8.58	8.82	8.96
Unweighted base	*Men*	*141*	*205*	*255*	*344*	*342*	*349*	*220*	*1856*
	Women	*191*	*328*	*375*	*428*	*444*	*416*	*261*	*2443*
	All adults	*332*	*533*	*630*	*772*	*786*	*765*	*481*	*4299*
Weighted base	*Men*	*273*	*341*	*324*	*378*	*340*	*260*	*160*	*2076*
	Women	*276*	*360*	*336*	*402*	*359*	*285*	*212*	*2229*
	All adults	*549*	*701*	*660*	*780*	*698*	*545*	*373*	*4305*

a WEMWBS scores range from 14 to 70. Higher scores indicate greater wellbeing. Mean WEMWBS score is part of the national mental health indicator set for adults.

Table 1.3: Adult WEMWBS mean score, (age-standardised), 2018, by area deprivation and sex

Base: Aged 16 and over *2018*

WEMWBS Score[a]		Scottish Index of Multiple Deprivation				
		5th (Least deprived)	4th	3rd	2nd	1st (Most deprived)
Men	Mean	51.6	50.7	49.5	47.7	47.1
	SE of the mean	0.55	0.47	0.52	1.11	0.61
	Standard deviation	7.61	7.96	8.88	9.64	9.98
Women	Mean	51.6	50.9	49.7	48.5	46.9
	SE of the mean	0.39	0.40	0.43	0.47	0.52
	Standard deviation	7.79	8.27	8.43	9.50	9.42
All adults	Mean	51.6	50.8	49.6	48.1	47.0
	SE of the mean	0.35	0.32	0.36	0.62	0.42
	Standard deviation	7.70	8.12	8.65	9.57	9.69
Unweighted base	*Men*	*357*	*446*	*377*	*378*	*298*
	Women	*478*	*577*	*476*	*517*	*395*
	All adults	*835*	*1023*	*853*	*895*	*693*
Weighted base	*Men*	*395*	*446*	*409*	*458*	*367*
	Women	*449*	*499*	*421*	*468*	*391*
	All adults	*845*	*945*	*830*	*927*	*758*

a WEMWBS scores range from 14 to 70. Higher scores indicate greater wellbeing. Mean WEMWBS score is part of the national mental health indicator set for adults.
Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Table 1.4: GHQ12 score, 2003 to 2018

Base: Aged 16 and over *2003 - 2018*

		2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
GHQ12 Score[a]		%	%	%	%	%	%	%	%	%	%	%	%
Men	Score 0	67	64	65	65	65	66	64	65	63	65	62	55
	Score 1-3	20	23	23	22	23	22	23	20	22	22	23	27
	Score 4+	13	12	11	13	13	13	13	14	14	13	15	18
Women	Score 0	61	58	58	57	57	59	56	56	58	58	58	50
	Score 1-3	23	25	25	25	26	24	26	27	25	25	24	29
	Score 4+	17	17	17	17	17	17	18	17	17	17	18	21
All adults	Score 0	64	61	62	61	60	62	60	61	60	61	60	53
	Score 1-3	21	24	24	24	25	23	24	24	24	23	23	28
	Score 4+	15	15	14	15	15	15	16	16	16	15	17	19
Unweighted base	*Men*	*3380*	*2569*	*3007*	*2849*	*2904*	*1915*	*1939*	*1864*	*1992*	*1710*	*1398*	*1853*
	Women	*4285*	*3301*	*3893*	*3823*	*3867*	*2436*	*2555*	*2382*	*2483*	*2209*	*1837*	*2468*
	All adults	*7665*	*5870*	*6900*	*6672*	*6771*	*4351*	*4494*	*4246*	*4475*	*3919*	*3235*	*4321*
Weighted base	*Men*	*3614*	*2819*	*3301*	*3177*	*3196*	*2073*	*2105*	*2015*	*2151*	*1865*	*1564*	*2073*
	Women	*4057*	*3079*	*3589*	*3498*	*3559*	*2257*	*2343*	*2211*	*2356*	*2039*	*1668*	*2250*
	All adults	*7672*	*5898*	*6890*	*6674*	*6755*	*4329*	*4448*	*4226*	*4507*	*3904*	*3232*	*4322*

a GHQ12 scores range from 0 to 12. Scores of 4 or more indicate low wellbeing / possible psychiatric disorder.

Table 1.5: GHQ12 score, 2018, by age and sex

Base: Aged 16 and over *2018*

GHQ12 Score[a]		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
		%	%	%	%	%	%	%	%
Men	Score 0	49	46	53	54	61	66	64	55
	Score 1-3	31	32	28	23	24	23	26	27
	Score 4+	20	22	20	23	15	11	10	18
Women	Score 0	36	45	54	55	52	59	50	50
	Score 1-3	37	34	25	27	24	25	35	29
	Score 4+	27	21	21	18	24	16	16	21
All adults	Score 0	42	46	54	54	56	62	56	53
	Score 1-3	34	33	26	25	24	24	31	28
	Score 4+	24	21	20	21	20	14	13	19
Unweighted base	*Men*	*143*	*204*	*258*	*342*	*337*	*348*	*221*	*1853*
	Women	*191*	*331*	*374*	*427*	*444*	*426*	*275*	*2468*
	All adults	*334*	*535*	*632*	*769*	*781*	*774*	*496*	*4321*
Weighted base	*Men*	*276*	*339*	*327*	*376*	*334*	*261*	*160*	*2073*
	Women	*276*	*362*	*334*	*400*	*358*	*294*	*225*	*2250*
	All adults	*552*	*702*	*662*	*776*	*692*	*555*	*385*	*4322*

a GHQ12 scores range from 0 to 12. Scores of 4 or more indicate low wellbeing / possible psychiatric disorder.

Table 1.6: GHQ12 score, (age-standardised), 2018, by area deprivation and sex

Base: Aged 16 and over *2018*

		Scottish Index of Multiple Deprivation				
		5th (Least deprived)	4th	3rd	2nd	1st (Most deprived)
GHQ12 Score[a]		%	%	%	%	%
Men	Score 0	59	56	58	55	48
	Score 1-3	28	29	28	21	29
	Score 4+	12	15	14	25	23
Women	Score 0	54	55	51	45	46
	Score 1-3	30	27	32	31	26
	Score 4+	16	19	17	24	28
All adults	Score 0	57	55	55	50	47
	Score 1-3	29	28	30	26	27
	Score 4+	14	17	15	24	26
Unweighted base	*Men*	*356*	*443*	*370*	*383*	*301*
	Women	*484*	*588*	*475*	*521*	*400*
	All adults	*840*	*1031*	*845*	*904*	*701*
Weighted base	*Men*	*393*	*444*	*405*	*462*	*368*
	Women	*454*	*509*	*419*	*472*	*395*
	All adults	*847*	*953*	*824*	*935*	*763*

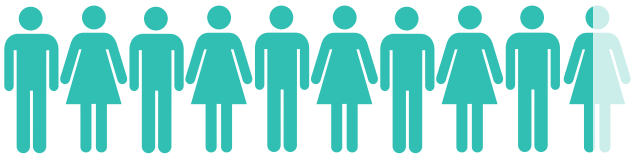
a GHQ12 scores range from 0 to 12. Scores of 4 or more indicate low wellbeing / possible psychiatric disorder. Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Chapter 2

General Health, Cardiovascular Diseases and Caring

SUMMARY

71%
of adults, in 2018, described their health as 'good' or 'very good', the lowest recorded since 2008.



94%
of children described their health as 'good' or 'very good', with little change from previous years.

Adults who assessed their general health to be 'good' or 'very good' varied by age:

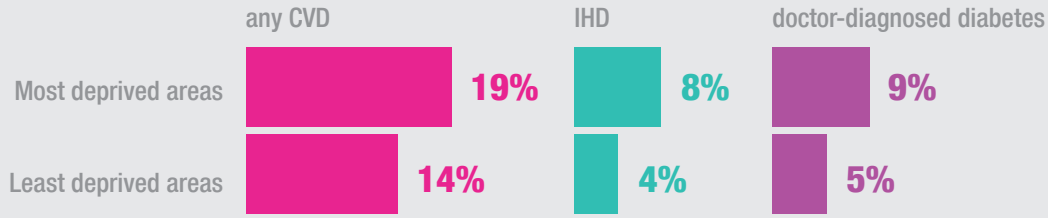
85%
aged 16-24

68%
aged 45-64

57%
aged 75+

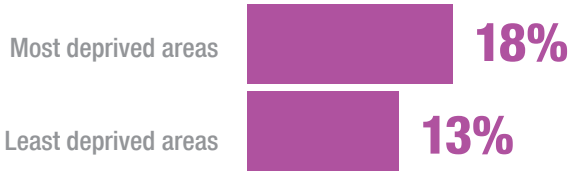
- In 2018, 16% of adults reported having any CVD (cardiovascular disease), with 7% reporting having doctor-diagnosed diabetes (primarily type 2 – 6%), 20% having any CVD or diabetes, 5% having IHD (ischaemic heart disease), 3% having a stroke and 7% having a stroke or IHD.

Prevalence of diabetes, any CVD and IHD continued to be higher in the most deprived areas.



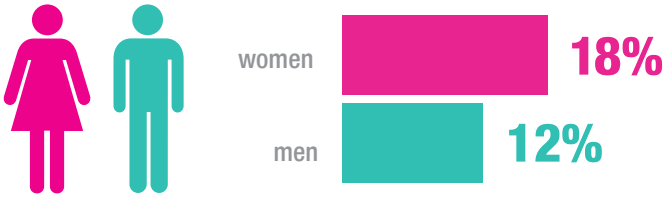
- The proportion of adults providing unpaid care for a family member, friend or someone else remained at 15% among those aged 16 and over and 4% for children aged 4-15.

Provision of unpaid care was higher among adults living in the most deprived areas compared with the least deprived areas.



- The largest proportion of carers spent up to 19 hours per week providing unpaid care in 2017/18 (32% up to 4 hours and 34% 5-19 hours per week). Nearly twice as many of those aged 65 and over (22%) reported providing 50 hours or more, compared with 12% of those aged 16-44 and 2% of those aged 4-15.

Unpaid care provision was higher among women than men.



- 7 in 10 unpaid carers aged 4 and over reported receiving no help or support (69%), with a significant variation between those who provided care for fewer than 35 hours per week (75%) and those who provided 35 hours or more of unpaid care per week (40%).

Average age standardised WEMWBS scores amongst care givers showed that mental wellbeing was significantly lower among those who spent a greater number of hours per week providing unpaid care.

51.2
among those caring for up to 4 hours a week

44.4
among those caring between 35-49 hours a week

2 GENERAL HEALTH, CARDIOVASCULAR CONDITIONS AND CARING

Victoria Wilson

2.1 INTRODUCTION

This chapter covers the following topics: self-assessed general health, cardiovascular disease, diabetes and unpaid caring.

Population measures of self-reported health can be general indicators of the burden of disease on society. They can reflect subjective experiences of both diagnosed and undiagnosed illnesses, and their severity, which more objective measures for the whole population can sometimes overlook.

Self-assessed general health is often a reflection of the presence or absence of long-term conditions, both physical and mental. An estimated 2 million people in Scotland live with one or more long term conditions[1], placing substantial operational and financial responsibility on healthcare provision and services[2]. Older people are more likely to have at least one long-term condition and often multiple conditions. In the context of an ageing population, where the proportion aged 75 and over is expected to increase by 60% by 2031[3], this remains a critical health issue for Scotland.

Cardiovascular disease (CVD) is a general term describing diseases of the heart and blood vessels whereby blood flow to the heart, brain or body is restricted. Its main components are ischaemic heart disease (IHD, or coronary heart disease) and stroke, both of which are well-established clinical priorities for the NHS in Scotland[4,5]. Since 2008, there has been a steady downward trend in deaths from coronary heart disease and stroke in Scotland. Between 2008-2018 the mortality rate for coronary heart disease has decreased by 37.2% and mortality rates for stroke has decreased by 40.9% over the same period.[6,7] Despite these reductions, coronary heart disease (CHD) remains one of the leading causes of death in Scotland. In 2018, there were 6,615 deaths in Scotland where CHD was the underlying cause[8]. Stroke also remains one of the biggest killers in Scotland and the leading cause of disability[9].

Diabetes, the most common metabolic disorder, is a growing health challenge for Scotland. Prevalence of people registered with Type 1 diabetes has increased from 26,294 in 2006 to 31,447 in 2017 and the number of people registered with Type 2 diabetes increased from 166,926 in 2006 to 263,271 in 2017[10]. For Type 1 diabetes, this reflects better survival and the rising incidence in children[11]. For Type 2, increase in reported prevalence depends on a number of factors, including: demographic change - diabetes is more prevalent in older people, so the increasing number of older people each year increases the prevalence of diabetes - better survival, and possibly better detection[12].

It is estimated that 3 in 5 people are likely to become a carer at some point in their lives[13]. The care they provide is of significant value, however, such a role can have a negative impact on the physical and mental health and wellbeing of carers, especially given the over-representation of carers in midlife and older age groups[14]. Around half of those who provide unpaid care are living with a

long term condition themselves[15]. Having caring responsibilities can also impact on finances, employment opportunities, social relationships and more[16]. Understanding the prevalence of caring and the level of support received from the perspective of carers themselves is vital in informing the delivery of support plans and initiatives for these individuals.

2.1.1 Policy background

The Scottish government recognises the importance of working towards sustainable healthcare provision, particularly in the context of the changing Scottish demographic, notably an ageing population and increasing numbers of people living with long term conditions and multi-morbidity. The strategic policy focus on promoting and improving general health and wellbeing and supporting people living with long term is set-out in three over-arching strategies.

The National Clinical Strategy[17], published in 2016, is a high level vision for how health and social care services need to and should change over a 15 year period. **The Health and Social Care Delivery Plan**[18] presents a programme that is focused on prevention, early intervention and support for self-management. The aim is to enable those living in Scotland to live longer, healthier lives with the highest standard of care, be this at home or in a homely setting.

Practising Realistic Medicine[19], published in 2018, outlines ways to support the translation of the principles of the previous report (Realising Realistic Medicine[20]) from theory through to patient-centred, practical application. In addition to encouraging a personalised approach to individual patient care and tackling sustainability of NHS service provision, the report examines the ways in which the principles of realistic medicine can be applied to positively influence the social determinants of health such as childhood experiences, social support, access to health services and more.

Underpinning these strategies, **Public Health Priorities for Scotland**[21] sets out six public health priorities, aimed at improving the health of Scotland and increasing healthy life expectancy, including, amongst others a range of initiatives geared towards achieving a Scotland where people eat well, have a healthy weight and are physically active.
The Scottish Government's strategy for long-term condition self-management **Gaun Yersel**[22] recently celebrated its tenth anniversary. Since its launch in 2008, the strategy has been widely referenced as a means of supporting individuals with long-term conditions and their carers to take control of and manage their own health and care. This, along with the Scottish Government's long-term condition strategies (the over-arching **Action Plan**[23] published in 2009 and the separate **heart disease**[24]**, stroke**[25] and **diabetes**[26] improvement plans published in 2014) supports the **National Performance Framework National Outcome** that 'we are healthy and active[27]. A number of the National Indicators are linked to reducing Cardiovascular Disease (CVD) risk factors, most notably smoking as part of the health risk

behaviours indicator, but also physical activity and maintaining healthy weight[28],[29](the latter two are also major risk factors for Type 2 diabetes).

The Scottish Government's commitment to unpaid carers in Scotland is reflected in the **Carers (Scotland) Act 2016**[30], which took effect in 2018. This extended the rights of carers to ensure that they receive better support whilst also maintaining/ improving their own health and enjoying a life beyond their caring role. Significant rights enshrined in the Act include a personalised plan to identify a carer's needs for support and help them to access appropriate support before situations reach crisis point[31].

Embedding carers' rights to support under the Carers Act is a priority for the Scottish Government and partners, in line with the agreed implementation plan[32]. This is complemented by initiatives such as the **Short Breaks Fund**[33] **and** the **Carer Positive** scheme which recognises employers who provide a supportive working environment for carers[34].

2.1.2 Reporting on general health, long-term conditions, CVD conditions, diabetes and caring in the Scottish Health Survey (SHeS)

The Scottish Health Survey provides valuable information on self-reported general health, prevalence of CVD conditions and diabetes across different population groups in Scotland. In this chapter, trends in self-assessed general health, self-reported CVD conditions and diabetes prevalence for adults are presented between 2003 and 2018 and each is also reported separately for 2018. Prevalence of caring and hours spent caring each week is reported for both adults and children. In addition, mental wellbeing (WEMWBS mean score) and support received by carers are both reported by hours spent caring per week.

The area deprivation data are presented in Scottish Index of Multiple Deprivation (SIMD) quintiles. To ensure that the comparisons presented are not confounded by the different age profiles of the quintiles, the data have been age-standardised. Readers should refer to the Glossary at the end of this Volume for a detailed description of both SIMD and age-standardisation.

Supplementary tables on general health and CVD are also published on the Scottish Health Survey website[35].

2.2 METHODS AND DEFINITIONS

2.2.1 Methods

Self-assessed general health

Each year, participants who are aged 13 and over are asked to rate their health in general with answer options ranging from 'very good' to

'very bad'. For children under the age of 13 the question is answered by the parent or guardian completing the interview on their behalf.

CVD conditions and diabetes

Participants were asked whether they had ever suffered from any of the following conditions: diabetes, angina, heart attack, stroke, heart murmur, irregular heart rhythm, or 'other heart trouble'. If they responded affirmatively to any of these conditions, participants were asked whether they had ever been told they had the condition by a doctor and whether they had experienced the conditions in the previous 12 months. For the purposes of the analysis presented in this chapter, participants were only classified as having a particular condition if they reported that the diagnosis had been confirmed by a doctor.

It is important to note that no attempt was made to verify these self-reported diagnoses objectively. It is therefore possible that some misclassification may have occurred because some participants may not have remembered (or not remembered correctly, or not known about) diagnoses made by their doctor.

Caring

Participants were asked whether they look after, or give any regular help or support to, family members, friends, neighbours or others because of a long-term physical condition, mental ill-health or disability; or problems related to old age. Caring which is done as part of any paid employment is not asked about. From 2014 onwards, this question explicitly instructed respondents to exclude caring as part of paid employment. This question has been asked of adults aged 16 and over since 2008, and of children aged 4 to 15 since 2012. Those who say they provide such care are then asked how many hours per week they typically provide. An additional question explores the impact that caring has on employment.

2.2.2 Definitions

Any CVD condition

Participants were classified as having 'any CVD' if they reported ever having any of the following conditions confirmed by a doctor: angina, heart attack, stroke, heart murmur, abnormal heart rhythm, or 'other heart trouble'[36].

Diabetes

Participants were classified as having diabetes if they reported a confirmed doctor diagnosis. Women whose diabetes occurred only during pregnancy were excluded from the classification. In 2018 a new question was introduced asking participants to report if they had been told they had Type 1 or Type 2 diabetes. Prior to 2018, no distinction was made between Type 1 and Type 2 diabetes in the interview.

Any CVD condition or diabetes

A summary measure of the above conditions is presented in the tables as 'any CVD condition or diabetes'.

Ischaemic heart disease (IHD)

Participants were classified as having IHD if they reported ever having angina or a heart attack confirmed by a doctor. All tables refer to **ever** having had the condition.

Stroke

Participants were classified as having a stroke if they reported **ever** having had a stroke confirmed by a doctor.

IHD or stroke

A summary measure of the above conditions is presented in the tables as 'IHD or stroke'.

2.3 SELF-ASSESSED GENERAL HEALTH

2.3.1 Trends in self-assessed general health since 2008

The highest level of self-assessed 'good' or 'very good' health for adults was reported in 2009 (77%). Between 2012 and 2017, the level fluctuated between 73% and 74%, with the 2018 level the lowest in the timeseries so far at 71%. At the other end of the scale, the level of self-assessed 'bad' or 'very bad' health has remained relatively stable within the range of 7-9% since 2008 (9% in 2018). The patterns for men and women have been similar since 2008.

The clear majority of children self-assessed their health to be 'good' or 'very good' in 2018 (94%), while 1% indicated that this was 'bad' or 'very bad'. These levels are consistent with those recorded since 2008 (94-96% 'good' / 'very good' and 0-1% 'bad' / 'very bad'). In 2018, there was very little variation between the proportions of boys (93%) and girls (95%) that self-assessed their general health to be 'good' or 'very good'.

Table 2.1 and Table 2.1.2

2.3.2 Self-assessed general health among adults in 2018, by age and sex

In 2018, just over seven in ten adults aged 16 and over (71%) described their general health as 'good' or 'very good', while just under one in ten (9%) described it as 'bad' or 'very bad'. The 2018 figures for men and women did not vary significantly.

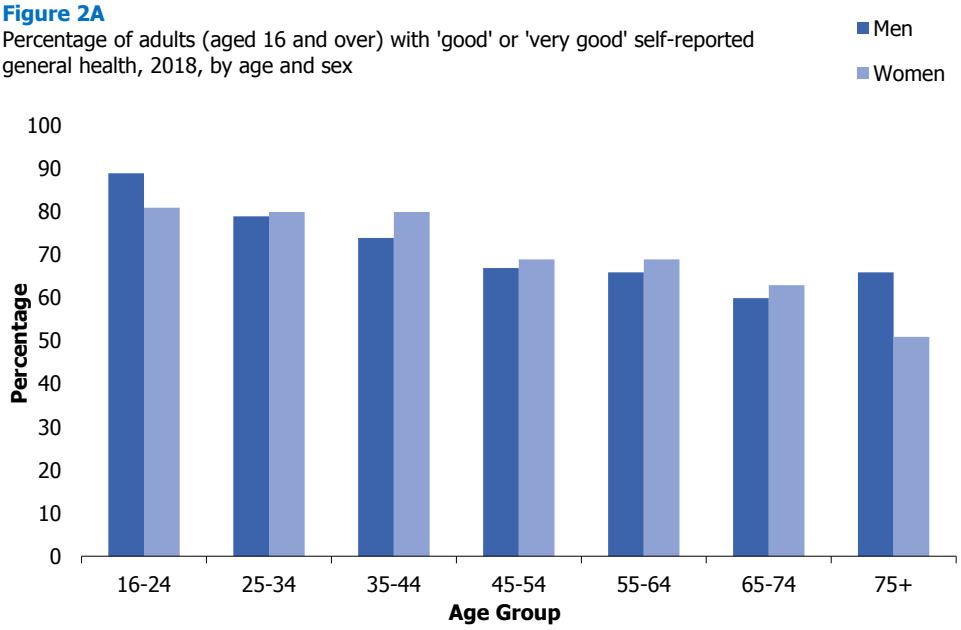
As in previous survey years, the association between self-assessed general health levels and age continued to be evident among adults in 2018. The proportion of adults who assessed their general health to be 'good' or 'very good' decreased with age from 85% among those aged 16-24 to 57% among those aged 75 and over. A reversal of this pattern

was seen in the proportion that self-assessed their general health to be 'bad' or 'very bad', increasing from 2% among those aged 16-24 to 12% of those aged 75 and over.

Patterns of general health by age were similar for men and women.

Figure 1A, Table 2.2

Figure 2A
Percentage of adults (aged 16 and over) with 'good' or 'very good' self-reported general health, 2018, by age and sex



2.4 CARDIOVASCULAR CONDITIONS AND DIABETES

2.4.1 CVD and diabetes, 2018, by age and sex

Any CVD

The proportion of adults that reported having any CVD in 2018 was 16%, similar to 2017 (15%)[37]. Prevalence was the same for men and women (both 16%).

The significant association between the prevalence of CVD conditions and age reported in 2017[38] was also evident in 2018. In 2018, 4% of those aged 16-24 reported any such condition increasing across the age groups to 41% of those aged 75 and over. The same pattern was found for both men and women.

Doctor-diagnosed diabetes

In 2018, 7% of adults reported having doctor-diagnosed diabetes; this was primarily Type 2 (6% reported Type 2 and 1% reported Type 1). There was no significant difference in prevalence between men and women of doctor-diagnosed diabetes. As in 2017[38], the prevalence of any type of doctor-diagnosed diabetes generally rose with age in 2018 (from 1% among those aged 16-24 to 16% among those aged 65-74

(13% for those aged 75 and over). There was no significant difference in the pattern by age for men and women.

Type 1 diabetes

Prevalence of Type 1 diabetes did not differ by age for men or women.

Type 2 diabetes

Men were more likely than women to have Type 2 diabetes (6% compared to 5% respectively). Prevalence of Type 2 diabetes increased with age, from <1% for those aged 16-24 to 15% among those aged 65-74 (12% for those aged 75 and over). Similar patterns by age were found for men and women.

Any CVD or diabetes

Two in ten adults reported having any CVD or doctor-diagnosed diabetes in 2018 (20%), figures were similar for men (21%) and women (20%). There was again a clear association by age with prevalence ranging from 5% among those aged 16-24 to 48% of those aged 75 and over.

The pattern by age was different for men and women. Prevalence among women was higher than among men in the 25-44 age group (12-14% for women compared to 8-9% for men) however it was lower for women than men among those aged 55 and over (24-44% for women compared to 30-54% for men).

IHD

The proportion of adults reporting an IHD diagnosis in 2018 was 5%, equal to that reported in 2017[38]. Men were more likely than women to report an IHD (7% compared to 4% respectively).

The proportion reporting such a diagnosis also increased with age, from less than 1% among those aged 16-24 to 19% among those aged 75 and over. This pattern was evident for both men and women.

Stroke

Stroke prevalence was 3% for all adults in 2018 with similar rates for men and women (2% among men, 3% among women).

Stroke prevalence increased significantly by age (from less than 1% to 2% for those aged 16-54 to 9% among those aged 75 and over). The pattern by age differed for men and women. For women prevalence rose steadily with age (from less than 1% among those aged 16-24 to 13% among those aged 75 and over. For men there was no clear pattern by age.

IHD or stroke

In 2018, the prevalence of an IHD diagnosis and / or stroke was 7%. Prevalence was higher among men (8%) than women (7%). Prevalence

was associated with age, increasing steadily from 1% or less among those aged 16-44 to 26% among those aged 75 and over.

Prevalence increased with age for both men and women, but the patterns were different. Prevalence of less than 1% was evident among men up to age 35, compared with only up to age 25 for women. The first steep increase in prevalence for men was at an earlier age (from 6% among those aged 45-54 to 14% among those aged 55-64) than for women (from 6% among those aged 55-64 to 15% among those aged 65-74). **Table 2.3**

2.4.2 Trends in CVD and diabetes prevalence (age-standardised) since 2003, by area deprivation and sex

Any CVD

The extent of inequalities in age-standardised CVD prevalence by area deprivation has varied since 2003 but with no clear pattern. In 2018, there was a higher prevalence of CVD among those living in the most deprived quintile (19%) compared with those living in the four less deprived quintiles (14-16%). The pattern by area deprivation was not significantly different for men or women.

Doctor-diagnosed diabetes

As in previous survey years[39], the age-standardised prevalence of doctor-diagnosed diabetes was higher among those living in the most deprived areas (9%) compared with those living in the least deprived areas (5%). This pattern was evident for both women and men.

IHD

The prevalence of self-reported age-standardised IHD varied significantly by area deprivation. Twice as many adults living in the most deprived areas reported an IHD diagnosis (8%) than those living in the least deprived areas (4%). A similar pattern was found for men (8% compared to 5%) and for women (7% compared to 2%). This pattern has been consistent across previous survey years.

Stroke

Stroke prevalence, for all adults and by sex, has been relatively stable since 2008. Health inequalities by deprivation area have varied in previous survey years. In 2018, there was a significance difference in stroke prevalence in the most deprived (4%) and least deprived areas (2%). **Table 2.4**

2.5 Caring

2.5.1 Caring Prevalence in 2018, by age and sex

Adults

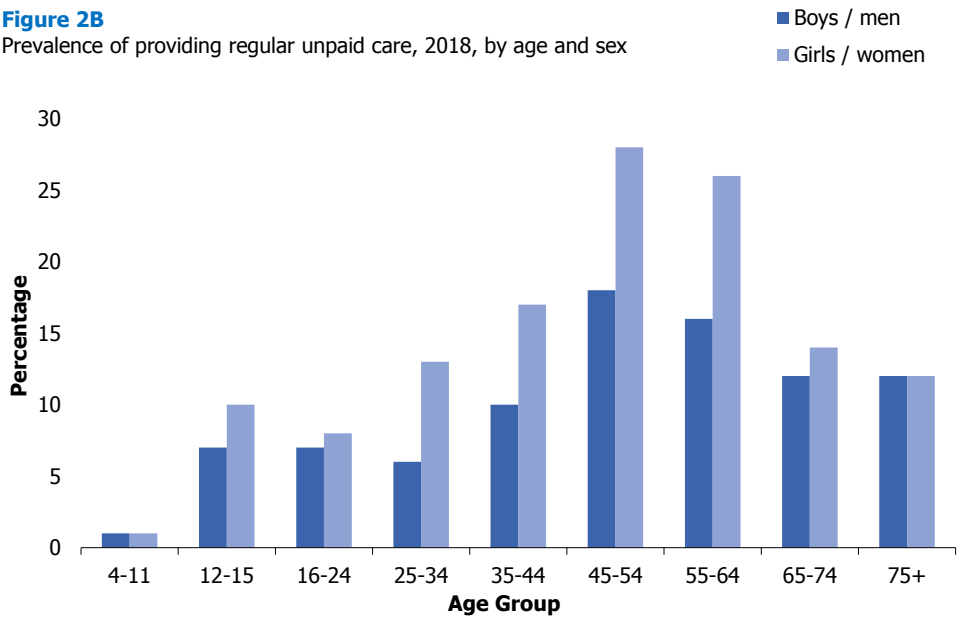
In 2018, prevalence of reported unpaid care for a family member, friend or someone else among those aged 16 and over remained at 15%. As in previous years (reported in previous SHeS reports[40]), provision of unpaid care in 2018 was higher among women (18%) than men (12%).

Prevalence of unpaid care varied significantly by age, increasing from 8% among those aged 16-24 to 23% among those aged 45-54 followed by a decrease to 12% of those aged 75 and over. A similar pattern by age was found for men and women.

Children

In 2018, the prevalence of unpaid care provision among children aged 4-15 was 4%, with no significant difference in prevalence between boys (3%) and girls (4%). For both sexes, the prevalence of care provision was highest amongst those aged 12-15 (9% overall, 7% boys, 10% girls). **Figure 2B, Table 2.5**

Figure 2B
Prevalence of providing regular unpaid care, 2018, by age and sex



2.5.2 Caring prevalence, 2013/2014 combined – 2017/2018 combined, by age and sex

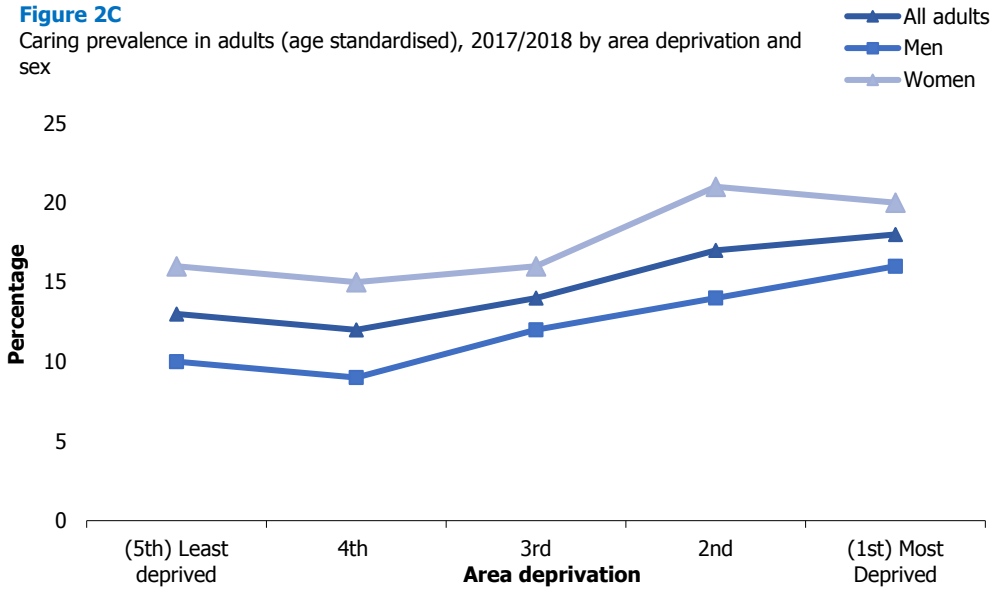
The combined survey results indicated a consistent level of caring provision prevalence among adults aged 16 and over, with rates ranging between 14-16% for adults and 3-5% for children across the time-series. There were no significant differences in prevalence across the time series between men and women or boys and girls. **Table 2.6**

2.5.3 Caring prevalence in adults (age-standardised), 2017/2018 combined, by area deprivation and sex

The age standardised results indicate that prevalence in the provision of care by adults varied by deprivation area with adults in the most deprived areas more likely to provide regular unpaid care than those in the least deprived areas (18% compared to 13% respectively).

A similar pattern of prevalence of caring provision by area deprivation was found for men and women. **Figure 2C, Table 2.7**

Figure 2C
Caring prevalence in adults (age standardised), 2017/2018 by area deprivation and sex



2.5.4 Prevalence of caring among children 2017/2018 combined, by area deprivation and sex

The results indicated a similar pattern of increased provision of regular unpaid care among children aged 4-15 by deprivation area; with 1% prevalence in the two least deprived quintiles compared with 2-3% in the other three quintiles. A similar pattern was found for boys and girls. **Table 2.8**

2.5.5 Hours spent per week by carers providing help or unpaid care among adults and children, 2017/2018 combined, by age and sex

In 2017/2018, the largest proportion of carers reported spending 19 hours or less a week providing unpaid care; around a third reported providing below 5 hours a week (32%) and around another third reported caring for between 5 and 19 hours a week (34%). The proportion providing care for 50 hours or more was 15%.

Age variations in the reported hours spent caring remained evident. A higher proportion of carers aged 65 and over reported providing 50 hours or more of unpaid care each week (22%) than younger age groups (14% of those aged 45-64, 12% of those aged 16-44 and 2% of those aged 4-15). A higher proportion of children than adults reported

that they provided less than 5 hours a week of care (54% among those aged 4-15 compared to 29-35% among adults).

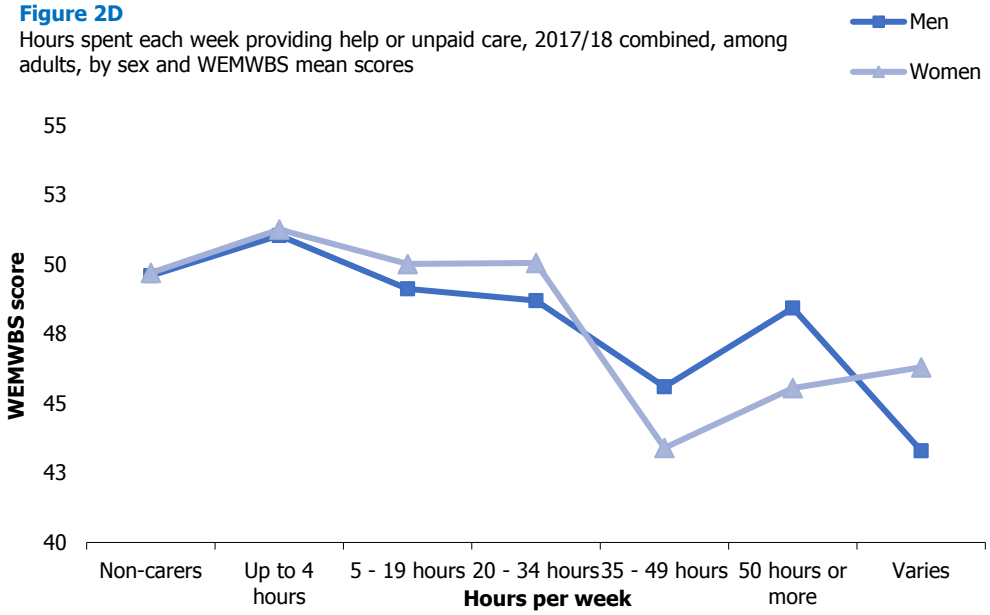
A higher proportion of female than male carers aged 65 and over reported providing 50 hours or more of care a week (26% compared to 16% respectively). Girls were more likely than boys to provide care for more than 34 hours per week, (7% compared to less than 1% respectively). **Table 2.9**

2.5.6 WEMWBS mean score 2017/2018 combined, (age-standardised), by hours spent each week providing help or unpaid care

Mean WEMWBS scores varied significantly with the number of hours spent each week providing help or unpaid care, with wellbeing generally lower among those spending higher numbers of hours caring. Higher WEMWBS mean scores were found among those who provided care for 34 hours or less (49.4-51.2) as well as for non-carers (49.7) than for those who those who provided care for 35-49 hours a week (44.4) and those who provided care for 50 hours or more a week (46.6). WEMWBS mean scores indicated higher wellbeing among those that spent 4 hours or less per week providing care compared with non-carers (51.2 and 49.7 respectively). Those who reported that the number of hours per week they spent caring was variable also had relatively low mental wellbeing with a mean WEMWBS score of 45.3.

The patterns of mental wellbeing by hours spent caring did not vary significantly between men and women. **Figure 2D, Table 2.10**

Figure 2D
Hours spent each week providing help or unpaid care, 2017/18 combined, among adults, by sex and WEMWBS mean scores



2.5.7 Support received by carers in 2017/2018 combined, by hours spent caring per week

Around seven in ten unpaid carers aged 4 and over reported receiving no help or support (69%), with those who provided unpaid care for less

than 35 hours per week more likely to receive no help or support than those who provided 35 or more hours of unpaid care per week (75% compared to 40% respectively).' The most frequently cited form of support was help from family, friends and neighbours (19%), those who provided 35 hours or more per week were almost twice as likely to receive this type of support than those who provided less than 35 hours per week (30% compared to 17%).

The second most common form of support reported was the carer's allowance. Of those eligible to receive carer's allowance (those who provided 35 hours or more of unpaid care per week) 31% reported that they were in receipt of the benefit.

Advice and information, a personal assistant/support worker/community nurse or home help, short breaks or respite, practical support or counselling or emotional support were each received by 6% or less of all carers.

Less than 1% of young carers reported receiving help from teachers at school or social activities and support. **Table 2.12**

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[34] See: https://www2.gov.scot/Topics/Health/Support-Social-Care/Unpaid-Carers/ProgrammesandInitiatives/CarerPositiveKitemark

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Table list

Table 2.1: Self-assessed general health, adults and children, 2008 to 2018 (adults)

Base: Aged 16 and over *2008 - 2018*

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Self-assessed general health		%	%	%	%	%	%	%	%	%	%	%
Men	Very good	37	37	35	37	36	34	32	34	30	34	33
	Good	39	40	41	41	39	41	42	40	43	41	39
	Fair	16	16	17	16	17	17	18	18	19	18	20
	Bad	6	6	5	5	6	6	6	6	6	5	6
	Very bad	2	1	2	2	2	2	2	2	2	2	2
	Good/Very good	*76*	*77*	*76*	*77*	*75*	*75*	*74*	*74*	*74*	*75*	*72*
	Bad/Very bad	*7*	*7*	*7*	*7*	*8*	*8*	*8*	*8*	*8*	*8*	*8*
Women	Very good	35	36	35	36	32	34	33	35	32	34	32
	Good	40	41	39	39	41	40	41	40	41	38	39
	Fair	19	17	18	18	18	18	18	18	18	19	20
	Bad	5	6	6	6	7	7	6	6	7	6	7
	Very bad	2	1	2	2	2	2	2	2	3	3	2
	Good/Very good	*75*	*77*	*74*	*74*	*73*	*74*	*74*	*74*	*73*	*72*	*71*
	Bad/Very bad	*7*	*7*	*8*	*8*	*9*	*9*	*8*	*8*	*9*	*9*	*9*
All adults	Very good	36	36	35	36	34	34	32	34	31	34	32
	Good	39	40	40	40	40	40	41	40	42	39	39
	Fair	17	16	18	17	17	17	18	18	18	18	20
	Bad	5	6	6	6	7	6	6	6	6	6	6
	Very bad	2	1	2	2	2	2	2	2	2	3	2
	Good/Very good	*75*	*77*	*75*	*76*	*74*	*74*	*74*	*74*	*73*	*73*	*71*
	Bad/Very bad	*7*	*7*	*7*	*7*	*9*	*8*	*8*	*8*	*9*	*8*	*9*

Continued…

Table 2.1: *- Continued*

Base: Aged 16 and over *2008 - 2018*

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Self-assessed general health												
Unweighted bases	*Men*	*2840*	*3285*	*3112*	*3279*	*2127*	*2138*	*2068*	*2244*	*1894*	*1597*	*2074*
	Women	*3622*	*4241*	*4128*	*4262*	*2686*	*2753*	*2590*	*2749*	*2428*	*2099*	*2735*
	All adults	*6462*	*7526*	*7240*	*7541*	*4813*	*4891*	*4658*	*4993*	*4322*	*3696*	*4809*
Weighted bases	*Men*	*3087*	*3598*	*3464*	*3608*	*2309*	*2344*	*2237*	*2395*	*2077*	*1776*	*2315*
	Women	*3376*	*3926*	*3775*	*3932*	*2504*	*2546*	*2421*	*2596*	*2245*	*1919*	*2493*
	All adults	*6463*	*7524*	*7239*	*7541*	*4813*	*4890*	*4658*	*4992*	*4322*	*3696*	*4809*

Table 2.1.2: Self-assessed general health, adults and children, 2008 to 2018 (children)

Base: Aged 0-15 *2008 - 2018*

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Self-assessed general health		%	%	%	%	%	%	%	%	%	%	%
Boys	Very good	68	69	65	69	65	68	65	66	65	67	66
	Good	26	27	29	27	29	26	30	28	30	28	27
	Fair	5	4	5	4	6	5	5	6	4	5	6
	Bad	1	0	1	0	0	1	0	1	1	1	1
	Very bad	0	0	0	-	0	0	0	-	0	0	0
	Good/Very good	*94*	*96*	*94*	*96*	*94*	*94*	*95*	*94*	*95*	*94*	*93*
	Bad/Very bad	*1*	*0*	*1*	*0*	*0*	*1*	*1*	*1*	*1*	*1*	*1*
Girls	Very good	65	68	65	70	70	64	65	70	69	67	71
	Good	31	27	29	26	25	30	30	28	27	26	24
	Fair	4	4	4	3	5	4	4	2	3	5	4
	Bad	1	1	1	1	1	1	1	1	1	1	1
	Very bad	0	-	0	0	-	-	-	-	0	-	0
	Good/Very good	*96*	*95*	*95*	*96*	*95*	*95*	*95*	*98*	*96*	*93*	*95*
	Bad/Very bad	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
All children	Very good	66	68	65	70	68	66	65	68	67	67	69
	Good	29	27	29	27	27	28	30	28	28	27	26
	Fair	4	4	5	3	5	5	5	4	4	5	5
	Bad	1	0	1	1	0	1	0	1	1	1	1
	Very bad	0	0	0	0	0	0	0	-	0	0	0
	Good/Very good	*95*	*95*	*94*	*96*	*94*	*95*	*95*	*96*	*95*	*94*	*94*
	Bad/Very bad	*1*	*1*	*1*	*1*	*0*	*1*	*1*	*1*	*1*	*1*	*1*

Continued…

Table 2.1.2: - *Continued*

Base: Aged 0-15 *2008 - 2018*

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Self-assessed general health												
Unweighted bases	*Boys*	*872*	*1333*	*960*	*998*	*878*	*948*	*842*	*735*	*771*	*819*	*1055*
	Girls	*878*	*1272*	*832*	*987*	*908*	*891*	*825*	*685*	*790*	*784*	*925*
	All children	*1750*	*2605*	*1792*	*1985*	*1786*	*1839*	*1667*	*1420*	*1561*	*1603*	*1980*
Weighted bases	*Boys*	*896*	*1333*	*916*	*1015*	*912*	*940*	*852*	*725*	*798*	*819*	*1014*
	Girls	*854*	*1273*	*876*	*970*	*873*	*899*	*815*	*695*	*763*	*784*	*966*
	All children	*1750*	*2606*	*1792*	*1985*	*1786*	*1839*	*1667*	*1420*	*1561*	*1603*	*1980*

Table 2.2: Adult self-assessed general health, 2018, by age and sex

Base: Aged 16 and over *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Self-assessed general health		%	%	%	%	%	%	%	%
Men	Very good	53	40	34	27	27	21	22	33
	Good	36	39	41	40	39	39	44	39
	Fair	9	18	22	21	23	27	26	20
	Bad	2	2	2	9	9	10	5	6
	Very bad	-	1	1	3	2	4	2	2
	Good/Very good	*89*	*79*	*74*	*67*	*66*	*60*	*66*	*72*
	Bad/Very bad	*2*	*3*	*4*	*12*	*11*	*13*	*8*	*8*
Women	Very good	43	38	37	32	27	26	18	32
	Good	38	42	43	37	42	37	33	39
	Fair	16	16	14	22	17	23	34	20
	Bad	2	4	5	6	10	11	13	7
	Very bad	1	1	2	3	4	3	2	2
	Good/Very good	*81*	*80*	*80*	*69*	*69*	*63*	*51*	*71*
	Bad/Very bad	*3*	*4*	*7*	*9*	*14*	*15*	*15*	*9*
All adults	Very good	49	39	35	29	27	24	20	32
	Good	37	41	42	38	41	38	37	39
	Fair	12	17	18	21	20	25	31	20
	Bad	2	3	4	7	10	10	10	6
	Very bad	1	1	2	3	3	3	2	2
	Good/Very good	*85*	*80*	*77*	*68*	*68*	*61*	*57*	*71*
	Bad/Very bad	*2*	*4*	*5*	*11*	*13*	*14*	*12*	*9*

Continued…

Table 2.2: *- Continued*

Base: Aged 16 and over — *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Self-assessed general health									
Unweighted bases	*Men*	*158*	*228*	*280*	*378*	*373*	*393*	*264*	*2074*
	Women	*205*	*363*	*408*	*473*	*492*	*469*	*325*	*2735*
	All adults	*363*	*591*	*688*	*851*	*865*	*862*	*589*	*4809*
Weighted bases	*Men*	*307*	*388*	*350*	*414*	*374*	*292*	*191*	*2315*
	Women	*298*	*402*	*368*	*445*	*396*	*320*	*266*	*2493*
	All adults	*604*	*789*	*718*	*859*	*769*	*612*	*457*	*4809*

The symbol '-' denotes that no respondents within that category selected this answer option

Table 2.3: Any CVD, doctor-diagnosed diabetes Type 1 or 2, any CVD or diabetes, IHD, stroke, IHD or stroke, 2018, by age and sex

Base: Aged 16 and over *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Any CVD[a] / doctor-diagnosed diabetes[b] / IHD[c] / stroke		%	%	%	%	%	%	%	%
Men	Any CVD	4	7	7	9	22	34	46	16
	Doctor diagnosed diabetes	1	2	3	6	13	19	14	8
	Diabetes Type 1	1	1	1	1	1	1	1	1
	Diabetes Type 2	-	1	2	5	12	18	13	6
	Any CVD or diabetes	5	9	8	13	30	44	54	21
	IHD	-	-	1	5	10	14	25	7
	Stroke	-	-	-	1	4	8	5	2
	IHD or Stroke	-	-	1	6	14	20	29	8
Women	Any CVD	4	10	9	11	16	28	37	16
	Doctor diagnosed diabetes	0	2	5	3	11	14	13	6
	Diabetes Type 1	0	1	1	1	2	1	1	1
	Diabetes Type 2	-	1	3	2	9	12	11	5
	Any CVD or diabetes	4	12	14	14	24	36	44	20
	IHD	-	0	1	2	3	9	14	4
	Stroke	-	1	0	2	3	7	13	3
	IHD or Stroke	-	1	1	4	6	15	24	7
All adults	Any CVD	4	9	8	11	19	31	41	16
	Doctor diagnosed diabetes	1	2	4	4	12	16	13	7
	Diabetes Type 1	1	1	1	1	1	1	1	1
	Diabetes Type 2	-	1	3	4	10	15	12	6
	Any CVD or diabetes	5	10	11	14	27	40	48	20
	IHD	-	0	1	4	6	12	19	5
	Stroke	-	1	0	2	4	8	9	3
	IHD or Stroke	-	1	1	5	10	18	26	7

Continued…

Table 2.3: *- Continued*

Base: Aged 16 and over — *2018*

Any CVD[a] / doctor-diagnosed diabetes[b] / IHD[c] / stroke		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Unweighted bases[d]	*Men*	*158*	*228*	*280*	*378*	*373*	*393*	*264*	*2074*
	Women	*205*	*362*	*408*	*473*	*492*	*469*	*326*	*2735*
	All adults	*363*	*590*	*688*	*851*	*865*	*862*	*590*	*4809*
Weighted bases[d]	*Men*	*307*	*388*	*350*	*414*	*374*	*292*	*191*	*2315*
	Women	*298*	*401*	*368*	*445*	*396*	*320*	*267*	*2494*
	All adults	*604*	*789*	*718*	*859*	*769*	*612*	*458*	*4809*

a Any cardiovascular condition, including IHD (heart attack or angina), stroke, heart murmur, abnormal heart rhythm or 'other heart trouble' - excludes diabetes and high blood pressure

b Excludes diabetes diagnosed during pregnancy

c Heart attack or angina

d The bases shown are for any CVD. Bases are similar for other conditions

Table 2.4: Any CVD, doctor-diagnosed diabetes, IHD or stroke, (age-standardised), 2003 to 2018, by area deprivation and sex

Base: Aged 16 and over *2003 - 2018*

Any CVD[a] / doctor-diagnosed diabetes[b] / IHD[c] / stroke		2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
		%	%	%	%	%	%	%	%	%	%	%	%
Men	**Any CVD**												
	1st (most deprived)	22	19	22	19	21	19	19	26	23	17	25	17
	2nd	18	18	17	17	18	21	19	17	15	18	20	16
	3rd	16	17	16	15	18	13	16	18	12	18	13	15
	4th	16	14	15	18	14	18	16	17	17	16	15	17
	5th (least deprived)	12	14	13	17	14	17	13	16	13	12	13	16
	Total	16	16	16	17	17	18	16	19	16	16	17	16
	Doctor-diagnosed diabetes												
	1st (most deprived)	6	6	9	10	9	9	9	10	10	8	13	8
	2nd	5	7	8	6	7	9	7	9	7	8	8	9
	3rd	4	7	8	6	8	6	5	10	7	5	8	7
	4th	4	5	6	6	5	5	6	6	6	4	5	7
	5th (least deprived)	3	4	5	5	4	4	6	6	5	5	4	6
	Total	4	6	7	7	7	7	6	8	7	6	7	8
	IHD												
	1st (most deprived)	14	10	12	11	12	10	8	15	12	8	10	8
	2nd	11	10	9	11	10	10	11	9	7	9	8	9
	3rd	8	8	8	6	8	7	8	7	5	6	4	6
	4th	9	6	6	7	7	8	6	8	8	7	5	6
	5th (least deprived)	6	5	7	6	5	6	5	5	6	5	5	5
	Total	9	8	8	8	8	8	8	8	8	7	6	7
	Stroke												
	1st (most deprived)	5	6	5	4	5	5	6	3	5	5	5	3
	2nd	3	2	4	4	4	4	4	4	2	3	4	3
	3rd	2	2	2	3	3	3	2	5	2	3	2	2
	4th	2	2	3	3	3	2	3	2	3	2	3	2
	5th (least deprived)	1	2	2	4	2	2	3	3	1	3	2	1
	Total	3	3	3	4	3	3	3	3	3	3	3	2

Continued…

Table 2.4: - *Continued*

Base: Aged 16 and over *2003 - 2018*

Any CVD[a] / doctor-diagnosed diabetes[b] / IHD[c] / stroke		2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
		%	%	%	%	%	%	%	%	%	%	%	%
Women	**Any CVD**												
	1st (most deprived)	19	19	19	17	18	25	21	19	20	20	21	21
	2nd	16	16	16	18	13	17	19	14	15	15	17	16
	3rd	15	17	14	13	14	16	15	13	14	14	13	17
	4th	14	15	12	14	13	15	13	12	13	13	12	14
	5th (least deprived)	11	15	10	10	13	9	12	13	13	13	12	12
	Total	15	16	14	15	14	16	16	14	15	15	15	16
	Doctor-diagnosed diabetes												
	1st (most deprived)	6	6	7	6	7	6	7	8	8	8	9	10
	2nd	5	5	6	5	7	7	6	7	6	6	6	9
	3rd	4	5	5	6	5	6	6	5	5	5	5	5
	4th	3	3	2	4	3	3	4	4	5	3	4	5
	5th (least deprived)	2	3	3	2	3	3	4	3	4	3	4	4
	Total	4	4	5	5	5	5	5	5	5	5	6	7
	IHD												
	1st (most deprived)	12	8	9	8	7	10	9	8	9	7	8	7
	2nd	7	7	6	8	5	6	7	5	5	6	5	5
	3rd	6	7	5	5	6	6	6	5	4	3	3	3
	4th	6	4	4	4	4	5	3	3	3	3	3	2
	5th (least deprived)	5	4	3	3	3	3	3	4	3	3	1	2
	Total	7	6	6	6	5	6	6	5	5	4	4	4
	Stroke												
	1st (most deprived)	3	4	3	4	4	6	5	5	6	5	5	4
	2nd	3	3	2	4	3	4	4	4	2	2	3	4
	3rd	2	4	2	2	3	3	1	2	2	2	1	4
	4th	2	3	2	2	2	3	2	3	1	2	3	3
	5th (least deprived)	1	1	2	1	1	0	1	2	3	2	1	3
	Total	2	3	2	3	3	3	3	3	3	3	3	3

Continued…

Table 2.4: - *Continued*

Base: Aged 16 and over *2003 - 2018*

Any CVD[a] / doctor-diagnosed diabetes[b] / IHD[c] / stroke		2003 %	2008 %	2009 %	2010 %	2011 %	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %
All adults	**Any CVD**												
	1st (most deprived)	20	19	20	18	19	23	20	23	21	19	22	19
	2nd	17	17	16	17	15	19	19	15	15	16	18	16
	3rd	16	17	15	14	16	15	15	15	13	16	13	16
	4th	15	14	14	16	13	17	14	14	15	14	13	15
	5th (least deprived)	12	14	12	13	13	13	13	14	13	12	12	14
	Total	16	16	15	16	15	17	16	16	15	16	16	16
	Doctor-diagnosed diabetes												
	1st (most deprived)	6	6	8	8	8	8	8	9	9	8	11	9
	2nd	5	6	7	6	7	8	6	8	6	7	7	9
	3rd	4	6	6	6	6	6	5	7	6	5	7	6
	4th	4	4	4	5	4	4	5	5	5	4	5	6
	5th (least deprived)	3	3	4	4	4	4	5	4	5	4	4	5
	Total	4	5	6	6	6	6	6	7	6	6	7	7
	IHD												
	1st (most deprived)	13	9	10	9	10	10	9	12	10	8	9	8
	2nd	9	9	8	9	7	8	9	6	6	8	7	7
	3rd	7	8	7	6	7	6	7	6	4	5	4	4
	4th	7	5	5	6	6	7	5	5	6	5	4	4
	5th (least deprived)	6	4	5	5	4	4	4	4	5	4	3	4
	Total	8	7	7	7	7	7	7	7	6	6	5	5
	Stroke												
	1st (most deprived)	4	5	4	4	4	5	5	4	5	5	5	4
	2nd	3	3	3	4	3	4	4	4	2	3	3	3
	3rd	2	3	2	3	3	3	2	4	2	3	2	3
	4th	2	2	2	2	3	2	3	2	2	2	3	2
	5th (least deprived)	1	1	2	3	2	1	2	3	2	3	2	2
	Total	2	3	3	3	3	3	3	3	3	3	3	3

Continued…

Table 2.4: *- Continued*

Base: Aged 16 and over *2003 - 2018*

Any CVD[a] / doctor-diagnosed diabetes[b] / IHD[c] / stroke		2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Unweighted bases[d]	***Men***												
	1st (most deprived)	*606*	*465*	*568*	*688*	*618*	*301*	*328*	*336*	*387*	*294*	*236*	*338*
	2nd	*698*	*570*	*612*	*609*	*574*	*389*	*445*	*397*	*445*	*327*	*313*	*420*
	3rd	*802*	*611*	*697*	*614*	*717*	*499*	*511*	*481*	*479*	*430*	*361*	*413*
	4th	*793*	*722*	*765*	*687*	*809*	*496*	*451*	*447*	*545*	*421*	*375*	*501*
	5th (least deprived)	*709*	*470*	*645*	*513*	*559*	*440*	*404*	*405*	*391*	*422*	*313*	*402*
	Total	*3608*	*2840*	*3287*	*3112*	*3277*	*2125*	*2139*	*2066*	*2247*	*1894*	*1598*	*2074*
	Women												
	1st (most deprived)	*831*	*656*	*834*	*967*	*805*	*428*	*457*	*443*	*489*	*420*	*369*	*453*
	2nd	*891*	*714*	*782*	*821*	*758*	*502*	*554*	*537*	*535*	*438*	*397*	*574*
	3rd	*975*	*764*	*880*	*799*	*965*	*618*	*668*	*556*	*590*	*552*	*465*	*519*
	4th	*972*	*878*	*926*	*873*	*1007*	*593*	*605*	*571*	*661*	*505*	*456*	*645*
	5th (least deprived)	*865*	*603*	*817*	*665*	*726*	*547*	*468*	*481*	*473*	*512*	*410*	*544*
	Total	*4534*	*3618*	*4239*	*4127*	*4261*	*2688*	*2752*	*2588*	*2748*	*2427*	*2097*	*2735*
	All adults												
	1st (most deprived)	*1437*	*1121*	*1402*	*1655*	*1423*	*729*	*785*	*779*	*876*	*714*	*605*	*791*
	2nd	*1589*	*1284*	*1394*	*1430*	*1332*	*891*	*999*	*934*	*980*	*765*	*710*	*994*
	3rd	*1777*	*1375*	*1577*	*1413*	*1682*	*1117*	*1179*	*1037*	*1069*	*982*	*826*	*932*
	4th	*1765*	*1600*	*1691*	*1560*	*1816*	*1089*	*1056*	*1018*	*1206*	*926*	*831*	*1146*
	5th (least deprived)	*1574*	*1073*	*1462*	*1178*	*1285*	*987*	*872*	*886*	*864*	*934*	*723*	*946*
	Total	*8142*	*6458*	*7526*	*7239*	*7538*	*4813*	*4891*	*4654*	*4995*	*4321*	*3695*	*4809*

Continued…

Table 2.4: - *Continued*

Base: Aged 16 and over — *2003 - 2018*

Any CVD[a] / doctor-diagnosed diabetes[b] / IHD[c] / stroke		2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Weighted bases[d]	***Men***												
	1st (most deprived)	*704*	*574*	*620*	*709*	*698*	*387*	*383*	*410*	*442*	*412*	*291*	*409*
	2nd	*755*	*642*	*730*	*700*	*664*	*472*	*471*	*430*	*486*	*388*	*369*	*514*
	3rd	*757*	*582*	*675*	*674*	*751*	*477*	*492*	*423*	*442*	*445*	*358*	*445*
	4th	*817*	*725*	*783*	*711*	*806*	*484*	*461*	*474*	*565*	*385*	*379*	*506*
	5th (least deprived)	*811*	*551*	*781*	*660*	*678*	*481*	*531*	*494*	*459*	*443*	*377*	*441*
	Total	*3844*	*3076*	*3591*	*3455*	*3598*	*2302*	*2338*	*2230*	*2394*	*2072*	*1773*	*2315*
	Women												
	1st (most deprived)	*846*	*677*	*782*	*798*	*762*	*477*	*485*	*439*	*505*	*498*	*377*	*444*
	2nd	*852*	*694*	*777*	*795*	*732*	*499*	*503*	*494*	*519*	*430*	*379*	*527*
	3rd	*837*	*647*	*736*	*728*	*882*	*517*	*533*	*463*	*503*	*457*	*388*	*454*
	4th	*866*	*725*	*787*	*758*	*829*	*485*	*525*	*534*	*593*	*385*	*371*	*564*
	5th (least deprived)	*887*	*625*	*844*	*694*	*726*	*528*	*500*	*490*	*475*	*474*	*402*	*504*
	Total	*4288*	*3370*	*3926*	*3774*	*3932*	*2506*	*2545*	*2421*	*2596*	*2243*	*1917*	*2494*
	All adults												
	1st (most deprived)	*1550*	*1251*	*1402*	*1508*	*1460*	*864*	*868*	*849*	*947*	*909*	*668*	*853*
	2nd	*1607*	*1336*	*1508*	*1495*	*1397*	*972*	*974*	*924*	*1005*	*817*	*748*	*1042*
	3rd	*1594*	*1229*	*1412*	*1402*	*1633*	*994*	*1025*	*887*	*946*	*901*	*745*	*900*
	4th	*1684*	*1450*	*1570*	*1469*	*1635*	*969*	*986*	*1008*	*1158*	*770*	*750*	*1070*
	5th (least deprived)	*1698*	*1176*	*1625*	*1354*	*1405*	*1009*	*1031*	*983*	*934*	*917*	*779*	*945*
	Total	*8132*	*6446*	*7517*	*7229*	*7530*	*4808*	*4883*	*4650*	*4989*	*4315*	*3690*	*4810*

a Any cardiovascular condition, including IHD (heart attack or angina), stroke, heart murmur, abnormal heart rhythm or 'other heart trouble' - excludes diabetes and high blood pressure

b Excludes diabetes diagnosed during pregnancy

c Heart attack or angina

d The bases shown are for any CVD. Bases are similar for other conditions

Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Table 2.5: Caring prevalence, 2018, by age and sex

Base: Aged 4 and over												*2018*
		Age										Total
		4-11	12-15	Total	16-24	25-34	35-44	45-54	55-64	65-74	75+	
Regular carer		%	%	%	%	%	%	%	%	%	%	%
Males	Provides regular care	1	7	3	7	6	10	18	16	12	12	12
Females	Provides regular care	1	10	4	8	13	17	28	26	14	12	18
All	Provides regular care	1	9	4	8	10	14	23	21	13	12	15
Unweighted bases	*Males*	*551*	*235*	*786*	*158*	*228*	*280*	*378*	*373*	*393*	*264*	*2074*
	Females	*477*	*187*	*664*	*205*	*363*	*408*	*473*	*492*	*469*	*326*	*2736*
	All	*1028*	*422*	*1450*	*363*	*591*	*688*	*851*	*865*	*862*	*590*	*4810*
Weighted bases	*Males*	*536*	*234*	*770*	*307*	*388*	*350*	*414*	*374*	*292*	*191*	*2315*
	Females	*510*	*221*	*731*	*298*	*402*	*368*	*445*	*396*	*320*	*267*	*2495*
	All	*1046*	*455*	*1501*	*604*	*789*	*718*	*859*	*769*	*612*	*458*	*4810*

Table 2.6: Caring prevalence, 2013/2014 combined to 2017/2018 combined, by age and sex

Base: Aged 4 and over — *2013/14 - 2017/18 combined*

		2013/14	2015/16	2017/18
Regular carer		%	%	%
Males	Children (aged 4-15)	6	3	3
	Adults (aged 16 and over)	14	11	12
Females	Children (aged 4-15)	3	3	3
	Adults (aged 16 and over)	18	16	18
All adults	Children (aged 4-15)	5	3	3
	Adults (aged 16 and over)	16	14	15
Unweighted bases	*Males*			
	Children (aged 4-15)	*477*	*1111*	*1388*
	Adults (aged 16 and over)	*1515*	*4138*	*3671*
	Females			
	Children (aged 4-15)	*466*	*1072*	*1215*
	Adults (aged 16 and over)	*1944*	*5179*	*4835*
	All			
	Children (aged 4-15)	*943*	*2183*	*2603*
	Adults (aged 16 and over)	*3459*	*9317*	*8506*
Weighted bases	*Males*			
	Children (aged 4-15)	*486*	*1130*	*1381*
	Adults (aged 16 and over)	*1653*	*4473*	*4092*
	Females			
	Children (aged 4-15)	*458*	*1092*	*1322*
	Adults (aged 16 and over)	*1833*	*4843*	*4414*
	All			
	Children (aged 4-15)	*944*	*2222*	*2704*
	Adults (aged 16 and over)	*3486*	*9315*	*8506*

Table 2.7: Caring prevalence in adults, (age-standardised), 2017/2018 combined, by area deprivation and sex

Base: Aged 16 and over *2017/2018 combined*

		Scottish Index of Multiple Deprivation				
		(5th) Least deprived	4th	3rd	2nd	(1st) Most deprived
Regular carer		%	%	%	%	%
Men	Provides regular care	10	9	12	14	16
Women	Provides regular care	16	15	16	21	20
All adults	Provides regular care	13	12	14	17	18
Unweighted bases	*Men*	*714*	*876*	*774*	*733*	*574*
	Women	*956*	*1101*	*985*	*971*	*822*
	All adults	*1670*	*1977*	*1759*	*1704*	*1396*
Weighted bases	*Men*	*819*	*886*	*805*	*882*	*701*
	Women	*907*	*934*	*842*	*906*	*823*
	All adults	*1726*	*1820*	*1647*	*1788*	*1524*

Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Table 2.8: Caring prevalence in children, 2017/2018 combined, by area deprivation and sex

Base: Aged 4-15 *2017/2018 combined*

		Scottish Index of Multiple Deprivation				
		(5th) Least deprived	4th	3rd	2nd	(1st) Most deprived
Regular carer		%	%	%	%	%
Boys	Provides regular care	1	1	2	2	3
Girls	Provides regular care	1	0	4	2	4
All children	Provides regular care	1	1	3	2	3
Unweighted bases	*Boys*	*251*	*243*	*238*	*232*	*226*
	Girls	*218*	*223*	*208*	*214*	*193*
	All children	*469*	*466*	*446*	*446*	*419*
Weighted bases	*Boys*	*205*	*194*	*184*	*190*	*198*
	Girls	*189*	*187*	*181*	*199*	*198*
	All children	*393*	*381*	*365*	*388*	*396*

Table 2.9: Hours spent each week by carers providing help or unpaid care, 2017/2018 combined, by age and sex

Base: Carers aged 4 and over *2017/2018 combined*

		Age				Total
		4-15	16-44	45-64	65+	
Hours spent caring each week		%	%	%	%	%
Males	Up to 4 hours a week	[58]	32	32	32	32
	5 - 19 hours a week	[31]	40	33	28	34
	20 - 34 hours a week	[2]	9	13	13	12
	35 - 49 hours a week	[-]	6	6	4	6
	50 or more hours a week	[-]	11	14	16	14
	Varies	[7]	3	2	7	3
Females	Up to 4 hours a week	[50]	38	29	26	32
	5 - 19 hours a week	[37]	39	34	27	35
	20 - 34 hours a week	[4]	5	12	9	9
	35 - 49 hours a week	[3]	3	5	5	4
	50 or more hours a week	[4]	13	14	26	16
	Varies	[2]	2	6	7	5
All	Up to 4 hours a week	54	35	30	29	32
	5 - 19 hours a week	35	39	34	27	34
	20 - 34 hours a week	3	6	12	11	10
	35 - 49 hours a week	1	4	6	5	5
	50 or more hours a week	2	12	14	22	15
	Varies	5	3	4	7	4
Unweighted bases	*Males*	*36*	*100*	*216*	*135*	*451*
	Females	*37*	*248*	*420*	*189*	*857*
	All	*73*	*348*	*636*	*324*	*1308*
Weighted bases	*Males*	*39*	*155*	*232*	*99*	*485*
	Females	*42*	*264*	*378*	*139*	*781*
	All	*81*	*419*	*610*	*238*	*1266*

Square brackets around numbers denote that interpretation of the data should be cautious due to low bases for these sub-groups

Table 2.10: WEMWBS mean scores (age-standardised), 2017/2018 combined, by hours spent each week providing help or unpaid care

Base: Carers aged 16 and over *2017/2018 combined*

Hours spent caring each week		WEMWBS Mean Score	WEMWBS SE	WEMWBS Standard Deviation	*Unweighted Bases*	*Weighted Bases*
Men	Up to 4 hours a week	51.0	0.60	6.25	*135*	*149*
	5 - 19 hours a week	49.1	0.94	8.71	*124*	*148*
	20 - 34 hours a week	[48.7]	1.37	8.65	*49*	*52*
	35 - 49 hours a week	[45.6]	1.81	7.95	*25*	*27*
	50 or more hours a week	48.4	1.42	10.05	*62*	*58*
	Varies	[43.3]	2.45	9.88	*18*	*15*
	Non-carers	49.6	0.26	8.94	*2823*	*3179*
Women	Up to 4 hours a week	51.3	0.58	7.89	*239*	*225*
	5 - 19 hours a week	50.0	0.64	9.18	*270*	*245*
	20 - 34 hours a week	50.1	1.10	8.38	*70*	*61*
	35 - 49 hours a week	[43.4]	1.84	9.82	*37*	*32*
	50 or more hours a week	45.6	0.89	9.13	*115*	*104*
	Varies	[46.3]	1.69	10.09	*41*	*33*
	Non-carers	49.7	0.17	8.80	*3485*	*3168*
All adults	Up to 4 hours a week	51.2	0.43	7.27	*374*	*374*
	5 - 19 hours a week	49.7	0.55	9.01	*394*	*393*
	20 - 34 hours a week	49.4	0.91	8.50	*119*	*113*
	35 - 49 hours a week	44.4	1.29	9.01	*62*	*60*
	50 or more hours a week	46.6	0.83	9.54	*177*	*162*
	Varies	45.3	1.53	10.02	*59*	*48*
	Non-carers	49.7	0.16	8.87	*6308*	*6346*

Square brackets around numbers denote that interpretation of the data should be cautious due to low bases for these sub-groups
Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Table 2.11: Support received by carers, 2017/2018 combined, by hours spent caring per week

Base: Aged 4 and over — *2017/2018 combined*

Support received	Hours spent caring per week: 35 hours or more	Hours spent caring per week: Less than 35 hours	Total
	%	%	%
Short breaks or respite e.g. day time breaks, overnight breaks	9	3	4
Advice and information	10	4	6
Practical support, e.g. transport, equipment/adaptations	6	4	4
Counselling or emotional support / talking to someone for support, e.g. family member, friend	5	2	3
Training and learning / having a befriender or a peer mentor	1	1	1
Advocacy services	1	0	1
Personal assistant/ support worker/ community nurse/ home help	12	3	5
Help from family, friends or neighbours	30	17	19
Help from teachers at school, e.g. talking or extra help with homework (4-15 only)	0	0	0
Social activities and support, e.g. young carers' groups or day trips (4-15 only)	0	0	0
Carers allowance (16+ only)	31	1	7
Other	2	1	1
Receive no help or support	40	75	69
Unweighted bases	*271*	*1042*	*1382*
Weighted bases	*254*	*1037*	*1348*

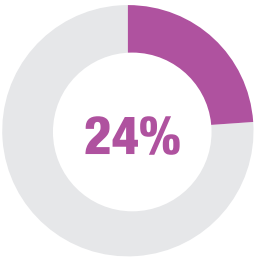
Note that the 1% of carers providing <35 hours care per week that reported that they receive carers allowance is this likely to be an error or because they've recently changed the amount of time that they care for

Chapter 3

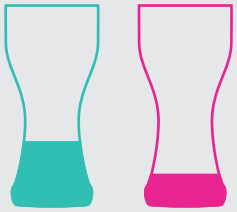
Alcohol

SUMMARY

- Since 2013, hazardous or harmful drinking (over 14 units a week) has remained at similar levels, fluctuating between 24% and 26% (24% in 2018), as has non-drinking, fluctuating between 16% and 17% (16% in 2018).



of adults drank at hazardous or harmful levels, the same figure as in 2017, but down from 34% in 2003.



32% 16%

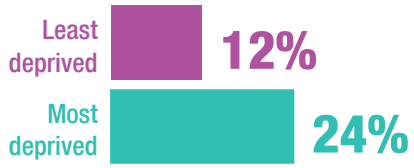
Men continued to be twice as likely than women to drink at hazardous or harmful levels.

13% 19%

Men continued to be less likely than women to be non-drinkers.

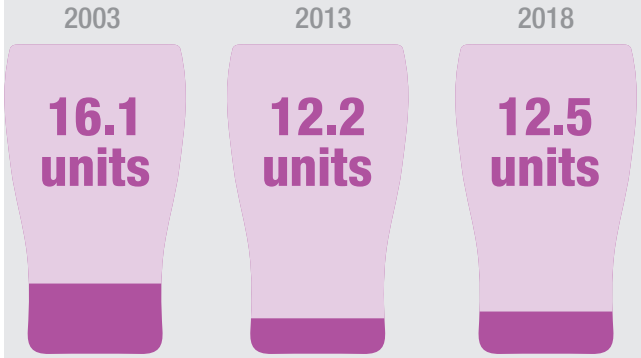
People living in the **least deprived areas** were more likely to drink at hazardous or harmful levels than those living in the **most deprived areas**.

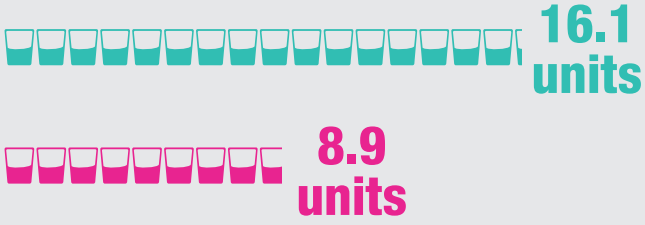
People living in the **least deprived areas** were less likely to be non-drinkers than those in the **most deprived areas**.



- Among men, the highest prevalence of hazardous or harmful drinking was found among those aged 55-64 (36%) and for women, prevalence peaked within the 45-54 age group (22%).

The mean number of units of alcohol consumed per week by adult drinkers decreased between 2003 and 2013 and has remained around the same level since.





Male drinkers continued to drink almost twice as many units of alcohol a week on average than female drinkers.

- For men, the highest mean consumption was among those aged 45-54 (18.5 mean units per week); for women the highest mean consumption was among those aged 16-24 (11.6 mean units per week).
- The mean number of days on which adult drinkers drank alcohol in the last week increased with age; from 2.0 for those aged 16-24 to 3.6 for those aged 75 and over.
- The percentage of men drinking more than four units on their heaviest drinking day declined significantly between 2003 (45%) and 2018 (36%). The percentage of women drinking more than three units on their heaviest drinking day also declined significantly between 2003 (37%) and 2018 (28%).

3 ALCOHOL

Konstantina Vosnaki

3.1 INTRODUCTION

Harmful use of alcohol is recognised as a major public health challenge in Scotland. Harmful drinking carries with it a risk of physical and mental health problems, as well as social and economic losses to individuals and society[1]. Excessive alcohol consumption at a chronic level results in increased risk of high blood pressure, chronic liver disease and cirrhosis, pancreatitis, some cancers, mental ill-health and accidents[2]. Recent evidence has also established links between harmful drinking and the incidence of infectious diseases such as tuberculosis and HIV/AIDS[3].

In 2016 alcohol use was the seventh leading risk factor for premature death and disability worldwide and was the highest risk factor among the worldwide population of 15-49 year olds[4]. The World Health Organization (WHO) cites that 3 million deaths (5.3% of all deaths) worldwide in 2016 resulted from the harmful use of alcohol. Death and disability caused by alcohol consumption can occur relatively early in life with 13.5% of the total deaths among those aged 20-39 being alcohol-attributable as well as 7.2% of all premature deaths (among those aged 69 years and younger). The leading contributors to alcohol-related deaths were digestive diseases (21.3%), unintentional injuries (20.9%) and cardiovascular diseases and diabetes (19%)[5].

In 2016, UK alcohol drinkers consumed a greater amount of pure alcohol per person than drinkers across Europe (21.8 litres among males and 7.6 among females in the UK compared with 18.3 among males and 4.7 among females across Europe)[6].

Before Minimum Unit Pricing[7] was introduced on 1 May 2018, alcohol was 64% more affordable in the UK than it was in 1987. It was possible in Scotland prior to 1 May 2018 to exceed the new lower risk guidelines for alcohol (14 units per week) for around £2.50[8]; with the 50 pence minimum unit price, that figure is now £7. In 2018, 9.9 litres (L) of pure alcohol were sold per adult in Scotland, equivalent to 19.0 units per adult per week, representing enough alcohol for every adult to substantially (by 36%) exceed the low risk weekly drinking guideline (14 units); just under a quarter of all off-trade alcohol (23%) was sold at below 50 pence per unit[9]. The 9.9 litres of pure alcohol per adult represents a 3% decrease from 2017 and is the lowest level seen since in Scotland since 1994. The volume of alcohol sold in Scotland in 2018 was 9% higher than in England & Wales which is the smallest difference since 2004.

The risk of alcohol-related harm increases with greater levels of average alcohol consumption in a population[10]. In 2018, alcohol mortality in Scotland increased by 1% since the previous year, with 1,136 alcohol-specific deaths in 2018, up from 1,120 in 2017. This represents an average of 22 deaths per week, and it is still more than three times the number of alcohol-specific deaths in the early 1980s[11]. The number of alcohol-specific deaths was more than twice as high among men than women in 2018[12]. In 2017/18 alcohol-related problems resulted in 35,499 stays in general acute hospitals[13]. Although the rate of

alcohol-related stays in general acute hospitals has declined over the past 10 years and is at its lowest in 2017/18 than it has been since 2007/8, the rate per 100,000 population was still over four times higher in 2017/18 than in 1981/82[14].

Alcohol-related morbidity and mortality are not evenly distributed throughout the population and the burden is greatest among those living in the most deprived areas[15,16]. The rate of alcohol-related mortality among those aged 45-74 years in Scotland's most deprived areas in 2017 was 8 times higher than in the least deprived areas (228.3 compared with 28.9 per 100,000 population). The gap in mortality rates between those living in the most and least deprived areas of Scotland has increased since 1997 (from 181.8 per 100,000 to 199.4 in 2017) although it has decreased since its peak in 2002 (285.1 per 100,000)[17]. Alcohol-related admissions to general hospitals are linked to deprivation with just over seven times as many people (per 100,000 population) admitted at least once from the most deprived areas compared to the least deprived areas in 2017/18. In the psychiatric setting in 2016/17, the difference was more pronounced, with patient rates in the most deprived areas of Scotland just over 14 times higher than those in the least deprived areas[18].

The harms associated with alcohol are not restricted to those consuming alcohol. A survey by Alcohol Focus Scotland found that 1 in 2 people in Scotland reported that they had been harmed as a result of someone else's drinking[19]. Evidence suggests that those aged under 65 years are more likely to report having experienced this kind of harm than older people[20] and younger people, aged under 35, are four times more likely to report harm from others in public places[21]. In 2017/18 in just under half (46%) of violent crimes in Scotland, the victim reported the offender was under the influence of alcohol[22].

Alcohol also has a negative impact on children, based on Scottish Health Survey data from 2008-10, it is estimated that 36,000 to 51,000 children in Scotland live with a parent (or guardian) whose alcohol use is potentially problematic[23]. Evidence suggests a link between increasing parental alcohol consumption and greater proportions of children reporting problems, such as conflict with a parent and a parent being more unpredictable than usual[24]. Scotland also remains one of the countries with the highest rates of alcohol use among young people in the world[25.]

Problematic alcohol use carries considerable economic costs; in 2010 the Scottish Government estimated that the excessive consumption of alcohol in Scotland costs £3.6 billion a year, equivalent to £900 per adult[26]. The most recent estimates (2007) are that over 1.7 million working days are lost per year in Scotland to reduced efficiency in the workplace due to the effects of alcohol, and a similar number lost due to alcohol-related absence[27].

3.1.1. Policy background

Being 'healthy and active' is recognised as one of the **National Outcomes** underpinning the Scottish Government's revised **National Performance Framework** to improve the wellbeing and quality of life of people in Scotland[28]. Tackling problematic alcohol use is integral to ensuring that people in Scotland are healthy and to reducing the inequalities that exist in society. The government's commitment to

addressing problematic alcohol use is evidenced by the inclusion of a **National Performance Framework National Indicator** to 'reduce the proportion of people with multiple health risk behaviours[24].

The UK Chief Medical Officers published new guidelines on alcohol consumption in January 2016, advising both men and women that it is safest not to regularly consume more than 14 units of alcohol per week. This represented a reduction in the low risk guidelines for men. Advice was also included to spread the amount drunk over a number of days and limit the amount consumed in a single session[29].

Following the **Alcohol (Minimum Pricing) (Scotland) Act 2012** the Scottish Government introduced a statutory minimum price of 50 pence for a unit of alcohol, below which it cannot be sold. This was considered to provide a proportionate response to tackling problematic alcohol use whilst providing a reasonable balance between public health and social benefits and intervention in the market. It is estimated that twenty years after implementation of the policy, when it is considered to have reached full effectiveness, there would be around 120 fewer alcohol-related deaths per annum and around 2,000 fewer hospital admissions per annum[30].

The evaluation of Scotland's alcohol strategy lay with NHS Health Scotland between 2010 and 2016, through the Monitoring and Evaluating Scotland's Alcohol Strategy (MESAS) work programme; the final annual report was published in 2016. The MESAS group continues to monitor headline statistics for high-level indicators particularly relevant to the outcomes that Scotland's alcohol strategy aimed to achieve with the latest monitoring report published in 2019[31]. The impact of Minimum Unit Pricing itself is subject to comprehensive evaluation including an analysis of its impact upon those drinking at harmful levels which is expected to be published in mid-2021[32]. The final report is due in 2023.

The **Fairer Scotland Action Plan**[33], published in 2016, sets out plans for a new alcohol framework to tackle health inequalities through public health measures. The Scottish Government published **Alcohol Framework 2018: Preventing Harm**[34] in November 2018. The framework endorses the WHO Safer initiative of five evidence-based strategies that WHO recommends governments should prioritise to tackle alcohol related harm[35]. It continues to take an evidence-based approach to tackling the three central themes of Scotland's 2009 alcohol strategy; reducing consumption; positive attitudes, positive choices and supporting families and communities. The key actions for the next few years laid out in the new framework are to:

- Put the voices of young people at the heart of developing preventative measures on alcohol.

- Reduce alcohol consumption through affordability and sales and review the Minimum Unit Price of 50 pence two years after implementation.
- Keep the licensing system under review to ensure it can deliver for public health.
- Consult on marketing restrictions to protect children and young people from alcohol marketing.
- Press the UK Government to improve measures to protect children and young people from exposure to alcohol marketing.
- Improve the programme of substance use education in schools.
- Continue to raise awareness of the UK CMO guidelines and the harmful effects of alcohol.
- Review evidence on alcohol brief interventions to ensure they are being carried out in the most effective manner.

3.1.2 Measuring alcohol consumption in surveys

The alcohol consumption estimates discussed in this chapter are based on self-reported data collected during the survey interview. It is, however, important to note that surveys consistently obtain lower consumption estimates than those implied by alcohol sales or tax revenue data. This discrepancy can largely be explained by participants' under-reporting of consumption, due in part to not accounting for atypical/special occasion drinking[36], and there is also some evidence that survey non-responders are more likely than responders to engage in hazardous alcohol use among other risky health behaviours[37,38,39] . The most recently available annual estimates of alcohol sales in Scotland show that 9.9 litres (19.0 units per adult per week) of pure alcohol per person aged 16 years and over were sold in 2018 (the equivalent figure for England and Wales in 2018 was 9.1 litres (17.5 units per adult per week)[40].

While self-reported survey estimates of consumption are typically lower than estimates based on sales data, surveys provide valuable information about the social patterning of individuals' alcohol consumption. Findings from SHeS have been used in the MESAS evaluation of the Alcohol Framework and in the modelling of estimated impact of minimum unit pricing on consumption patterns across different groups in society.

3.1.3 Reporting on alcohol consumption in the Scottish Health Survey (SHeS)

Key trends and breakdowns for weekly and daily alcohol consumption are updated and presented in this chapter. For weekly consumption, categories are based on the revised guidelines; hence all weekly consumption category figures for men, going back to 2003, have been revised. Figures for mean consumption are presented for drinkers only.

The area deprivation data are presented in Scottish Index of Multiple Deprivation (SIMD) quintiles. To ensure that the comparisons presented are not confounded by the different age profiles of the quintiles, the data

have been age-standardised. Readers should refer to the Glossary at the end of this volume for a detailed description of both SIMD and age-standardisation.

Supplementary tables on alcohol consumption are also published on the Scottish Health Survey website[41].

3.1.4 Comparability with other UK statistics

The Health Surveys for England and Northern Ireland and the National Survey for Wales all provide estimates for alcohol consumption. A report published by the Government Statistical Service in 2016 advised that alcohol estimates across the UK were 'not comparable' at that time[42]. While questions are similar in each of the surveys, questions on alcohol consumption were delivered through self-completion in the Welsh Health Survey prior to 2015/16, complicating comparisons. These questions are now included in the National Survey for Wales which is delivered face-to-face; the same mode of collection as SHeS. However, categorisation of drinkers and non-drinkers is also inconsistent across the surveys and further differences exist in the way some alcoholic drinks are categorised. On these bases, no attempt is made to compare alcohol estimates from SHeS to those from other surveys.

3.2 METHODS AND DEFINITIONS

3.2.1 Methods

Questions about drinking alcohol have been included in SHeS since its inception in 1995. Questions are asked either face-to-face via the interviewer or included in the self-completion questionnaire if they are deemed too sensitive for a face-to-face interview (e.g. being interviewed with a parent). All those aged 16-17 years are asked about their consumption via the self-completion, as are some of those aged 18-19 years, at the interviewers' discretion. The way in which alcohol consumption is estimated in the survey was changed significantly in 2008. A detailed discussion of those revisions can be found in the chapter on alcohol consumption in the 2008 report[43].

In 2018, the SHeS questionnaire covered the following aspects of alcohol consumption:

- usual weekly consumption,
- daily consumption on the heaviest drinking day in the previous week.

Weekly consumption

Participants (aged 16 years and over) were asked preliminary questions to determine whether they drank alcohol at all. For those who reported that they drank, these were followed by further questions on how often

during the past 12 months they had drunk each of six different types of alcoholic drink:

- normal beer, lager, stout, cider and shandy
- strong beer, lager, stout and cider
- sherry and martini
- spirits and liqueurs
- wine
- alcoholic soft drinks (alcopops)

From these questions, the average number of days per week the participant had drunk each type of drink was estimated. A follow-up question asked how much of each drink type they had usually drunk on each occasion. These data were converted into units of alcohol (see Section 3.2.2) and multiplied by the amount they said they usually drank on any one day[44].

Daily consumption

Participants were asked about drinking in the week preceding the interview, with actual consumption on the heaviest drinking day in that week then examined in more detail[45]. Details on the amounts consumed for each of the six types of drink listed in the weekly consumption section above were collected and converted into units of alcohol consumed.

The AUDIT questionnaire which has been used on SHeS to assess problem drinking since 2012 was not included in the 2018 questionnaire as these questions will now be in the survey every other year. These will next be collected in 2019 and reported on in 2020.

3.2.2 Calculating alcohol consumption in SHeS

The guidelines on lower risk drinking are expressed in terms of units of alcohol consumed. As discussed above, detailed information on both the volume of alcohol drunk in a typical week and on the heaviest drinking day in the week preceding the survey was collected from participants. The volumes reported were not validated. In the UK, a standard unit of alcohol is 10 millilitres or around 8 grams of ethanol. In this chapter, alcohol consumption is reported in terms of units of alcohol.

Questions on the quantity of wine drunk were revised in 2008. Since then, participants reporting drinking any wine have been asked what size of glass they drank from: large (250ml), medium (175ml) and small (125ml). In addition, to help participants make more accurate judgements they are also shown a showcard depicting glasses with 125ml, 175ml and 250ml of liquid. Participants also had the option of specifying the quantity of wine drunk in bottles or fractions of a bottle; with a bottle treated as the equivalent of six small (125ml) glasses. There are numerous challenges associated with calculating units at a population level, not least of which are the variability of alcohol

strengths and the fact that these have changed over time. Table 4A below outlines how the volumes of alcohol reported in the survey were converted into units (the 2008 report provides full information about how this process has changed over time)[40]. Those who drank bottled or canned beer, lager, stout or cider were asked in detail about what they drank, and this information was used to estimate the amount in pints.

3.2.3 Age-standardised estimates for weekly alcohol consumption

The area deprivation data presented for weekly alcohol consumption are presented in Scottish Index of Multiple Deprivation (SIMD) quintiles. To ensure that the comparisons presented are not confounded by the different age profiles of the quintiles, the data have been age-standardised. Readers should refer to the Glossary at the end of this volume for a detailed description of SIMD and age-standardisation.

Table 4A Alcohol unit conversion factors

Type of drink	Volume reported	Unit conversion factor
Normal strength beer, lager, stout, cider, shandy (less than 6% ABV)	Half pint	1.0
	Can or bottle	Amount in pints multiplied by 2.5
	Small can (size unknown)	1.5
	Large can / bottle (size unknown)	2.0
Strong beer, lager, stout, cider, shandy (6% ABV or more)	Half pint	2.0
	Can or bottle	Amount in pints multiplied by 4
	Small can (size unknown)	2.0
	Large can / bottle (size unknown)	3.0
Wine (including Champagne and Prosecco)	250ml glass	3.0
	175ml glass	2.0
	125ml glass	1.5
	750ml bottle	1.5 x 6
Sherry, vermouth and other fortified wines	Glass	1.0
Spirits	Glass (single measure)	1.0
Alcopops	Small can or bottle	1.5
	Large (700ml) bottle	3.5

3.2.4 Definitions

The UK CMO alcohol guidelines consist of three recommendations:

- A weekly guideline on regular drinking;
- Advice on single episodes of drinking; and
- A guideline on pregnancy and drinking.

According to the weekly guideline, adults are safest not to regularly drink more than 14 units per week, to keep health risks from drinking alcohol to a low level. If you do drink as much as 14 units a week, it is best to spread this evenly over three days or more. On a single episode of drinking, advice is to limit the total amount drunk on any occasion, drink more slowly, drink with food and alternate with water. The guideline on drinking and pregnancy, or planning a pregnancy, advises that the safest approach is not to drink alcohol at all[29].

Consumption of more than three units (women) or four units (men) on a single day is also reported in this chapter. This allows comparison with previous SHeS reports although these daily amounts of alcohol are no longer included in the most recent guidance from the UK Chief Medical Officers. Consumption of double this amount (six units for women and eight for men) is also reported.

3.3 USUAL WEEKLY ALCOHOL CONSUMPTION

3.3.1 Trends in usual weekly alcohol consumption since 2003

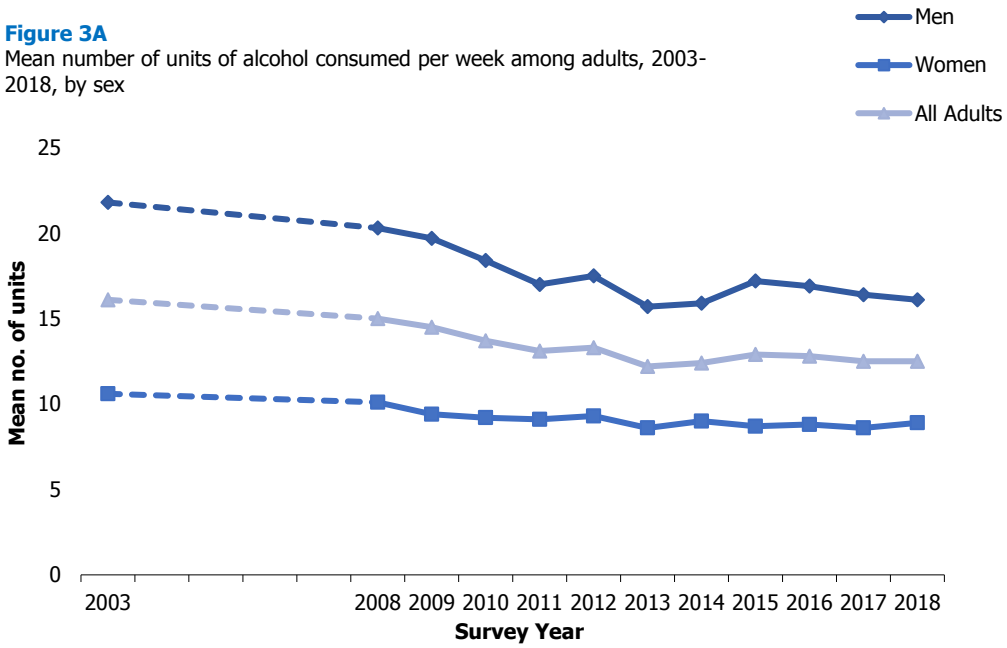
The levels of hazardous or harmful drinking in the adult population dropped significantly between 2003 and 2013 (from 34% to 25%) and since 2013, hazardous or harmful drinking has remained at similar levels, fluctuating between 24% and 26%. Since 2003, the proportion of men drinking at hazardous or harmful levels has been at least twice that of women.

Correspondingly, non-drinking prevalence among adults increased between 2003 and 2013 (from 11% to 16%) and has remained stable since (16-17%) with consistently higher proportions of women reporting being non-drinkers than men. Among women, prevalence of non-drinking rose from 13% in 2003 to 20% in 2013 and has remained stable since (18-19%). Among men non-drinking prevalence rose from 8% in 2003 to 14% in 2014 and has stabilised since (13-14%).

The mean number of units of alcohol consumed by all adults has decreased since 2003 (16.1 units in 2003 compared with 12.5 in 2018) with the lowest mean recorded in 2013 at 12.2 units per adult; since then, the rate has fluctuated between 12.4 and 12.9. The trend in mean number of units of alcohol consumed per week has followed a similar pattern for both men and women, with men consistently consuming significantly more units of alcohol per week on average than women. For both sexes, mean units consumed per week dropped from a 2003 peak (21.8 for men and 10.6 for women) to as low as 15.7 for men and 8.6 for women in 2013; fluctuating since between 15.9 and 17.2 for men and between 8.6 and 9.0 for women, see Figure 3A.

Figure 3A, Table 3.1

Figure 3A
Mean number of units of alcohol consumed per week among adults, 2003-2018, by sex



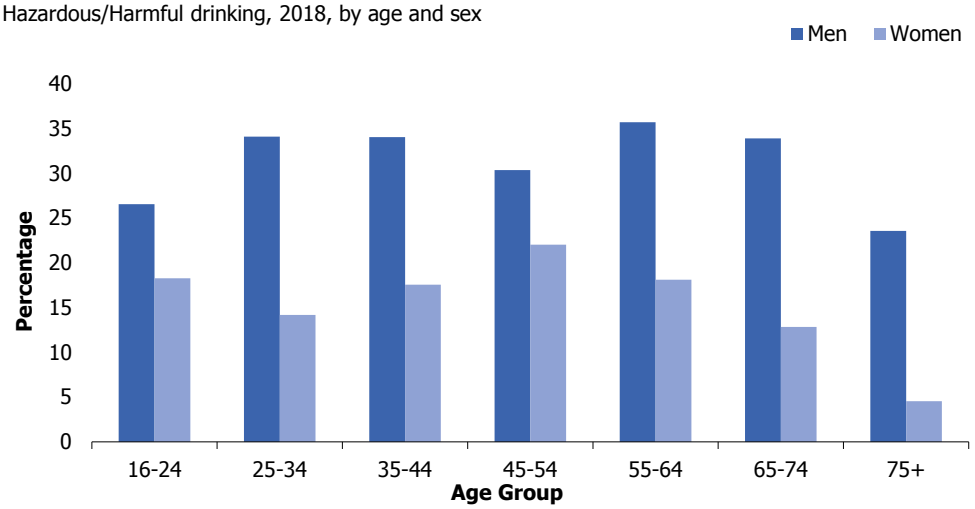
3.3.2 Usual weekly alcohol consumption in 2018, by age and sex

In 2018 the level of hazardous or harmful drinking in the adult population was at 24%, with men significantly more likely to drink at this level than women (32% and 16% respectively). Prevalence of hazardous or harmful drinking also differed significantly by age with those aged 75 and over less likely to drink at hazardous or harmful levels than other adults (12% compared with 22-27% for other age groups).

Different patterns by age were found for men and women, see Figure 3B. Among men, the highest prevalence of hazardous or harmful drinking was found among those aged 55-64 (36%) and the lowest among those aged 75 and over (24%) closely followed by those aged 16-24 (27%). Among women, prevalence peaked within the 45-54 age group (22%) and was lowest among those aged 75 and over (5%) followed by those aged 65-74 (13%) and those aged 25-34 (14%).

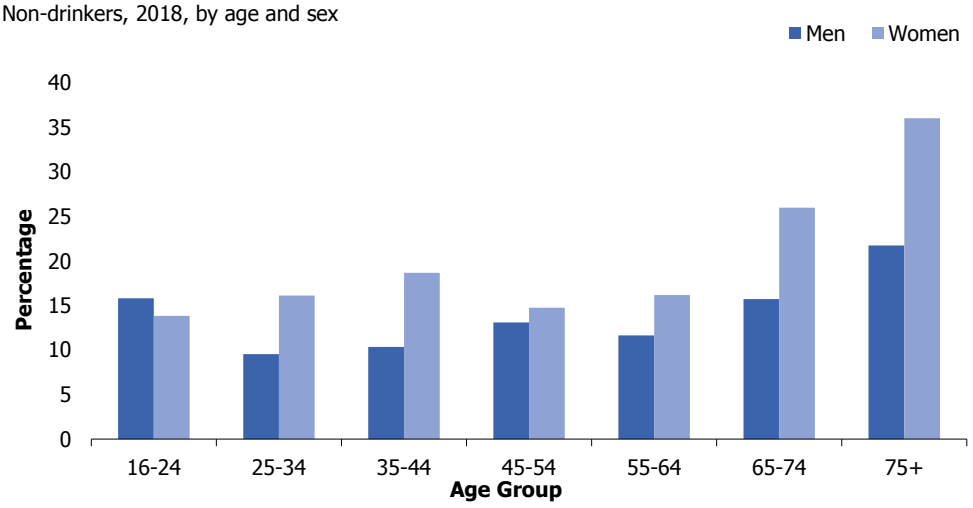
Figure 3B, Table 3.2

Figure 3B
Hazardous/Harmful drinking, 2018, by age and sex



The proportion of adults who were non-drinkers in 2018 was 16%, with a higher proportion of women reporting being non-drinkers (19%) than men (13%). Non-drinking also varied significantly by age. Non-drinking prevalence was highest among those aged 65 and over (30% of those aged 75 and over and 21% of those aged 65-74); prevalence ranged from 13% to 15% for the younger age groups. A similar pattern was found for men and women. **Figure 3C, Table 3.2**

Figure 3C
Non-drinkers, 2018, by age and sex



The mean number of units of alcohol usually consumed per week by adults in 2018 was 12.5 with men likely to consume more units per week on average than women (a mean of 16.1 units per week for men compared with 8.9 for women). The mean number of units of alcohol usually consumed per week also differed by age with lower levels of consumption among those aged 75 and over than among other age groups (8.4 units, compared with 11.8-14.0 units for younger age groups) Similar patterns by age were found for men and women.
Table 3.2

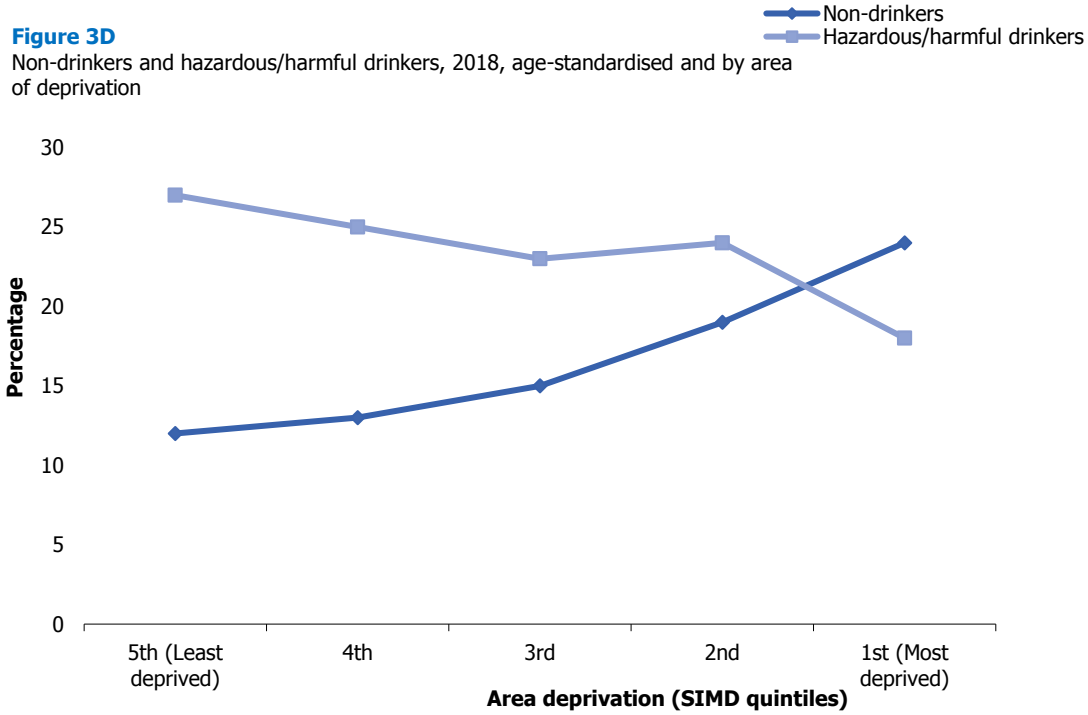
3.3.3 Usual weekly alcohol consumption in 2018 (age-standardised), by area deprivation and sex

As in previous years[46], age-standardised alcohol consumption levels in 2018 differed by area deprivation.

Levels of hazardous or harmful drinking were highest among those living in the least deprived areas (27%) and lowest among those living in the most deprived areas (18%) with little difference in prevalence in the remaining areas (23-25%). Different patterns of hazardous or harmful drinking by deprivation were found for men and women. For women hazardous or harmful drinking prevalence generally decreased by deprivation from 20% among those in the least deprived area to 10% among those in the most deprived area. There was no clear pattern by deprivation for men.

There was a clear association between area of deprivation and age-standardised non-drinking prevalence. Those living in the least deprived areas were least likely to be non-drinkers (12%) and there was a stepped increase with level of deprivation with those in the most deprived areas being most likely to be non-drinkers (24%). A similar pattern was found for both men and women. **Figure 3D, Table 3.3**

Figure 3D
Non-drinkers and hazardous/harmful drinkers, 2018, age-standardised and by area of deprivation



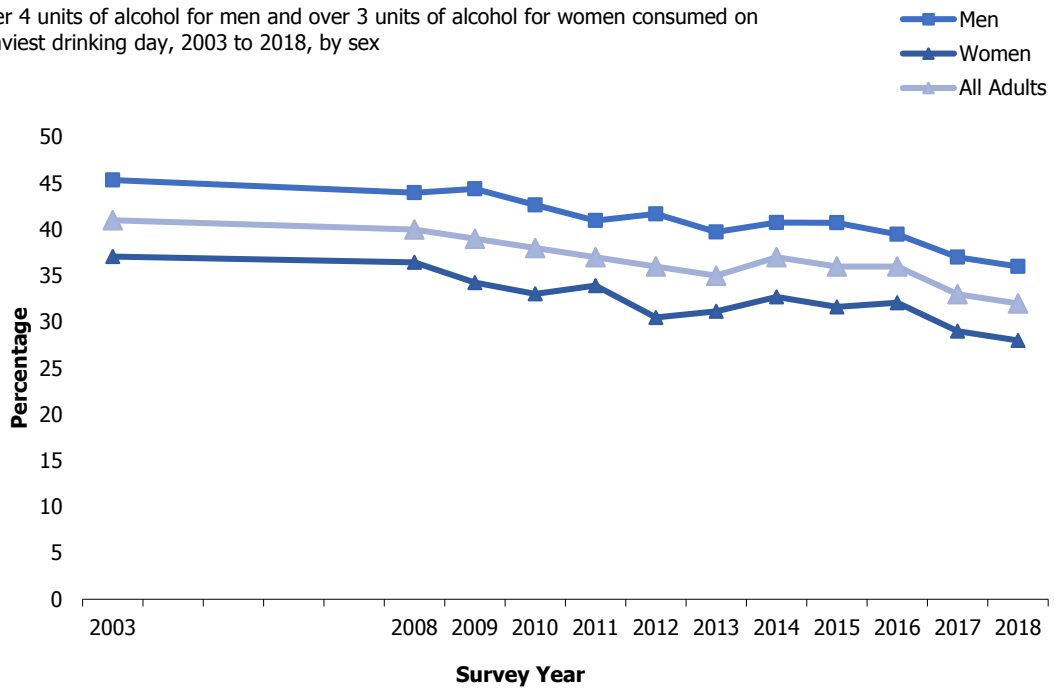
No significant difference was found between the mean units of alcohol consumed per week and area of deprivation for all drinkers or for those drinking at hazardous or harmful levels. However, although not statistically significant, the figures suggest that the mean number of units consumed by men drinking at hazardous or harmful levels was higher in the most deprived areas (45.7 units) than the other areas where levels ranged from 31.6 - 34.6 units. **Table 3.3**

3.4 ALCOHOL CONSUMPTION ON THE HEAVIEST DRINKING DAY IN LAST WEEK

3.4.1 Trends in alcohol consumption on the heaviest drinking day in last week since 2003

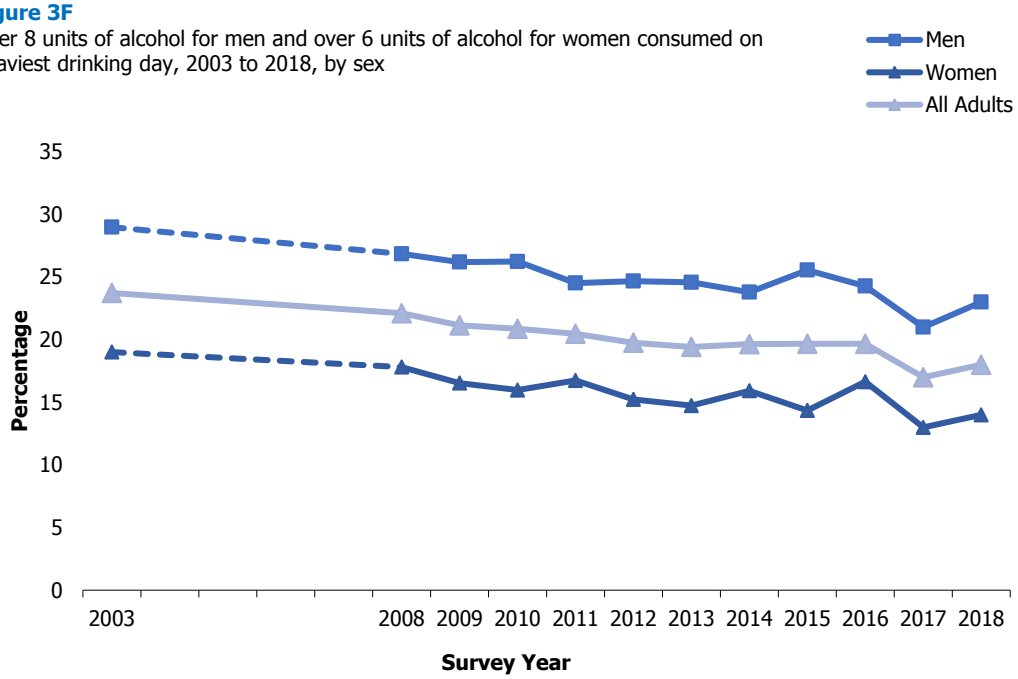
The percentage of men drinking more than four units on their heaviest drinking day has declined significantly between 2003 (45%) and 2018 (36%). The percentage of women drinking more than three units on their heaviest drinking day also declined significantly between 2003 (37%) and 2018 (28%). A similar pattern was found for all adults, see Figure 3E. **Figure 3E, Table 3.4**

Figure 3E
Over 4 units of alcohol for men and over 3 units of alcohol for women consumed on heaviest drinking day, 2003 to 2018, by sex



In 2018, 23% of men consumed more than 8 units on their heaviest drinking day, significantly lower than the rate of 29% in 2003. While appearing to follow a general downwards trend, the level in 2018 was not significantly different from that in the intervening years. For women, prevalence of consuming more than 6 units of alcohol on their heaviest drinking day was also significantly lower in 2018 (14%) than in 2003 (19%), with a slight downward trend over the years in between, see Figure 3F. **Figure 3F, Table 3.4**

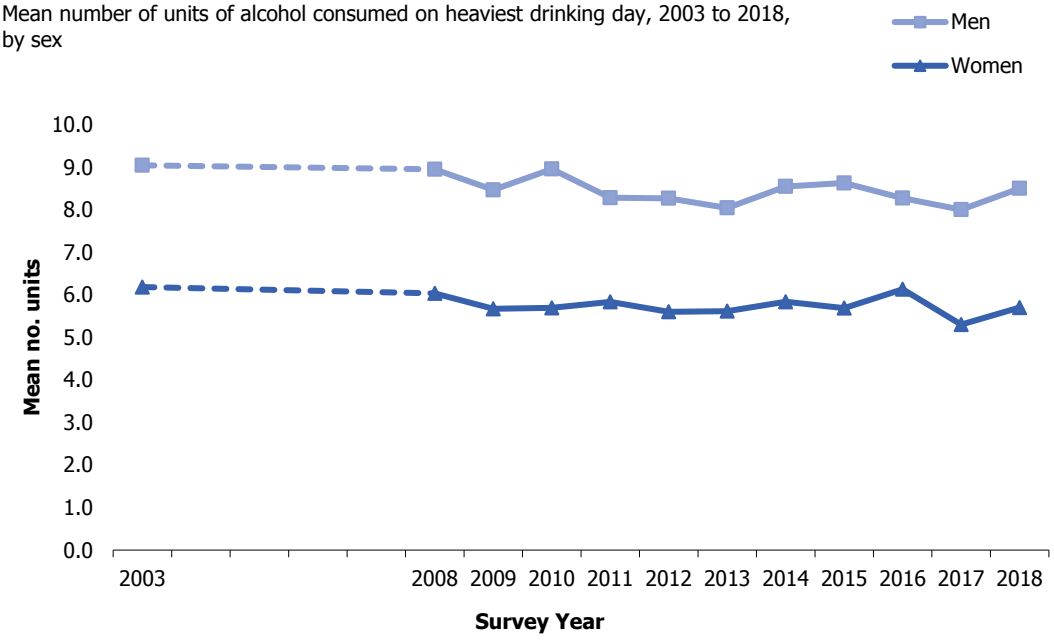
Figure 3F
Over 8 units of alcohol for men and over 6 units of alcohol for women consumed on heaviest drinking day, 2003 to 2018, by sex



The estimated mean number of units of alcohol consumed on the heaviest drinking day by adult drinkers remained stable at 7.2 units in 2018, fluctuating between 7.7 and 6.7 units since 2003.

As in previous survey years[47], in 2018, male drinkers drank on average more units than female drinkers on their heaviest drinking day (8.5 units for men compared with 5.7 units for women). Among male drinkers the mean units of alcohol consumed on the heaviest drinking day has fluctuated between 8.0 and 9.0 units since 2003. The mean number of units for female drinkers has fluctuated between 5.3 and 6.2 over the same period, see Figure 3G. **Figure 3G, Table 3.4**

Figure 3G
Mean number of units of alcohol consumed on heaviest drinking day, 2003 to 2018, by sex



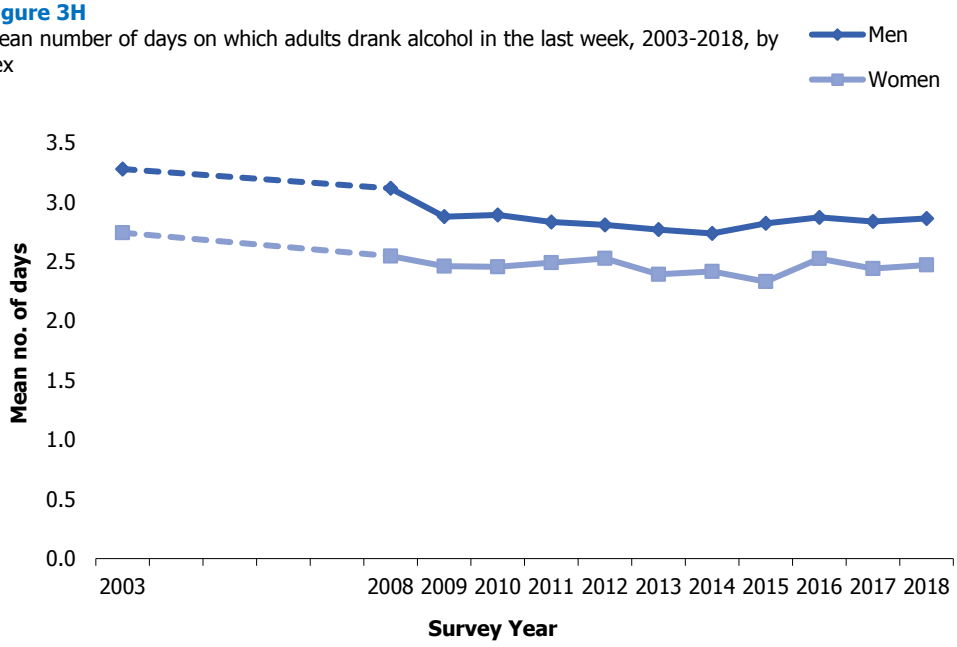
3.5 NUMBER OF DAYS ON WHICH DRANK ALCOHOL IN THE PAST WEEK

3.5.1 Trends in the number of days on which adults drank alcohol in the past week since 2003

The percentage of adults who drank alcohol on more than 5 days in the week before their interview decreased significantly from 17% in 2003 to 10% in 2014 and has fluctuated between 11% and 13% since (11% in 2018). Consistent with previous years[48], in 2018, a higher proportion of men than women drank alcohol on more than 5 days in the last week (13% of men compared to 9% of women).

The mean number of days on which adults drank alcohol in the last week decreased significantly from 3.0 in 2003 to 2.7 in 2009 and has remained at 2.6-2.7 days per week since then (2.7 in 2018). For women, the mean number of days on which they drank alcohol in the last week was 2.5 in 2018 and has been relatively stable since 2008 (between 2.3 and 2.5) following the highest level in 2003 of 2.7. Similarly, for men, the highest mean number of days on which they drank alcohol in the last week was in 2003 at 3.3; since 2009 it has fluctuated between 2.7 and 2.9 (2.9 in 2018). **Figure 3H, Table 3.5**

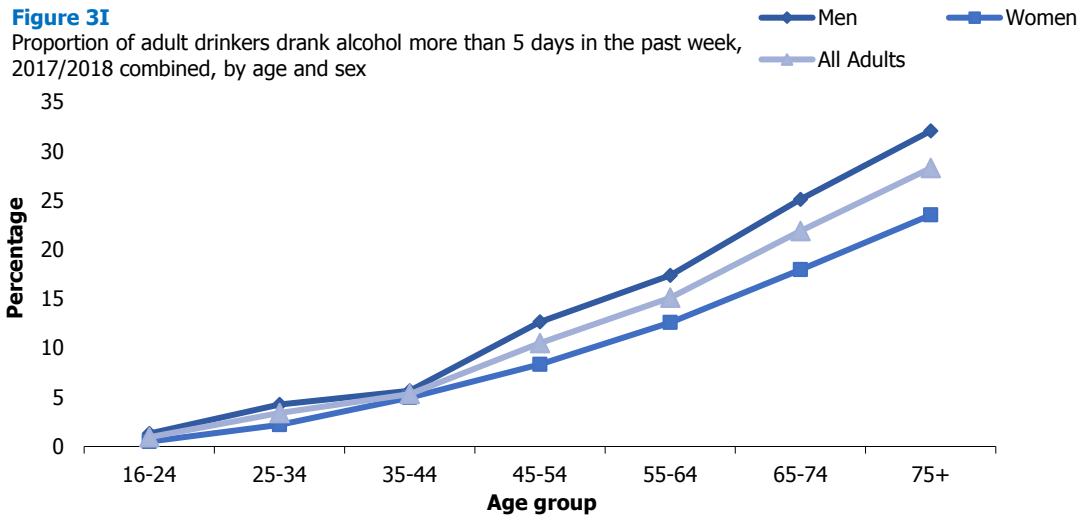
Figure 3H
Mean number of days on which adults drank alcohol in the last week, 2003-2018, by sex



3.5.2 The number of days on which adult drinkers drank alcohol in the past week for 2017/2018 combined, by age and sex

In 2017/2018, the proportion of drinkers who drank alcohol on more than five days in the past week increased with age (from 1% for those aged 16-24 to 28% for those aged 75 and over), this is consistent with previous survey years[49]. A similar pattern was found for both men and women (from 1% and <0.5% for those aged 16-24 to 32% and 24% for those aged 75 and over, respectively) with a higher proportion of men drinking alcohol on more than five days in the past week than women (13% compared with 9%). **Figure 3I, Table 3.6**

Figure 3I
Proportion of adult drinkers drank alcohol more than 5 days in the past week, 2017/2018 combined, by age and sex



In 2018, male drinkers drank alcohol on more days per week on average than female drinkers (2.9 mean days for men compared to 2.5 mean days for women), again this is consistent with previous survey years[50]. The mean number of days on which all drinkers drank alcohol in the last week also increased with age; from 2.0 for those aged 16-24 to 3.6 for those aged 75 and over. The same pattern by age was evident for both men and women. Men aged 16-24 consumed alcohol on 2.1 days per week compared with those aged 75 and over who consumed alcohol on 3.9 days per week. Women aged 16-24 consumed alcohol on 1.8 days per week compared with those aged 75 and over who consumed alcohol on 3.3 days per week. **Table 3.6**

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[44] For participants aged 16 and 17, details on alcohol consumption were collected as part of a special smoking and drinking self-completion questionnaire. Some aged 18 and 19 also completed the self-completion if the interviewer felt it was appropriate. For all other adult participants, the information was collected as part of the face-to-face interview. The method of estimating consumption follows that originally developed for use in the General Household Survey and is also used in the Health Survey for England. For six types of alcoholic drink (normal strength beer/lager/cider/shandy, strong beer/lager/cider, spirits/liqueurs, fortified wines, wine, and alcoholic soft drinks), participants were asked about how often they had drunk each one in the past twelve months, and how much they had usually drunk on any one day. The amount given to the latter question was converted into units of alcohol, with a unit equal to half a pint of normal strength beer/lager/cider/alcoholic soft drink, a single measure of spirits, one glass of wine, or one small glass of fortified wine. A half pint of strong beer/lager/cider was equal to 1.5 units. The number of units was then multiplied by the frequency to give an estimate of weekly consumption of each type of drink. The frequency multipliers were:

Drinking frequency	Multiplying factor
Almost every day	7.0
5 or 6 times a week	5.5
3 or 4 times a week	3.5
Once or twice a week	1.5
Once or twice a month	0.375
One every couple months	0.115
Once or twice a year	0.029

The separate consumption figures for each type of drink were rounded to two decimal places and then added together to give an overall weekly consumption figure.

[45] Participants were first asked if they had drunk alcohol in the past seven days. If they had, they were asked on how many days and, if on more than one, whether they had drunk the same amount on each day or more on one day than others. If they had drunk more on one day than others, they were asked how much they drank on that day. If they had drunk the same on several days, they were asked how much they drank on the most recent of those days. If they had drunk on only one day, they were asked how much they had drunk on that day.

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Table list

Table 3.1: Estimated usual weekly alcohol consumption level, 2003 to 2018

Base: Aged 16 and over *2003 - 2018*

		2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Alcohol units per week[a]		%	%	%	%	%	%	%	%	%	%	%	%
Men	Non-drinker	8	10	10	12	11	12	12	14	14	13	14	13
	Moderate	45	45	49	48	51	50	53	51	51	53	53	55
	Hazardous/Harmful	47	44	41	39	38	38	34	35	36	35	33	32
	Mean units per week[b]	21.8	20.3	19.7	18.3	17.0	17.5	15.7	15.9	17.2	16.9	16.4	16.1
	SE of the mean	0.66	0.61	0.84	0.55	0.45	0.67	0.52	0.48	0.69	0.80	0.79	0.72
Women	Non-drinker	13	13	16	17	17	17	20	18	18	19	19	19
	Moderate	64	67	66	65	65	65	64	65	66	63	65	65
	Hazardous/Harmful	23	20	18	18	18	18	16	17	17	17	16	16
	Mean units per week[b]	10.6	10.1	9.4	9.2	9.1	9.3	8.6	9.0	8.7	8.8	8.6	8.9
	SE of the mean	0.35	0.38	0.28	0.27	0.27	0.39	0.30	0.39	0.30	0.37	0.34	0.42
All adults	Non-drinker	11	12	13	15	14	15	16	16	16	16	17	16
	Moderate	55	57	58	57	58	57	59	59	58	58	59	60
	Hazardous/Harmful	34	32	29	28	28	28	25	25	26	26	24	24
	Mean units per week[b]	16.1	15.0	14.5	13.7	13.0	13.3	12.2	12.4	12.9	12.8	12.5	12.5
	SE of the mean	0.39	0.38	0.47	0.33	0.30	0.40	0.33	0.35	0.39	0.47	0.45	0.46

Continued…

Table 3.1: *- Continued*

Base: Aged 16 and over *2003 - 2018*

		2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Alcohol units per week[a]													
Unweighted bases	*Men*	*3558*	*2796*	*3272*	*3064*	*3239*	*2095*	*2108*	*2028*	*2212*	*1869*	*1576*	*2051*
	Male drinkers	*3218*	*2463*	*2876*	*2654*	*2842*	*1794*	*1815*	*1737*	*1856*	*1587*	*1313*	*1692*
	Women	*4482*	*3578*	*4227*	*4076*	*4220*	*2657*	*2724*	*2564*	*2723*	*2395*	*2066*	*2707*
	Female drinkers	*3791*	*3033*	*3481*	*3297*	*3415*	*2153*	*2144*	*2063*	*2156*	*1889*	*1626*	*2111*
	All adults	*8040*	*6374*	*7499*	*7140*	*7459*	*4752*	*4832*	*4592*	*4935*	*4264*	*3642*	*4758*
	All drinkers	*7009*	*5496*	*6357*	*5951*	*6257*	*3947*	*3959*	*3800*	*4012*	*3476*	*2939*	*3803*
Weighted bases	*Men*	*3791*	*3011*	*3572*	*3388*	*3551*	*2253*	*2303*	*2171*	*2350*	*2031*	*1743*	*2279*
	Male drinkers	*3437*	*2673*	*3168*	*2953*	*3131*	*1963*	*2005*	*1844*	*2003*	*1744*	*1472*	*1924*
	Women	*4215*	*3317*	*3906*	*3711*	*3874*	*2464*	*2501*	*2389*	*2564*	*2199*	*1877*	*2461*
	Female drinkers	*3578*	*2831*	*3241*	*3047*	*3164*	*2022*	*1963*	*1951*	*2077*	*1736*	*1486*	*1943*
	All adults	*8006*	*6329*	*7478*	*7098*	*7425*	*4717*	*4805*	*4560*	*4914*	*4230*	*3619*	*4740*
	All drinkers	*7015*	*5504*	*6409*	*6000*	*6294*	*3985*	*3968*	*3795*	*4080*	*3480*	*2958*	*3867*

a Non-drinker: no units per week; Moderate: >0 units and up to 14 units; Hazardous/harmful: more than 14 units. Figures for men / all adults have been revised for 2003 to 2014 in line with these new guidelines

b Those who had consumed alcohol in the past year

Table 3.2: Estimated usual weekly alcohol consumption level, 2018, by age and sex

Base: Aged 16 and over *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Alcohol units per week[a]		%	%	%	%	%	%	%	%
Men	Non-drinker	16	10	10	13	12	16	22	13
	Moderate	58	56	56	57	53	50	55	55
	Hazardous/Harmful	27	34	34	30	36	34	24	32
	Mean units per week[b]	15.4	14.8	15.3	18.5	17.1	17.1	12.5	16.1
	SE of the mean	2.65	1.36	1.51	2.26	1.34	1.40	1.21	0.72
Women	Non-drinker	14	16	19	15	16	26	36	19
	Moderate	68	70	64	63	66	61	59	65
	Hazardous/Harmful	18	14	18	22	18	13	5	16
	Mean units per week[b]	11.6	8.8	8.9	9.8	8.8	8.1	4.7	8.9
	SE of the mean	2.37	0.99	0.76	0.75	0.65	0.68	0.61	0.42
All adults	Non-drinker	15	13	15	14	14	21	30	16
	Moderate	63	63	60	60	59	56	57	60
	Hazardous/Harmful	22	24	26	26	27	23	12	24
	Mean units per week[b]	13.5	11.8	12.2	14.0	12.9	12.7	8.4	12.5
	SE of the mean	1.80	0.94	1.03	1.28	0.80	0.86	0.70	0.46

Continued…

Table 3.2: *- Continued*

Base: Aged 16 and over *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Alcohol units per week[a]									
Unweighted bases	*Men*	*144*	*227*	*278*	*376*	*371*	*392*	*263*	*2051*
	Male drinkers	*115*	*200*	*233*	*317*	*313*	*315*	*199*	*1692*
	Women	*193*	*360*	*403*	*469*	*490*	*468*	*324*	*2707*
	Female drinkers	*164*	*290*	*325*	*393*	*405*	*333*	*201*	*2111*
	All adults	*337*	*587*	*681*	*845*	*861*	*860*	*587*	*4758*
	All drinkers	*279*	*490*	*558*	*710*	*718*	*648*	*400*	*3803*
Weighted bases	*Men*	*279*	*386*	*349*	*412*	*372*	*291*	*191*	*2279*
	Male drinkers	*230*	*341*	*304*	*349*	*319*	*235*	*146*	*1924*
	Women	*281*	*399*	*362*	*441*	*394*	*319*	*265*	*2461*
	Female drinkers	*236*	*329*	*291*	*366*	*328*	*228*	*165*	*1943*
	All adults	*560*	*784*	*711*	*853*	*765*	*610*	*455*	*4740*
	All drinkers	*466*	*671*	*595*	*715*	*646*	*463*	*310*	*3867*

a Non-drinker: no units per week; Moderate: >0 units and up to 14 units; Hazardous/harmful: more than 14 units

b Those who had consumed alcohol in the past year

Table 3.3: Estimated usual weekly alcohol consumption level, (age-standardised), 2018, by area deprivation and sex

Base: Aged 16 and over *2018*

		Scottish Index of Multiple Deprivation				
		5th (Least deprived)	4th	3rd	2nd	1st (Most deprived)
Alcohol units per week[a]		%	%	%	%	%
Men	Non-drinker	10	10	14	15	19
	Moderate	55	55	59	51	54
	Hazardous/Harmful	35	35	27	34	27
	Mean units per week (drinkers)[b]	16.1	15.3	14.3	16.3	18.8
	SE of the mean	1.22	1.41	1.19	1.46	2.53
	Mean units per week (hazardous / harmful drinkers)[c]	32.4	31.6	34.6	33.3	45.7
	SE of the mean	2.29	2.52	2.37	2.89	4.87
Women	Non-drinker	15	16	16	24	28
	Moderate	66	67	66	62	63
	Hazardous/Harmful	20	17	18	14	10
	Mean units per week (drinkers)[b]	10.2	8.9	8.8	8.7	6.5
	SE of the mean	1.06	0.69	0.76	1.04	0.66
	Mean units per week (hazardous / harmful drinkers)[c]	30.2	26.0	28.0	30.2	[26.6]
	SE of the mean	3.22	2.36	1.91	2.35	[3.10]
All adults	Non-drinker	12	13	15	19	24
	Moderate	61	61	62	57	59
	Hazardous/Harmful	27	25	23	24	18
	Mean units per week (drinkers)[b]	13.0	12.0	11.6	12.7	12.7
	SE of the mean	0.83	0.84	0.80	1.02	1.41
	Mean units per week (hazardous / harmful drinkers)[c]	31.5	29.6	31.9	32.4	40.1
	SE of the mean	1.78	1.98	1.60	2.18	3.74

Continued…

Table 3.3: *Continued*

Base: Aged 16 and over *2018*

		Scottish Index of Multiple Deprivation				
		5th (Least deprived)	4th	3rd	2nd	1st (Most deprived)
Alcohol units per week[a]						
Unweighted bases	*Men*	*397*	*497*	*409*	*418*	*330*
	Male drinkers	*350*	*427*	*333*	*328*	*254*
	Male hazardous / harmful drinkers	*139*	*168*	*106*	*116*	*88*
	Women	*541*	*643*	*512*	*568*	*443*
	Female drinkers	*452*	*527*	*414*	*422*	*296*
	Female hazardous / harmful drinkers	*108*	*110*	*84*	*74*	*44*
	All adults	*938*	*1140*	*921*	*986*	*773*
	All drinkers	*802*	*954*	*747*	*750*	*550*
	All hazardous / harmful drinkers	*247*	*278*	*190*	*190*	*132*
Weighted bases	*Men*	*434*	*500*	*441*	*513*	*392*
	Male drinkers	*390*	*434*	*368*	*425*	*307*
	Male hazardous / harmful drinkers	*154*	*172*	*119*	*176*	*105*
	Women	*501*	*562*	*447*	*519*	*433*
	Female drinkers	*423*	*468*	*367*	*388*	*298*
	Female hazardous / harmful drinkers	*102*	*94*	*80*	*73*	*44*
	All adults	*935*	*1062*	*887*	*1032*	*825*
	All drinkers	*813*	*901*	*735*	*813*	*605*
	All hazardous / harmful drinkers	*255*	*266*	*199*	*249*	*149*

a Non-drinker: no units per week; Moderate: >0 units and up to 14 units; Hazardous/harmful: more than 14 units

b Those who had consumed alcohol in the past year

c Those who drank an average of more than 14 units per week over the past year

Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Table 3.4: Estimated units consumed on heaviest drinking day, 2003 to 2018

Base: Aged 16 and over *2003 - 2018*

Alcohol units consumed per heaviest drinking day		2003 %	2008 %	2009 %	2010 %	2011 %	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %
Men	Consumed over 4 units on HDD	45	44	44	43	41	42	40	41	41	39	37	36
	Consumed over 8 units on HDD	29	27	26	26	25	25	25	24	26	24	21	23
	Mean units on HDD[a]	9.0	8.9	8.5	9.0	8.3	8.3	8.0	8.5	8.6	8.3	8.0	8.5
	SE of the mean	0.21	0.25	0.21	0.27	0.20	0.27	0.26	0.27	0.29	0.27	0.31	0.32
Women	Consumed over 3 units on HDD	37	36	34	33	34	30	31	33	32	32	29	28
	Consumed over 6 units on HDD	19	18	17	16	17	15	15	16	14	17	13	14
	Mean units on HDD[a]	6.2	6.0	5.7	5.7	5.8	5.6	5.6	5.8	5.7	6.1	5.3	5.7
	SE of the mean	0.14	0.21	0.14	0.14	0.12	0.16	0.15	0.23	0.26	0.28	0.18	0.18
All adults	Consumed over 3/4 units on HDD	41	40	39	38	37	36	35	37	36	36	33	32
	Consumed over 6/8 units on HDD	24	22	21	21	20	20	19	20	20	20	17	18
	Mean units on HDD[a]	7.7	7.6	7.2	7.4	7.1	7.1	6.9	7.2	7.2	7.3	6.7	7.2
	SE of the mean	0.14	0.17	0.15	0.17	0.13	0.18	0.17	0.19	0.22	0.21	0.19	0.21
Unweighted bases	*Men*	*3580*	*2801*	*3244*	*3066*	*3242*	*2104*	*2081*	*2001*	*2170*	*1839*	*1538*	*2057*
	Male drinkers	*2576*	*1922*	*2242*	*2025*	*2150*	*1389*	*1342*	*1290*	*1362*	*1170*	*916*	*1181*
	Women	*4507*	*3579*	*4202*	*4083*	*4217*	*2659*	*2721*	*2552*	*2706*	*2391*	*2060*	*2718*
	Female drinkers	*2596*	*2021*	*2317*	*2168*	*2222*	*1339*	*1329*	*1327*	*1376*	*1198*	*1032*	*1284*
	All adults	*8087*	*6380*	*7446*	*7149*	*7459*	*4763*	*4802*	*4553*	*4876*	*4230*	*3598*	*4775*
	All drinkers	*5172*	*3943*	*4559*	*4193*	*4372*	*2728*	*2671*	*2617*	*2738*	*2368*	*1948*	*2465*
Weighted bases	*Men*	*3819*	*3015*	*3521*	*3386*	*3549*	*2264*	*2267*	*2137*	*2299*	*2012*	*1698*	*2292*
	Male drinkers	*2742*	*2093*	*2453*	*2259*	*2362*	*1522*	*1474*	*1366*	*1462*	*1286*	*1030*	*1325*
	Women	*4254*	*3320*	*3865*	*3710*	*3860*	*2460*	*2498*	*2379*	*2541*	*2197*	*1870*	*2474*
	Female drinkers	*2453*	*1915*	*2152*	*2022*	*2096*	*1251*	*1248*	*1265*	*1329*	*1117*	*938*	*1162*
	All adults	*8073*	*6335*	*7385*	*7096*	*7409*	*4724*	*4765*	*4517*	*4841*	*4209*	*3568*	*4767*
	All drinkers	*5194*	*4008*	*4605*	*4281*	*4459*	*2773*	*2722*	*2630*	*2791*	*2402*	*1968*	*2486*

a Those who had consumed alcohol in the past week

Table 3.5: Number of days on which adult drinkers drank alcohol in the past week, 2003 to 2018

Base: Aged 16 and over and drank alcohol in past week — *2003 - 2018*

		2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
% who drank on >5 days / mean number of days drank alcohol in last week[a]		%	%	%	%	%	%	%	%	%	%	%	%
Men	Drank on >5 days	20	17	14	15	13	13	12	11	14	15	13	13
	Mean number of days	3.3	3.1	2.9	2.9	2.8	2.8	2.8	2.7	2.8	2.9	2.8	2.9
	SE of the mean	0.05	0.05	0.04	0.05	0.05	0.06	0.06	0.06	0.06	0.07	0.07	0.07
Women	Drank on >5 days	13	10	9	10	10	10	9	8	8	10	9	9
	Mean number of days	2.7	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.3	2.5	2.4	2.5
	SE of the mean	0.05	0.05	0.04	0.04	0.05	0.06	0.05	0.05	0.05	0.08	0.06	0.06
All adults	Drank on >5 days	17	14	11	13	12	12	11	10	11	13	11	11
	Mean number of days	3.0	2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.7	2.7	2.7
	SE of the mean	0.04	0.04	0.03	0.04	0.04	0.05	0.04	0.05	0.05	0.06	0.05	0.05
Unweighted bases	*Men*	*2590*	*1967*	*2266*	*2057*	*2174*	*1405*	*1392*	*1346*	*1421*	*1214*	*963*	*1230*
	Women	*2609*	*2053*	*2346*	*2200*	*2256*	*1361*	*1354*	*1360*	*1410*	*1222*	*1055*	*1298*
	All adults	*5199*	*4020*	*4612*	*4257*	*4430*	*2766*	*2746*	*2706*	*2831*	*2436*	*2018*	*2528*
Weighted bases	*Men*	*2762*	*2160*	*2497*	*2307*	*2406*	*1551*	*1538*	*1437*	*1537*	*1330*	*1090*	*1373*
	Women	*2472*	*1953*	*2199*	*2070*	*2152*	*1283*	*1285*	*1301*	*1370*	*1143*	*965*	*1178*
	All adults	*5234*	*4113*	*4696*	*4377*	*4557*	*2834*	*2823*	*2738*	*2907*	*2473*	*2055*	*2550*

a Of those who drank alcohol in the last week

Table 3.6: Number of days on which adult drinkers drank alcohol in the past week, 2017/2018 combined, by age and sex

Base: Aged 16 and over and drank alcohol in past week — *2017/2018 combined*

% who drank on >5 days / mean number of days drank alcohol in last week[a]		Age 16-24	25-34	35-44	45-54	55-64	65-74	75+	Total
		%	%	%	%	%	%	%	%
Men	Drank on >5 days	1	4	6	13	17	25	32	13
	Mean number of days	2.1	2.3	2.4	2.9	3.2	3.6	3.9	2.9
	SE of the mean	0.14	0.11	0.09	0.12	0.11	0.12	0.16	0.05
Women	Drank on >5 days	0	2	5	8	13	18	24	9
	Mean number of days	1.8	1.9	2.1	2.5	2.9	3.0	3.3	2.5
	SE of the mean	0.10	0.09	0.08	0.09	0.09	0.12	0.18	0.04
All adults	Drank on >5 days	1	3	5	11	15	22	28	11
	Mean number of days	2.0	2.1	2.3	2.7	3.0	3.4	3.6	2.7
	SE of the mean	0.09	0.08	0.07	0.08	0.08	0.09	0.13	0.04
Unweighted bases	*Men*	*140*	*277*	*264*	*398*	*450*	*426*	*238*	*2193*
	Women	*159*	*277*	*382*	*495*	*486*	*384*	*170*	*2353*
	All adults	*299*	*554*	*646*	*893*	*936*	*810*	*408*	*4546*
Weighted bases	*Men*	*280*	*438*	*357*	*463*	*425*	*324*	*181*	*2468*
	Women	*235*	*317*	*341*	*460*	*383*	*266*	*144*	*2144*
	All adults	*515*	*755*	*697*	*923*	*808*	*590*	*324*	*4612*

a Of those who drank alcohol in the last week

Chapter 4

Smoking

SUMMARY

19% of adults smoked in 2018. This was not significantly different to 2017, but the rate has fallen significantly since 2003 (28%).

The percentage of adults who had never smoked regularly or at all was at its highest level in 2018 at 59%. The figure had risen from 50% in 2003 to 55% in 2011 and since then had remained fairly stable (54–56%) until the increase in 2018.

There has been a steady decline over time in the mean number of cigarettes smoked per day by current adult smokers; in 2003, the average was 15.3, falling to 11.8 per day in 2018.

17% of women reported they currently smoked in 2018, down from 28% in 2003.

21% of men reported they currently smoked in 2018, down from 29% in 2003.

The mean number of cigarettes smoked per day among current smokers increased with age, from 7.8 among those aged 16-24 to 16.2 among those aged 65-74; there was a subsequent decline to an average of 13.3 cigarettes per day among those aged 75 and over.

Women smoked on average...

10.8

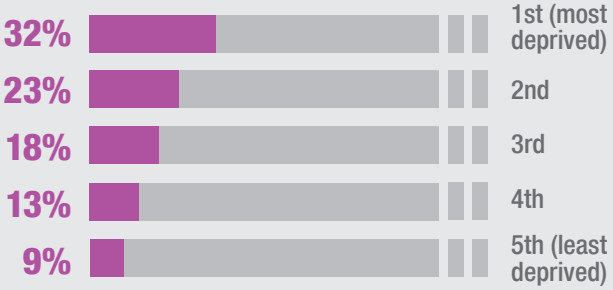
cigarettes per day in 2018, down from 14.7 in 2003.

Men smoked on average...

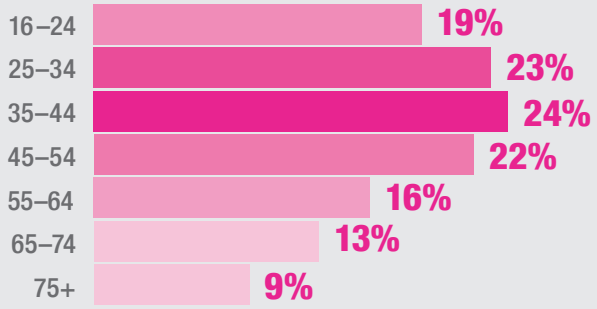
12.7

cigarettes per day in 2018, down from 15.9 in 2003.

In 2018, adults living in the most deprived areas continued to be around 3 times more likely to smoke than those in the least deprived areas.



Current smoker prevalence was highest among those aged 25-54.



As in every year since 2015, the proportion of current e-cigarette users in 2018 was 7%, having increased from 5% in 2014.

The prevalence of e-cigarette use was highest among the middle age groups (8-11% among those aged 25-54) and lower for the youngest (5% among those aged 16-24) and older adults (1-6% for those aged 55 and over).

In 2018, a higher proportion of men than women reported currently using e-cigarettes; in previous recent years there had been no significant difference between the sexes (in 2016 and 2017 7% of both men and women were current users).

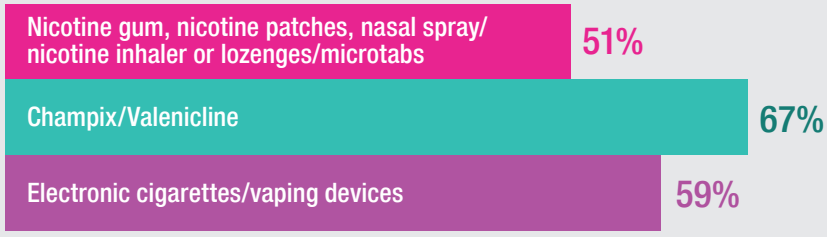
6% of women used e-cigarettes.

8% of men used e-cigarettes.

The proportion of current e-cigarette users who were also current regular smokers was significantly lower in 2017/18 combined (42%) than in 2014/15 combined (60%).

In 2018, among ex-smokers or those who had attempted to stop smoking, 27% had used nicotine gum, nicotine patches, a nasal spray/nicotine inhaler or lozenges/microtabs, around a fifth (18%) had used an electronic cigarette/vaping device and 5% had used prescriptions of Champix/Valenicline or Zyban/Bupropian in their most recent attempt to quit. Over half (59%) had not used any Nicotine Replacement Therapy (NRT) or other product in their attempt to quit.

The percentages of adults who had used these types of NRT or other product and found that they helped them to successfully stop smoking for a month or more were:



4 SMOKING

Lucy Dean and Kasmita Mirani

4.1 INTRODUCTION

Tobacco use is a leading cause of premature mortality and preventable poor health worldwide[1] and, in Scotland, is associated with around 10,000 deaths and an estimated 100,552 hospital admissions per year[2]. Tobacco use is associated with stillbirths and infant deaths, childhood respiratory diseases, and communicable as well as non-communicable diseases in adulthood[3]. As the cause of one in five deaths, smoking represents the chief threat to Scotland's public health[4]. Smoking rates in the most deprived areas are highest making smoking a key health inequality challenge[5].

The risks associated with smoking increase the longer a person continues smoking, however, these risks reduce substantially (even amongst long-term smokers) when a person stops, adding further weight to the importance of cessation policies, initiatives and interventions[6]. Smoking cessation interventions, including pharmacotherapy, are among the most cost-effective health care interventions available[7].

4.1.1 Policy background

One of the Scottish Government's **National Outcomes** is the overall strategic objective for health: 'We are healthy and active'[8]. This is supported by a National Indicator that monitors (using Scottish Health Survey (SHeS) data) participation in health risk behaviours, including smoking, against an outcome of reducing the percentage of adults exhibiting two or more of these behaviours [9] as well as more general health related indicators including healthy life expectancy and premature mortality.

In 2013, the Scottish Government set out its ambition to create a 'tobacco-free generation' (defined as 'a smoking prevalence among the adult population of 5% or lower') by the year 2034. This was followed in June 2018 by the publication of **Raising Scotland's Tobacco-free Generation**[10], an updated action plan outlining interventions and policies that aim to ensure that when those born in 2013 reach the age of 21 they will be a 'tobacco free' generation. The actions include awareness raising campaigns, encouraging healthier behaviour in public settings, improving cessation services, regulations on smoking in prisons and the advertisement of e-cigarettes and restrictions on heated tobacco products. In addition, the Scottish Prison Service set the target for all prisons in Scotland to be smoke-free by the end of 2018[11].

Working with COSLA, NHS Health Scotland published **Smoke-free Local Authority Implementation Guidance**[12] in January 2017 to facilitate actions related to smoking prevention, protection and cessation. The **NHS Local Delivery Plan (LDP) Standards**[13], while delivering a universal smoking cessation offer, is focused primarily on the target of helping those living in Scotland's most deprived areas. The

targeting of these areas through LDP Standards has been recognised by organisations such as Cancer Research UK as a positive approach to tackling this health inequality[14].

The **Health (Tobacco, Nicotine etc. and Care) (Scotland) Act 2016**[15] commenced on 1 April 2017. The Act includes provisions to regulate:

- the introduction of a minimum age of 18 for the sale of Nicotine Vapour Products (NVPs) – including electronic cigarettes
- a ban on the purchase of NVPs on behalf of an under 18 – 'proxy purchase'
- the introduction of mandatory registration for the sale of NVPs
- bans on certain forms of domestic advertising and promotion of NVPs
- the introduction of an age verification policy for sales of tobacco and NVPs by under 18s ('Challenge 25')
- a prohibition on the sale of NVPs from vending machines.
- a ban on unauthorised sales of tobacco and NVPs by under 18s
- the introduction of statutory smoke-free perimeters around buildings on NHS hospital sites.

Regulation on most of these provisions came into force in 2017.

The most recent primary legislation on smoking passed by the Scottish Parliament is the Smoking Prohibition (Children in Motor Vehicles) (Scotland) Act 2016 which deems as an offence smoking in cars in a public place in the presence of children[16].

Across the UK new regulations came into force on 21 May 2017 making it an offence to sell cigarettes in any pack containing less than 20 cigarettes, and ensuring all cigarettes are sold in standardised brand-neutral packs[17].

One set of these new regulations also restricted the strength, availability and access to electronic cigarettes – banning cross-border advertising and promotion on TV, radio, online, by e-mail and in print media.

4.1.2 Reporting on smoking in the Scottish Health Survey (SHeS)

Reliable data on smoking behaviour, cessation, nicotine replacement therapy (NRT) use and exposure to second-hand smoke are vital to effective monitoring of trends relevant to the various targets in place. This chapter presents prevalence of adult cigarette smoking and e-cigarette use for 2018 as well as trends in prevalence of both. The cigarette smoking status of current e-cigarette users is reported as well as exposure to second-hand smoke among children and the use of NRT that helped successful smoking cessation among adults.

The area deprivation data are presented in Scottish Index of Multiple Deprivation (SIMD) quintiles. Readers should refer to the Glossary at the end of this Volume for a detailed description of SIMD.

Supplementary tables are also available on the Scottish Government SHeS website[18].

4.1.3 Comparability with other UK statistics

The Health Survey for England, Health Survey for Northern Ireland and the National Survey for Wales provide estimates of smoking prevalence in the other home nations within the UK. The surveys are conducted separately and have different sampling methodologies, so smoking prevalence estimates across the surveys are only partially comparable[19]. Smoking prevalence estimates from the UK-wide Integrated Household Survey for Scotland, Wales, England and Northern Ireland have been deemed to be fully comparable[20].

4.2 METHODS AND DEFINITIONS

4.2.1 Methods of collecting data on smoking behaviour

Adults aged 20 and over were asked about their smoking behaviour during the face to face interview. For those aged 16 and 17, information was collected in a self-completion questionnaire offering more privacy and reducing the likelihood of concealing behaviour in front of other household members. At the interviewer's discretion those aged 18 and 19 could answer the questions either face to face or via the self-completion booklet.

4.2.2 Questions on smoking behaviour

Questions on smoking have been included in SHeS since 1995. Some small changes were made to the questions in 2008 and 2012. These are outlined in the relevant annual reports[21,22].

The current questions in the survey focus on:

- current smoking status
- frequency and pattern of current smoking
- the number of cigarettes smoked by current smokers
- ex-smokers' previous smoking history
- exposure to second-hand smoke
- past smoking behaviour
- quit attempts and desire to give up smoking
- medical advice on giving up smoking
- NRT use (now including questions on NRT that led to successful cessation)
- e-cigarette use (including as part of a quit attempt).

While the self-completion questions were largely similar to those asked in the face to face interview, the self-completion questionnaire did exclude questions on: past smoking behaviour, desire to give up smoking and medical advice to stop smoking.

4.2.3 Questions on e-cigarette use

From 2014, SHeS has gathered information on the use of e-cigarettes among the Scottish adult population, in response to their increased availability and high profile. The questions ask whether participants have ever used an e-cigarette as well as whether they are currently using an e-cigarette.

4.2.4 Definitions

Cigarette smoking status

Information on cigar and pipe use is collected in the survey but as prevalence is low these are not considered in the definition of current smoking. Smoking status categories reported here are:

- current cigarette smoker
- ex-regular cigarette smoker
- never regular cigarette smoker
- never smoked cigarettes at all

Exposure to second-hand smoke

Exposure to second-hand smoke for children is measured in two ways in the survey:

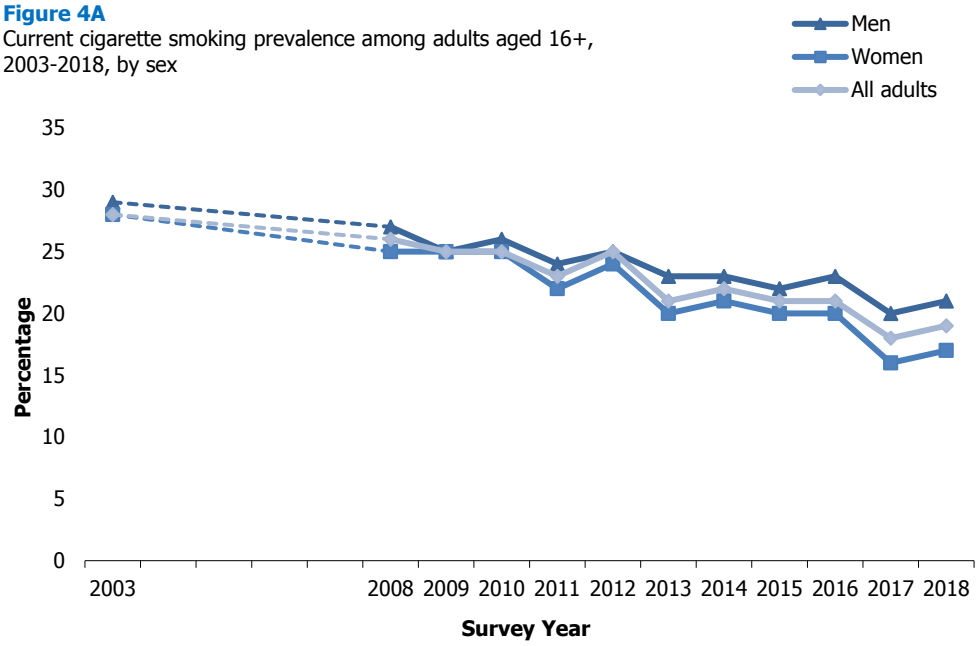
- whether there is someone who regularly smokes inside the accommodation where the child lives, and
- parents' and older children's (aged 13-15) reports of whether children are exposed to smoke at home.

4.3 CIGARETTE SMOKING STATUS

4.3.1 Trends in cigarette smoking status since 2003

Smoking prevalence among adults fell significantly from 28% in 2003 to 21% by 2013, then remained around this level before dropping to 18% in 2017. In 2018, 19% of all adults were smokers, this was not significantly different to the previous year (18%). This pattern was the same for men and women, whereby the rate of smoking prevalence dropped significantly between 2003 and 2013, stabilised for a few years then dropped once more. For most years, men were slightly more likely to be smokers than women were. **Figure 4A, Table 4.1**

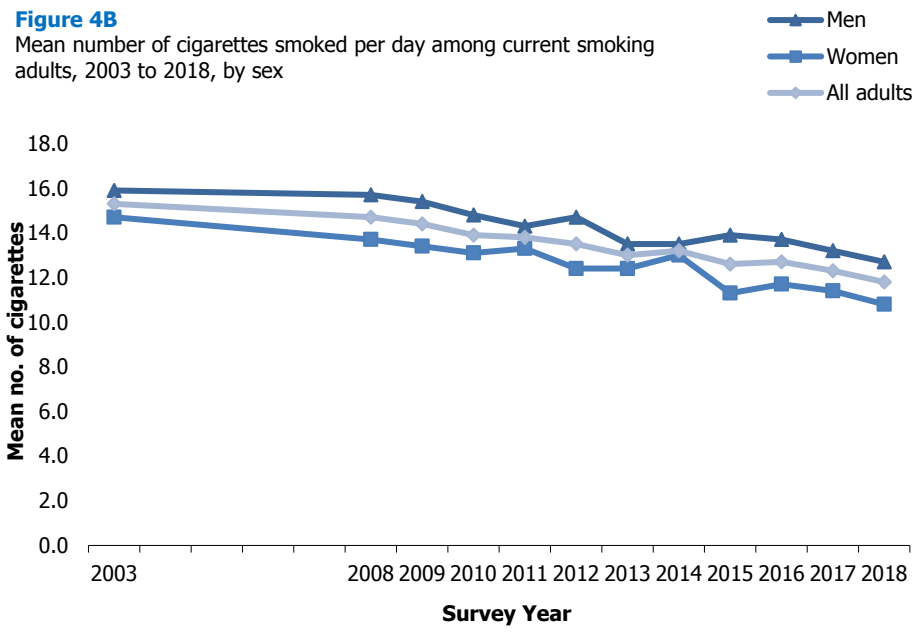
Figure 4A
Current cigarette smoking prevalence among adults aged 16+, 2003-2018, by sex



The percentage of adults who had never smoked regularly or had never smoked at all was at its highest level in 2018 at 59%. The figure had risen from 50% in 2003 to 55% in 2011 and since then had remained fairly stable (54-56%) until the increase in 2018. The percentage of all adults reporting that they were ex-regular smokers increased between 2003 (22%) and 2017 (26%) before dropping significantly in 2018 (22%). The trends in those reporting that they had never smoked or were ex-regular smokers were similar for men and women.

There has been a steady decline over time in the mean number of cigarettes smoked per day by current adult smokers. In 2003, the average was 15.3, falling to 11.8 per day in 2018. This pattern was similar among both men and women (from 15.9 in 2003 to 12.7 in 2018 for men, and from 14.7 in 2003 to 10.8 in 2018 for women).
Figure 4B, Table 4.1

Figure 4B
Mean number of cigarettes smoked per day among current smoking adults, 2003 to 2018, by sex



4.3.2 Cigarette smoking status in 2018, by age and sex

A higher proportion of men than women in 2018 identified as a current smoker (21% and 17% respectively). Similarly, men reported smoking more cigarettes on average per day (12.7) compared with women (10.8).

There were significant differences in smoking prevalence by age group in 2018, as seen in previous years[23]. Those aged 25-54 had the highest prevalence (22-24%). This compared to about a fifth (19%) of those aged 16-24, 16% of those aged 55-64, 13% of those aged 65-74 and 9% of those aged 75 and over.

However, the mean number of cigarettes smoked per day among current smokers increased with age up to age 65-74, from 7.8 among those aged 16-24 to 16.2 among those aged 65-74. There was a subsequent decline to an average of 13.3 cigarettes per day among those aged 75 and over. This pattern was similar for men and women, although among men, those aged 65-74 smoked the highest number of cigarettes on average per day (19.3), whereas among women, those aged 75 and over smoked the highest number per day (13.6).

As in previous years[24], there was a significant association between age and previous smoking status. The proportion of ex-smokers was highest among those in the older age groups and there was a corresponding decline by age in the proportion of those that had never smoked regularly. Around a third (34%) of adults aged 65 and over reported being an ex-smoker, with 53-57% never having been a regular smoker. This is compared with adults aged 16-24, of whom 3% reported being

ex-smokers and 79% having never having been a regular smoker. Similar patterns were seen for men and women. **Table 4.2**

4.3.3 Cigarette smoking status (age-standardised) since 2003, by area deprivation and sex

As in previous years[25], adults living in more deprived areas were more likely to smoke than those in less deprived areas in 2018. Smoking prevalence was 32% among those in the most deprived areas with step-decreases across the intermediate quintiles to 9% among those in the least deprived areas. This pattern was similar for men (33% in the most deprived areas compared with 10% in the least deprived areas) and women (30% in the most deprived areas compared with 8% in the least deprived areas).

In 2018, there was a clear increase by area deprivation in the numbers of cigarettes smoked with a mean of 13.2 cigarettes smoked per day among smokers in the most deprived areas and 9.4 cigarettes smoked among those in the least deprived areas. A similar gradient was seen for men and women.

Since 2003, both smoking rates and the average number of cigarettes smoked have reduced significantly in all deprivation quintiles. The gap between smoking prevalence in the most deprived and least deprived areas has narrowed, from 28 percentage points in 2003 (45% in most deprived and 17% in least deprived) to 23 percentage points in 2018 (32% in the most deprived and 9% in the least deprived) however rates remain around 3 times higher in the most deprived areas. **Table 4.3**

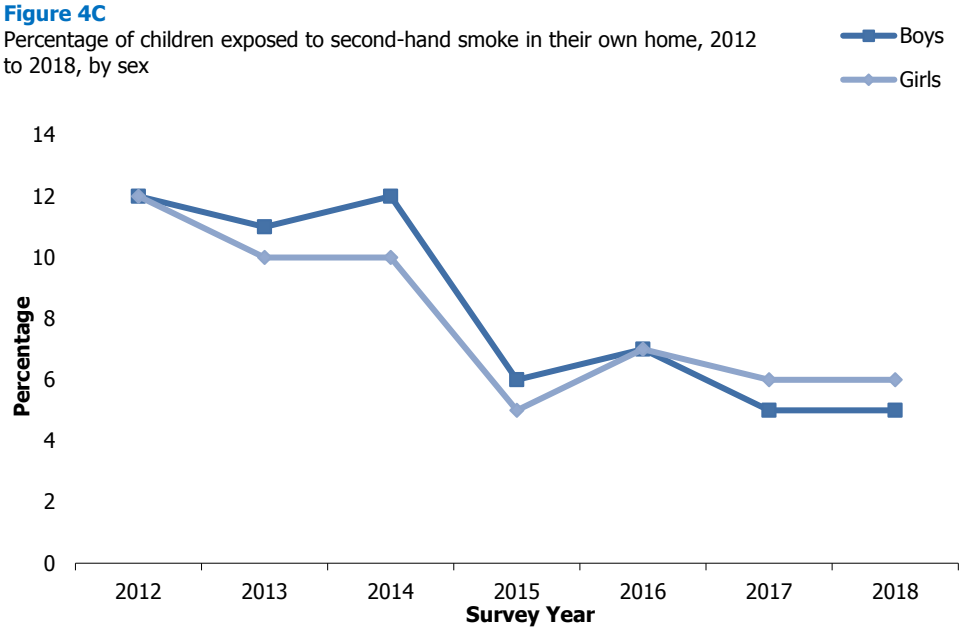
4.4 EXPOSURE TO SECOND HAND SMOKE

4.4.1 Children's exposure to second-hand smoke since 2012

In 2018, about a tenth (11%) of children lived in accommodation in which someone regularly smokes indoors. This figure has declined over time from 19% in 2012 to 12% in 2015 and has remained around that level since. This decline was observed for both boys and girls.

In 2018, 6% of children were reported to be exposed to second-hand smoke in their home. This figure declined from 12% in 2012 to 6% in 2015 and has remained around this level (6-7%) since. There was no significant difference between the proportions of boys and girls who were reported as having been exposed to second-hand smoke in their home in 2018. **Figure 4C, Table 4.4**

Figure 4C
Percentage of children exposed to second-hand smoke in their own home, 2012 to 2018, by sex



4.5 USE OF NRT AND OTHER PRODUCTS IN MOST RECENT ATTEMPT TO QUIT SMOKING

4.5.1 Use of NRT and other products 2018, by age and sex

In 2018, among ex-smokers or those who had attempted to stop smoking, 27% had used nicotine gum, nicotine patches, a nasal spray/nicotine inhaler or lozenges/microtabs, around a fifth (18%) had used an electronic cigarette/vaping device and 5% had used prescriptions of Champix/Valenicline or Zyban/Bupropian; over half (59%) had not used any of these products. Similar levels were found for men and women.

The use of nicotine gum, nicotine patches, a nasal spray/nicotine inhaler or lozenges/microtabs varied by age, with higher proportions of middle aged adults using them (24-35% of those aged 25-74) than younger (12% of those aged 16-24) or older adults (18% of those aged 75 and over). Use of nicotine gum, nicotine patches, a nasal spray/nicotine inhaler or lozenges/microtabs differed by age for men and women, largely due to differences in the 25-34 age group (30% of women compared to 18% of men) and among those aged 75 and over (25% of women compared to 11% of men).

Use of electronic cigarette/vaping devices was highest among adults aged 16-24 (32%) with a stepped decrease across the age groups to lowest used among those aged 75 and over (5%). Slightly different patterns of electronic cigarette/vaping device use by age were found for men and women. For men there was a general decline by age (31-32%

for those aged 16-34, 17-22% for those aged 35-64 and 6-7% for those aged 65 and over). For women use was highest among those aged 16-24 (32%) but comparatively low for those aged 25-34 (17%), levels of use then declined from 26% of those aged 35-44 to 6% of those aged 75 and over.

There were no significant differences in use of Varenicline or Bupropion by age or sex. **Table 4.5**

4.5.2 Use of NRT and other products that helped successful smoking cessation, 2018, by sex

Among adults who had used nicotine gum, nicotine patches, a nasal spray/nicotine inhaler or lozenges/microtabs as part of their most recent quit attempt 51% reported these NRT products had helped them to successfully stop smoking for a month or more. This did not differ significantly between men and women.

Among adults who had used Varenicline and Bupropion as part of their most recent quit attempt, 67% reported that these products had helped them to successfully stop smoking for a month or more. This did not differ significantly between men and women.

Among adults who had used electronic cigarettes/vaping devices as part of their most recent quit attempt 59% reported that this had helped them to successfully stop smoking for a month or more. This did not differ significantly between men and women. **Table 4.6**

4.6 E-CIGARETTE USE

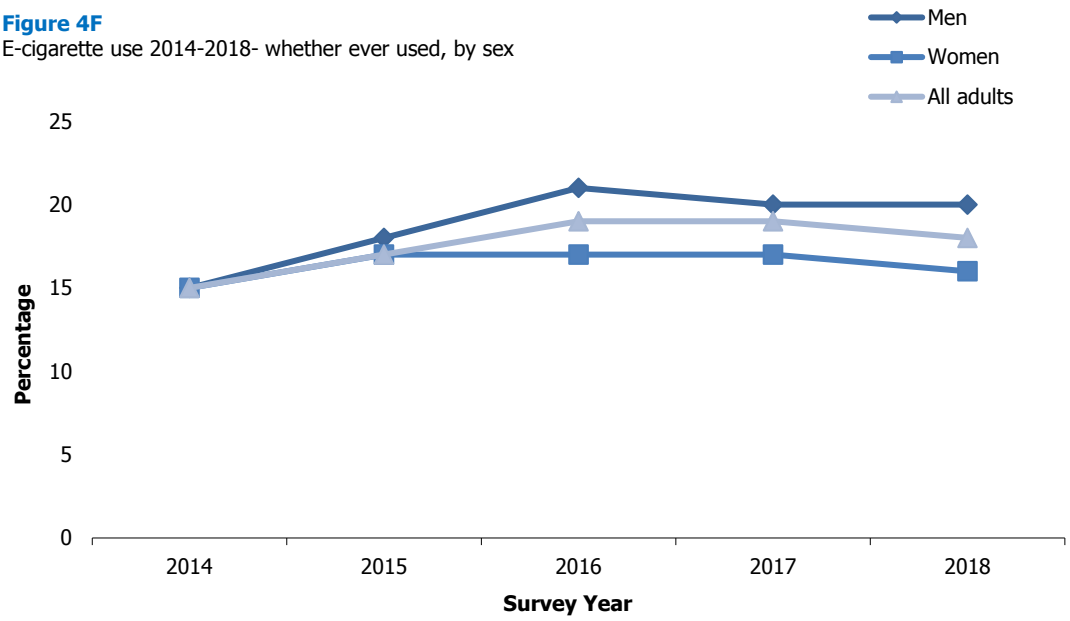
4.6.1 Trends in E-Cigarette use since 2014, by age and sex

In 2018, current e-cigarette use among adults was 7%. A separate 11% had previously used e-cigarettes (with a total of 18% ever using them). Over four fifths (82%) had never used e-cigarettes.

The proportion of current e-cigarette users has remained stable at 7% since 2015, having increased from 5% in 2014. The proportion of adults that had previously used e-cigarettes has fluctuated between 10-12% since 2014 (10% in 2014 and 11% in 2018). Fewer adults reported never having used e-cigarettes in 2018 (82%) than in 2014 (85%).

In 2018 a significantly higher proportion of men reported currently using e-cigarettes compared with women (8% and 6% respectively), whilst in previous recent years there has been no significant difference (in 2016 and 2017 7% of both men and women were current users). As in previous years[26], in 2018, men were more likely to have previously used e-cigarettes than women (12% compared with 10%) and women were more likely than men to have never used e-cigarettes (84% compared with 80%). **Figure 4F, Table 4.7**

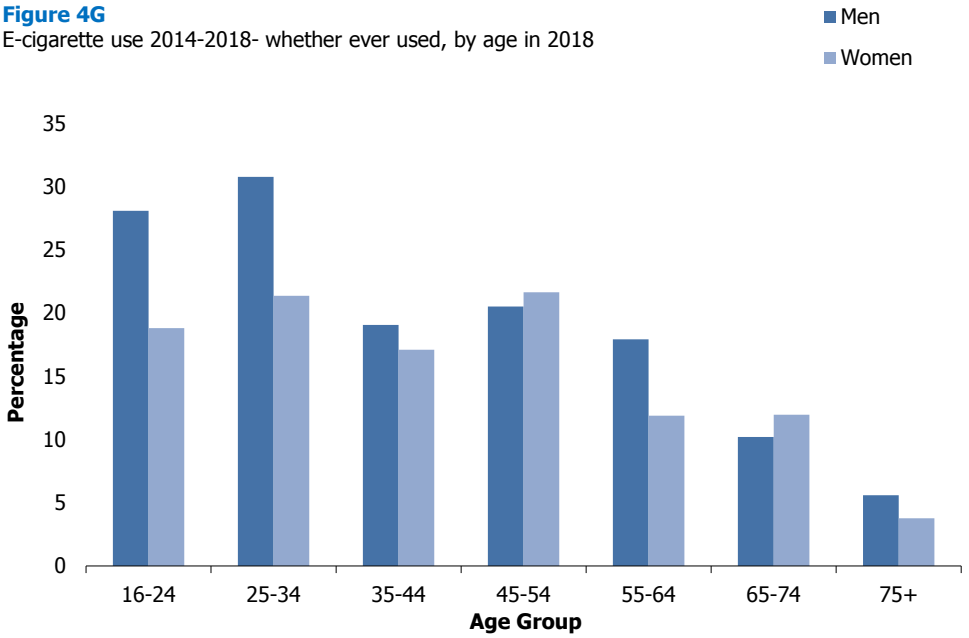
Figure 4F
E-cigarette use 2014-2018- whether ever used, by sex



As in previous years[27], e-cigarette use in 2018 varied significantly with age. The prevalence of e-cigarette use was highest among the middle age groups (8-11% among those aged 25-54) and lower for the youngest (5% among those aged 16-24) and older adults (1-6% for those aged 55 and over). Different age-related patterns were seen for men and women; prevalence was highest among men aged 25-34 (14%) and among women prevalence was highest among those aged 45-54 (11%).

Combined past and current usage – ever use – was associated with younger age in 2018, with lower use among older adults. Of those aged 16-54, 18-26% had ever used e-cigarettes compared with 15% of those aged 54-65, 11% of those aged 65-74 and 5% of those aged 75 and over. For adults aged 35-74, around half of those who had ever used e-cigarettes (8-21%) were still using them (5-11%). This compared with around a fifth of adults aged 16-24 who had ever used e-cigarettes currently using them (5% were current users compared with 23% that reported having ever used e-cigarettes). Similar patterns were found for men and women. **Figure 4G, Table 4.7**

Figure 4G
E-cigarette use 2014-2018- whether ever used, by age in 2018



Age-related patterns in e-cigarette use have been similar since 2014.

4.6.2 Cigarette smoking status 2014/15 combined and 2017/18 combined, by e-cigarette use and sex

The proportion of current e-cigarette users who were also current regular smokers was significantly lower in 2017/18 combined than in 2014/15 combined 42% and 60% respectively. In 2017/18 combined more than half of current e-cigarette users (54%) used to smoke regularly, a significantly higher proportion than in 2014/15 (37%). The proportion of current e-cigarette users who had never smoked or used to smoke occasionally did not change significantly between 2014/15 combined (3%) and 2017/18 combined (4%).

Similar patterns were found for both men and women. **Table 4.8**

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Table list

Table 4.1: Cigarette smoking status, 2003 to 2018

Base: Aged 16 and over *2003 - 2018*

		2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cigarette smoking status		%	%	%	%	%	%	%	%	%	%	%	%
Men	Never smoked or used to smoke cigarettes occasionally	47	49	51	50	52	52	51	54	51	52	52	57
	Used to smoke cigarettes regularly	24	24	24	24	23	23	25	23	27	25	28	22
	Current cigarette smoker[a]	29	27	25	26	24	25	23	23	22	23	20	21
	Mean per current smoker per day	15.9	15.7	15.4	14.8	14.3	14.7	13.5	13.5	13.9	13.7	13.2	12.7
	SE of the mean	0.33	0.46	0.41	0.43	0.35	0.48	0.49	0.49	0.45	0.67	0.54	14.6
Women	Never smoked or used to smoke cigarettes occasionally	53	53	55	54	57	55	57	56	57	58	60	62
	Used to smoke cigarettes regularly	20	22	20	21	20	21	23	23	23	23	24	22
	Current cigarette smoker[a]	28	25	25	25	22	24	20	21	20	20	16	17
	Mean per current smoker per day	14.7	13.7	13.4	13.1	13.3	12.4	12.4	13.0	11.3	11.7	11.4	10.8
	SE of the mean	0.27	0.31	0.27	0.27	0.30	0.40	0.40	0.40	0.37	0.38	0.41	13.0
All adults	Never smoked or used to smoke cigarettes occasionally	50	51	53	52	55	54	54	55	54	55	56	59
	Used to smoke cigarettes regularly	22	23	22	23	22	22	24	23	25	24	26	22
	Current cigarette smoker[a]	28	26	25	25	23	25	21	22	21	21	18	19
	Mean per current smoker per day	15.3	14.7	14.4	13.9	13.8	13.5	13.0	13.2	12.6	12.7	12.3	11.8
	SE of the mean	0.24	0.28	0.26	0.26	0.26	0.34	0.34	0.34	0.31	0.39	0.36	0.1
Unweighted bases	*Men*	*3582*	*2829*	*3265*	*3092*	*3263*	*2119*	*2131*	*2057*	*2228*	*1882*	*1589*	*2063*
	Women	*4514*	*3600*	*4227*	*4109*	*4243*	*2677*	*2746*	*2585*	*2740*	*2416*	*2083*	*2720*
	All adults	*8096*	*6429*	*7492*	*7201*	*7506*	*4796*	*4877*	*4642*	*4968*	*4298*	*3672*	*4783*
Weighted bases	*Men*	*3819*	*3066*	*3560*	*3422*	*3581*	*2292*	*2330*	*2207*	*2374*	*2054*	*1767*	*2298*
	Women	*4267*	*3348*	*3905*	*3750*	*3906*	*2489*	*2534*	*2416*	*2580*	*2227*	*1895*	*2474*
	All adults	*8086*	*6413*	*7465*	*7173*	*7487*	*4780*	*4864*	*4623*	*4954*	*4281*	*3662*	*4772*

Table 4.2: Cigarette smoking status, 2018, by age and sex

Base: Aged 16 and over — *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Cigarette smoking status		%	%	%	%	%	%	%	%
Men	Never smoked or used to smoke cigarettes occasionally	74	61	56	54	53	50	53	57
	Used to smoke cigarettes regularly	2	16	16	23	28	37	39	22
	Current cigarette smoker[a]	24	23	28	23	19	13	8	21
	Mean	8.7	10.0	12.0	14.2	16.0	19.3	12.9	12.7
	SE of the mean	1.32	1.28	0.84	1.21	1.07	1.38	1.64	0.51
Women	Never smoked or used to smoke cigarettes occasionally	84	62	61	55	58	56	61	62
	Used to smoke cigarettes regularly	3	15	20	23	28	32	30	22
	Current cigarette smoker[a]	13	24	19	22	14	12	9	17
	Mean	6.0	8.8	10.1	12.5	12.4	13.2	13.6	10.8
	SE of the mean	0.80	0.64	0.82	0.86	0.74	1.04	1.83	0.38
All adults	Never smoked or used to smoke cigarettes occasionally	79	61	58	55	56	53	57	59
	Used to smoke cigarettes regularly	3	15	18	23	28	34	34	22
	Current cigarette smoker[a]	19	23	24	22	16	13	9	19
	Mean	7.8	9.4	11.2	13.3	14.4	16.2	13.3	11.8
	SE of the mean	0.96	0.72	0.67	0.75	0.71	0.93	1.33	0.34
Unweighted bases	*Men*	*150*	*226*	*278*	*371*	*370*	*390*	*264*	*2049*
	Women	*195*	*361*	*406*	*469*	*490*	*468*	*324*	*2713*
	All adults	*345*	*587*	*684*	*840*	*860*	*858*	*588*	*4762*
Weighted bases	*Men*	*293*	*384*	*349*	*409*	*370*	*290*	*191*	*2286*
	Women	*285*	*400*	*365*	*441*	*394*	*320*	*265*	*2470*
	All adults	*578*	*784*	*714*	*850*	*765*	*609*	*456*	*4756*

a Current cigarette smoker excludes those who reported only smoking cigars or pipes

Table 4.3: Cigarette smoking status, (age-standardised), 2003 to 2018, by area deprivation and sex

Base: Aged 16 and over *2003 - 2018*

			2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cigarette smoking status			%	%	%	%	%	%	%	%	%	%	%	%
Men	Current cigarette smoker[a]	1st (Most deprived)	46	38	38	39	42	40	41	39	39	35	30	33
		2nd	33	32	32	31	27	32	24	28	25	30	28	25
		3rd	26	28	29	23	24	24	26	19	23	21	20	21
		4th	23	19	17	20	18	19	19	16	15	16	15	15
		5th (Least deprived)	19	16	14	16	10	13	11	14	11	11	10	10
	Mean per current smoker per day	1st (Most deprived)	17.0	17.5	16.8	16.3	15.7	15.2	14.4	14.1	14.2	14.1	15.5	14.4
		2nd	16.1	16.7	16.1	14.8	14.5	14.5	15.0	14.3	13.4	13.3	13.9	14.1
		3rd	16.7	16.1	15.4	15.2	14.9	15.2	13.2	13.8	15.1	13.5	13.0	10.9
		4th	16.9	15.4	13.4	14.5	12.7	13.2	13.8	13.3	13.8	12.9	13.7	12.3
		5th (Least deprived)	14.2	11.8	14.5	12.4	13.3	13.7	[11.8]	[12.0]	[12.1]	[13.2]	[10.5]	10.2
	SE of the mean	1st (Most deprived)	0.57	0.90	0.60	0.79	0.59	1.02	0.96	0.76	0.84	1.02	1.48	1.05
		2nd	0.74	0.81	0.81	0.81	0.71	0.72	0.79	0.91	1.01	1.24	1.15	0.76
		3rd	0.85	0.95	0.85	1.30	0.82	1.21	0.96	1.10	1.02	1.17	1.02	1.50
		4th	0.91	1.07	0.89	1.12	0.70	1.17	1.28	1.57	1.42	1.82	1.41	1.37
		5th (Least deprived)	1.02	1.23	1.49	1.18	1.29	1.10	[1.70]	[1.82]	[1.17]	[1.98]	[1.45]	0.93

Continued…

Table 4.3: *- Continued*

Base: Aged 16 and over *2003 - 2018*

			2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cigarette smoking status			%	%	%	%	%	%	%	%	%	%	%	%
Women	Current cigarette smoker[a]	1st (Most deprived)	45	39	39	39	38	41	33	35	32	30	26	30
		2nd	34	28	30	30	26	29	23	29	25	25	19	20
		3rd	25	25	27	24	22	22	20	17	20	18	17	16
		4th	19	16	17	16	16	18	15	15	14	10	10	11
		5th (Least deprived)	16	14	11	11	10	11	9	11	10	12	9	9
	Mean per current smoker per day	1st (Most deprived)	16.3	15.6	14.5	14.7	15.0	13.9	13.1	13.9	12.8	11.3	12.1	12.1
		2nd	15.2	13.7	14.0	13.1	13.2	12.6	14.4	13.2	12.6	12.6	11.1	11.0
		3rd	15.0	12.6	12.9	12.4	13.0	11.0	12.3	13.2	11.0	12.3	12.2	11.8
		4th	13.1	12.4	11.4	10.3	11.1	11.0	10.1	11.5	10.5	10.4	11.2	9.2
		5th (Least deprived)	11.8	12.9	12.1	10.7	12.2	9.7	[9.5]	[8.7]	[6.4]	10.3	[7.8]	8.7
	SE of the mean	1st (Most deprived)	0.47	0.57	0.52	0.51	0.54	0.69	0.70	0.74	0.75	0.62	0.84	0.82
		2nd	0.56	0.67	0.60	0.51	0.50	0.75	1.00	0.76	0.84	0.90	0.95	0.85
		3rd	0.73	0.59	0.60	0.61	0.62	0.75	0.77	0.69	0.79	0.83	0.89	0.76
		4th	0.70	0.80	0.58	0.81	0.89	1.05	0.78	0.82	0.95	1.19	1.04	0.94
		5th (Least deprived)	0.89	0.89	0.83	0.79	1.01	1.07	[0.93]	[1.35]	[0.87]	1.08	[0.86]	0.73

Continued…

Table 4.3: *- Continued*

Base: Aged 16 and over *2003 - 2018*

			2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cigarette smoking status			%	%	%	%	%	%	%	%	%	%	%	%
All adults	Current cigarette smoker[a]	1st (Most deprived)	45	39	38	39	40	40	37	37	35	32	27	32
		2nd	34	30	31	31	26	30	24	29	25	28	23	23
		3rd	26	27	28	23	23	23	23	18	21	20	18	18
		4th	21	18	17	18	17	19	17	15	14	13	13	13
		5th (Least deprived)	17	15	12	14	10	12	10	12	11	12	9	9
	Mean per current smoker per day	1st (Most deprived)	16.6	16.4	15.5	15.4	15.4	14.5	13.7	14.0	13.5	12.6	13.7	13.2
		2nd	15.6	15.2	15.1	13.9	13.8	13.6	14.7	13.7	13.0	13.0	12.8	12.7
		3rd	15.8	14.3	14.1	13.7	13.9	13.1	12.8	13.5	13.0	13.0	12.6	11.3
		4th	15.1	14.0	12.4	12.6	12.0	12.2	12.0	12.4	12.1	11.9	12.8	10.9
		5th (Least deprived)	13.1	12.4	13.4	11.6	12.7	11.9	10.8	10.6	9.4	11.6	9.2	9.4
	SE of the mean	1st (Most deprived)	0.42	0.55	0.44	0.45	0.42	0.60	0.67	0.56	0.59	0.60	0.87	0.68
		2nd	0.49	0.52	0.52	0.47	0.48	0.57	0.64	0.63	0.66	0.81	0.87	0.59
		3rd	0.61	0.59	0.53	0.64	0.53	0.76	0.62	0.68	0.66	0.74	0.68	0.92
		4th	0.62	0.74	0.56	0.79	0.57	0.84	0.80	0.90	0.98	1.24	1.06	0.90
		5th (Least deprived)	0.79	0.74	0.96	0.83	0.92	0.73	1.08	1.26	0.82	1.03	0.87	0.61

Continued…

Table 4.3: *- Continued*

Base: Aged 16 and over *2003 - 2018*

			2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cigarette smoking status														
Unweighted bases[b]	*Men*	*1st (Most deprived)*	*597*	*464*	*564*	*679*	*615*	*300*	*328*	*334*	*382*	*291*	*236*	*336*
		2nd	*691*	*570*	*607*	*604*	*572*	*387*	*441*	*395*	*439*	*323*	*310*	*419*
		3rd	*796*	*608*	*690*	*614*	*715*	*499*	*508*	*478*	*475*	*428*	*358*	*410*
		4th	*790*	*717*	*761*	*684*	*805*	*494*	*451*	*446*	*543*	*421*	*374*	*500*
		5th (Least deprived)	*708*	*468*	*643*	*510*	*556*	*439*	*403*	*404*	*389*	*419*	*311*	*398*
	Women	*1st (Most deprived)*	*827*	*651*	*829*	*964*	*801*	*426*	*456*	*443*	*486*	*420*	*367*	*448*
		2nd	*885*	*711*	*781*	*814*	*755*	*499*	*554*	*535*	*535*	*436*	*394*	*570*
		3rd	*971*	*761*	*879*	*796*	*963*	*615*	*666*	*555*	*589*	*546*	*459*	*517*
		4th	*970*	*873*	*926*	*871*	*1002*	*592*	*602*	*572*	*658*	*502*	*455*	*643*
		5th (Least deprived)	*861*	*601*	*812*	*662*	*722*	*545*	*468*	*480*	*472*	*512*	*408*	*542*
	All adults	*1st (Most deprived)*	*1424*	*1115*	*1393*	*1643*	*1416*	*726*	*784*	*777*	*868*	*711*	*603*	*784*
		2nd	*1576*	*1281*	*1388*	*1418*	*1327*	*886*	*995*	*930*	*974*	*759*	*704*	*989*
		3rd	*1767*	*1369*	*1569*	*1410*	*1678*	*1114*	*1174*	*1033*	*1064*	*974*	*817*	*927*
		4th	*1760*	*1590*	*1687*	*1555*	*1807*	*1086*	*1053*	*1018*	*1201*	*923*	*829*	*1143*
		5th (Least deprived)	*1569*	*1069*	*1455*	*1172*	*1278*	*984*	*871*	*884*	*861*	*931*	*719*	*940*

Continued…

Table 4.3: *- Continued*

Base: Aged 16 and over *2003 - 2018*

			2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cigarette smoking status														
Weighted bases[b]	*Men*	*1st (Most deprived)*	*695*	*571*	*615*	*694*	*692*	*386*	*384*	*406*	*435*	*405*	*292*	*405*
		2nd	*746*	*644*	*725*	*687*	*660*	*466*	*464*	*428*	*479*	*383*	*367*	*514*
		3rd	*753*	*579*	*666*	*675*	*750*	*479*	*488*	*417*	*437*	*442*	*356*	*441*
		4th	*814*	*718*	*777*	*708*	*803*	*481*	*462*	*462*	*565*	*386*	*379*	*503*
		5th (Least deprived)	*811*	*550*	*777*	*656*	*675*	*480*	*531*	*493*	*458*	*438*	*374*	*435*
	Women	*1st (Most deprived)*	*840*	*667*	*775*	*795*	*754*	*472*	*481*	*439*	*500*	*497*	*375*	*438*
		2nd	*846*	*690*	*775*	*782*	*730*	*495*	*500*	*492*	*516*	*427*	*374*	*520*
		3rd	*834*	*643*	*735*	*726*	*879*	*514*	*531*	*461*	*503*	*447*	*380*	*453*
		4th	*864*	*721*	*786*	*758*	*823*	*483*	*521*	*534*	*587*	*381*	*368*	*562*
		5th (Least deprived)	*883*	*622*	*835*	*689*	*720*	*524*	*500*	*489*	*474*	*474*	*397*	*501*
	All adults	*1st (Most deprived)*	*1536*	*1238*	*1390*	*1490*	*1446*	*858*	*865*	*846*	*935*	*903*	*667*	*843*
		2nd	*1592*	*1334*	*1500*	*1470*	*1390*	*961*	*965*	*921*	*995*	*810*	*741*	*1034*
		3rd	*1586*	*1222*	*1400*	*1401*	*1630*	*992*	*1019*	*878*	*940*	*889*	*736*	*894*
		4th	*1678*	*1439*	*1563*	*1466*	*1626*	*965*	*984*	*997*	*1153*	*767*	*747*	*1065*
		5th (Least deprived)	*1694*	*1173*	*1612*	*1345*	*1395*	*1004*	*1031*	*982*	*932*	*912*	*771*	*937*

a Current cigarette smoker excludes those who reported only smoking cigars or pipes

b Bases shown are for all adults. Bases for mean number of cigarettes per current smoker can be estimated from table 4.1

Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.
Please note that in 2018 this table was produced with age-standadisation applied to valid cases only, whereas in previous reports this table was produced with age-standardisation applied to the whole sample.

Table 4.4: Children's exposure to second-hand smoke, 2012 to 2018

Base: Aged 0-15 *2012 - 2018*

		2012	2013	2014	2015	2016	2017	2018
Exposure to second-hand smoke in own home		%	%	%	%	%	%	%
Boys	Whether anyone smokes in accommodation	19	18	17	12	12	10	11
	Reported exposure to second-hand smoke in own home	12	11	12	6	7	5	5
Girls	Whether anyone smokes in accommodation	18	15	16	11	9	10	11
	Reported exposure to second-hand smoke in own home	12	10	10	5	7	6	6
All children	Whether anyone smokes in accommodation	19	16	16	12	11	10	11
	Reported exposure to second-hand smoke in own home	12	11	11	6	7	6	6
Unweighted base	*Boys*	*879*	*948*	*842*	*735*	*771*	*819*	*1055*
	Girls	*908*	*891*	*826*	*685*	*790*	*784*	*925*
	All children	*1787*	*1839*	*1668*	*1420*	*1561*	*1603*	*1980*
Weighted base	*Boys*	*914*	*940*	*852*	*725*	*798*	*819*	*1014*
	Girls	*873*	*899*	*816*	*695*	*763*	*784*	*966*
	All children	*1787*	*1839*	*1668*	*1420*	*1561*	*1603*	*1980*

Table 4.5: Use of NRT and other products, 2018, by age and sex

Base: Aged 16 and over ex-smokers or ever attempted to stop smoking

2018

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
NRT use		%	%	%	%	%	%	%	%
Men	Nicotine gum, nicotine patches, nasal spray/nicotine inhaler or lozenge/microtab	[10]	18	33	34	25	31	11	26
	Champix/Valenicline or Zyban/Bupropian	[-]	2	2	10	7	6	-	5
	Electronic cigarette/vaping device	[32]	31	17	19	22	7	5	19
	Not used any of the above	[65]	62	57	48	58	64	89	61
Women	Nicotine gum, nicotine patches, nasal spray/nicotine inhaler or lozenge/microtab	[15]	30	27	36	31	24	25	29
	Champix/Valenicline or Zyban/Bupropian	[-]	3	6	9	6	3	-	5
	Electronic cigarette/vaping device	[32]	17	26	22	13	12	6	18
	Not used any of the above	[60]	58	53	48	58	65	72	58
All adults	Nicotine gum, nicotine patches, nasal spray/nicotine inhaler or lozenge/microtab	12	24	30	35	28	28	18	27
	Champix/Valenicline or Zyban/Bupropian	-	3	4	10	6	5	-	5
	Electronic cigarette/vaping device	32	24	22	20	18	9	5	18
	Not used any of the above	62	60	55	48	58	65	80	59
Unweighted bases	*Men*	*23*	*100*	*102*	*143*	*154*	*157*	*116*	*795*
	Women	*39*	*144*	*162*	*197*	*192*	*191*	*105*	*1030*
	All adults	*62*	*244*	*264*	*340*	*346*	*348*	*221*	*1825*
Weighted bases	*Men*	*43*	*163*	*122*	*163*	*149*	*114*	*81*	*834*
	Women	*46*	*150*	*141*	*184*	*150*	*132*	*89*	*893*
	All adults	*89*	*313*	*263*	*347*	*299*	*247*	*170*	*1727*

Square brackets around numbers denote that interpretation of the data should be cautious due to low bases for these sub-groups

Table 4.6: Use of NRT and other products that helped successful smoking cessation, 2018, by sex

Base: Aged 16 and over ex-smokers or ever attempted to stop smoking and used this product			*2018*
	Men	Women	All adults
NRT products that helped to quit smoking	%	%	%
Nicotine gum, nicotine patches, nasal spray/nicotine inhaler or lozenge/microtab	47	54	51
Unweighted bases	*201*	*293*	*494*
Weighted bases	*209*	*256*	*466*
Champix/Valenicline or Zyban/Bupropian	[66]	69	67
Unweighted bases	*43*	*55*	*98*
Weighted bases	*41*	*43*	*84*
Electronic cigarette/vaping device	63	55	59
Unweighted bases	*134*	*176*	*310*
Weighted bases	*159*	*158*	*317*

Square brackets around numbers denote that interpretation of the data should be cautious due to low bases for these sub-groups

Table 4.7: E-cigarette use, 2014 to 2018, by age and sex

Base: Aged 16 and over *2014 - 2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
E-cigarette use		%	%	%	%	%	%	%	%
Men	**2014**								
	Currently using	5	3	7	5	7	2	1	5
	Ever previously used[a]	17	17	9	11	8	3	2	10
	Never used	78	80	84	84	85	94	96	85
	Ever used[b]	*22*	*20*	*16*	*16*	*15*	*6*	*4*	*15*
	2015								
	Currently using	6	9	6	9	8	3	2	6
	Ever previously used[a]	22	20	13	10	8	4	2	12
	Never used	72	71	81	82	85	93	96	82
	Ever used[b]	*28*	*29*	*19*	*18*	*15*	*7*	*4*	*18*
	2016[c]								
	Currently using	3	11	9	9	9	4	1	7
	Ever previously used[a]	21	19	17	13	11	5	1	13
	Never used	77	70	74	78	80	91	98	79
	Ever used[b]	*23*	*30*	*26*	*22*	*20*	*9*	*2*	*21*
	2017								
	Currently using	5	10	9	11	7	5	1	7
	Ever previously used[a]	20	21	17	10	11	4	1	13
	Never used	76	69	74	79	82	91	99	80
	Ever used[b]	*24*	*31*	*26*	*21*	*18*	*9*	*1*	*20*
	2018								
	Currently using	8	14	8	10	8	3	1	8
	Ever previously used[a]	20	17	11	10	10	7	4	12
	Never used	72	69	81	79	82	90	94	80
	Ever used[b]	*28*	*31*	*19*	*21*	*18*	*10*	*6*	*20*

Continued…

Table 4.7: *- Continued*

Base: Aged 16 and over *2014 - 2018*

E-cigarette use		Age 16-24 %	25-34 %	35-44 %	45-54 %	55-64 %	65-74 %	75+ %	Total %
Women	**2014**								
	Currently using	3	5	7	9	6	3	1	5
	Ever previously used[a]	14	12	12	9	9	5	2	9
	Never used	83	83	81	82	85	92	97	85
	Ever used[b]	*17*	*17*	*19*	*18*	*15*	*8*	*3*	*15*
	2015								
	Currently using	2	7	9	10	9	5	2	7
	Ever previously used[a]	15	16	11	9	8	6	2	10
	Never used	83	77	80	82	83	88	96	83
	Ever used[b]	*17*	*23*	*20*	*18*	*17*	*12*	*4*	*17*
	2016[c]								
	Currently using	5	8	7	10	8	5	2	7
	Ever previously used[a]	16	12	14	12	9	5	3	10
	Never used	79	80	79	78	82	90	95	83
	Ever used[b]	*21*	*20*	*21*	*22*	*18*	*10*	*5*	*17*
	2017								
	Currently using	5	7	8	11	9	6	1	7
	Ever previously used[a]	16	15	13	8	9	6	1	10
	Never used	79	78	79	81	82	88	98	83
	Ever used[b]	*21*	*22*	*21*	*19*	*18*	*12*	*2*	*17*
	2018								
	Currently using	3	6	8	11	4	6	1	6
	Ever previously used[a]	16	15	9	10	8	6	3	10
	Never used	81	79	83	78	88	88	96	84
	Ever used[b]	*19*	*21*	*17*	*22*	*12*	*12*	*4*	*16*

Continued…

Table 4.7: *- Continued*

Base: Aged 16 and over *2014 - 2018*

E-cigarette use		Age 16-24 %	25-34 %	35-44 %	45-54 %	55-64 %	65-74 %	75+ %	Total %
All adults	**2014**								
	Currently using	4	4	7	7	6	3	1	5
	Ever previously used[a]	16	14	11	10	8	4	2	10
	Never used	80	81	82	83	85	93	97	85
	Ever used[b]	*20*	*19*	*18*	*17*	*15*	*7*	*3*	*15*
	2015								
	Currently using	4	8	7	9	8	4	2	7
	Ever previously used[a]	19	18	12	9	8	5	2	11
	Never used	78	74	81	82	84	90	96	83
	Ever used[b]	*22*	*26*	*19*	*18*	*16*	*10*	*4*	*17*
	2016[c]								
	Currently using	4	10	8	10	9	4	1	7
	Ever previously used[a]	18	16	15	13	10	5	2	12
	Never used	78	75	77	78	81	91	96	81
	Ever used[b]	*22*	*25*	*23*	*22*	*19*	*9*	*4*	*19*
	2017								
	Currently using	5	9	8	11	8	6	1	7
	Ever previously used[a]	18	18	15	9	10	5	1	11
	Never used	77	74	77	80	82	89	98	81
	Ever used[b]	*23*	*26*	*23*	*20*	*18*	*11*	*2*	*19*
	2018								
	Currently using	5	10	8	11	6	5	1	7
	Ever previously used[a]	18	16	10	10	9	6	3	11
	Never used	77	74	82	79	85	89	95	82
	Ever used[b]	*23*	*26*	*18*	*21*	*15*	*11*	*5*	*18*

Continued…

Table 4.7: *- Continued*

Base: Aged 16 and over *2014 - 2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
E-cigarette use									
Unweighted bases	*Men 2014*	*192*	*250*	*306*	*361*	*358*	*361*	*227*	*2055*
	Men 2015	*186*	*239*	*312*	*404*	*410*	*399*	*280*	*2230*
	Men 2016	*164*	*211*	*265*	*340*	*359*	*337*	*208*	*1884*
	Men 2017	*129*	*219*	*201*	*242*	*326*	*283*	*189*	*1589*
	Men 2018	*151*	*227*	*278*	*377*	*372*	*393*	*264*	*2062*
	Women 2014	*224*	*337*	*421*	*431*	*437*	*419*	*313*	*2582*
	Women 2015	*203*	*348*	*392*	*486*	*489*	*461*	*361*	*2740*
	Women 2016	*191*	*322*	*347*	*440*	*429*	*400*	*284*	*2413*
	Women 2017	*150*	*287*	*324*	*365*	*384*	*341*	*235*	*2086*
	Women 2018	*196*	*362*	*407*	*472*	*491*	*469*	*324*	*2721*
	All adults 2014	*416*	*587*	*727*	*792*	*795*	*780*	*540*	*4637*
	All adults 2015	*389*	*587*	*704*	*890*	*899*	*860*	*641*	*4970*
	All adults 2016	*355*	*533*	*612*	*780*	*788*	*737*	*492*	*4297*
	All adults 2017	*279*	*506*	*525*	*607*	*710*	*624*	*424*	*3675*
	All adults 2018	*347*	*589*	*685*	*849*	*863*	*862*	*588*	*4783*
Weighted bases	*Men 2014*	*292*	*356*	*357*	*416*	*347*	*264*	*173*	*2205*
	Men 2015	*326*	*381*	*370*	*445*	*375*	*288*	*190*	*2376*
	Men 2016	*277*	*334*	*320*	*378*	*325*	*255*	*167*	*2057*
	Men 2017	*232*	*294*	*270*	*321*	*281*	*221*	*143*	*1762*
	Men 2018	*293*	*386*	*349*	*414*	*372*	*292*	*191*	*2296*
	Women 2014	*305*	*375*	*379*	*441*	*365*	*294*	*253*	*2412*
	Women 2015	*319*	*405*	*397*	*471*	*394*	*321*	*273*	*2580*
	Women 2016	*273*	*348*	*338*	*407*	*340*	*281*	*236*	*2225*
	Women 2017	*222*	*306*	*285*	*345*	*298*	*243*	*201*	*1899*
	Women 2018	*285*	*400*	*366*	*444*	*395*	*320*	*265*	*2475*
	All adults 2014	*597*	*731*	*736*	*857*	*712*	*558*	*426*	*4617*
	All adults 2015	*645*	*786*	*767*	*916*	*770*	*609*	*463*	*4956*
	All adults 2016	*550*	*682*	*658*	*786*	*665*	*536*	*403*	*4281*
	All adults 2017	*453*	*600*	*554*	*666*	*580*	*464*	*344*	*3661*
	All adults 2018	*578*	*786*	*715*	*857*	*767*	*612*	*456*	*4771*

a Excludes those who are currently using

b Includes those who are currently using

c The wording was amended slightly in 2016 to include 'vaping devices'

Table 4.8: Cigarette smoking status 2014/15 combined and 2017/18 combined, by e-cigarette use and sex

Base: Aged 16 and over and current e-cigarette user

		2014/15 combined / 2017/18 combined	
		2014/15	2017/18
Cigarette smoking status		%	%
Men	Never smoked or used to smoke cigarettes occasionally	4	6
	Used to smoke cigarettes regularly	36	53
	Current cigarette smoker[a]	60	41
Women	Never smoked or used to smoke cigarettes occasionally	3	2
	Used to smoke cigarettes regularly	38	54
	Current cigarette smoker[a]	60	44
All adults	Never smoked or used to smoke cigarettes occasionally	3	4
	Used to smoke cigarettes regularly	37	54
	Current cigarette smoker[a]	60	42
Unweighted bases	*Men*	*232*	*267*
	Women	*291*	*318*
	All adults	*523*	*585*
Weighted bases	*Men*	*260*	*317*
	Women	*299*	*282*
	All adults	*558*	*599*

a Current cigarette smoker excludes those who reported only smoking cigars or pipes

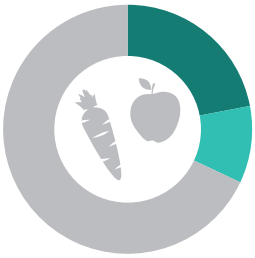
Ex e-cigarette users and those who have never used e-cigarettes have been excluded from this table

Chapter 5

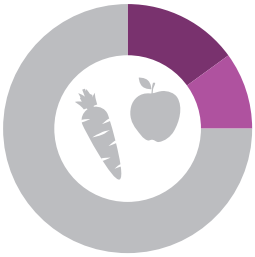
Diet

SUMMARY

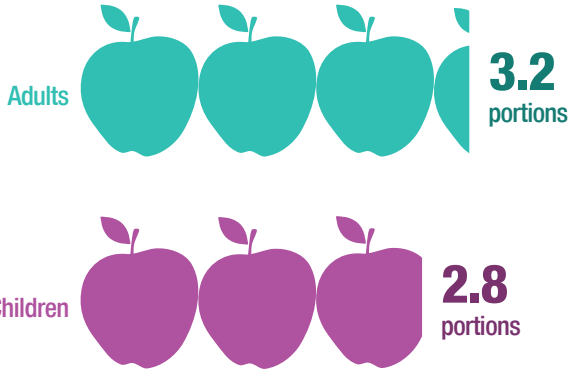
In 2018, **22% of adults** met the 5-a-day recommendation, which is fairly consistent with results since 2003. **10%** did not consume any fruit or vegetables on previous day.



15% of children met the 5-a-day recommendation. **10%** of children did not consume any fruit or vegetables on previous day.

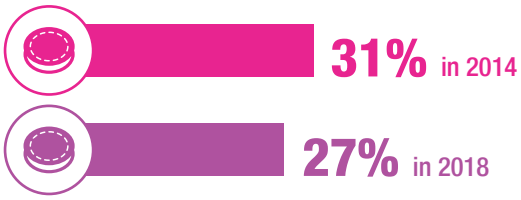


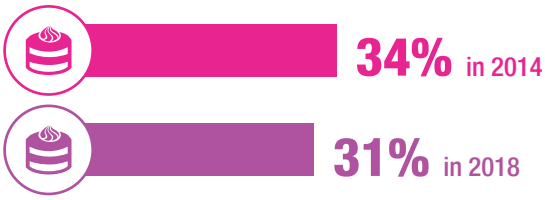
Average consumption of fruit and vegetables has also remained fairly constant since 2008.



- Non-diet soft drink consumption has fallen considerably for both adults and children.
- In 2018, 10% of adults consumed sugary drinks every day, down from 20% in 2016.
- In 2017/2018, 16% of children aged 2-15 consumed non-diet soft drinks daily, down from 35% in 2015/2016 and 38-39% in the years 2008/2009 to 2013/2014.

Adult consumption of biscuits (at least once a day) and of cakes (two or more times a week) has been declining since 2014.

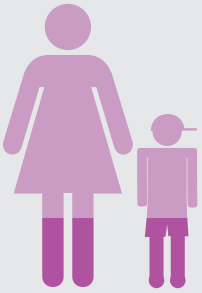




9% of adults experienced food insecurity in 2018 (as defined by being worried during the past 12 months that they would run out of food due to lack of money or resources).

6% of all adults also said they had eaten less than they should for this reason, while 3% of adults said that they had actually run out of food because of a lack of resources.

In 2017/2018 the household types most likely to have experienced food insecurity were single parents and adults below the age of 65 living alone:



25%
of single parents

21%
of adults aged under 65 living alone

- In 2017/2018, 16% of adults in the most deprived areas reported being worried about running out of food, compared with 4% in the least deprived areas.
- In 2017/2018 mental wellbeing was substantially lower for those reporting food insecurity: mean WEMWBS score of 42.2 compared with 50.3 for other adults.

5 DIET

Stephen Hinchliffe

5.1 INTRODUCTION

Globally, poor diet is the second highest risk factor for early death after smoking[1]. In 2017, poor diet accounted for 11 million (one in five) deaths in 195 countries; with diets low in wholegrains and fruits and high in sodium accounting for more than half of these deaths[2]. It was estimated that, in 2015, diets low in fruit and vegetables or high in sugar, processed foods or sodium, directly accounted for 37% of all deaths and just over a quarter of the total global disease burden[3]. International estimates indicate that around a third of cases of cancer[4] and cardiovascular disease[5] worldwide could be prevented by improvements in the nutritional content of diets and overall reductions in body mass[6].

Links between diet, in particular the role of saturated fat and fruit and vegetable intake, and non-communicable diseases such as cancer, cardiovascular disease and Type 2 diabetes are well established[7,8,9,10]. Evidence suggests that vegetable consumption is more important than fruit consumption in reducing the risk of certain types of breast cancer[11,] , stroke[12], and diabetes[13], while fruit consumption is more strongly associated with reducing the risk of coronary heart disease in women[6] and oesophagal and stomach cancers[14].

Other dietary factors, including the potentially positive effects of fibre and wholegrains[15,] , oily fish intake[16,17,18] and antioxidant vitamins[19] have been studied in relation to cancer, cardiovascular disease, rheumatoid arthritis and cognitive decline in later life. Folates have been shown to have a role in the prevention of neural tube defects[20]; vitamin D and calcium are determinants of bone health[21]; salt intake is linked to increased risk of hypertension[22]; and the consumption of red or processed meat is linked to bowel cancer [23,24] and increased risk of cardiovascular disease and cancer mortality[25]. Sugar is well established as a major cause of tooth decay[26] and free sugars (or added sugars) have been linked to the development of obesity and Type 2 diabetes[27,28]. In children and young people aged 11-18, sugary drinks have been identified as the key contributor to total sugar intake[29].

The full extent of the economic burden of poor diet is difficult to ascertain[30]. However the economic impact on the NHS is apparent. Treatment of cardiovascular disease (including hypertension), cancer, Type 2 diabetes and tooth decay represent significant costs to the health service. The most recent evidence suggests that unhealthy diet had an economic burden of £5.8 billion in 2006-07; a greater burden on the NHS than smoking, alcohol consumption, overweight and obesity or physical inactivity[31].

This chapter presents data on household food insecurity in Scotland for the second consecutive year. A widely accepted definition of household food insecurity is: '*the inability to acquire or consume an adequate quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so*'[32]. Household food insecurity ranges from worrying about running out of food to running out of food and going entire days without

eating due to lack of money or other resources. A 2018 report by the Food and Agriculture Organisation estimated that 2.2 million people in the UK were living in severely food insecure households based on averaged data from 2015 to 2017[33].

Evidence from the US and Canada suggests that food insecurity is associated with poorer diet and health and wellbeing. Household food insecurity is associated with higher fat intake[34] and inadequate intakes of fruits and vegetables[35]. Household food insecurity has also been linked with a range of negative health outcomes across the life cycle. For children, these include low birth weight and some birth defects, compromised development, cognitive problems, anxiety and depression and increased risk of chronic conditions[36]. Adults living in food insecure households are more likely to experience poorer mental health and chronic health conditions, such as diabetes, hypertension, arthritis and heart disease[37,38 39].

5.1.1 Policy background

In Scotland there is wide recognition at national policy level that excessive consumption of foods high in fat, sugar and salt and low consumption of fibre, fruit and vegetables and other healthy foods has wide-ranging consequences for the health of the nation.

The **Scottish Dietary Goals,** revised in 2016[40], provide the basis for a healthy balanced diet, The Goals decribe, in nutritional terms, the diet that will improve and support the health of the Scottish population and include:

- The World Health Organisation 5-a-day recommendation for adults (to consume at least five varied 80g portions of fruit and vegetables per day).
- To reduce salt intake from around 9g to 6g per day for adults.
- To reduce average calorie intake by 120 kcal per day and average intake of red meat to 70g per day.
- To provide advice on limiting fat and sugar intake and increasing consumption of fibre and oil-rich fish.
- To reduce the average intake of free sugars to 5% of total dietary energy.
- To increase intake of dietary fibre to 30g per day for adults.
- To maintain intakes of starchy carbohydrates at 50% of total dietary energy.

The **Eatwell Guide**, published in 2016, updated UK advice on healthy eating to illustrate the proportions and types of foods from major food groups which make up a healthy diet[41]. Following recommendations from the Scientific Advisory Committee on Nutrition (SACN), Scottish Government advice on vitamin D for all age groups has also been updated[42].

The Scottish Government published **A Healthier Future: Scotland's Diet and Healthy Weight Delivery Plan**[43] in July 2018. The delivery

plan set out an ambition to halve child obesity by 2030 and significantly reduce diet-related health inequalities. It sets out a wide range of actions aimed at ensuring:

- Children have the best start in life – they eat well and have a healthy weight.
- The food environment supports healthy choices.
- People have access to effective weight management services.
- Leaders across all sectors promote healthy weight and diet.
- Diet related inequalities are reduced.

Following commitments in the delivery plan and 2018/19 Programme for Government, the Scottish Government has consulted on **restricting the promotion and marketing of foods high in fat, sugar or salt (HFSS)** with little nutritional value where they are being sold.

To encourage manufacturers to reduce the sugar content of their drinks, in 2016 the UK Government introduced a UK wide **soft drinks industry levy**[44] to be paid by producers and importers of soft drinks that contain added sugar in April 2018[45]. Since its introduction, over 50% of manufacturers have reduced the sugar content of their drinks, the equivalent of 45 million kg of sugar every year[46].

A consultation to end the sale of **energy drinks** to children was published by the UK Government in August 2018 with options to restrict sales to those under the age of 16 or 18 being considered. The Scottish Government has committed to a similar consultation in 2019 but has already taken steps to restrict sales of energy drinks in hospitals to those under the age of 16.

In March 2017, Public Health England (PHE) published guidelines for its **Sugar Reduction Programme**[47]**.** The programme, which applies across the UK, set a voluntary target to reduce the level of sugar in the categories that contribute most to the intakes of children up to 18 years by 20% by 2020. In **Sugar Reduction: Report on First Year Progress**[48] a 2% reduction in the first year for retailers' own brand and manufacturer branded products (against a target of 5%) was reported and a reduction in sugar levels in 5 out of the 8 food categories measured. The latest progress update in Spring 2019 sets out plans to produce a second year progress report later in 2019[49].

PHE's calorie reduction programme[50] was published in March 2018. The UK wide programme challenges the food industry to achieve a 20% reduction in calories by 2024 in product categories that contribute significantly to children's calorie intakes (up to the age of 18 years) and where there is scope for substantial reformulation and/or portion size reduction. It does not cover foods included in the sugar reduction programme.

The Scottish Government committed to monitoring household food insecurity in 2016, following recommendations from an **Independent**

Working Group on Food Poverty[51]. The Independent working group was established in response to food bank data evidencing a significant increase in people seeking their support. The data on household food insecurity obtained in the Scottish Health survey informs progress towards the 'zero hunger' indicator in the National Performance Framework, in line with Goal 2 of the UN Sustainable Development Goals. Work to tackle food insecurity is underpinned by the Scottish Government's £3.5 million **Fair Food Fund** which supports dignified responses to food insecurity that help to tackle the causes of poverty.

5.1.2 Reporting on diet in the Scottish Health Survey (SHeS)

This chapter provides information on fruit and vegetable consumption and other eating habits among adults and children from 2003 to 2018. Figures on food insecurity for adults are also provided for 2017-18 and explored in relation to dietary intake and mental health.

The area deprivation data are presented in Scottish Index of Multiple Deprivation (SIMD) quintiles. Where appropriate, to ensure that comparisons are not confounded by different age profiles within categories, data have been age-standardised. Readers should refer to the glossary at the end of this volume for a detailed description of SIMD and age-standardisation.

Supplementary tables on diet are also published on the Scottish Health Survey website[52].

5.2 METHODS AND DEFINITIONS

5.2.1 Measuring fruit and vegetable consumption

The module of questions on fruit and vegetable consumption was designed with the aim of providing sufficient detail to monitor population-level adherence to the 5-a-day recommendation. These questions have been asked of all adults (aged 16 and over) participating in the survey since 2003 and of children aged 2 to 15 since 2008.

The module includes questions on consumption of the following food types in the 24 hours to midnight preceding the interview:

- vegetables (fresh, frozen or canned);
- salads;
- pulses;
- vegetables in composites (e.g. vegetable chilli);
- fruit (fresh, frozen or canned);
- dried fruit;
- fruit in composites (e.g. apple pie);
- fresh fruit juice.

A portion is defined as the conventional 80g of a fruit or vegetable. Since 80g is difficult to visualise, survey respondents were asked to describe the amount of each fruit or vegetable they consumed using more everyday terms, such as tablespoons, cereal bowls and slices. These everyday measures were then converted to 80g portions prior to analysis. Examples are given in the questionnaire to aid the recall process, for instance, tablespoons of vegetables, cereal bowls full of salad, pieces of medium sized fruit (e.g. apples) or handfuls of small fruits (e.g. raspberries). In spite of this, there may be some variation between participants' interpretation of how much they consumed. The following table shows the definitions of the portion sizes used for each food item included in the survey:

Food item	Portion size
Vegetables (fresh, frozen or canned)	3 tablespoons
Pulses (dried)	3 tablespoons
Salad	1 cereal bowlful
Vegetables in composites, such as vegetable chilli	3 tablespoons
Very large fruit, such as melon	1 average slice
Large fruit, such as grapefruit	Half a fruit
Medium fruit, such as apples	1 fruit
Small fruit, such as plums	2 fruits
Very small fruit, such as blackberries	2 average handfuls
Dried fruit	1 tablespoon
Fruit in composites, such as stewed fruit in apple pie	3 tablespoons
Frozen fruit/canned fruit	3 tablespoons
Fruit juice	1 small glass (150 ml)

Since the 5-a-day recommendation stresses both volume and variety, the number of portions of fruit juice, pulses and dried fruit is capped so that no more than one portion of each can contribute to the total number of portions consumed. Interviewers record full or half portions, but nothing smaller.

5.2.2 Food Insecurity

Three priority questions from the UN Food Insecurity Experience Scale were included in the 2017 Scottish Health Survey for the first time and have been continued in 2018. The questions are:

During the last 12 months, was there a time when:

You were worried you would run out of food because of a lack of money or other resources?

You ate less than you thought you should because of a lack of money or other resources?

Your household ran out of food because of lack of money or other resources?

In keeping with the administration procedure for the whole scale, the questions are filtered in the survey (with the second and third questions

only being asked if the previous is answered 'yes'). Due to their sensitivity, these questions are asked in the adult and young adult self-complete questionnaires.

5.3 FRUIT AND VEGETABLE CONSUMPTION

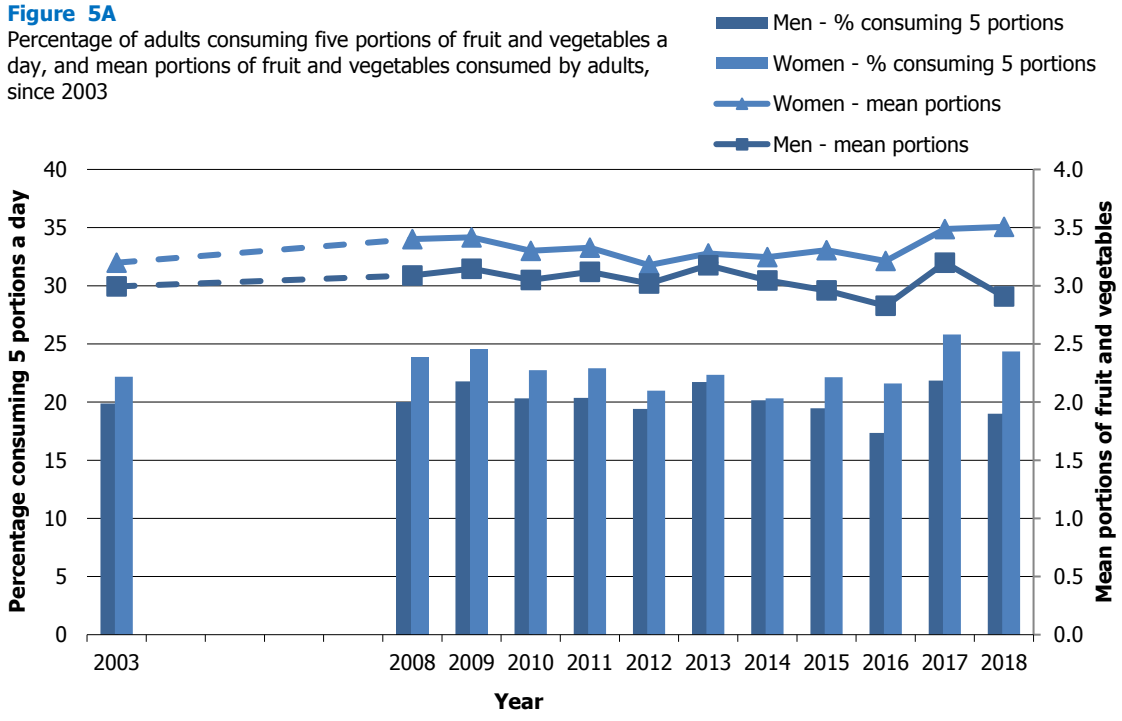
5.3.1 Trends in adult fruit and vegetable consumption since 2003

In 2018, 22% of adults met the five-a-day recommendation for consumption of fruit and vegetables. This figure has remained fairly constant since 2003, with only a small amount of variation over the years (between 20% and 24%).

Women were significantly more likely to consume the recommended amount of fruit and vegetables than men in 2018 (24%, compared with 19% of men), a difference that has been evident in most years since 2003.

When looking at other measures of fruit and vegetable consumption, the same patterns can be seen. In 2018, adults consumed an average of 3.2 portions of fruit and vegetables a day, a figure which has varied very little since 2003, while 10% of adults consumed no fruit and vegetables on a typical day[53], a figure which has also not changed much over the intervening years. Mean fruit and vegetable consumption was higher for women than men (3.5 portions a day for women compared to 2.9 portions for men), and a higher proportion of men than women consumed no fruit or vegetables on a typical day (12% and 8% respectively). Again, these differences were present in most of the survey years since 2003. **Figure 5A, Table 5.1**

Figure 5A
Percentage of adults consuming five portions of fruit and vegetables a day, and mean portions of fruit and vegetables consumed by adults, since 2003



5.3.2 Adult fruit and vegetable consumption in 2018, by age and sex

While women tended to consume more fruit and vegetables a day than men in 2018 (a mean of 3.5 portions, compared with a mean of 2.9 for men), there was little variation by age. For all age groups, mean consumption lay between 3.0 and 3.4 portions a day.

There was, however, a difference in the pattern of consumption for men and women by age. While women aged 75 and over tended to eat less fruit and vegetables than younger women (a mean of 3.0 portions, compared with means of between 3.4 and 3.7 for the other age groups), for men, lowest levels of consumption were in the youngest age group (2.5 portions a day for men aged 16 to 24) and highest for those aged 55 and over (an average of between 3.1 and 3.2 portions a day).

Patterns in the proportion meeting the five-a-day recommendation were similar to those described above for mean consumption. However, those aged 65 and over were more likely to consume at least some fruit or vegetables in a day than those in younger age groups (93% of those aged 65 and over, compared with 87-90% of those aged under 65).

Table 5.2

5.3.3 Trends in child fruit and vegetable consumption since 2008

In 2018, 15% of children aged 2-15 met the five-a-day recommendation for consumption of fruit and vegetables. Boys and girls were equally likely to meet the recommendations, with 15% of girls and 16% of boys having done so. These figures show little variation over time, with figures for all children lying between 12% and 15% each year since 2008.

The same lack of change over time can be seen for mean consumption and for the proportion eating no fruit and vegetables. Mean consumption in 2018 was 2.8 portions for both boys and girls. Mean consumption for all children aged 2-15 has been between 2.6 portions and 2.9 portions a day for all years since 2008.

Similarly, the proportion of children consuming no fruit and vegetables has remained fairly constant since 2008. In 2018, 10% of children aged 2-15 (11% of boys and 9% of girls) consumed no fruit or vegetables on a typical day.

Table 5.3

5.4 SUMMARY OF EATING HABITS

5.4.1 Trends in adult eating habits since 2008

The most notable change in adult eating habits in 2018 was in the proportion of adults consuming non-diet soft drinks at least once a day, see Figure 5B. This fell from 20% in 2016, and between 23% and 27% in the years 2008 to 2014, to just 10% in 2018. Both men and women reduced their consumption of non-diet soft drinks. The proportion of men consuming these at least once a day fell from 23% in 2016

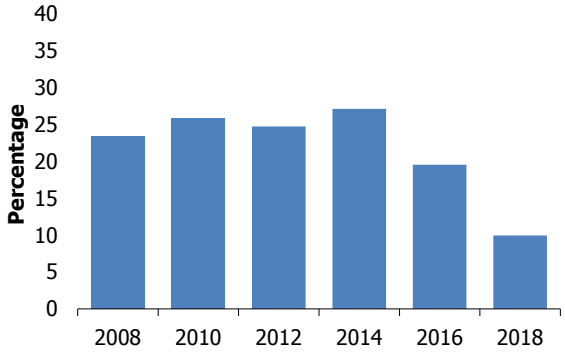
(between 26% and 30% in the years 2008 to 2014) to 12% in 2018. The proportion of women consuming such drinks fell from 17% in 2016 (21% to 24% in the years 2008 to 2014) to 8% in 2018.

To a lesser extent, there has also been some reduction in the consumption of other sugary products. Frequent consumption of both biscuits and cakes was exhibited by a smaller proportion of adults in 2018 than in the years 2008 to 2014, continuing a downward trend started in 2016. In 2018, 27% of adults consumed biscuits once a day or more, compared with between 31% and 34% of adults in the years 2008 to 2014. Similarly, in 2018, 31% of adults consumed cakes at least twice a week, compared with between 34% and 36% in the years 2008 to 2014.

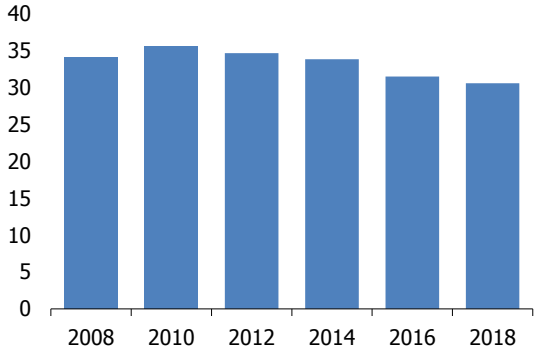
One other positive change, consolidating the position identified in 2016, was in the consumption of oily fish. In 2018, 31% of adults consumed oily fish at least twice a week (32% in 2016), compared with 24% to 26% in the years 2008 to 2014.

Figure 5B

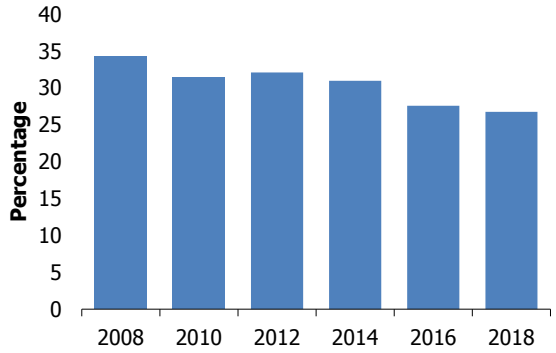
Adult consumption of non-diet soft drinks once a day or more often, 2008 to 2018



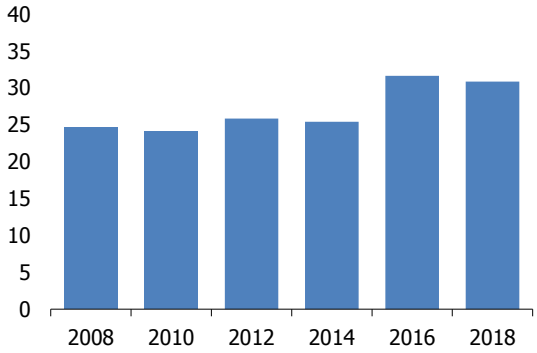
Adult consumption of cakes twice a week or more often, 2008 to 2018



Adult consumption of biscuits once a day or more often, 2008 to 2018



Adult consumption of oily fish twice a week or more often, 2008 to 2018



In 2018, women tended to exhibit better diets than men. Women were significantly more likely than men to frequently eat oily fish at least once a week (33% of women, compared with 29% of men) and tuna fish at least once a week (30% of women, compared with 24% of men). Men were more likely to eat red meat at least twice a week (62% of men, compared with 49% of women), meat products (such as sausages,

meat pies, bridies, corned beef or burgers) at least twice a week (39% of men, compared with 21% of women), biscuits at least once a day (29% of men, compared with 25% of women), cakes at least twice a week (32% of men, compared with 29% of women), ice cream at least once a week (30% of men, compared with 26% of women), non-diet soft drinks at least once a day (12% of men, compared with 8% of women) and chips at least twice a week (38% of men, compared with 26% of women). All of these differences were evident in at least some, if not all, of the preceding survey years[54]. **Figure 5B, Table 5.4**

5.4.2 Trends in child eating habits since 2008

Changes in child eating habits reflected the changes described above in adult eating habits. The largest change was in the consumption of non-diet soft drinks, with the proportion of children aged 2-15 consuming such drinks at least once a day falling from 35% in 2015/16 (between 38% and 39% in the years 2008/09 to 2013/14) to 16% in 2017/18. Large drops in consumption were evident for both boys and girls, with 18% of boys and 15% of girls consuming non-diet drinks every day in 2017/18, down from 35% for both in 2015/16.

Consumption of biscuits at least once a day also fell, from 32% in 2015/16 (and 42% in 2008/09) to 28% in 2017/18. Consumption of oily fish once a week or more rose from 13% in 2008/09 and 16% in 2015/16 to 19% in 2017/18. Consumption of high-fibre bread at least two slices of such bread a day fell from 35% in 2008/09 and 32% in 2015/16 to 28% in 2017/18.

A higher proportion of boys than girls ate white fish at least once a week (55% of boys, compared with 49% of girls), while a higher proportion of girls ate tuna fish at least once a week (29% of girls, compared with 24% of boys). Boys were also more likely than girls to eat meat products (such as sausages, meat pies, bridies, corned beef or burgers) at least twice a week (41% of boys, compared with 36% of girls) and biscuits every day (30% of boys, compared with 27% of girls). Girls were more likely to drink skimmed or semi-skimmed milk (58% of girls, compared with 53% of boys) and to eat ice cream at least once a week (53% of girls, compared with 48% of boys). **Table 5.5**

5.5 FOOD INSECURITY

5.5.1 Adult food insecurity in 2017 and 2018, by age and sex

Questions on food insecurity were introduced into the Scottish Health Survey in 2017. Levels of food insecurity in 2018 were similar to those discussed in the 2017 report.[55] In 2018, 9% of adults reported that they had been worried they would run out of food at some time during the previous 12 months due to a lack of money or other resources. The majority of these individuals, 6% of all adults, went on to say that they had actually eaten less than they should because of a lack of resources, while 3% said that they had run out of food during the previous 12 months for this reason. Levels of food insecurity did not

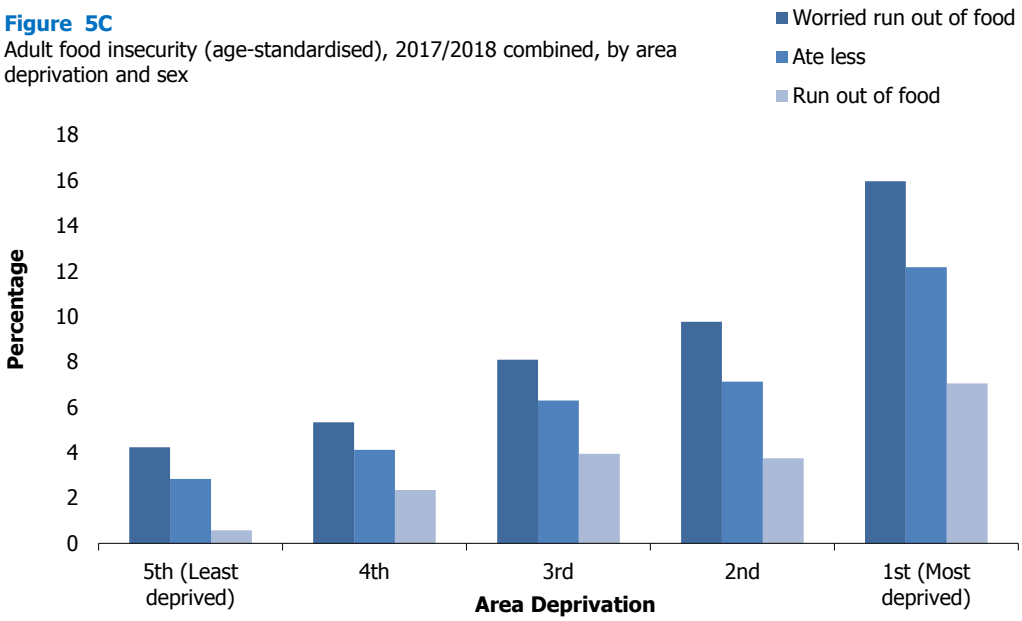
differ between men and women, with figures for both sexes being the same on all three measures.

Food insecurity was much more common among those under the age of 65 than among older adults: 12% of those aged 16-44 and 9% of those aged 45-64 were worried they would run out of food, compared with just 2% of those aged 65 or over. Similarly, 9% of those aged 16-44 and 6% of those age 45-64 had eaten less than they should because of a lack of money or other resources, compared with 1% of those aged 65 or over, while 4% of those aged 16-44 and 3% of those aged 45-64 had actually run out of food, compared with less than 1% of those age 65 or above. **Table 5.6**

5.5.2 Adult food insecurity (age-standardised) in 2017/2018 combined, by area deprivation and sex

In 2017/2018, there was a clear pattern of increasing levels of food insecurity with increasing levels of deprivation. In the most deprived areas, 16% of adults (using age-standardised figures) had been worried they would run out of food because of a lack of money or other resources in the previous 12 months, while 12% said that they had eaten less than they should and 7% that they had actually run out of food for this reason. In the least deprived areas these figures were around a quarter of those levels: 4% had been worried about running out of food, 3% had eaten less than they should, and 1% had run out of food. **Figure 5C, Table 5.7**

Figure 5C
Adult food insecurity (age-standardised), 2017/2018 combined, by area deprivation and sex



5.5.3 Adult food insecurity in 2017/2018 combined, by household type

In addition to the pattern of food deprivation according to levels of deprivation described above, there were some large differences according to household type. In 2017/2018, a quarter (25%) of single parents (mostly single mothers) reported that they had been worried they would run out of food in the previous 12 months due to a lack of

resources. Over three-quarters of these (21% of all single parents) went on to say that they had eaten less than they should, and around half of them (13% of all single parents) said they had actually run out of food due to a lack of resources.

Similarly high levels of food insecurity were seen among both men and women under the age of 65 living alone. One in five (21%) of those below this age living alone were worried they would run out of food (23% of men and 18% of women). The large majority of these (17% of all adults aged under 65 living alone) had eaten less than they should, and more than half of them (12% of all single adults under 65) had actually run out of food.

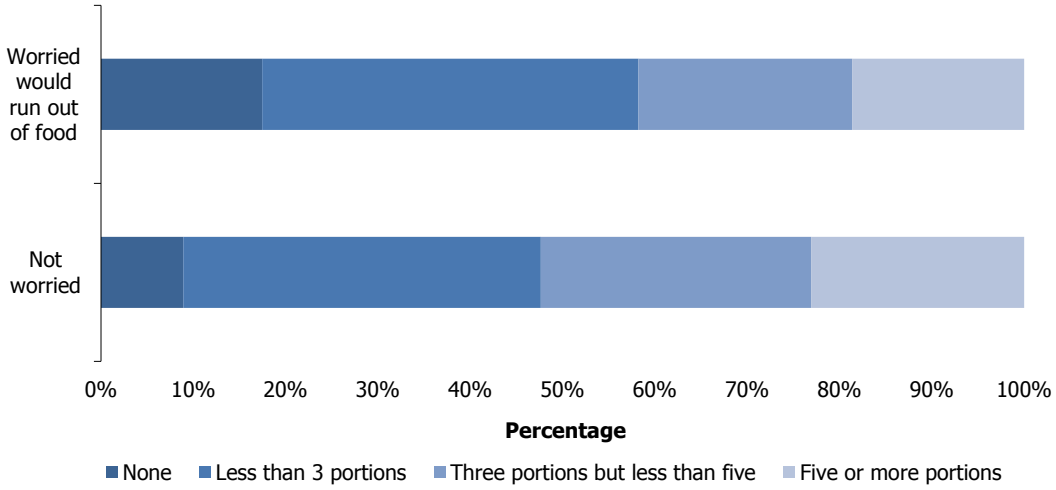
While not as prevalent as for single adults and single parents, food insecurity was still evident among other household types. Of adult members of large families (two adults and three or more children, or three or more adults and at least one child), 12% had been worried about running out of food because of a lack of resources. Similarly, 9% of adults in small adult households (comprising two adults under the age of 65 and no children), and 8% of adults in small family households (comprising two adults and one or two children) had been worried about running out of food. Levels were lower, at 5%, for adults in large adult households (three or more adults and no one under the age of 16), but lowest of all for people in households made up of older adults (2% for both single older adult households (one adult aged 65 or over), and for adults in households with older smaller families comprising two adults only, at least one of whom is aged 65 or over).

Eating less food and actually running out of food followed the same pattern by household type as described above, albeit at lower levels. While 12% of single adults and 13% of single parents had actually run out of food because of a lack of money or other resources, no more than 4% of any of the other household type had done so. **Table 5.8**

5.5.4 Fruit and vegetable consumption, (age-standardised) in 2017/2018 combined, by adult food insecurity

There was an association between fruit and vegetable consumption and experience of food insecurity. This appeared to be driven by a higher proportion of those reporting food insecurity eating no fruit or vegetables, rather than lower fruit and vegetable consumption for all of those experiencing food insecurity. The age-standardised proportion of those who said they had been worried about running out of food in the previous 12 months because of a lack of resources and who ate the recommended five portions a day was not significantly different from that of the rest of the adult population (19% and 23% respectively). However, the proportion of this group who ate no fruit or vegetables on a given day was significantly higher than for the rest of the adult population (17%, compared with 9%).

Figure 5D
Adult consumption of fruit and vegetables (age-standardised), 2017/2018 combined, by whether worried would run out of food because of a lack of resources



The mean proportion of fruit and vegetable consumption was lower for those who said they had been worried they would run out of food than for the rest of the adult population. Age-standardised mean consumption among this group was 2.9 portions a day, compared with 3.3 portions for the rest of the population. The same pattern was evident for both men and women, albeit with men consuming fewer portions than women, whether experiencing food insecurity or not. Men who said they were worried they would run out of food consumed an average of 2.5 portions a day, compared with 3.1 for other men, while women who were worried about running out of food consumed an average of 3.2 portions, compared with 3.6 for other women.

Similar figures can be seen when looking at fruit and vegetable consumption according to the other measures of food insecurity. The age-standardised proportion of those who said they ate less than they should because of a lack of money or other resources who consumed the recommended five portions of fruit and vegetables a day was 17% compared to 23% for other adults, though the difference wasn't significant. The difference in the proportions consuming no fruit or vegetables was much more obvious; 18% of those who said they had eaten less than they should consumed no fruit or vegetables the previous day, compared with 9% of other adults. The mean number of portions of fruit and vegetables per day (age-standardised) consumed by those who said they had eaten less than they should was 2.8 compared to 3.3 for the rest of the population.

Of those who said they actually ran out of food, the age-standardised proportion who consumed five portions of fruit and vegetables was 21%, again not significantly different from the 23% consumed by other adults. The age-standardised proportion of those who ran out of food who consumed no fruit and vegetables was 22%, compared with 9% for other adults. Age-standardised mean number of portions were not significantly different for these two groups. **Figure 5D, Table 5.9**

5.5.5 Adult WEMWBS mean score, (age-standardised) in 2017/2018 combined, by food insecurity

Adults who were worried they would run out of food because of a lack of money or other resources had considerably lower mental wellbeing than other adults in 2017/2018. Age-standardised mean scores on the WEMWBS scale (see Chapter 1 for more details) averaged at 42.2 for those who said they had been worried about running out of food for the above reasons in the previous 12 months, compared with an average of 50.3 for other adults. Scores were similar for both men and women, with means of 42.0 for men and 42.3 for women who said they had been worried about running out of food, compared with scores of 50.2 for other men and 50.3 for other women.

The findings were similar for the other two measures of food insecurity. Using age-standardised figures, the mean WEMWBS score for those who said they had eaten less than they should was 41.6, compared with 50.1 for other adults. The mean score for those who said they had actually run out of food was 40.8, compared with 49.9 for other adults. Figures were similar for both men and women. **Table 5.10**

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Table list

Table 5.1: Adult fruit and vegetable consumption, 2003 to 2018

Base: Aged 16 and over *2003 - 2018*

		2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Portions per day		%	%	%	%	%	%	%	%	%	%	%	%
Men	None	11	10	11	12	10	11	11	12	13	14	11	12
	Less than 1 portion	5	5	5	4	3	5	4	4	5	5	4	6
	1 portion or more but less than 2	20	20	18	19	19	21	18	19	18	20	18	20
	2 portions or more but less than 3	18	18	17	18	19	18	17	20	17	19	16	17
	3 portions or more but less than 4	15	15	16	16	16	15	16	13	16	15	17	16
	4 portions or more but less than 5	11	11	12	12	12	11	12	12	10	10	12	10
	5 portions or more	20	20	22	20	20	19	22	20	19	17	22	19
	Mean	3.0	3.1	3.1	3.1	3.1	3.0	3.2	3.0	3.0	2.8	3.2	2.9
	SE of the mean	0.06	0.07	0.05	0.06	0.05	0.08	0.07	0.07	0.07	0.07	0.09	0.07
	Standard deviation	2.47	2.60	2.45	2.45	2.40	2.43	2.44	2.49	2.48	2.37	2.50	2.51
	Median	2.7	2.7	2.8	2.7	2.7	2.7	3.0	2.5	2.5	2.3	3.0	2.5
Women	None	8	7	7	9	8	9	8	9	9	9	9	8
	Less than 1 portion	5	5	4	4	4	4	5	4	4	7	4	4
	1 portion or more but less than 2	19	17	17	17	18	18	17	18	17	17	15	17
	2 portions or more but less than 3	17	18	18	17	17	20	19	19	18	18	17	17
	3 portions or more but less than 4	16	16	17	18	17	17	17	17	16	16	16	16
	4 portions or more but less than 5	12	14	12	13	13	12	12	13	14	12	13	14
	5 portions or more	22	24	25	23	23	21	22	20	22	22	26	24
	Mean	3.2	3.4	3.4	3.3	3.3	3.2	3.3	3.2	3.3	3.2	3.5	3.5
	SE of the mean	0.05	0.06	0.05	0.05	0.05	0.05	0.06	0.07	0.07	0.07	0.07	0.07
	Standard deviation	2.42	2.50	2.48	2.44	2.41	2.33	2.36	2.55	2.48	2.54	2.57	2.80
	Median	3.0	3.0	3.0	3.0	3.0	2.8	3.0	3.0	3.0	2.7	3.2	3.0

Continued…

Table 5.1: *- Continued*

Base: Aged 16 and over *2003 - 2018*

Portions per day		2003 %	2008 %	2009 %	2010 %	2011 %	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %
All adults	None	9	9	9	10	9	10	9	10	11	12	10	10
	Less than 1 portion	5	5	5	4	4	4	4	4	5	6	4	5
	1 portion or more but less than 2	20	18	17	18	18	19	17	18	17	18	17	19
	2 portions or more but less than 3	18	18	18	17	18	19	18	19	18	18	16	17
	3 portions or more but less than 4	16	16	16	17	17	16	17	15	16	15	17	16
	4 portions or more but less than 5	11	12	12	12	13	11	12	12	12	11	12	12
	5 portions or more	21	22	23	22	22	20	22	20	21	20	24	22
	Mean	3.1	3.3	3.3	3.2	3.2	3.1	3.2	3.1	3.1	3.0	3.3	3.2
	SE of the mean	0.05	0.05	0.04	0.04	0.04	0.05	0.05	0.06	0.06	0.06	0.06	0.06
	Standard deviation	2.45	2.55	2.47	2.45	2.41	2.38	2.40	2.52	2.49	2.47	2.54	2.68
	Median	2.7	3.0	3.0	3.0	3.0	2.7	3.0	2.7	2.7	2.7	3.0	2.8
Unweighted bases	*Men*	*3590*	*2840*	*3283*	*3112*	*3275*	*2126*	*2138*	*2066*	*2244*	*1892*	*1597*	*2074*
	Women	*4526*	*3621*	*4241*	*4127*	*4260*	*2686*	*2754*	*2589*	*2750*	*2427*	*2099*	*2733*
	All adults	*8116*	*6461*	*7524*	*7239*	*7535*	*4812*	*4892*	*4655*	*4994*	*4319*	*3696*	*4807*
Weighted bases	*Men*	*3834*	*3087*	*3594*	*3465*	*3606*	*2309*	*2343*	*2234*	*2395*	*2073*	*1776*	*2315*
	Women	*4281*	*3375*	*3926*	*3775*	*3931*	*2502*	*2547*	*2420*	*2597*	*2244*	*1919*	*2491*
	All adults	*8115*	*6462*	*7520*	*7239*	*7537*	*4811*	*4890*	*4654*	*4992*	*4316*	*3696*	*4806*

Table 5.2: Adult fruit and vegetable consumption, 2018, by age and sex

Base: Aged 16 and over *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Portions per day		%	%	%	%	%	%	%	%
Men	None	15	13	13	15	12	8	8	12
	Less than 1 portion	9	5	4	6	4	6	6	6
	1 portion or more but less than 2	28	19	22	20	18	19	15	20
	2 portions or more but less than 3	14	17	21	16	17	16	16	17
	3 portions or more but less than 4	9	21	14	13	17	20	20	16
	4 portions or more but less than 5	7	6	12	12	11	9	14	10
	5 portions or more	18	18	15	19	21	23	21	19
	Mean	2.5	2.9	2.8	2.8	3.2	3.1	3.2	2.9
	SE of the mean	0.25	0.18	0.14	0.14	0.17	0.12	0.14	0.07
	Standard deviation	2.82	2.75	2.26	2.40	2.71	2.21	2.09	2.51
	Median	1.7	2.7	2.2	2.4	2.8	3.0	3.0	2.5
Women	None	12	9	10	9	7	6	6	8
	Less than 1 portion	6	2	4	3	3	5	5	4
	1 portion or more but less than 2	15	18	16	19	14	17	18	17
	2 portions or more but less than 3	16	15	15	19	15	18	20	17
	3 portions or more but less than 4	15	16	14	13	19	15	22	16
	4 portions or more but less than 5	11	13	12	15	16	15	13	14
	5 portions or more	25	26	29	23	26	24	16	24
	Mean	3.5	3.7	3.6	3.4	3.7	3.5	3.0	3.5
	SE of the mean	0.33	0.19	0.17	0.15	0.13	0.13	0.12	0.07
	Standard deviation	3.65	3.02	2.83	2.69	2.62	2.51	1.88	2.80
	Median	3.0	3.0	3.0	3.0	3.5	3.0	3.0	3.0

Continued…

Table 5.2: *- Continued*

Base: Aged 16 and over *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Portions per day		%	%	%	%	%	%	%	%
All adults	None	13	11	11	12	10	7	7	10
	Less than 1 portion	8	4	4	4	4	6	5	5
	1 portion or more but less than 2	22	19	19	19	16	18	17	19
	2 portions or more but less than 3	15	16	18	17	16	17	19	17
	3 portions or more but less than 4	12	18	14	13	18	18	21	16
	4 portions or more but less than 5	9	10	12	13	13	12	13	12
	5 portions or more	21	22	22	21	23	23	18	22
	Mean	3.0	3.3	3.2	3.1	3.4	3.3	3.1	3.2
	SE of the mean	0.26	0.15	0.12	0.11	0.12	0.10	0.10	0.06
	Standard deviation	3.29	2.92	2.60	2.57	2.68	2.37	1.97	2.68
	Median	2.0	3.0	2.7	2.7	3.0	3.0	3.0	2.8
Unweighted bases	*Men*	*158*	*228*	*280*	*378*	*373*	*393*	*264*	*2074*
	Women	*205*	*362*	*408*	*473*	*492*	*469*	*324*	*2733*
	All adults	*363*	*590*	*688*	*851*	*865*	*862*	*588*	*4807*
Weighted bases	*Men*	*307*	*388*	*350*	*414*	*374*	*292*	*191*	*2315*
	Women	*298*	*400*	*368*	*445*	*396*	*320*	*265*	*2491*
	All adults	*604*	*788*	*718*	*859*	*769*	*612*	*456*	*4806*

Table 5.3: Child fruit and vegetable consumption, 2008 to 2018

Base: Aged 2-15 *2008 - 2018*

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Portions per day		%	%	%	%	%	%	%	%	%	%	%
Boys	None	11	9	11	10	12	11	10	9	10	10	11
	Less than 1 portion	4	5	5	4	6	6	5	6	4	6	5
	1 portion or more but less than 2	21	22	22	22	22	21	23	22	23	20	24
	2 portions or more but less than 3	23	23	21	20	23	21	22	21	22	21	16
	3 portions or more but less than 4	16	17	18	19	17	17	15	20	17	17	17
	4 portions or more but less than 5	11	11	10	12	9	11	11	12	12	11	12
	5 portions or more	14	14	12	13	12	13	13	12	11	15	16
	Mean	2.7	2.7	2.6	2.7	2.5	2.7	2.7	2.7	2.7	2.8	2.8
	SE of the mean	0.09	0.06	0.09	0.08	0.09	0.09	0.11	0.09	0.08	0.11	0.09
	Standard deviation	2.03	1.91	1.99	1.91	1.97	2.03	2.17	1.96	1.97	2.29	2.23
	Median	2.3	2.3	2.3	2.5	2.2	2.3	2.3	2.3	2.3	2.5	2.5
Girls	None	8	9	10	9	9	10	9	5	8	9	9
	Less than 1 portion	4	5	5	5	2	4	4	6	5	6	5
	1 portion or more but less than 2	17	21	19	22	19	20	21	21	19	17	20
	2 portions or more but less than 3	25	18	25	21	23	21	22	24	22	21	24
	3 portions or more but less than 4	21	17	17	18	18	21	19	20	20	20	16
	4 portions or more but less than 5	11	14	12	14	15	11	12	11	11	11	11
	5 portions or more	13	16	13	12	14	13	14	13	15	16	15
	Mean	2.9	2.9	2.7	2.8	2.9	2.8	2.8	2.8	2.9	2.9	2.8
	SE of the mean	0.09	0.08	0.08	0.08	0.09	0.09	0.10	0.10	0.09	0.10	0.10
	Standard deviation	2.07	2.04	1.85	2.00	2.00	1.97	2.00	1.92	2.02	2.07	2.17
	Median	2.7	2.7	2.5	2.5	2.7	2.7	2.7	2.5	2.7	2.7	2.5

Continued…

Table 5.3: *- Continued*

Base: Aged 2-15 *2008 - 2018*

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Portions per day		%	%	%	%	%	%	%	%	%	%	%
All children	None	10	9	11	9	11	10	10	7	9	10	10
	Less than 1 portion	4	5	5	4	4	5	4	6	4	6	5
	1 portion or more but less than 2	19	22	21	22	21	21	22	21	21	18	22
	2 portions or more but less than 3	24	20	23	20	23	21	22	22	22	21	20
	3 portions or more but less than 4	19	17	17	18	17	19	17	20	19	19	17
	4 portions or more but less than 5	11	13	11	13	12	11	11	11	11	11	12
	5 portions or more	13	15	12	13	13	13	14	12	13	15	15
	Mean	2.8	2.8	2.6	2.7	2.7	2.7	2.8	2.7	2.8	2.9	2.8
	SE of the mean	0.07	0.05	0.07	0.06	0.07	0.07	0.08	0.07	0.07	0.08	0.07
	Standard deviation	2.05	1.98	1.92	1.96	1.99	2.00	2.09	1.94	2.00	2.18	2.20
	Median	2.5	2.5	2.3	2.5	2.5	2.5	2.3	2.5	2.5	2.7	2.5
Unweighted bases	*Boys*	*764*	*1153*	*821*	*855*	*761*	*819*	*729*	*634*	*665*	*706*	*930*
	Girls	*752*	*1100*	*708*	*833*	*784*	*761*	*730*	*612*	*680*	*669*	*792*
	All children	*1516*	*2253*	*1529*	*1688*	*1545*	*1580*	*1459*	*1246*	*1345*	*1375*	*1722*
Weighted bases	*Boys*	*791*	*1153*	*792*	*881*	*800*	*830*	*742*	*626*	*689*	*714*	*902*
	Girls	*736*	*1108*	*759*	*835*	*759*	*787*	*720*	*627*	*674*	*688*	*848*
	All children	*1527*	*2261*	*1551*	*1716*	*1559*	*1616*	*1461*	*1253*	*1363*	*1403*	*1750*

Table 5.4: Summary of adult eating habits, 2008, 2010, 2012, 2014, 2016 and 2018

Base: Aged 16 and over *2008, 2010, 2012, 2014, 2016, 2018*

		2008	2010	2012	2014	2016	2018
Food type and frequency		%	%	%	%	%	%
Men	Oily fish once a week or more	23	24	25	23	32	29
	White fish once a week or more	50	51	52	48	51	49
	Tuna fish once a week or more	27	29	29	25	25	24
	Red meat[a] 2+ times a week	64	63	59	61	64	62
	Meat products[b] 2+ times a week	39	34	36	37	42	39
	Drinks skimmed/semi-skimmed milk	70	73	71	71	70	68
	Sweets or chocolates once a day or more	28	26	28	27	31	27
	Biscuits once a day or more	36	35	33	35	30	29
	Cakes 2+ times a week	36	36	36	36	31	32
	Ice-cream once a week or more	29	24	28	33	30	30
	Non-diet soft drinks once a day or more	26	29	28	30	23	12
	Crisps once a day or more	19	17	18	23	18	21
	Chips 2+ times a week	36	35	36	37	37	38
	Potatoes, pasta, rice 5+ times a week	55	53	52	51	49	49
	At least 2-3 slices of high fibre bread a day	42	41	43	43	42	39
	High fibre/low sugar cereal at least 5-6 times a week	29	24	31	30	29	29
Women	Oily fish once a week or more	26	24	26	27	32	33
	White fish once a week or more	52	49	50	48	48	50
	Tuna fish once a week or more	33	32	32	30	31	30
	Red meat[a] 2+ times a week	59	53	53	51	51	49
	Meat products[b] 2+ times a week	18	17	21	20	23	21
	Drinks skimmed/semi-skimmed milk	77	77	77	77	73	69
	Sweets or chocolates once a day or more	28	24	29	26	26	30
	Biscuits once a day or more	33	28	32	27	25	25
	Cakes 2+ times a week	33	36	33	32	32	29
	Ice-cream once a week or more	28	24	25	26	24	26
	Non-diet soft drinks once a day or more	21	23	22	24	17	8
	Crisps once a day or more	16	14	16	19	15	20
	Chips 2+ times a week	26	24	26	25	26	26
	Potatoes, pasta, rice 5+ times a week	54	53	51	52	51	48
	At least 2-3 slices of high fibre bread a day	42	43	40	37	34	37
	High fibre/low sugar cereal at least 5-6 times a week	31	28	33	30	26	31

Continued…

Table 5.4: - *Continued*

Base: Aged 16 and over *2008, 2010, 2012, 2014, 2016, 2018*

Food type and frequency		2008 %	2010 %	2012 %	2014 %	2016 %	2018 %
All adults	Oily fish once a week or more	25	24	26	25	32	31
	White fish once a week or more	51	50	51	48	49	50
	Tuna fish once a week or more	30	30	30	28	28	28
	Red meat[a] 2+ times a week	61	58	56	56	57	55
	Meat products[b] 2+ times a week	28	25	28	28	32	30
	Drinks skimmed/semi-skimmed milk	74	75	74	74	72	69
	Sweets or chocolates once a day or more	28	25	29	27	28	28
	Biscuits once a day or more	34	31	32	31	28	27
	Cakes 2+ times a week	34	36	35	34	32	31
	Ice-cream once a week or more	28	24	26	29	27	28
	Non-diet soft drinks once a day or more	23	26	25	27	20	10
	Crisps once a day or more	17	15	17	21	17	20
	Chips 2+ times a week	31	29	31	31	31	32
	Potatoes, pasta, rice 5+ times a week	55	53	51	51	50	48
	At least 2-3 slices of high fibre bread a day	42	42	41	40	38	38
	High fibre/low sugar cereal at least 5-6 times a week	30	26	32	30	28	30
Unweighted bases	*Men*	*986*	*1013*	*1151*	*925*	*985*	*1350*
	Women	*1286*	*1371*	*1459*	*1155*	*1216*	*1753*
	All adults	*2272*	*2384*	*2610*	*2080*	*2201*	*3103*
Weighted bases	*Men*	*1086*	*1142*	*1252*	*999*	*1057*	*1494*
	Women	*1188*	*1242*	*1359*	*1081*	*1143*	*1609*
	All adults	*2274*	*2384*	*2611*	*2080*	*2200*	*3103*

a Red meat includes for example beef, lamb or pork

b Meat products includes for example sausages, meat pies, bridies, corned beef or burgers

Table 5.5: Summary of child eating habits, 2008/09, 2010/11, 2013/14, 2015/16 and 2017/18 combined

Base: Aged 2-15 — *2008/09, 2010/11, 2013/14, 2015/16 and 2017/18 combined*

		2008/09	2010/11	2013/14	2015/16	2017/18
Food type and frequency		%	%	%	%	%
Boys	Oily fish once a week or more	12	13	15	16	20
	White fish once a week or more	51	50	56	52	55
	Tuna fish once a week or more	28	25	24	25	24
	Red meat[a] 2+ times a week	59	58	59	56	55
	Meat products[b] 2+ times a week	43	43	45	48	41
	Drinks skimmed/semi-skimmed milk	55	56	59	54	53
	Sweets or chocolates once a day or more	53	50	53	50	46
	Biscuits once a day or more	43	44	36	34	30
	Cakes 2+ times a week	33	35	32	32	31
	Ice-cream once a week or more	53	53	51	48	48
	Non-diet soft drinks once a day or more	39	39	39	35	18
	Crisps once a day or more	36	38	39	33	34
	Chips 2+ times a week	41	43	44	42	43
	Potatoes, pasta, rice 5+ times a week	54	53	48	49	48
	At least 2-3 slices of high fibre bread a day	35	36	34	35	28
	High fibre/low sugar cereal at least 5-6 times a week	28	30	30	30	27
Girls	Oily fish once a week or more	13	15	15	16	18
	White fish once a week or more	45	47	51	51	49
	Tuna fish once a week or more	36	33	29	29	29
	Red meat[a] 2+ times a week	56	57	56	58	54
	Meat products[b] 2+ times a week	32	35	32	36	36
	Drinks skimmed/semi-skimmed milk	59	60	59	60	58
	Sweets or chocolates once a day or more	52	48	49	50	47
	Biscuits once a day or more	41	37	30	31	27
	Cakes 2+ times a week	31	34	32	33	32
	Ice-cream once a week or more	54	51	51	49	53
	Non-diet soft drinks once a day or more	36	38	39	35	15
	Crisps once a day or more	35	39	35	32	36
	Chips 2+ times a week	40	41	37	41	43
	Potatoes, pasta, rice 5+ times a week	54	53	54	51	49
	At least 2-3 slices of high fibre bread a day	34	32	30	30	27
	High fibre/low sugar cereal at least 5-6 times a week	26	27	26	27	26

Continued…

Table 5.5: *- Continued*

Base: Aged 2-15 — *2008/09, 2010/11, 2013/14, 2015/16 and 2017/18 combined*

Food type and frequency		2008/09 %	2010/11 %	2013/14 %	2015/16 %	2017/18 %
All children	Oily fish once a week or more	13	14	15	16	19
	White fish once a week or more	48	49	53	52	52
	Tuna fish once a week or more	32	29	27	27	26
	Red meat[a] 2+ times a week	57	58	58	57	54
	Meat products[b] 2+ times a week	38	39	39	42	39
	Drinks skimmed/semi-skimmed milk	57	58	59	57	55
	Sweets or chocolates once a day or more	52	49	51	50	47
	Biscuits once a day or more	42	40	34	32	28
	Cakes 2+ times a week	32	34	32	33	32
	Ice-cream once a week or more	53	52	51	48	50
	Non-diet soft drinks once a day or more	38	38	39	35	16
	Crisps once a day or more	36	38	37	33	35
	Chips 2+ times a week	40	42	41	42	43
	Potatoes, pasta, rice 5+ times a week	54	53	51	50	49
	At least 2-3 slices of high fibre bread a day	35	34	32	32	28
	High fibre/low sugar cereal at least 5-6 times a week	27	28	28	29	27
Unweighted bases	*Boys*	*1920*	*1677*	*1549*	*1300*	*1636*
	Girls	*1854*	*1543*	*1492*	*1292*	*1466*
	All children	*3774*	*3220*	*3041*	*2592*	*3102*
Weighted bases	*Boys*	*1946*	*1674*	*1572*	*1317*	*1616*
	Girls	*1846*	*1597*	*1507*	*1301*	*1541*
	All children	*3793*	*3271*	*3080*	*2618*	*3157*

a Red meat includes for example beef, lamb or pork

b Meat products includes for example sausages, meat pies, bridies, corned beef or burgers

Table 5.6: Adult food insecurity, 2017 to 2018, by age and sex

Base: Aged 16 and over *2017, 2018*

		Food insecurity[a]	2017 %	2018 %
Men	16-44	Worried would run out of food	13	11
		Ate less	11	9
		Ran out of food	6	4
	45-64	Worried would run out of food	6	9
		Ate less	5	5
		Ran out of food	4	3
	65+	Worried would run out of food	1	1
		Ate less	0	1
		Ran out of food	0	0
	All	Worried would run out of food	8	9
		Ate less	7	6
		Ran out of food	4	3
Women	16-44	Worried would run out of food	13	13
		Ate less	10	9
		Ran out of food	6	4
	45-64	Worried would run out of food	7	9
		Ate less	6	7
		Ran out of food	4	3
	65+	Worried would run out of food	1	2
		Ate less	1	1
		Ran out of food	1	0
	All	Worried would run out of food	8	9
		Ate less	7	6
		Ran out of food	4	3
All adults	16-44	Worried would run out of food	13	12
		Ate less	11	9
		Ran out of food	6	4
	45-64	Worried would run out of food	7	9
		Ate less	6	6
		Ran out of food	4	3
	65+	Worried would run out of food	1	2
		Ate less	1	1
		Ran out of food	0	0
	All	Worried would run out of food	8	9
		Ate less	7	6
		Ran out of food	4	3

Continued…

Table 5.6: - *Continued*

Base: Aged 16 and over *2017, 2018*

			2017	2018
Food insecurity				
Unweighted bases	*Men*	*16-44*	*487*	*611*
		45-64	*500*	*698*
		65+	*398*	*585*
		All	*1385*	*1894*
	Women	*16-44*	*681*	*907*
		45-64	*659*	*888*
		65+	*496*	*707*
		All	*1836*	*2502*
	All adults	*16-44*	*1168*	*1518*
		45-64	*1159*	*1586*
		65+	*894*	*1292*
		All	*3221*	*4396*
Weighted bases	*Men*	*16-44*	*705*	*952*
		45-64	*533*	*726*
		65+	*308*	*432*
		All	*1546*	*2111*
	Women	*16-44*	*724*	*987*
		45-64	*562*	*772*
		65+	*377*	*521*
		All	*1663*	*2280*
	All adults	*16-44*	*1429*	*1939*
		45-64	*1095*	*1499*
		65+	*685*	*953*
		All	*3209*	*4391*

a The questions ask about food insecurity in the last 12 months… because of a lack of money or other resources

Table 5.7: Adult food insecurity, (age-standardised), 2017/2018 combined, by area deprivation and sex

Base: Aged 16 and over *2017/2018 combined*

		Scottish Index of Multiple Deprivation				
		(5th) Least deprived	4th	3rd	2nd	(1st) Most deprived
Food insecurity[a]		%	%	%	%	%
Men	Worried would run out of food	4	6	7	10	16
	Ate less	3	4	6	7	12
	Ran out of food	0	2	5	4	7
Women	Worried would run out of food	5	5	9	10	16
	Ate less	3	4	6	7	12
	Ran out of food	1	3	3	3	7
All adults	Worried would run out of food	4	5	8	10	16
	Ate less	3	4	6	7	12
	Ran out of food	1	2	4	4	7
Unweighted bases	*Men*	*650*	*783*	*688*	*647*	*511*
	Women	*857*	*995*	*905*	*861*	*720*
	All adults	*1507*	*1778*	*1593*	*1508*	*1231*
Weighted bases	*Men*	*748*	*783*	*729*	*770*	*629*
	Women	*812*	*838*	*777*	*795*	*719*
	All adults	*1560*	*1621*	*1506*	*1564*	*1348*

a The questions ask about food insecurity in the last 12 months… because of a lack of money or other resources
Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Table 5.8: Adult food insecurity, 2017/2018 combined, by household type

Base: Aged 16 and over *2017/2018 combined*

		Single adults	Single parent	Single older	Small family	Older smaller family	Large adult	Small adult	Large family
Food insecurity[a]		%	%	%	%	%	%	%	%
Men	Worried would run out of food	23	[8]	1	7	2	5	9	13
	Ate less	19	-	1	5	1	3	7	10
	Ran out of food	15	-	1	3	0	1	3	3
Women	Worried would run out of food	18	27	2	9	2	6	9	12
	Ate less	15	21	1	7	1	4	7	9
	Ran out of food	9	13	0	3	0	2	3	5
All adults	Worried would run out of food	21	25	2	8	2	5	9	12
	Ate less	17	21	1	6	1	4	7	9
	Ran out of food	12	13	1	3	0	1	3	4
Unweighted bases	*Men*	*485*	*17*	*237*	*446*	*743*	*372*	*766*	*213*
	Women	*508*	*218*	*511*	*637*	*780*	*435*	*931*	*318*
	All adults	*993*	*235*	*748*	*1083*	*1523*	*807*	*1697*	*531*
Weighted bases	*Men*	*486*	*16*	*177*	*495*	*578*	*680*	*953*	*276*
	Women	*413*	*160*	*391*	*600*	*578*	*552*	*933*	*314*
	All adults	*899*	*175*	*568*	*1095*	*1155*	*1232*	*1885*	*589*

a The questions ask about food insecurity in the last 12 months… because of a lack of money or other resources

Table 5.9: Fruit and vegetable consumption, (age-standardised), 2017/2018 combined, by adult food insecurity and sex

Base: Aged 16 and over *2017/2018 combined*

		Worried would run out of food		Ate less		Ran out of food	
		Yes	No	Yes	No	Yes	No
Portions per day		%	%	%	%	%	%
Men	None	23	11	23	11	23	11
	Less than 1 portion	4	5	5	5	3	5
	1 portion or more but less than 2	18	19	19	19	16	19
	2 portions or more but less than 3	16	17	19	17	15	17
	3 portions or more but less than 4	16	17	12	17	15	17
	4 portions or more but less than 5	7	11	8	11	10	11
	5 portions or more	17	21	14	20	19	20
	Mean	2.5	3.1	2.3	3.1	2.7	3.1
	SE of the mean	0.25	0.06	0.24	0.06	0.48	0.06
	Standard deviation	2.30	2.51	2.19	2.51	2.45	2.50
	Median	2.0	2.7	2.0	2.7	2.0	2.7
Women	None	13	7	14	7	22	8
	Less than 1 portion	6	4	7	4	4	4
	1 portion or more but less than 2	19	16	13	16	17	16
	2 portions or more but less than 3	19	17	25	17	17	17
	3 portions or more but less than 4	15	16	12	16	10	16
	4 portions or more but less than 5	9	14	10	14	8	14
	5 portions or more	20	25	20	25	22	25
	Mean	3.2	3.6	3.2	3.6	3.2	3.5
	SE of the mean	0.22	0.06	0.29	0.05	0.49	0.05
	Standard deviation	3.23	2.66	3.29	2.66	3.77	2.66
	Median	2.3	3.2	2.3	3.2	2.3	3.1

Continued…

Table 5.9: - *Continued*

Base: Aged 16 and over *2017/2018 combined*

		Worried would run out of food		Ate less		Ran out of food	
		Yes	No	Yes	No	Yes	No
Portions per day		%	%	%	%	%	%
All adults	None	17	9	18	9	22	9
	Less than 1 portion	5	4	6	4	4	4
	1 portion or more but less than 2	18	17	16	17	17	18
	2 portions or more but less than 3	17	17	22	17	16	17
	3 portions or more but less than 4	15	17	12	17	12	17
	4 portions or more but less than 5	8	13	9	12	9	12
	5 portions or more	19	23	17	23	21	23
	Mean	2.9	3.3	2.8	3.3	3.0	3.3
	SE of the mean	0.18	0.05	0.19	0.05	0.33	0.05
	Standard deviation	2.85	2.6	2.88	2.6	3.21	2.59
	Median	2.3	3.0	2.3	3.0	2.0	3.0
Unweighted bases	*Men*	*248*	*3031*	*179*	*3096*	*110*	*3158*
	Women	*369*	*3969*	*271*	*4063*	*140*	*4187*
	All adults	*617*	*7000*	*450*	*7159*	*250*	*7345*
Weighted bases	*Men*	*308*	*3351*	*214*	*3422*	*122*	*3516*
	Women	*346*	*3595*	*256*	*3681*	*130*	*3802*
	All adults	*654*	*6946*	*469*	*7104*	*251*	*7318*

Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Table 5.10: Adult WEMWBS mean scores, (age standardised), 2017/2018 combined, by food insecurity and sex

Base: Aged 16 and over *2017/2018 combined*

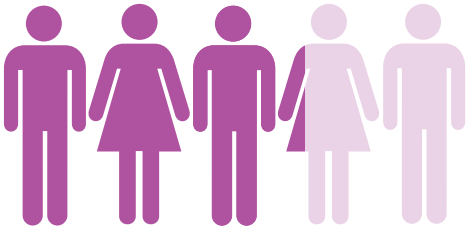
		Worried would run out of food[a]		Ate less[a]		Ran out of food[a]	
		Yes	No	Yes	No	Yes	No
WEMWBS mean scores							
Men	Mean	42.0	50.2	41.6	50.0	41.5	49.9
	SE of the mean	0.65	0.25	0.82	0.25	1.00	0.25
	Standard deviation	9.21	8.44	9.86	8.52	10.19	8.63
Women	Mean	42.3	50.3	41.5	50.2	40.1	50.0
	SE of the mean	0.65	0.16	0.86	0.15	1.40	0.16
	Standard deviation	9.85	8.33	9.98	8.37	10.96	8.51
All adults	Mean	42.2	50.3	41.6	50.1	40.8	49.9
	SE of the mean	0.46	0.15	0.59	0.15	0.87	0.15
	Standard deviation	9.55	8.38	9.92	8.44	10.6	8.57
Unweighted bases	*Men*	*244*	*2961*	*176*	*3025*	*108*	*3087*
	Women	*361*	*3862*	*264*	*3955*	*135*	*4077*
	All adults	*605*	*6823*	*440*	*6980*	*243*	*7164*
Weighted bases	*Men*	*304*	*3286*	*211*	*3357*	*120*	*3451*
	Women	*338*	*3499*	*249*	*3584*	*124*	*3703*
	All adults	*642*	*6785*	*460*	*6941*	*244*	*7154*

a The questions ask about food insecurity in the last 12 months… because of a lack of money or other resources
Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Chapter 6

Physical Activity

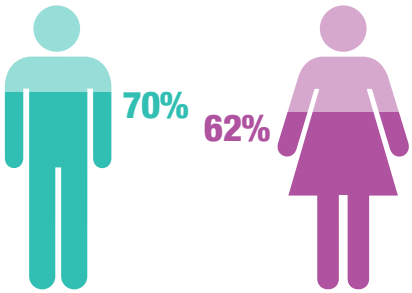
SUMMARY



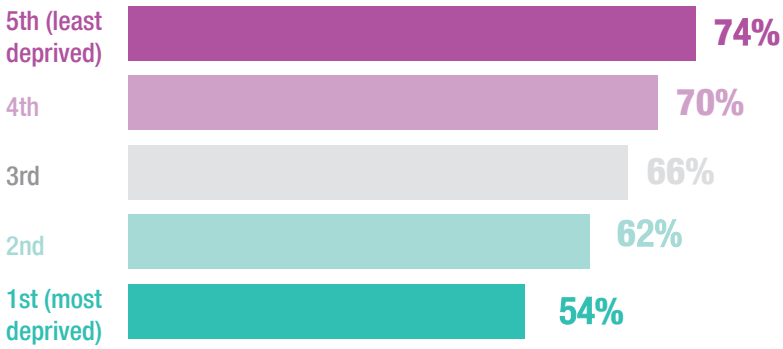
In 2018, **two thirds of adults** (66%) met the guidelines for Moderate or Vigorous Physical Activity (MVPA)*. This was the highest level in the time series, though it has not changed significantly since 2013 (64%).

*At least 150 minutes of moderate physical activity, 75 minutes vigorous physical activity, or an equivalent combination of the two, per week.

Men continued to be more likely than women to meet the MVPA guidelines.

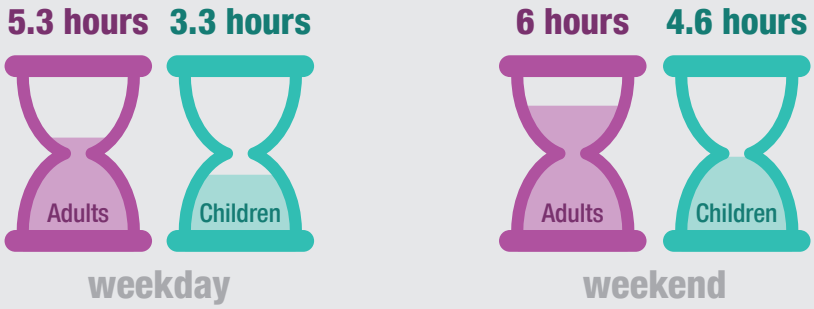


Adherence to the MVPA guidelines was more common among adults in less deprived areas, declining from 74% in the least deprived areas to 54% in the most deprived areas.



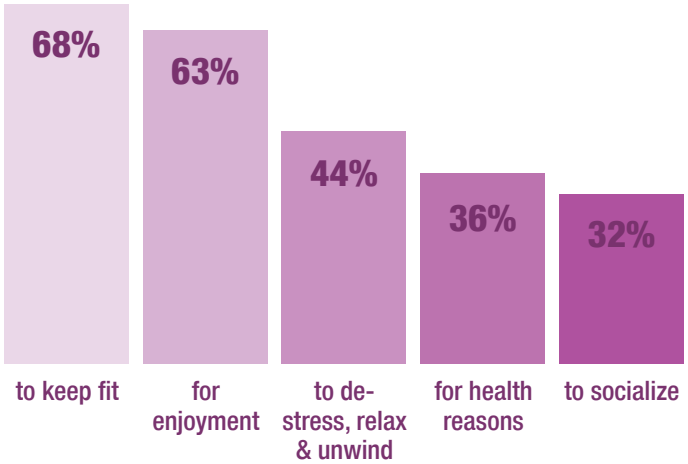
- Adherence to MVPA guidelines declined with age, from over three-quarters of those aged 16–44 (77%) to 31% of those aged 75 and above.
- Adults in the most deprived areas were more likely to have very low activity levels than those in the least deprived areas (32% compared to 12% respectively).

Average time spent sedentary by adults and children excluding time at work/school

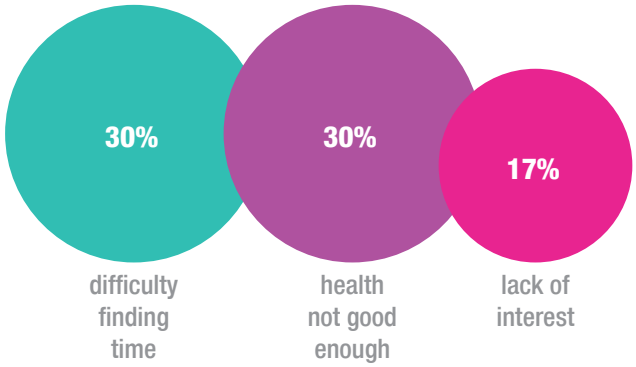


- Men spent more hours sedentary on weekend days, on average, than women (6.1 and 5.8 respectively).

The five most common reasons cited among adults for participating in activity were:



Of those who had not participated in any physical activity in the last month, the main barriers were:



6 PHYSICAL ACTIVITY

Kasmita Mirani

6.1 INTRODUCTION

Physical activity and sport are a powerful force in transforming lives. There is clear and growing evidence of the health, economic and social benefits physical activity and sport can bring. Physical activity and sport improve the health of the heart, skeletal muscles, bones and blood, the immune system and nervous system; and enable people to live longer, healthier lives. Being active improves psychological wellbeing, boosts self-esteem, plays an important role in maintaining a healthy weight and improves mood and sleep quality. The early years is a vitally important period to intervene to improve outcomes for children. There is strong evidence that intervention in this period, including through play, improves health and cognitive development[1].

Physical activity and sport can also play a major role in improving outcomes and tackling inequalities across many different aspects of our lives and society. Positive changes being achieved through physical activity and sport initiatives in Scotland include improving mental health, supporting weight management initiatives, overcoming loneliness and isolation; reducing reoffending; promoting sustainable forms of transport; and enabling people to connect with the natural environment[2].

In 2011, the four Chief Medical Officers (CMOs) of England, Scotland, Wales and Northern Ireland issued guidelines on duration, frequency and type of physical activity required to achieve general health benefits for different age ranges. These drew on global evidence for the health benefits people can achieve by taking regular physical activity throughout their lives.

The Chief Medical Officer's guidelines were under review during preparation of this report and updated guidelines were published on the 7th September 2019. The updated guidelines will be included in next year's report[3].

Table 6A UK CMO physical activity guidelines (2011)

Age group	Guidelines
Early years – children under 5 years	Physical activity should be encouraged from birth, particularly through floor-based play and water-based activities in safe environments. Children capable of walking unaided should be physically active daily for at least 180 minutes (3 hours), spread throughout the day. Minimise amount of time spent being sedentary (being restrained or sitting) for extended periods (except time spent sleeping).
Children and young people aged 5 to 18	Should engage in moderate to vigorous activity for at least 60 minutes and up to several hours every day. Vigorous activities, including those that strengthen muscles and bones, should be carried out on at least 3 days a week. Extended periods of sedentary activities should be limited. Should be active daily.

Adults aged 19-64	Should engage in at least moderate activity for a minimum of 150 minutes a week (accumulated in bouts of at least 10 minutes) - for example by being active for 30 minutes on five days a week. Alternatively, 75 minutes of vigorous activity spread across the week will confer similar benefits to 150 minutes of moderate activity (or a combination of moderate and vigorous activity). Activities that strengthen muscles should be carried out on at least two days a week. Extended periods of sedentary activities should be limited.
Adults aged 65 and over	In addition to the guidance for adults aged 19-64, older adults are advised that any amount of physical activity is better than none, and more activity provides greater health benefits. Older adults at risk of falls should incorporate activities to improve balance and coordination on at least two days a week.

6.2 POLICY BACKGROUND

Physical activity, in conjunction with eating well and maintaining a healthy weight, is one of the six Public Health Priorities for Scotland published jointly by the Scottish Government and COSLA in 2018[4]. The Active Scotland Delivery Plan, also published in 2018, is one of five linked public health strategies and delivery plans which support the Public Health priorities. Taken together these aim to create a healthy environment whilst encouraging people to make good choices about their health, their life and their communities.

The Active Scotland Delivery Plan aims to cut physical inactivity in adults and teenagers by 15% by 2030 using wide-ranging approaches including active travel funding, support for both formal sports and informal physical activity, and partnership working across the transport, education, health and planning sectors[5].

The Plan contains 90 actions including development of community sports hubs in the most deprived areas; more opportunities for pupils to participate in sport before, during and after school; support and development for helping people move from school sport to clubs; increased funding for cycle and walking paths; promoting good practice to ensure children have safe places to play; and addressing barriers to women and girls participating.

Scotland was one of the first countries to publish a national action plan following the World Health Organisation's global plan on physical activity.

6.2.1 Reporting on physical activity in the Scottish Health Survey (SHeS)

Physical activity is recognised as a key aspect of the new National Performance Framework outcome that 'we are healthy and active'. SHeS is the source for monitoring the percentage of adults meeting the physical activity recommendations which is one of the indicators used to gauge progress on the overall outcome[6].

Adult adherence to the guidelines on moderate / vigorous physical activity (MVPA) and muscle strengthening guidelines are presented in this chapter along with reasons for participating in activity and barriers to doing so. Levels of adult and child sedentary time are also reported.

The area deprivation data for physical activity are presented in Scottish index of Multiple Deprivation (SIMD) quintiles. To ensure that the comparisons presented are not confounded by the different age profiles of the quintiles, the data have been age-standardised. Readers should refer to the Glossary at the end of this Volume for a detailed description of SIMD and age-standardisation.

Supplementary tables on physical activity are available on the survey website[7].

6.3 METHODS AND DEFINITIONS

6.3.1 Adult physical activity questionnaire

The SHeS questionnaire[8] asks about four main types of physical activity:

- Home-based activities (housework, gardening, building work and DIY)
- Walking
- Sports and exercise
- Activity at work.

Information is collected on the:

- time spent being active
- intensity of the activities undertaken
- frequency with which activities are performed.

6.3.2 Adherence to adult physical activity guidelines

The current activity guidelines advise adults to accumulate 150 minutes of moderate activity or 75 minutes of vigorous activity per week or an equivalent combination of both, in bouts of 10 minutes or more. These guidelines are referred to throughout this chapter as the MVPA guidelines (Moderate or Vigorous Physical Activity). To help assess adherence to this guideline, the intensity level of activities mentioned by

participants was estimated. Activities of low intensity, and activities of less than 10 minutes duration, were not included in the assessment. This allowed the calculation of a measure of whether each SHeS participant adhered to the guideline, referred to in the text and tables as "adult summary activity levels". A more detailed discussion of this calculation is provided in the 2012 report[9].

Table 6B Adult summary activity levels[a]

Meets MVPA guidelines	Reported 150 mins/week of moderate physical activity, 75 mins vigorous physical activity, or an equivalent combination of these.
Some activity	Reported 60-149 mins/week of moderate physical activity, 30-74 mins/week vigorous physical activity, or an equivalent combination of these.
Low activity	Reported 30-59 mins/week of moderate physical activity, 15-29 mins/week vigorous physical activity or an equivalent combination of these.
Very low activity	Reported less than 30 mins/week of moderate physical activity, less than 15 mins/week vigorous physical activity, or an equivalent combination of these.

[a] Only bouts of 10 minutes or more were included towards the 150 minutes per week guideline

To avoid overcomplicating the text, where descriptions are provided of the summary activity levels, they tend to refer only to moderate physical activity, although the calculations were based on moderate or vigorous activity as described above.

A second summary measure was calculated for adults, in respect of meeting the guidelines to carry out activities that strengthen muscles on at least 2 days a week to increase bone strength and muscular fitness. Nine different sports were classed as always muscle strengthening, and other sports or exercises were classed as muscle strengthening if the participant reported that the effort was enough to make the muscles feel some tension, shake or feel warm. If the participant carried out such activities for at least 10 minutes on 2 or more days a week, on average, they were deemed to meet the muscle strengthening guideline. As this only includes muscle strengthening through sporting activity, reported levels may be an underestimate.

6.3.3 Child physical activity questionnaire

The questions on child physical activity are slightly less detailed than those for adults[10]. No information on intensity is collected (with the exception of asking those aged 13-15 about their walking pace). The questions cover:

- Sports and exercise
- Active play including housework and gardening
- Walking

We are not reporting on children's physical activity in the main report this year as the Chief Medical Officer's physical activity guidelines were under review during the period of the survey with implications for the measurement method for children's physical activity used in the survey. The updated UK Chief Medical Officer's Physical Activity Guidelines were published on 7th September 2019, and figures on the proportion of children meeting the guidelines will appear in the Scottish Health Survey results for 2019 published next year.

6.3.4 Sedentary activity

Since 2003, all participants aged 2 and over have been asked about time spent in front of a screen (e.g. a TV or tablet) during leisure time on both weekdays and weekend days. For everyone aged 2 and over, questions about time spent sitting during leisure time (apart from in front of a screen) were added in 2012. The examples of time spent sitting that participants were given included eating, reading, studying and (for children) doing homework. For adults in paid work, new questions on time spent sitting during the working day were also added in 2012.

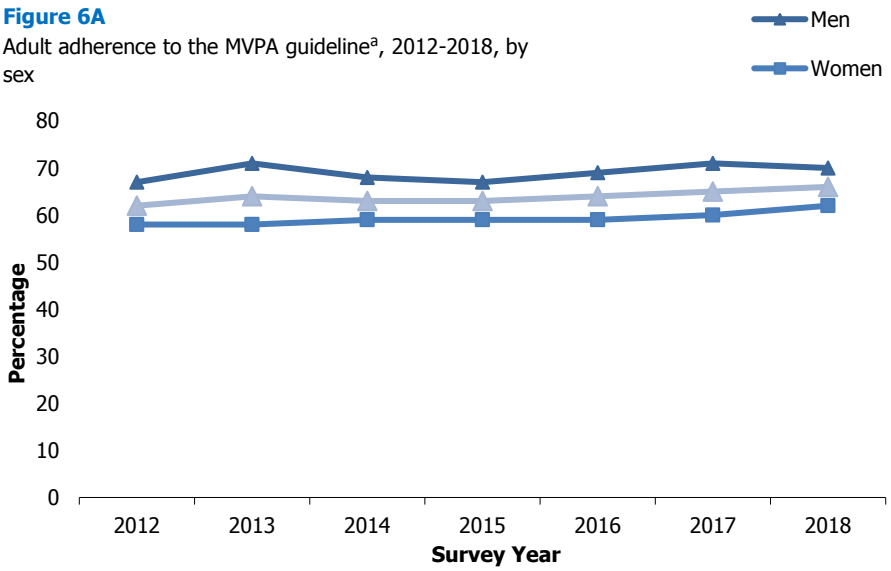
6.4 ADULT PHYSICAL ACTIVITY LEVELS

6.4.1 Summary activity levels since 2012

In 2018, around two-thirds (66%) of all adults met the guidelines for moderate or vigorous physical activity (MPVA) of at least 150 minutes of moderate physical activity, 75 minutes of vigorous physical activity, or an equivalent combination of the two, per week. This was the highest level in the time series though it has not changed significantly since 2013 (64%). Fewer adults reported engaging in some activity (10%) or low activity (4%), and around a fifth (21%) reported very low activity.

As in previous years, in 2018 a significantly higher proportion of men met the recommendations for physical activity than women (70% and 62%). **Figure 6A, Table 6.1**

Figure 6A
Adult adherence to the MVPA guideline[a], 2012-2018, by sex



[a] Meets moderate/vigorous physical activity guideline of 150 minutes of moderate physical activity, 75 minutes of vigorous physical activity, or a combination of both each week.

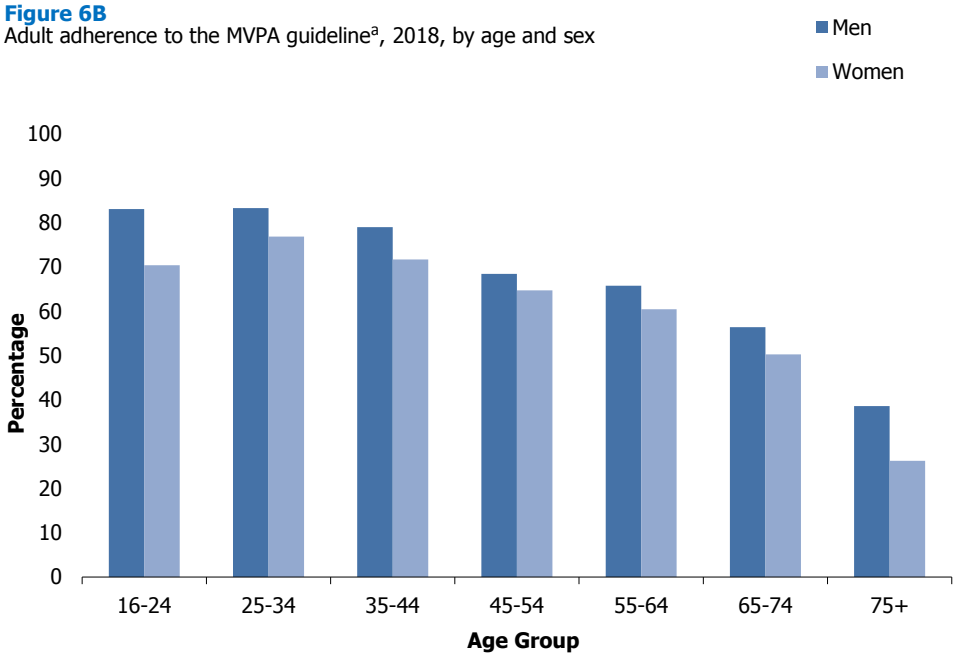
6.4.2 Summary adult physical activity levels, 2018, by age and sex

Physical activity levels varied significantly by age with younger age groups more likely to meet the MVPA guidelines than older age groups. A higher proportion of those aged 16-24 met the physical activity guidelines (77%), declining to 67% among those aged 45-54, and to 31% among those aged 75 and over.

Slightly different patterns of adherence to the MVPA guidelines by age were found for men and women. For men adherence declined from 83% among those aged 16-34 to 39% among those aged 75 and over. For women adherence was highest among those aged 25-34 (77%) and then declined with age to 26% among those aged 75 and over.

Men were significantly more likely than women to meet the guidelines on physical activity across all age groups, with the greatest differences in the oldest and youngest age groups. Among men in the youngest age group (16-24) 83% met the guidelines, compared with 70% of women in the same age group and among men aged 75 and over 39% met the guidelines compared with 26% of women in the same age group.

Figure 6B
Adult adherence to the MVPA guideline[a], 2018, by age and sex



[a] Meets moderate/vigorous physical activity guideline of 150 minutes of moderate physical activity, 75 minutes of vigorous physical activity, or a combination of both each week.

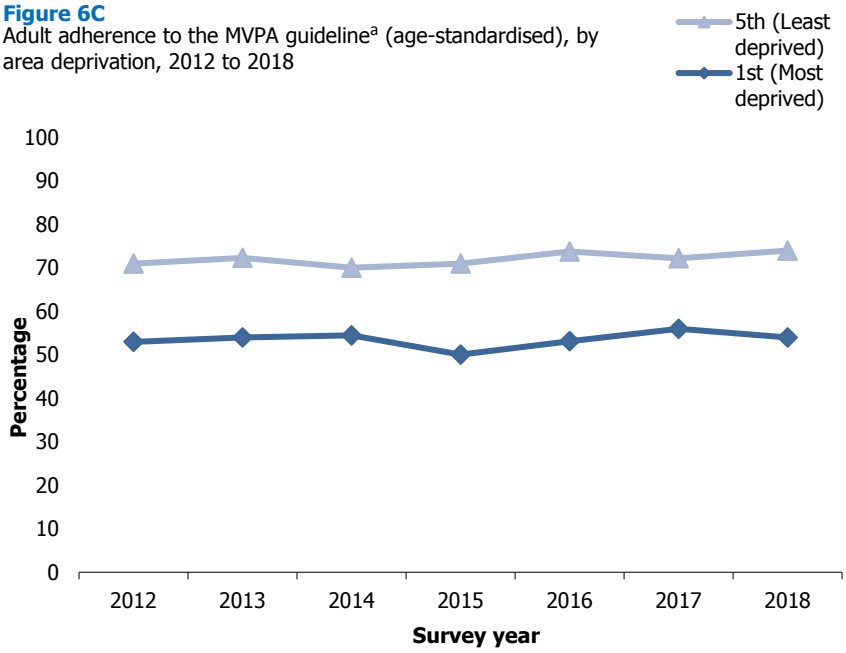
The decline in activity levels by age corresponded to increasing levels of very low activity (less than half an hour a week of moderate activity or the equivalent level of vigorous activity) as age increased. This pattern was the same for men and women. The proportion of adults with very low activity levels increased from 12% among the youngest adults (16-24) to 49% among adults aged 75 and over. **Figure 6B, Table 6.2**

6.4.3 Summary adult physical activity levels (age-standardised) since 2012, by area deprivation and sex

As in previous years, adult physical activity levels were significantly associated with area deprivation. The prevalence of age-standardised adherence to the MVPA guidelines was highest among adults living in the least deprived areas at 74% and declined alongside area deprivation to 54% among adults living in the most deprived areas. As shown in Figure 6C, this association has been similar since 2012.

The pattern by deprivation was similar for both men and women. Among men, the age-standardised prevalence of adherence to the MVPA guidelines declined from 83% in the least deprived areas to 57% in the most deprived areas. Among women, the prevalence declined from 67% to 52%. **Figure 6C, Table 6.3**

Figure 6C
Adult adherence to the MVPA guideline[a] (age-standardised), by area deprivation, 2012 to 2018



[a] Meets moderate/vigorous physical activity guideline of 150 minutes of moderate physical activity, 75 minutes of vigorous physical activity, or a combination of both each week.

Similar to the pattern observed for age, the decline in adherence to the MVPA guidelines as deprivation increased largely corresponded to the increasing levels of very low activity. In 2018 the proportion of those with very low activity levels were 12% in the least deprived areas compared with 32% in the most deprived areas. This pattern was evident for both sexes and has been observed every year since 2012

6.4.4 Adult adherence to muscle strengthening and MVPA guidelines, 2018, by age and sex

In 2018, 29% of adults aged 16 and over met both the muscle strengthening and MVPA guidelines, with 1% having met the muscle strengthening guideline only. Over a third (37%) met the MVPA guideline but not the recommended level of muscle strengthening

activity. The remaining third (33%) of adults did not meet either guideline.

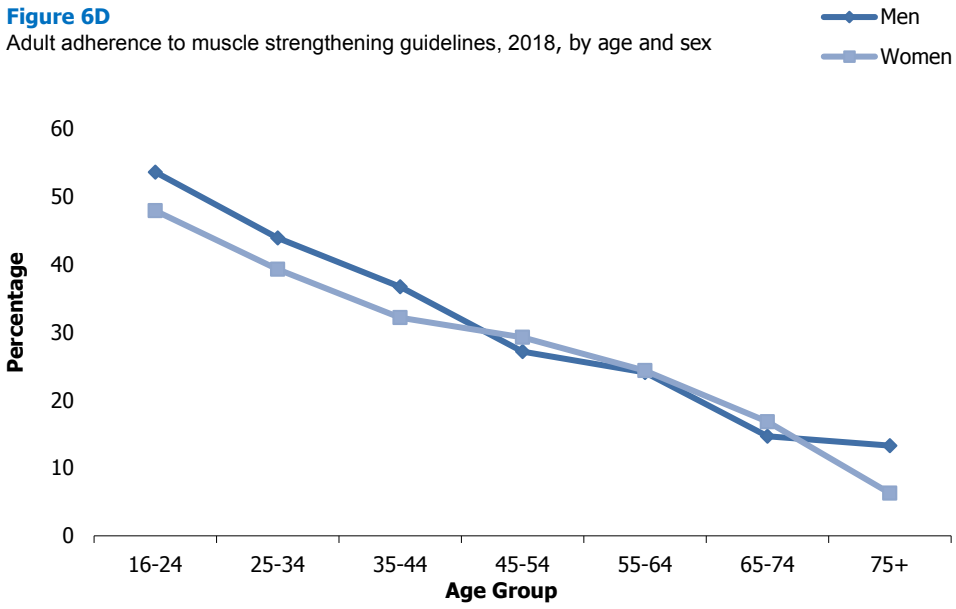
Men were more likely than women to meet both the muscle strengthening and MPVA guidelines (31% of men compared to 27% of women). This pattern was driven by differences among those aged 16-44 (36-53% of men aged 16-44 met both guidelines compared with 31-47% of women) and those aged 75 and over (12% of men aged 75 and over met both guidelines compared to 5% of women).

Adherence to muscle strengthening and MVPA guidelines declined significantly with age, with adherence to both guidelines falling from half (50%) of those aged 16-24 to under a tenth (8%) of those aged 75 and over. Patterns by age were slightly different between men and women. Among men there was a larger drop in adherence to muscle strengthening and MVPA guidelines between the 35-44 and 45-54 age groups (from 36% to 26%) than for women (31% to 28%) and among women there was a larger percentage point drop in adherence between the 65-74 and 75 and over age groups (from 15% to 5%) than for men (from 14% to 12

Overall, adults were significantly less likely to have met the muscle strengthening guideline than the MVPA guideline, with 66% meeting the MPVA guideline and 30% meeting the muscle guideline. A similar pattern was observed across all age groups for both men and women.

Figure 6D, Table 6.4

Figure 6D
Adult adherence to muscle strengthening guidelines, 2018, by age and sex



6.4.5 Reasons for participating in activity, 2018, by age and sex

In 2018 the five most common reasons cited among adults for participating in activity were to keep fit (not to just lose weight) (68%), for enjoyment (63%), to de-stress, to relax and unwind (44%), for health reasons (36%) and to socialize (32%).

A number of significant differences were apparent between men and women's motivations to participate in activity in 2018. Men were more likely than women to be motivated by each of the following reasons: for enjoyment (66% of men and 59% of women), to improve their performance (27% of men and 16% of women), to train / take part in competition (14% of men and 7% of women) and for other reasons (3% of men and 1% of women). A significantly higher proportion of women stated losing weight (33%) or taking the children (14%) as reasons for engaging in activity compared with men (27% and 10% respectively).

Many of the reasons for participating in activity varied significantly by age, with different patterns evident depending on the reason. For example, keeping fit was mentioned by 65-75% of those aged 16-64, but was a less common reason for those aged 65 and over (55-60%). The highest proportion citing this reason were among those aged 35-44 (75%). Similarly, losing weight was most likely to be mentioned by those aged 35-44 (43%) falling to 10% among those aged 75 and over.

The proportion that stated health reasons as a motivation to be active was highest among those aged 45-64 (44-45%) and lowest at age 16-24 (19%), compared with a range from 33-38% among other age groups. Similarly, being active to de-stress and relax was mentioned by around half of those aged 25-54 (47-50%), dropping to 24% among those aged 75 and over.

There was an age-related decline in the proportion that were active to train / take part in competition (23% among those aged 16-24 dropping to 5% among those 75 and over) or to improve their performance (29% among those aged 16-24 falling with age to 12% among those 75 and over).

A higher proportion of those aged 35-44 said they were active to take children (23%) compared with 1% among those aged 16-24 and between 7 and 16% among other age groups. Those aged 65 and over were most likely to be active in order to socialize (43-44%) compared with between 28 and 35% among other age groups. Those aged 35-44 were most likely to be active to walk the dog (17%) compared with between 6 and 12% among other age groups.

For all the above reasons for participating in activity, similar patterns by age were found for men and women. **Table 6.5**

6.4.6 Barriers to being more active, 2018, by age and sex

Table 6.6 presents the barriers to being more active mentioned by people who had not participated in any physical activity in the previous month.

In 2018, difficulty finding time (30%), health isn't good enough (30%) and lack of interest (17%) were the three most commonly mentioned barriers to being more active among people who had not participated in

any activity in the previous month. The remaining barriers were mentioned by less than one in ten people, including 8% who said that they already do enough and 8% gave no reason.

The most commonly cited barriers to engaging in physical activity were similar for men and women with significant differences only found between the sexes for two barriers; 3% of women were deterred from physical activity because there was no one to do it with compared to 1% of men and 3% of men were deterred by the weather compared to 1% of women.

A number of the barriers to being more active varied significantly by age. The proportion of adults who stated their health not being good enough as a barrier increased with age from 8% among those aged 16-24 to 54% among those aged 75 and over. Younger adults were more likely than older adults to state 'it costs too much' as a barrier with 17% of those aged 16-24 stating this with the proportion declining across the age groups to less than 1% among those aged 75 and over. Lack of time was the most common response among adults in the four youngest age groups from age 16-54 (cited by 37-51%) and thereafter declined with age to 4% among those aged 75 and over.

Among the less commonly stated barriers for being active, the proportion that stated they might feel uncomfortable / out of place fell with age from 11% among those aged 16-24 to 0% among those aged 75 and over. **Table 6.6**

6.4.7 Trends in adults' sedentary time since 2015, by sex

In 2018, adults spent an average of 5.3 hours of sedentary time (outside of work, school or college) per day on weekdays and 6 hours sedentary time on weekend days. This figure has not changed significantly since 2015, ranging from 5.2-5.3 hours on weekdays and 5.9-6 hours on weekends. This pattern is the same for both men and women, with neither group having seen an increase or decrease in average sedentary time since 2015.

As in previous years, men spent more hours sedentary on weekend days, on average, than women (6.1 and 5.8 respectively). In 2018 there was no significant difference between men and women in the average number of hours spent sedentary during weekdays (5.3 for both).

Figure 6E and 6F, Table 6.7

Figure 6E
Mean hours of sedentary time per weekday, 2015 to 2018, by sex

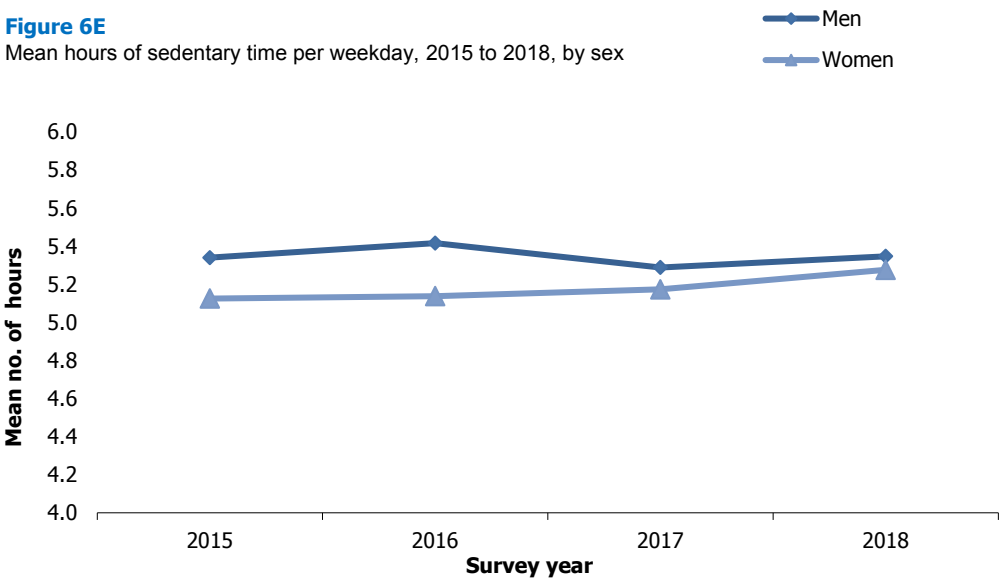
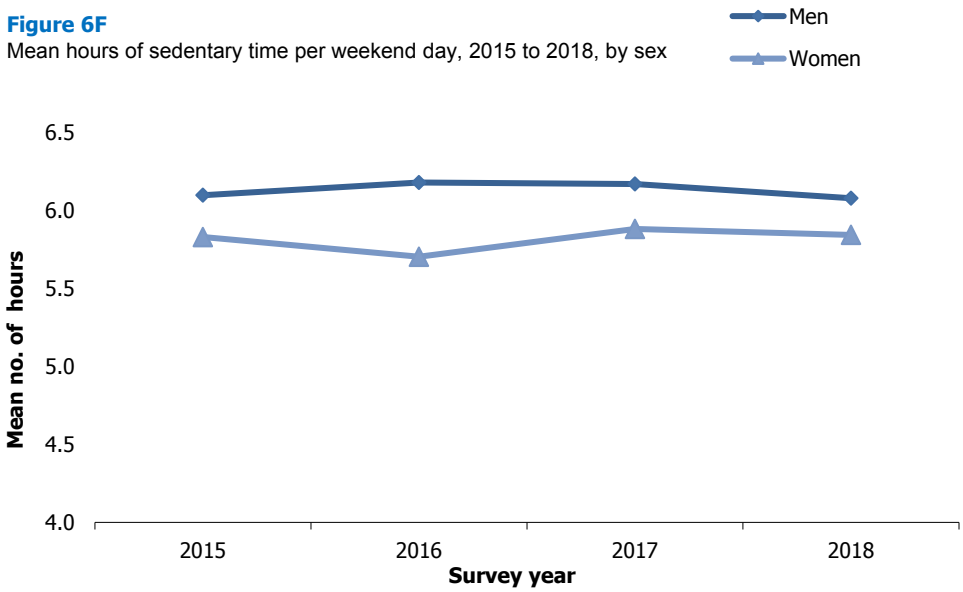


Figure 6F
Mean hours of sedentary time per weekend day, 2015 to 2018, by sex



6.4.8 Adults' sedentary time in 2018, by age and sex

Sedentary activity patterns by age in 2018 were the same on weekdays and weekend days. Sedentary levels (outside of work, school or college) declined from those aged 16-24 (6.1 hours on weekday, 7.0 on weekends) to those aged 35-44 (3.9 hours and 5.0 hours respectively) before then increasing with age; those aged 75 and over were sedentary for the greatest amount of time, on average, 7.1 hours on both weekdays and weekend days. Sedentary activity patterns by age were similar for men and women. **Figures 6G and 6H, Table 6.8**

Figure 6G
Adults' sedentary time on weekdays, 2018, by age and sex

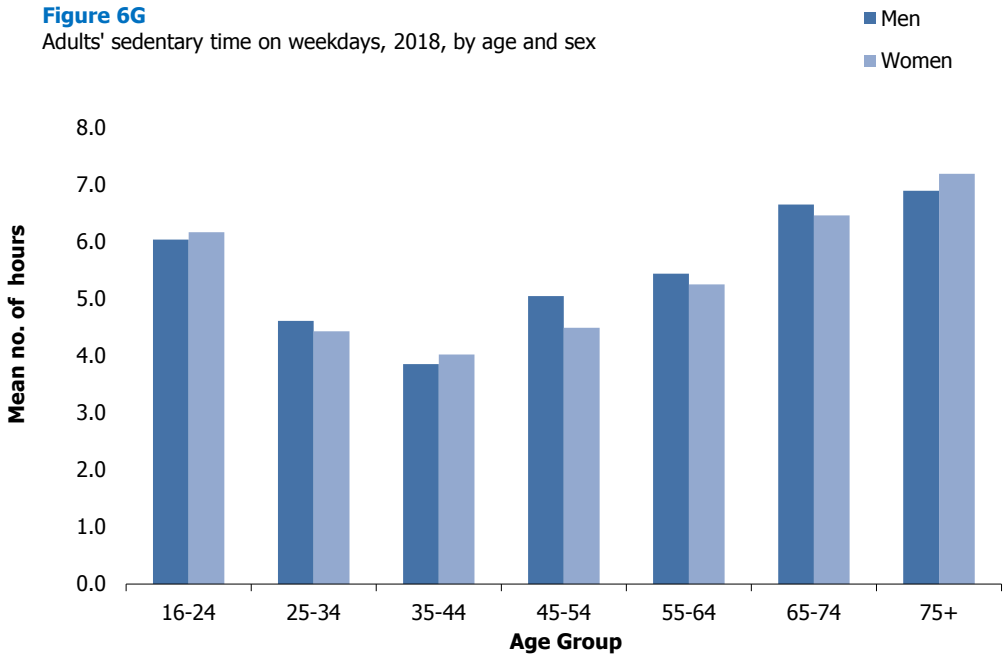
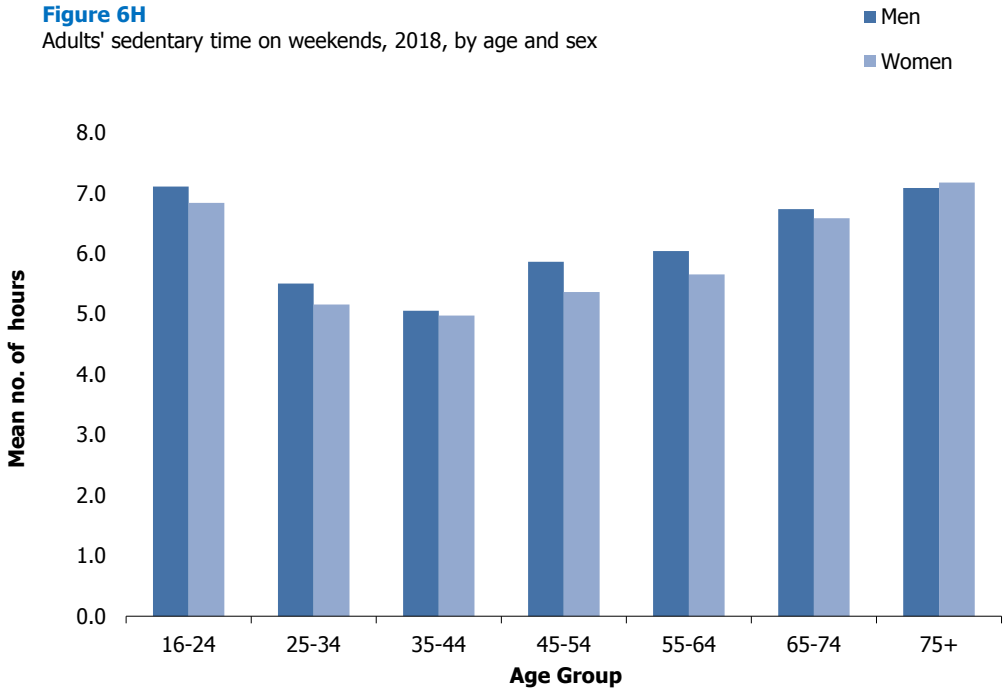


Figure 6H
Adults' sedentary time on weekends, 2018, by age and sex



6.5 CHILDREN'S SEDENTARY TIME

6.5.1 Trends in children's sedentary time since 2015, by sex

In 2018, children spent an average of 3.3 hours sedentary (outside of nursery or school) on weekdays and 4.6 hours sedentary on the weekends. This has not changed significantly since 2015, with average figures having fluctuated between 3.3-3.4 hours for weekdays and 4.5-4.7 hours for weekends. A similar pattern was found for both boys and girls, with both spending more time sedentary on weekends, and with

neither group having seen an increase or decrease in the average time spent sedentary since 2015.

As in previous years since 2015, there was no significant difference in the amount of time boys spent sedentary compared with girls. In 2018, boys and girls both spent 3.3 hours sedentary on the weekdays and boys spent 4.6 hours sedentary on weekend days, compared with girls, who spent 3.3. hours sedentary on weekdays and 4.5 hours sedentary on weekend days. **Table 6.9**

6.5.2 Children's sedentary time in 2018, by age and sex

In 2018, the amount of sedentary time (outside of nursery or school) reported for children was significantly associated with age. As age increased there was a rise in the number of hours children spent sedentary on both weekdays and weekends. On weekdays there was an increase from 2.9 hours spend sedentary, on average, among those aged 2-4 to 3.2 hours among those aged 8-10 and to 4.3 hours on weekdays among those aged 13-15. During weekend days there was an increase from 3.6 hours spend sedentary for those aged 2-4 to 4.7 hours for those aged 8-10 and then to 5.7 hours for those aged 13-15.

Different patterns of sedentary time by age were found between boys and girls only on weekdays. For boys, sedentary time on weekdays was higher for boys aged 2-4 than for boys aged 5-7 (3.0 compared to 2.8 respectively) and then increased with age, whereas for girls, weekday sedentary time generally rose with age. **Figures 6I and 6J, Table 6.10**

Figure 6I
Children's sedentary time on weekdays, 2018, by age and sex

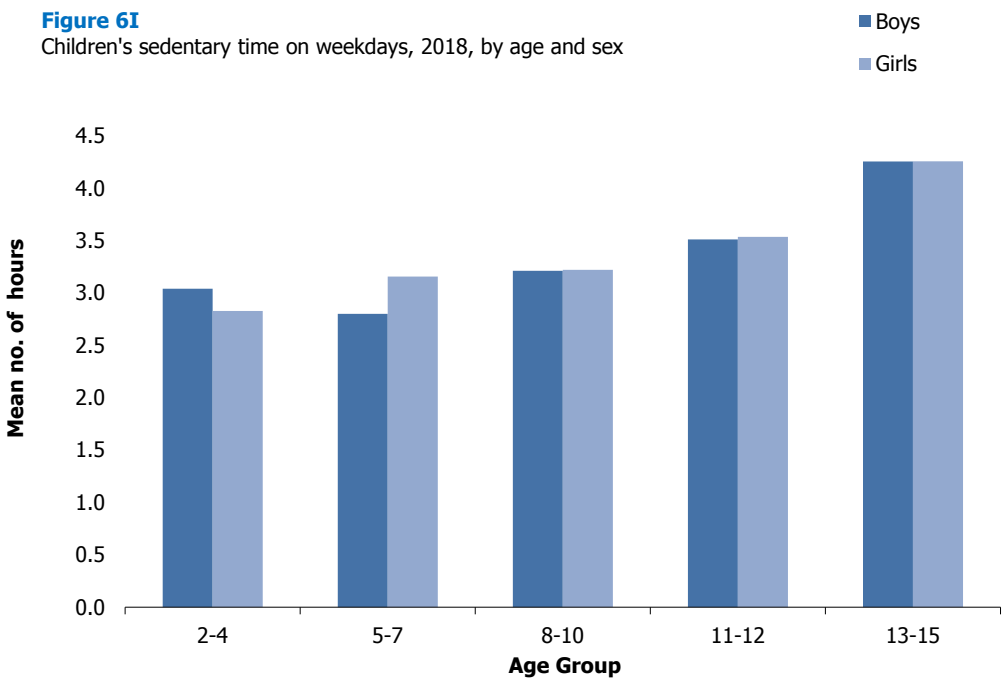
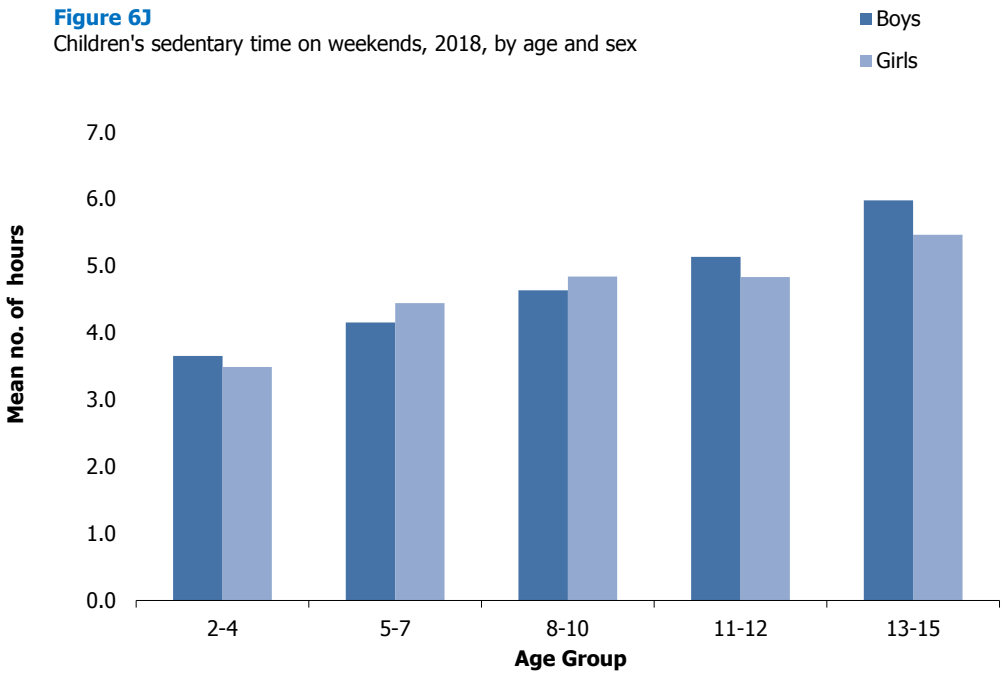


Figure 6J
Children's sedentary time on weekends, 2018, by age and sex



References and notes

[1] See: https://www.who.int/ncds/prevention/physical-activity/gappa/

[2] See: https://www.gov.scot/publications/active-scotland-delivery-plan/

[3] See: http://www.bristol.ac.uk/sps/research/projects/physical-activity/

[4] See: https://www.gov.scot/publications/scotlands-public-health-priorities/

[5] See: https://www.gov.scot/publications/active-scotland-delivery-plan/

[6] See: http://nationalperformance.gov.scot/

[7] See: www.gov.scot/Topics/Statistics/Browse/Health/scottish-health-survey

[8] The questions used in the survey since 1998 are based on the Allied Dunbar National Fitness Survey, a major study of physical activity among the adult population in England carried out in 1990. For further details see: Health Education Authority. Allied Dunbar National Fitness Survey. Health Education Authority and Sports Council, London. 1992

[9] Bromley C. (2013) Chapter 6: Physical Activity. In Rutherford L, Hinchliffe S and Sharp C (eds.) Scottish Health Survey 2012 – Volume 1: Main Report. Edinburgh: Scottish Government. Available from: www.gov.scot/Publications/2013/09/3684/10

[10] The questions on child physical activity included in SHeS since 1998 are based on the 1997 Health Survey for England (HSE) children's physical activity module.

Table list

Table 6.1: Adult summary activity levels, 2012 to 2018

Base: Aged 16 and over *2012 - 2018*

		2012	2013	2014	2015	2016	2017	2018
Summary activity levels[a]		%	%	%	%	%	%	%
Men	Meets recommendations	67	71	68	67	69	71	70
	Some activity	10	8	10	9	10	9	8
	Low activity	4	3	4	4	3	3	3
	Very low activity	19	18	19	19	18	17	19
Women	Meets recommendations	58	58	59	59	59	60	62
	Some activity	14	14	12	14	12	12	12
	Low activity	6	5	5	5	6	5	4
	Very low activity	23	23	24	23	23	23	22
All adults	Meets recommendations	62	64	63	63	64	65	66
	Some activity	12	11	11	12	11	11	10
	Low activity	5	4	4	5	5	4	4
	Very low activity	21	21	22	21	20	20	21
Unweighted bases	*Men*	*2122*	*2129*	*2054*	*2229*	*1874*	*1590*	*2060*
	Women	*2685*	*2747*	*2581*	*2733*	*2401*	*2083*	*2726*
	All adults	*4807*	*4876*	*4635*	*4962*	*4275*	*3673*	*4786*
Weighted bases	*Men*	*2307*	*2336*	*2225*	*2383*	*2051*	*1768*	*2300*
	Women	*2505*	*2542*	*2411*	*2585*	*2213*	*1904*	*2486*
	All adults	*4811*	*4878*	*4636*	*4968*	*4264*	*3673*	*4786*

a Meets moderate/vigorous physical activity (MVPA) guidelines: at least 150 minutes of moderately intensive physical activity or 75 minutes vigorous activity per week or an equivalent combination of both. Some activity: 60-149 minutes of moderate activity or / 30-74 minutes of vigorous activity or an equivalent combination of these. Low activity: 30-59 minutes of moderate activity or 15-29 minutes of vigorous activity or an equivalent combination of these. Very low activity: Less than 30 minutes of moderate activity or less than 15 minutes of vigorous activity or an equivalent combination of these

Table 6.2: Adult summary activity levels, 2018, by age and sex

Base: Aged 16 and over *2018*

		Age							Total
		16-24[b]	25-34	35-44	45-54	55-64	65-74	75+	
Summary activity levels[a]		%	%	%	%	%	%	%	%
Men	Meets recommendations	83	83	79	68	66	56	39	70
	Some activity	6	7	5	8	10	10	14	8
	Low activity	2	1	2	4	4	4	7	3
	Very low activity	9	9	14	19	21	30	41	19
Women	Meets recommendations	70	77	72	65	60	50	26	62
	Some activity	9	10	13	13	11	13	14	12
	Low activity	5	2	4	5	5	4	5	4
	Very low activity	16	11	11	18	24	33	55	22
All adults	Meets recommendations	77	80	75	67	63	53	31	66
	Some activity	8	8	9	11	10	11	14	10
	Low activity	3	2	3	5	4	4	6	4
	Very low activity	12	10	12	18	22	31	49	21

Continued…

Table 6.2: *- Continued*

Base: Aged 16 and over									*2018*
		Age							Total
		16-24[b]	25-34	35-44	45-54	55-64	65-74	75+	
Summary activity levels[a]									
Unweighted bases	*Men*	*158*	*227*	*279*	*375*	*371*	*388*	*262*	*2060*
	Women	*202*	*362*	*407*	*472*	*490*	*468*	*325*	*2726*
	All adults	*360*	*589*	*686*	*847*	*861*	*856*	*587*	*4786*
Weighted bases	*Men*	*307*	*384*	*349*	*411*	*372*	*288*	*190*	*2300*
	Women	*294*	*400*	*367*	*443*	*394*	*320*	*266*	*2486*
	All adults	*601*	*784*	*716*	*854*	*767*	*608*	*456*	*4786*

a Meets moderate/vigorous physical activity (MVPA) guidelines: at least 150 minutes of moderately intensive physical activity or 75 minutes vigorous activity per week or an equivalent combination of both. Some activity: 60-149 minutes of moderate activity or / 30-74 minutes of vigorous activity or an equivalent combination of these. Low activity: 30-59 minutes of moderate activity or 15-29 minutes of vigorous activity or an equivalent combination of these. Very low activity: Less than 30 minutes of moderate activity or less than 15 minutes of vigorous activity or an equivalent combination of these

b Physical activity guidelines for those aged 16-18 are at least one hour of moderate or vigorous activity each day. As SHeS participants of that age were given the adult questionnaire, which does not ask separately about each day, they have been included in this table assessed against the adult criteria.

Table 6.3: Adult summary activity levels, (age-standardised), 2012 to 2018, by area deprivation and sex

Base: Aged 16 and over *2012 - 2018*

			2012	2013	2014	2015	2016	2017	2018
Adult summary activity levels[a]			%	%	%	%	%	%	%
Men	Meets MVPA guidelines	1st (Most deprived)	56	59	59	52	60	63	57
		2nd	64	66	65	64	60	68	65
		3rd	66	74	67	70	72	68	71
		4th	69	74	72	70	75	76	73
		5th (Least deprived)	76	76	73	76	77	77	83
	Some activity	1st (Most deprived)	9	6	11	10	10	8	9
		2nd	11	9	8	8	10	10	10
		3rd	12	8	8	9	8	12	8
		4th	8	10	11	8	10	5	9
		5th (Least deprived)	9	7	11	11	8	10	6
	Low activity	1st (Most deprived)	3	4	2	6	4	3	4
		2nd	2	3	4	4	3	6	3
		3rd	4	3	5	4	3	4	3
		4th	4	3	4	4	3	3	4
		5th (Least deprived)	5	4	4	4	4	2	2
	Very low activity	1st (Most deprived)	33	31	28	32	25	27	31
		2nd	24	21	24	23	27	16	22
		3rd	18	16	20	17	17	17	19
		4th	19	13	14	18	13	16	13
		5th (Least deprived)	10	13	11	9	11	11	9

Continued…

Table 6.3: *Continued*

Base: Aged 16 and over *2012 - 2018*

	Adult summary activity levels[a]		2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %
Women	Meets MVPA guidelines	1st (Most deprived)	52	49	50	48	48	51	52
		2nd	52	52	57	53	55	52	58
		3rd	56	59	57	61	60	61	62
		4th	60	62	62	64	64	66	67
		5th (Least deprived)	65	67	67	66	71	67	67
	Some activity	1st (Most deprived)	12	12	10	13	11	11	11
		2nd	15	16	12	16	13	12	12
		3rd	16	13	13	13	13	13	12
		4th	14	14	14	13	13	12	10
		5th (Least deprived)	11	15	11	12	10	12	14
	Low activity	1st (Most deprived)	4	4	5	5	8	6	4
		2nd	6	4	4	6	5	7	2
		3rd	5	6	6	5	6	4	5
		4th	7	6	5	3	6	3	5
		5th (Least deprived)	6	3	4	5	4	4	5
	Very low activity	1st (Most deprived)	32	35	36	35	34	32	33
		2nd	27	29	27	25	27	29	28
		3rd	23	23	24	21	20	23	21
		4th	20	19	19	19	17	18	18
		5th (Least deprived)	17	15	18	17	15	16	14

Continued…

Table 6.3: *Continued*

Base: Aged 16 and over *2012 - 2018*

	Adult summary activity levels[a]		2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %
All adults	Meets MVPA guidelines	1st (Most deprived)	53	54	54	50	53	56	54
		2nd	58	59	61	58	57	59	62
		3rd	61	66	62	65	66	64	66
		4th	64	67	67	67	69	71	70
		5th (Least deprived)	71	72	70	71	74	72	74
	Some activity	1st (Most deprived)	10	9	10	11	11	10	10
		2nd	13	12	10	12	12	11	11
		3rd	14	10	11	11	11	12	10
		4th	11	12	12	10	11	9	10
		5th (Least deprived)	10	11	11	11	9	11	10
	Low activity	1st (Most deprived)	3	4	4	5	6	4	4
		2nd	4	4	4	5	4	7	3
		3rd	4	4	5	5	4	4	4
		4th	5	4	4	4	5	3	4
		5th (Least deprived)	6	4	4	4	4	3	4
	Very low activity	1st (Most deprived)	33	33	32	34	30	30	32
		2nd	25	25	25	24	27	22	25
		3rd	21	20	22	19	19	20	20
		4th	20	16	17	19	15	17	16
		5th (Least deprived)	14	14	15	13	13	14	12

Continued…

Table 6.3: *Continued*

Base: Aged 16 and over *2012 - 2018*

			2012	2013	2014	2015	2016	2017	2018
Adult summary activity levels[a]									
Men	*Unweighted bases*	*1st (Most deprived)*	*301*	*327*	*336*	*385*	*294*	*236*	*336*
		2nd	*386*	*444*	*394*	*440*	*318*	*311*	*418*
		3rd	*499*	*509*	*477*	*474*	*427*	*360*	*411*
		4th	*496*	*447*	*444*	*541*	*416*	*372*	*496*
		5th (Least deprived)	*440*	*402*	*403*	*389*	*419*	*311*	*399*
	Weighted bases	*1st (Most deprived)*	*388*	*384*	*411*	*440*	*413*	*292*	*406*
		2nd	*472*	*472*	*428*	*482*	*374*	*368*	*510*
		3rd	*479*	*491*	*423*	*438*	*442*	*357*	*443*
		4th	*485*	*459*	*472*	*565*	*382*	*377*	*502*
		5th (Least deprived)	*482*	*530*	*492*	*458*	*440*	*375*	*439*
Women	*Unweighted bases*	*1st (Most deprived)*	*428*	*457*	*441*	*486*	*418*	*364*	*449*
		2nd	*502*	*554*	*535*	*532*	*432*	*393*	*572*
		3rd	*617*	*667*	*555*	*585*	*544*	*463*	*519*
		4th	*592*	*601*	*570*	*657*	*499*	*454*	*641*
		5th (Least deprived)	*546*	*468*	*480*	*473*	*508*	*409*	*545*
	Weighted bases	*1st (Most deprived)*	*477*	*484*	*436*	*503*	*492*	*373*	*440*
		2nd	*499*	*504*	*492*	*518*	*421*	*375*	*525*
		3rd	*517*	*532*	*463*	*500*	*450*	*387*	*454*
		4th	*484*	*522*	*532*	*588*	*380*	*369*	*562*
		5th (Least deprived)	*527*	*500*	*488*	*475*	*471*	*401*	*505*

Continued…

Table 6.3: *Continued*

Base: Aged 16 and over *2012 - 2018*

			2012	2013	2014	2015	2016	2017	2018
Adult summary activity levels[a]									
All adults	*Unweighted bases*	*1st (Most deprived)*	*729*	*784*	*777*	*871*	*712*	*600*	*785*
		2nd	*888*	*998*	*929*	*972*	*750*	*704*	*990*
		3rd	*1116*	*1176*	*1032*	*1059*	*971*	*823*	*930*
		4th	*1088*	*1048*	*1014*	*1198*	*915*	*826*	*1137*
		5th (Least deprived)	*986*	*870*	*883*	*862*	*927*	*720*	*944*
	Weighted bases	*1st (Most deprived)*	*865*	*868*	*846*	*944*	*905*	*665*	*846*
		2nd	*971*	*976*	*920*	*999*	*795*	*743*	*1035*
		3rd	*996*	*1023*	*886*	*939*	*892*	*744*	*898*
		4th	*970*	*982*	*1004*	*1153*	*762*	*746*	*1064*
		5th (Least deprived)	*1009*	*1030*	*980*	*933*	*911*	*775*	*944*

a Meets moderate/vigorous physical activity (MVPA) guidelines: at least 150 minutes of moderately intensive physical activity or 75 minutes vigorous activity per week or an equivalent combination of both. Some activity: 60-149 minutes of moderate activity or / 30-74 minutes of vigorous activity or an equivalent combination of these. Low activity: 30-59 minutes of moderate activity or 15-29 minutes of vigorous activity or an equivalent combination of these. Very low activity: Less than 30 minutes of moderate activity or less than 15 minutes of vigorous activity or an equivalent combination of these.

Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Please note that in 2018 this table was produced with age-standadisation applied to valid cases only, whereas in previous reports this table was produced with age-standardisation applied to the whole sample.

Table 6.4: Adult adherence to muscle strengthening and MVPA guidelines, 2018, by age and sex

Base: Aged 16 and over *2018*

		Age							Total
		16-24[b]	25-34	35-44	45-54	55-64	65-74	75+	
Proportion meeting guidelines[a]		%	%	%	%	%	%	%	%
Men	Meets MVPA & muscle guidelines	53	44	36	26	23	14	12	31
	Meets MVPA guidelines only	30	39	43	42	42	42	27	39
	Meets muscle guideline only	0	-	1	1	1	0	2	1
	Meets neither guideline	17	17	20	30	33	43	60	29
	Total meeting MPVA guideline	*83*	*83*	*79*	*68*	*66*	*56*	*39*	*70*
	Total meeting muscle guideline	*54*	*44*	*37*	*27*	*24*	*15*	*13*	*32*
Women	Meets MVPA & muscle guidelines	47	38	31	28	23	15	5	27
	Meets MVPA guidelines only	23	39	41	37	37	35	22	34
	Meets muscle guideline only	1	1	1	2	1	2	2	1
	Meets neither guideline	29	22	27	34	38	48	72	37
	Total meeting MPVA guideline	*70*	*77*	*72*	*65*	*60*	*50*	*26*	*62*
	Total meeting muscle guideline	*48*	*39*	*32*	*29*	*24*	*17*	*6*	*29*
All adults	Meets MVPA & muscle guidelines	50	41	34	27	23	15	8	29
	Meets MVPA guidelines only	27	39	42	40	40	38	24	37
	Meets muscle guideline only	1	0	1	1	1	1	2	1
	Meets neither guideline	23	20	24	32	36	46	67	33
	Total meeting MPVA guideline	*77*	*80*	*75*	*67*	*63*	*53*	*31*	*66*
	Total meeting muscle guideline	*51*	*42*	*34*	*28*	*24*	*16*	*9*	*30*

Continued…

Table 6.4: - *Continued*

Base: Aged 16 and over									*2018*
		Age							Total
		16-24[b]	25-34	35-44	45-54	55-64	65-74	75+	
Proportion meeting guidelines[a]									
Unweighted bases	*Men*	*158*	*227*	*279*	*375*	*371*	*388*	*262*	*2060*
	Women	*202*	*362*	*407*	*472*	*490*	*468*	*325*	*2726*
	All adults	*360*	*589*	*686*	*847*	*861*	*856*	*587*	*4786*
Weighted bases	*Men*	*307*	*384*	*349*	*411*	*372*	*288*	*190*	*2300*
	Women	*294*	*400*	*367*	*443*	*394*	*320*	*266*	*2486*
	All adults	*601*	*784*	*716*	*854*	*767*	*608*	*456*	*4786*

a Meets moderate / vigorous physical activity (MVPA) guidelines = 150 mins moderate / 75 mins vigorous / combination of both per week; Meets muscle guideline = carries out activities that strengthen muscles on at least two days per week

b Physical activity guidelines for those aged 16-18 are at least one hour of moderate or vigorous activity each day. As SHeS participants of that age were given the adult questionnaire, which does not ask separately about each day, they have been included in this table assessed against the adult criteria

Table 6.5: Reasons for participating in activity, 2018, by age and sex

Base: Aged 16 and over who took part in any sport / exercise in the past month — *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Reasons for participating in activity[a]		%	%	%	%	%	%	%	%
	To keep fit (not just to lose weight)	77	71	77	66	64	57	51	69
	To lose weight	19	38	33	30	27	15	5	27
	To take children	1	8	20	15	4	10	2	10
	To socialise	32	32	37	30	32	40	39	34
	To train/ take part in competition	34	15	10	14	7	3	8	14
	To improve my performance	35	34	31	20	22	16	15	27
	Just enjoy it	71	63	71	58	65	72	63	66
Men	To help with injury or disability	6	5	9	8	12	9	8	8
	Part of voluntary work	3	0	2	2	1	2	2	2
	To walk the dog	4	9	14	14	8	11	3	10
	For health reasons/ to improve health	17	35	39	44	39	39	32	35
	For peace and quiet	16	14	15	19	25	19	13	18
	To de-stress, relax and unwind	41	46	46	43	46	31	20	42
	To feel closer to nature	3	8	20	16	21	23	14	14
	Other	2	4	2	3	5	2	7	3

Continued…

Table 6.5: *- Continued*

Base: Aged 16 and over who took part in any sport / exercise in the past month — *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Reasons for participating in activity[a]		%	%	%	%	%	%	%	%
	To keep fit (not just to lose weight)	68	62	73	74	67	63	60	68
	To lose weight	33	37	53	31	26	14	15	33
	To take children	2	24	26	13	6	9	12	14
	To socialise	37	28	24	27	27	46	49	31
	To train/ take part in competition	13	11	7	5	3	1	2	7
	To improve my performance	23	21	19	10	11	8	9	16
	Just enjoy it	61	61	53	58	60	67	61	59
Women	To help with injury or disability	5	7	7	13	13	13	10	9
	Part of voluntary work	2	1	1	1	1	3	0	1
	To walk the dog	9	12	19	11	13	6	9	12
	For health reasons/ to improve health	22	32	37	44	52	37	41	37
	For peace and quiet	7	18	13	17	15	15	7	14
	To de-stress, relax and unwind	36	53	47	58	45	31	28	46
	To feel closer to nature	3	13	13	14	14	19	7	12
	Other	1	2	-	2	-	1	-	1

Continued…

Table 6.5: - *Continued*

Base: Aged 16 and over who took part in any sport / exercise in the past month — *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Reasons for participating in activity[a]		%	%	%	%	%	%	%	%
All adults	To keep fit (not just to lose weight)	73	66	75	70	65	60	55	68
	To lose weight	26	37	43	31	26	15	10	30
	To take children	1	16	23	14	5	10	7	12
	To socialise	35	30	31	28	30	43	44	32
	To train/ take part in competition	23	13	8	9	5	2	5	11
	To improve my performance	29	28	25	15	16	13	12	21
	Just enjoy it	67	62	62	58	62	70	62	63
	To help with injury or disability	6	6	8	11	12	11	9	9
	Part of voluntary work	2	1	1	1	1	3	1	1
	To walk the dog	6	11	17	12	11	9	6	11
	For health reasons/ to improve health	19	33	38	44	45	38	36	36
	For peace and quiet	12	16	14	18	20	17	10	16
	To de-stress, relax and unwind	39	49	47	50	45	31	24	44
	To feel closer to nature	3	11	17	15	18	21	10	13
	Other	1	3	1	3	3	2	3	2

Continued…

Table 6.5: *- Continued*

Base: Aged 16 and over who took part in any sport / exercise in the past month — *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Reasons for participating in activity[a]									
Unweighted bases	*Men*	*69*	*119*	*120*	*146*	*128*	*112*	*56*	*750*
	Women	*100*	*159*	*152*	*171*	*153*	*100*	*52*	*887*
	All adults	*169*	*278*	*272*	*317*	*281*	*212*	*108*	*1637*
Weighted bases	*Men*	*146*	*184*	*153*	*156*	*130*	*84*	*42*	*894*
	Women	*138*	*174*	*144*	*154*	*128*	*69*	*44*	*851*
	All adults	*284*	*358*	*296*	*310*	*258*	*153*	*86*	*1746*

a Respondents selected as many reasons as apply

Table 6.6: Barriers to being more active, 2018, by age and sex

Base: Aged 16 and over who did not take part in any sport / exercise in past month

2018

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Barriers to being more active[a]		%	%	%	%	%	%	%	%
Men	It costs too much	*	[13]	12	6	3	1	-	6
	No one to do it with	*	[-]	2	1	-	2	1	1
	Never occurred to me	*	[-]	12	1	1	3	5	4
	Not really interested	*	[19]	22	19	17	17	13	19
	Fear of injury/making current injury worse	*	[5]	4	9	7	6	3	6
	Wouldn't enjoy it	*	[2]	17	2	2	0	2	5
	Health isn't good enough	*	[14]	24	28	33	41	51	30
	Might feel uncomfortable or out of place	*	[8]	1	1	-	3	1	3
	Facilities are too far away	*	[5]	2	4	4	1	0	3
	Not enough information on what is available	*	[-]	-	2	-	1	-	1
	It's difficult to find the time	*	[40]	46	38	31	13	5	30
	Respondent already does enough	*	[2]	6	6	8	9	10	7
	Other reason	*	[8]	3	5	5	2	7	5
	No reason	*	[7]	7	6	9	14	13	9
	Weather	*	[9]	-	2	6	3	-	3

Continued…

Table 6.6: - *Continued*

Base: Aged 16 and over who did not take part in any sport / exercise in past month

2018

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Barriers to being more active[a]		%	%	%	%	%	%	%	%
Women	It costs too much	[16]	10	7	6	4	2	0	5
	No one to do it with	[7]	2	0	5	4	2	2	3
	Never occurred to me	[8]	-	4	1	1	3	4	3
	Not really interested	[22]	10	12	16	16	20	16	16
	Fear of injury/making current injury worse	[7]	1	3	8	8	7	8	6
	Wouldn't enjoy it	[2]	7	3	5	3	6	1	4
	Health isn't good enough	[14]	12	14	29	31	39	56	31
	Might feel uncomfortable or out of place	[12]	10	5	3	3	2	-	4
	Facilities are too far away	[-]	2	1	3	3	3	3	2
	Not enough information on what is available	[-]	-	-	-	1	2	-	0
	It's difficult to find the time	[31]	50	55	35	31	14	3	29
	Respondent already does enough	[2]	10	7	7	12	12	10	9
	Other reason	[2]	15	7	5	2	1	4	5
	No reason	[16]	5	5	5	10	8	6	7
	Weather	[-]	-	-	1	3	0	-	1

Continued…

Table 6.6: - *Continued*

Base: Aged 16 and over who did not take part in any sport / exercise in past month

2018

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Barriers to being more active[a]		%	%	%	%	%	%	%	%
All adults	It costs too much	17	11	9	6	4	2	0	6
	No one to do it with	5	1	1	3	2	2	2	2
	Never occurred to me	7	-	7	1	1	3	4	3
	Not really interested	28	14	16	17	16	18	15	17
	Fear of injury/making current injury worse	4	3	3	8	7	7	6	6
	Wouldn't enjoy it	9	5	9	4	3	3	2	4
	Health isn't good enough	8	13	18	28	32	40	54	30
	Might feel uncomfortable or out of place	11	9	4	2	2	2	0	3
	Facilities are too far away	-	3	1	3	3	2	2	2
	Not enough information on what is available	-	-	-	1	1	1	-	1
	It's difficult to find the time	39	46	51	37	31	14	4	30
	Respondent already does enough	3	6	7	7	11	10	10	8
	Other reason	4	12	5	5	4	1	5	5
	No reason	12	6	6	5	9	11	9	8
	Weather	-	4	-	2	4	2	-	2

Continued…

Table 6.6: - *Continued*

Base: Aged 16 and over who did not take part in any sport / exercise in past month — *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Barriers to being more active[a]									
Unweighted bases	*Men*	*29*	*46*	*65*	*98*	*109*	*138*	*115*	*600*
	Women	*42*	*81*	*103*	*137*	*153*	*193*	*157*	*866*
	All adults	*71*	*127*	*168*	*235*	*262*	*331*	*272*	*1466*
Weighted bases	*Men*	*52*	*66*	*73*	*112*	*111*	*104*	*81*	*600*
	Women	*54*	*85*	*93*	*133*	*127*	*137*	*128*	*757*
	All adults	*106*	*151*	*167*	*245*	*238*	*241*	*209*	*1357*

a Respondents selected as many categories as applied

Asterisks denote that the interpretation of the data is not possible due to very low bases for these sub-groups - subgroup base < 30. Square brackets around numbers denote that interpretation of the data should be cautious due to low bases for these sub-groups

Table 6.7: Adults' sedentary time, 2015 to 2018, by sex

Base: Aged 16 and over *2015 - 2018*

			2015	2016	2017	2018
Sedentary leisure time in hours[a] (TV & non-TV)						
Men	Weekday	Mean	5.3	5.4	5.3	5.3
		SE of the mean	0.07	0.09	0.09	0.09
		Standard deviation	2.78	2.82	2.76	2.86
		Median	5.0	5.0	5.0	5.0
		% in bottom quartile (≤3.50)	29	28	31	29
		% in second quartile (3.51-5.00)	32	32	29	29
		% in third quartile (5.01-7.00)	20	21	20	23
		% in top quartile (≥7.01)	19	20	19	19
	Weekend	Mean	6.1	6.2	6.2	6.1
		SE of the mean	0.08	0.11	0.10	0.10
		Standard deviation	2.97	3.00	2.95	3.03
		Median	6.0	6.0	6.0	6.0
		% in bottom quartile (≤3.50)	31	30	30	31
		% in second quartile (3.51-5.00)	30	18	30	18
		% in third quartile (5.01-7.00)	19	25	21	31
		% in top quartile (≥7.01)	19	27	20	19
Women	Weekday	Mean	5.1	5.1	5.2	5.3
		SE of the mean	0.06	0.07	0.08	0.07
		Standard deviation	2.60	2.76	2.72	2.72
		Median	4.5	4.5	4.8	5.0
		% in bottom quartile (≤3.50)	31	32	32	31
		% in second quartile (3.51-5.00)	30	30	29	29
		% in third quartile (5.01-7.00)	20	20	21	21
		% in top quartile (≥7.01)	18	17	18	19
	Weekend	Mean	5.8	5.7	5.9	5.8
		SE of the mean	0.07	0.08	0.09	0.07
		Standard deviation	2.77	2.81	2.86	2.88
		Median	5.5	5.0	5.5	5.0
		% in bottom quartile (≤3.50)	34	36	34	34
		% in second quartile (3.51-5.00)	31	20	30	19
		% in third quartile (5.01-7.00)	20	23	20	29
		% in top quartile (≥7.01)	16	22	16	17

Continued…

Table 6.7: *- Continued*

Base: Aged 16 and over *2015 - 2018*

			2015	2016	2017	2018
Sedentary leisure time in hours[a] (TV & non-TV)						
All adults	Weekday	Mean	5.2	5.3	5.2	5.3
		SE of the mean	0.05	0.06	0.07	0.07
		Standard deviation	2.69	2.79	2.74	2.79
		Median	5.0	4.8	5.0	5.0
		% in bottom quartile (≤3.50)	30	30	32	30
		% in second quartile (3.51-5.00)	31	31	29	29
		% in third quartile (5.01-7.00)	20	20	21	22
		% in top quartile (≥7.01)	19	19	18	19
	Weekend	Mean	6.0	5.9	6.0	6.0
		SE of the mean	0.06	0.08	0.08	0.07
		Standard deviation	2.87	2.91	2.91	2.96
		Median	5.5	5.5	5.7	5.5
		% in bottom quartile (≤3.50)	33	33	32	33
		% in second quartile (3.51-5.00)	30	19	30	19
		% in third quartile (5.01-7.00)	19	24	20	30
		% in top quartile (≥7.01)	18	24	18	18
Bases	*Unweighted bases*	*Men weekday*	*2227*	*1873*	*1581*	*2059*
		Women weekday	*2736*	*2417*	*2087*	*2719*
		All adults weekday	*4963*	*4290*	*3668*	*4778*
		Men weekend	*2221*	*1875*	*1575*	*2047*
		Women weekend	*2729*	*2417*	*2074*	*2705*
		All adults weekend	*4950*	*4292*	*3649*	*4752*
	Weighted bases	*Men weekday*	*2384*	*2048*	*1759*	*2300*
		Women weekday	*2578*	*2230*	*1904*	*2479*
		All adults weekday	*4962*	*4278*	*3663*	*4779*
		Men weekend	*2376*	*2050*	*1751*	*2283*
		Women weekend	*2572*	*2230*	*1892*	*2464*
		All adults weekend	*4948*	*4280*	*3643*	*4747*

The time series can only be compared back to 2015 due to changes in the derivation of the sedentary time variables in 2015

Table 6.8: Adults' sedentary time, 2018, by age and sex

Base: Aged 16 and over *2018*

			Age							Total
			16-24	25-34	35-44	45-54	55-64	65-74	75+	
Sedentary leisure time in hours[a] (TV & non-TV)			%	%	%	%	%	%	%	%
Men	Weekday	Mean	6.0	4.6	3.9	5.1	5.4	6.7	6.9	5.3
		SE of the mean	0.17	0.11	0.12	0.15	0.15	0.17	0.20	0.06
		Standard deviation	2.85	2.12	2.30	3.11	2.81	2.85	2.80	2.86
		Median	5.5	4.0	3.5	4.5	5.0	6.0	6.5	5.0
		% in bottom quartile (≤3.50)	21	36	53	33	25	11	9	29
		% in second quartile (3.51-5.00)	19	34	30	31	35	26	24	29
		% in third quartile (5.01-7.00)	34	21	10	21	23	29	27	23
		% in top quartile (≥7.01)	26	10	7	15	17	33	39	19
	Weekend	Mean	7.1	5.5	5.1	5.9	6.0	6.7	7.1	6.1
		SE of the mean	0.19	0.12	0.15	0.16	0.15	0.17	0.24	0.06
		Standard deviation	3.21	2.40	2.79	3.29	2.89	2.86	3.35	3.03
		Median	6.5	5.0	4.5	5.5	5.5	6.5	6.5	6.0
		% in bottom quartile (≤3.50)	20	35	48	37	30	22	20	31
		% in second quartile (3.51-5.00)	14	22	20	17	20	16	16	18
		% in third quartile (5.01-7.00)	35	30	19	32	32	38	37	31
		% in top quartile (≥7.01)	32	14	12	15	17	23	28	19

Continued…

Table 6.8: - *Continued*

Base: Aged 16 and over *2018*

			Age							Total
			16-24	25-34	35-44	45-54	55-64	65-74	75+	
Sedentary leisure time in hours[a] (TV & non-TV)			%	%	%	%	%	%	%	%
Women	Weekday	Mean	6.2	4.4	4.0	4.5	5.3	6.5	7.2	5.3
		SE of the mean	0.16	0.12	0.11	0.11	0.12	0.16	0.17	0.05
		Standard deviation	2.76	2.31	2.20	2.31	2.45	2.84	2.82	2.72
		Median	6.0	4.0	3.5	4.0	5.0	6.0	7.0	5.0
		% in bottom quartile (≤3.50)	20	46	51	38	25	15	6	31
		% in second quartile (3.51-5.00)	23	30	30	35	34	24	22	29
		% in third quartile (5.01-7.00)	30	13	12	17	25	29	30	21
		% in top quartile (≥7.01)	27	11	8	10	16	33	42	19
	Weekend	Mean	6.8	5.2	5.0	5.4	5.7	6.6	7.2	5.8
		SE of the mean	0.18	0.13	0.13	0.13	0.13	0.17	0.19	0.06
		Standard deviation	3.04	2.69	2.49	2.63	2.61	3.07	3.06	2.88
		Median	6.5	5.0	4.5	5.0	5.0	6.0	7.0	5.0
		% in bottom quartile (≤3.50)	23	44	45	39	36	23	17	34
		% in second quartile (3.51-5.00)	20	16	21	21	20	19	18	19
		% in third quartile (5.01-7.00)	28	28	24	28	30	37	34	29
		% in top quartile (≥7.01)	29	12	10	13	14	21	30	17

Continued…

Table 6.8: - *Continued*

Base: Aged 16 and over *2018*

			Age							Total
			16-24	25-34	35-44	45-54	55-64	65-74	75+	
Sedentary leisure time in hours[a] (TV & non-TV)			%	%	%	%	%	%	%	%
All adults	Weekday	Mean	6.1	4.5	3.9	4.8	5.3	6.6	7.1	5.3
		SE of the mean	0.12	0.08	0.08	0.09	0.10	0.12	0.13	0.04
		Standard deviation	2.80	2.22	2.25	2.74	2.63	2.84	2.81	2.79
		Median	6.0	4.0	3.5	4.0	5.0	6.0	7.0	5.0
		% in bottom quartile (≤3.50)	21	41	52	36	25	13	7	30
		% in second quartile (3.51-5.00)	21	32	30	33	34	25	23	29
		% in third quartile (5.01-7.00)	32	17	11	19	24	29	29	22
		% in top quartile (≥7.01)	26	10	7	12	17	33	41	19
	Weekend	Mean	7.0	5.3	5.0	5.6	5.8	6.7	7.1	6.0
		SE of the mean	0.13	0.09	0.10	0.10	0.10	0.12	0.15	0.04
		Standard deviation	3.12	2.55	2.64	2.97	2.76	2.97	3.18	2.96
		Median	6.5	5.0	4.5	5.0	5.0	6.0	6.5	5.5
		% in bottom quartile (≤3.50)	21	39	47	38	33	23	18	33
		% in second quartile (3.51-5.00)	17	19	21	19	20	18	17	19
		% in third quartile (5.01-7.00)	31	29	22	30	31	37	35	30
		% in top quartile (≥7.01)	31	13	11	14	15	22	29	18

Continued…

Table 6.8: - *Continued*

Base: Aged 16 and over — *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Sedentary leisure time in hours[a] (TV & non-TV)									
Unweighted bases	*Men weekday*	*154*	*228*	*277*	*377*	*370*	*391*	*262*	*2059*
	Women weekday	*203*	*362*	*407*	*469*	*490*	*465*	*323*	*2719*
	All adults weekday	*357*	*590*	*684*	*846*	*860*	*856*	*585*	*4778*
	Men weekend	*153*	*227*	*275*	*374*	*370*	*389*	*259*	*2047*
	Women weekend	*201*	*357*	*406*	*468*	*486*	*465*	*322*	*2705*
	All adults weekend	*354*	*584*	*681*	*842*	*856*	*854*	*581*	*4752*
Weighted bases	*Men weekday*	*297*	*388*	*348*	*414*	*371*	*291*	*190*	*2298*
	Women weekday	*295*	*401*	*367*	*441*	*394*	*318*	*265*	*2480*
	All adults weekday	*592*	*788*	*715*	*855*	*764*	*609*	*454*	*4778*
	Men weekend	*292*	*386*	*347*	*409*	*371*	*288*	*188*	*2281*
	Women weekend	*291*	*396*	*366*	*439*	*391*	*318*	*263*	*2465*
	All adults weekend	*583*	*783*	*713*	*848*	*762*	*607*	*451*	*4746*

a Excludes those without a limiting illness or disability who said they were sedentary for > 14 hours a day

Table 6.9: Childrens' sedentary time, 2015 to 2018, by sex

Base: Aged 2-15 *2015 - 2018*

			2015	2016	2017	2018
Sedentary leisure time in hours[a] (TV & non-TV)						
Boys	Weekday	Mean	3.2	3.4	3.3	3.3
		SE of the mean	0.06	0.06	0.06	0.05
		Standard deviation	1.26	1.31	1.32	1.41
		Median	3.0	3.5	3.0	3.0
		% in bottom quartile (≤3.50)	26	29	37	27
		% in second quartile (3.51-5.00)	30	20	16	27
		% in third quartile (5.01-7.00)	24	26	24	22
		% in top quartile (≥7.01)	20	25	23	24
	Weekend	Mean	4.5	4.5	4.8	4.6
		SE of the mean	0.10	0.08	0.11	0.08
		Standard deviation	2.03	1.90	2.12	2.11
		Median	4.0	4.0	4.5	4.0
		% in bottom quartile (≤3.50)	31	30	27	30
		% in second quartile (3.51-5.00)	22	21	26	21
		% in third quartile (5.01-7.00)	29	33	23	29
		% in top quartile (≥7.01)	18	15	23	20
Girls	Weekday	Mean	3.4	3.4	3.4	3.3
		SE of the mean	0.06	0.06	0.06	0.06
		Standard deviation	1.35	1.23	1.34	1.29
		Median	3.0	3.5	3.3	3.0
		% in bottom quartile (≤3.50)	24	31	32	24
		% in second quartile (3.51-5.00)	29	19	17	27
		% in third quartile (5.01-7.00)	26	30	25	26
		% in top quartile (≥7.01)	22	20	25	23
	Weekend	Mean	4.5	4.6	4.6	4.5
		SE of the mean	0.09	0.09	0.11	0.09
		Standard deviation	1.88	1.95	1.95	2.02
		Median	4.0	4.5	4.0	4.0
		% in bottom quartile (≤3.50)	30	26	27	31
		% in second quartile (3.51-5.00)	24	24	30	19
		% in third quartile (5.01-7.00)	30	31	23	32
		% in top quartile (≥7.01)	16	19	20	18

Continued…

Table 6.9: *- Continued*

Base: Aged 2-15 *2015 - 2018*

			2015	2016	2017	2018
Sedentary leisure time in hours[a] (TV & non-TV)						
All children	Weekday	Mean	3.3	3.4	3.4	3.3
		SE of the mean	0.05	0.04	0.05	0.04
		Standard deviation	1.30	1.27	1.33	1.36
		Median	3.0	3.5	3.0	3.0
		% in bottom quartile (≤3.50)	25	30	35	26
		% in second quartile (3.51-5.00)	29	19	17	27
		% in third quartile (5.01-7.00)	25	28	25	24
		% in top quartile (≥7.01)	21	23	24	23
	Weekend	Mean	4.5	4.6	4.7	4.6
		SE of the mean	0.07	0.07	0.08	0.07
		Standard deviation	1.96	1.93	2.04	2.07
		Median	4.0	4.0	4.5	4.0
		% in bottom quartile (≤3.50)	30	28	27	31
		% in second quartile (3.51-5.00)	23	23	28	20
		% in third quartile (5.01-7.00)	30	32	23	30
		% in top quartile (≥7.01)	17	17	22	19
Bases	*Unweighted bases*	*Boys weekday*	*592*	*621*	*651*	*873*
		Girls weekday	*579*	*623*	*627*	*728*
		All children weekday	*1171*	*1244*	*1278*	*1601*
		Boys weekend	*597*	*627*	*655*	*871*
		Girls weekend	*586*	*639*	*635*	*740*
		All children weekend	*1183*	*1266*	*1290*	*1611*
	Weighted bases	*Boys weekday*	*582*	*616*	*654*	*845*
		Girls weekday	*594*	*651*	*644*	*779*
		All children weekday	*1176*	*1268*	*1297*	*1623*
		Boys weekend	*586*	*625*	*660*	*846*
		Girls weekend	*602*	*663*	*652*	*791*
		All children weekend	*1187*	*1288*	*1312*	*1636*

a Excludes those without a limiting illness or disability who said they were sedentary for > 14 hours a day.
The time series can only be compared back to 2015 due to changes in the derivation of the sedentary time variables in 2015

Table 6.10: Children's sedentary time, 2018, by age and sex

Base: Aged 2-15 *2018*

			Age					Total
			2-4	5-7	8-10	11-12	13-15	
Sedentary leisure time in hours[a] (TV & non-TV)			%	%	%	%	%	%
Boys	Weekday day sedentary leisure time hours - quartiles	% in bottom quartile (≤3.50)	34	38	26	19	12	27
		% in second quartile (3.51-5.00)	25	36	32	27	12	27
		% in third quartile (5.01-7.00)	24	17	20	23	25	22
		% in top quartile (≥7.01)	17	9	22	31	50	24
	Weekday sedentary time (mean hours per day)	Mean	3.0	2.8	3.2	3.5	4.3	3.3
		SE of the mean	0.09	0.09	0.09	0.12	0.13	0.05
		Standard deviation	1.30	1.18	1.26	1.29	1.60	1.40
		Median	3.0	2.8	3.0	3.5	4.0	3.0
	Weekend day sedentary leisure time hours - quartiles	% in bottom quartile (≤3.50)	48	35	26	23	11	30
		% in second quartile (3.51-5.00)	23	20	29	14	16	21
		% in third quartile (5.01-7.00)	22	34	25	40	29	29
		% in top quartile (≥7.01)	8	11	20	24	44	20
	Weekend sedentary time (mean hours per day)	Mean	3.7	4.2	4.6	5.1	6.0	4.6
		SE of the mean	0.12	0.13	0.14	0.19	0.20	0.07
		Standard deviation	1.72	1.77	1.97	2.11	2.34	2.11
		Median	3.5	4.0	4.0	5.0	6.0	4.0

Continued…

Table 6.10: - *Continued*

Base: Aged 2-15 *2018*

			Age					Total
			2-4	5-7	8-10	11-12	13-15	
Sedentary leisure time in hours[a] (TV & non-TV)			%	%	%	%	%	%
Girls	Weekday day sedentary leisure time hours - quartiles	% in bottom quartile (≤3.50)	37	27	23	19	7	24
		% in second quartile (3.51-5.00)	29	33	32	19	14	27
		% in third quartile (5.01-7.00)	22	23	27	32	30	26
		% in top quartile (≥7.01)	12	17	18	29	50	23
	Weekday sedentary time (mean hours per day)	Mean	2.8	3.2	3.2	3.5	4.3	3.3
		SE of the mean	0.09	0.09	0.09	0.12	0.12	0.05
		Standard deviation	1.20	1.19	1.19	1.21	1.32	1.29
		Median	2.8	3.0	3.0	3.5	4.0	3.0
	Weekend day sedentary leisure time hours - quartiles	% in bottom quartile (≤3.50)	54	29	24	28	17	31
		% in second quartile (3.51-5.00)	18	26	15	19	13	19
		% in third quartile (5.01-7.00)	21	30	45	28	35	32
		% in top quartile (≥7.01)	6	15	16	25	35	18
	Weekend sedentary time (mean hours per day)	Mean	3.5	4.4	4.8	4.8	5.5	4.6
		SE of the mean	0.14	0.13	0.14	0.20	0.19	0.07
		Standard deviation	1.82	1.77	1.84	2.13	2.16	2.03
		Median	3.0	4.0	5.0	5.0	5.5	4.3

Continued…

Table 6.10: - *Continued*

Base: Aged 2-15 *2018*

			Age					Total
			2-4	5-7	8-10	11-12	13-15	
Sedentary leisure time in hours[a] (TV & non-TV)			%	%	%	%	%	%
All children	Weekday day sedentary leisure time hours - quartiles	% in bottom quartile (≤3.50)	36	33	25	19	10	26
		% in second quartile (3.51-5.00)	27	34	32	23	13	27
		% in third quartile (5.01-7.00)	23	20	23	28	27	24
		% in top quartile (≥7.01)	14	13	20	30	50	23
	Weekday sedentary time (mean hours per day)	Mean	2.9	3.0	3.2	3.5	4.3	3.3
		SE of the mean	0.07	0.06	0.06	0.08	0.09	0.03
		Standard deviation	1.25	1.19	1.23	1.25	1.48	1.35
		Median	3.0	3.0	3.0	3.5	4.0	3.0
	Weekend day sedentary leisure time hours - quartiles	% in bottom quartile (≤3.50)	51	32	25	25	14	31
		% in second quartile (3.51-5.00)	21	23	22	16	15	20
		% in third quartile (5.01-7.00)	21	32	34	34	32	30
		% in top quartile (≥7.01)	7	13	18	24	39	19
	Weekend sedentary time (mean hours per day)	Mean	3.6	4.3	4.7	5.0	5.7	4.6
		SE of the mean	0.09	0.09	0.10	0.14	0.14	0.05
		Standard deviation	1.77	1.77	1.91	2.12	2.26	2.07
		Median	3.0	4.0	4.5	5.0	6.0	4.0

Continued…

Table 6.10: - *Continued*

Base: Aged 2-15 *2018*

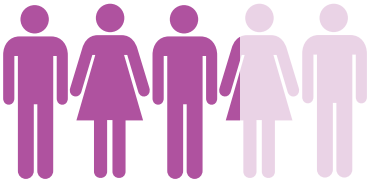
			Age					Total
			2-4	5-7	8-10	11-12	13-15	
Sedentary leisure time in hours[a] (TV & non-TV)								
Bases	*Unweighted bases*	*Boys weekday*	*211*	*179*	*214*	*121*	*148*	*873*
		Girls weekday	*189*	*183*	*161*	*93*	*102*	*728*
		All children weekday	*400*	*362*	*375*	*214*	*250*	*1601*
		Boys weekend	*213*	*180*	*213*	*123*	*142*	*871*
		Girls weekend	*193*	*180*	*157*	*98*	*112*	*740*
		All children weekend	*406*	*360*	*370*	*221*	*254*	*1611*
	Weighted bases	*Boys weekday*	*194*	*179*	*206*	*120*	*145*	*845*
		Girls weekday	*172*	*193*	*182*	*111*	*120*	*779*
		All children weekday	*366*	*372*	*389*	*232*	*265*	*1623*
		Boys weekend	*196*	*181*	*206*	*122*	*141*	*846*
		Girls weekend	*175*	*190*	*178*	*116*	*132*	*791*
		All children weekend	*371*	*370*	*384*	*238*	*273*	*1636*

a Excludes those without a limiting illness or disability who said they were sedentary for > 14 hours a day.

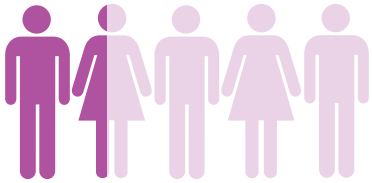
Chapter 7

Obesity

SUMMARY

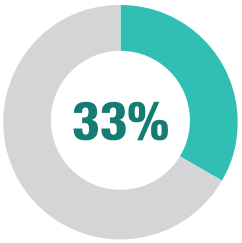


In 2018, **two thirds** (65%) of adults were overweight, including…



28% who were obese, with both these trends remaining stable since 2008.

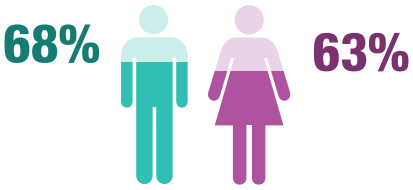
- There has been a small upward trend in mean BMI among adults over time, rising from 27.1 kg/m2 in 2003 to 27.7 kg/m2 in 2018, with no significant difference between the mean BMI of men and women.



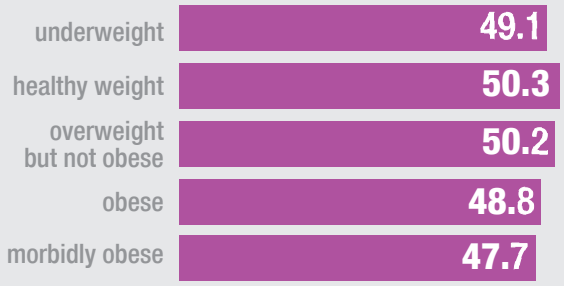
of adults were a healthy weight (a BMI of 18.5 to less than 25 kg/m^2).

BMI increased significantly with age for both men and women.

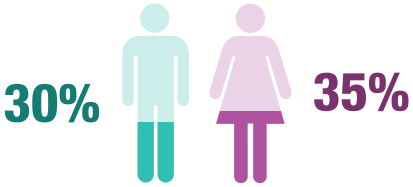
A greater proportion of men were overweight or obese than women.



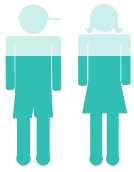
Mental wellbeing (measured by WEMWBS mean score) was lowest among those within the morbidly obese BMI range.



A greater proportion of women than men were in the healthy weight category.

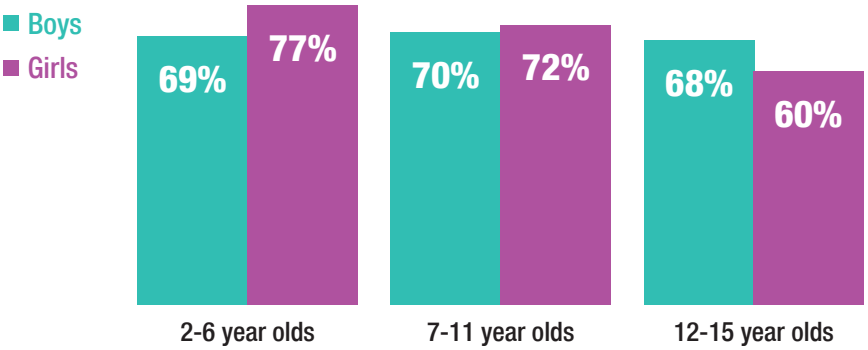


- Prevalence of children at risk of obesity has remained relatively stable in 2018 at 16%.
- The proportion of children at risk of obesity significantly increased with age, from 11% of those aged 2-6 to 21% of those aged 12-15. These proportions were the same for both boys and girls.



70% of children (aged 2-15) were of healthy weight.

The proportion of children in the healthy weight range decreased by age; this pattern was more pronounced for girls.



7 OBESITY

Isla Dougall

7.1 INTRODUCTION

Worldwide obesity has nearly tripled since 1975. In 2016, 39% of adults aged 18 and over across the world were overweight and 13% were obese and the rate of obesity among children and young people aged 5-19 was over four times higher in 2016 (18%) than it was in 1975 (4%)[1]. Obesity levels in Scotland are among the highest of the OECD countries[2].

Being overweight or obese is defined in adults as having a body mass index (BMI) of 25 kg/m² or greater and evidence shows that this may impair health[3]. The impacts can be profound, affecting our health and our ability to lead happy and fulfilling lives. Raised BMI is a major risk factor for non-communicable diseases such as cardiovascular disease, type 2 diabetes, musculoskeletal disorders and some types of cancers[4]. Obesity is the second biggest preventable cause of cancer[5], behind only smoking, and research suggests a reciprocal link between obesity and mental health problems such as depression and anxiety[6,7,8]. There is also evidence of a link between overweight and obesity in midlife and dementia in late life[9,10,11].

Evidence also shows that younger generations in the UK are becoming obese at earlier ages and staying obese longer[12]. The most recent NHS statistics show that 22.4% of primary one pupils in Scotland are at risk of overweight or obesity, this rate has remained fairly constant since 2001/02[13]. Children at risk of obesity are likely to stay obese into adulthood and become more likely to suffer health problems. In addition to increased future risk, children at risk of obesity can experience an increased risk of fractures, hypertension, type 2 diabetes, asthma as well as negative psychological effects including lower wellbeing and self-esteem during the childhood years[14,15,16].

Once considered a problem within high-income countries, overweight and obesity are now also on the rise in low and middle-income countries. Globally, there are more people who are obese than are underweight, and most of the world's population live in countries where overweight and obesity kills more people than underweight. In Scotland there are substantial inequalities in the risk of overweight and obesity between children living in the least and most deprived areas in Scotland – and evidence to suggest that this gap is widening[17]. Latest figures show that the 'proportion of Primary 1 children at risk of overweight or obesity has gone up in the most deprived areas but gone down in the least deprived areas' demonstrating a strong and increasing association between deprivation and obesity[18].

The cost to the health service in Scotland of overweight and obesity combined is estimated to be between £363 and £600 million (most of these costs are incurred because of associated conditions such as cardiovascular disease and type 2 diabetes, rather than direct costs of treating or managing overweight and obesity)[19]. The latest estimate, in 2015, of the total (direct and indirect) costs of overweight and obesity in Scotland, including labour market related costs such as lost productivity, have been put at £0.9-4.6 billion[20].

With considerable individual, social, and economic consequences, obesity continues to be a key priority and a major challenge for the Scottish government, the NHS and other public services.

7.1.1 Policy background

In July last year, the Scottish Government published **A Healthier Future – Scotland's Diet and Healthy Weight Delivery Plan**[21]. The plan sets out a vision for everyone in Scotland to eat well and have a healthy weight. More specifically, it also sets an ambition to halve childhood obesity by 2030, and to significantly reduce diet-related health inequalities. The delivery plan contains a broad range of measures to transform the food environment to make it easier for people to make healthier choices and targeted action to support children and families most at risk of health inequalities.

The Scottish Government is taking a joined up approach to addressing public health challenges and in June 2018, along with the Convention of Scottish Local Authorities' (COSLA), published Scotland's Public Health Priorities which aim to focus efforts to improve the health of the population. Included in these is a priority to create 'a Scotland where we eat well, have a healthy weight and are physically active'. This priority underpins the approach set out in the delivery plan. Sitting alongside the diet and healthy weight delivery plan, the Scottish Government also published a complementary Physical Activity Delivery Plan[22] in July 2018. This recognises the importance of both eating well and being active in promoting and maintaining healthy weight.

The Diet and Healthy Weight Delivery Plan is framed around 5 key outcomes:

- Children have the best start in life – they eat well and have a healthy weight.
- The food environment supports healthier choices.
- People have access to effective weight management services.
- Leaders across all sectors promote healthy weight and diet.
- Diet-related health inequalities are reduced.

Reducing the prevalence of overweight and obesity also contributes to the new National Performance Framework outcome 'we are healthy and active'[23]. There is a related indicator to monitor the proportion of healthy weight adults and children of which SHeS is the official source of data.

The 2018-19 Programme for Government (PfG) **Delivering for Today, Investing in Tomorrow**[24] reaffirmed the commitment to halve childhood obesity and proposals to reduce the public health harm associated with poor diet by restricting the promotion and marketing of food high in fat, sugar or salt with little or no nutritional value. The consultation ran from 2 October 2018 to 9 January 2019[25].

7.1.2 Reporting on obesity in the Scottish Health Survey (SHeS)

The anthropometric measures presented in this chapter focus on measurements relevant to adult and child obesity. Height, weight and waist measurements have been collected during the survey interview every year since its inception in 1995. SHeS is one of a small number of surveys that collects height, weight and waist measures rather than using self-reported measures, which are known to be less accurate[26,27]. Height and weight are used to calculate Body Mass Index (BMI), the primary measure of obesity used in the SHeS series. Adults' and children's trends in BMI are examined in this chapter. In addition, adult BMI are explored in relation to mental wellbeing.

Supplementary tables are available on the Scottish Government SHeS website[28].

7.1.3 Comparability with other UK statistics

Adult obesity is defined consistently in the Scottish Health Survey and the other health surveys within the UK using BMI classifications. Height and weight measurements are self-reported in the National Survey for Wales and are therefore not directly comparable with equivalent statistics in Scotland, England and Northern Ireland, where direct measurements are taken. Sampling methodologies differ between the surveys. Of the four UK health surveys, the Scottish Health Survey and Health Survey for England are the most closely aligned.

7.2 METHODS AND DEFINITIONS

7.2.1 Methods

Height

Height was measured using a portable stadiometer with a sliding head plate, base plate and four connecting rods marked with a metric measuring scale. Participants were asked to remove shoes. One measurement was taken, with the participant stretching to the maximum height and the head positioned in the Frankfort plane[29]. If the reading was between two millimetres it was recorded to the nearest even millimetre. No measurement was taken from participants who were pregnant, aged under 2, or unsteady on their feet.

Weight

Weight was measured using either Seca or Tanita electronic scales, both of which use a digital display. Participants were asked to remove shoes and any bulky clothing. A single measurement was recorded to the nearest 100g. A weight measurement was not collected from participants who were pregnant, aged under 2 years, or unsteady on their feet. Due to the scale limits, when using a Tanita scale those who weighed more than 130 kg were asked for an estimate of their weight, with estimates required for those weighing more than 200 kg if Seca scales were being used. These estimated weights were included in the analysis presented in this chapter.

In the analysis of height and weight, data from those who were considered by the interviewer to have unreliable measurements, for example those who had excessive clothing on, were excluded.

7.2.2. Definitions

Body Mass Index (BMI)

Body Mass Index (BMI) is a widely accepted measure that allows for differences in weight due to height. It is defined as weight (kg)/square of height (m^2). This has been used as a measure of obesity in SHeS since its inception in 1995. BMI was calculated from valid measures collected by the interviewer.

Adult BMI classification

Based on their BMI, adult participants were classified into the following groups based on the World Health Organisation (WHO) classification[30]:

BMI (kg/m^2)	Description
Less than 18.5	Underweight
18.5 to less than 25	Normal
25 to less than 30	Overweight, excluding obese
30 to less than 40	Obese, excluding morbidly obese
40+	Morbidly obese

In this chapter, both mean BMI and prevalence for the five categories outlined in the table above are presented for adults. Although obesity has the greatest ill-health and mortality consequences, overweight is also a major public health concern, not least because overweight people are at high risk of becoming obese. Being underweight can also have negative health consequences.

Child BMI classification

BMI is defined for children in the same way as it is for adults: weight (kg)/square of height (m^2). The International Obesity Task Force concluded that BMI is a reasonable measure of adiposity in children[31] and it is the key measure of overweight and obesity for children used in the SHeS series.

Despite the relatively wide acceptance of the use of BMI as an adiposity indicator, the establishment of an agreed specific obesity and overweight classification system for children and young people remains challenging. Constant changes in body composition during growth mean that the relationship between weight-for-height and adiposity during childhood and adolescence is age-dependent, and this relationship is further complicated by both ethnicity and gender[32].

The classification of children's BMI used in this chapter, set out below, has been derived from BMI percentiles of the UK 1990 reference curves[33,34] (referred to as the national BMI percentiles classification); these have been used in each SHeS to date. The national BMI percentiles classification has been shown to be reasonably sensitive (i.e. not classifying obese children as non-obese) and specific (i.e. not classifying non-obese children as obese)[35,36]. SIGN recommends that these reference curves and thresholds should be used for population surveillance in Scotland[37]. The 85th / 95th percentile cut-off points are commonly accepted thresholds used to analyse overweight and obesity in children. These thresholds have previously been used to describe childhood overweight and obesity prevalence trends in the UK[38,39,40,41].

Percentile cut-off	Description
At or below 2nd percentile	At risk of underweight
Above 2nd percentile and below 85th percentile	Healthy weight
At or above 85th percentile and below 95th percentile	At risk of overweight
At or above 95th percentile	At risk of obesity

SHeS uses a method developed by ISD Scotland to plot the exact ages of the children in the sample against the reference population data[42]. While children's exact age was used to calculate the BMI grouping prevalence rates (based on the interview date and the date of birth), results are presented using grouped ages based on age at last birthday.

As noted in the introduction to this chapter, one of the Scottish Government's national indicators relates to healthy weight in both children and adults, defined as neither underweight nor overweight or obese[43]. The presented data for children have been categorised to show the total proportions that are: healthy weight, at risk of overweight, at risk of obesity, and at risk of underweight.

Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)

Wellbeing is measured using the WEMWBS questionnaire. It has 14 items designed to assess: positive affect (optimism, cheerfulness, relaxation) and satisfying interpersonal relationships and positive functioning (energy, clear thinking, self-acceptance, personal development, mastery and autonomy)[44]. The scale uses positively worded statements with a five-item scale ranging from '1 - none of the time' to '5 - all of the time'. The lowest score possible is therefore 14 and the highest score possible is 70; the tables present mean scores.

The scale was not designed to identify individuals with exceptionally high or low levels of positive mental health so cut off points have not been developed[45].

WEMWBS is used to monitor the National Indicator 'mental wellbeing'[46] and the mean score for parents of children aged 15 years and under on WEMWBS is included in the mental health indicator set for children[47].

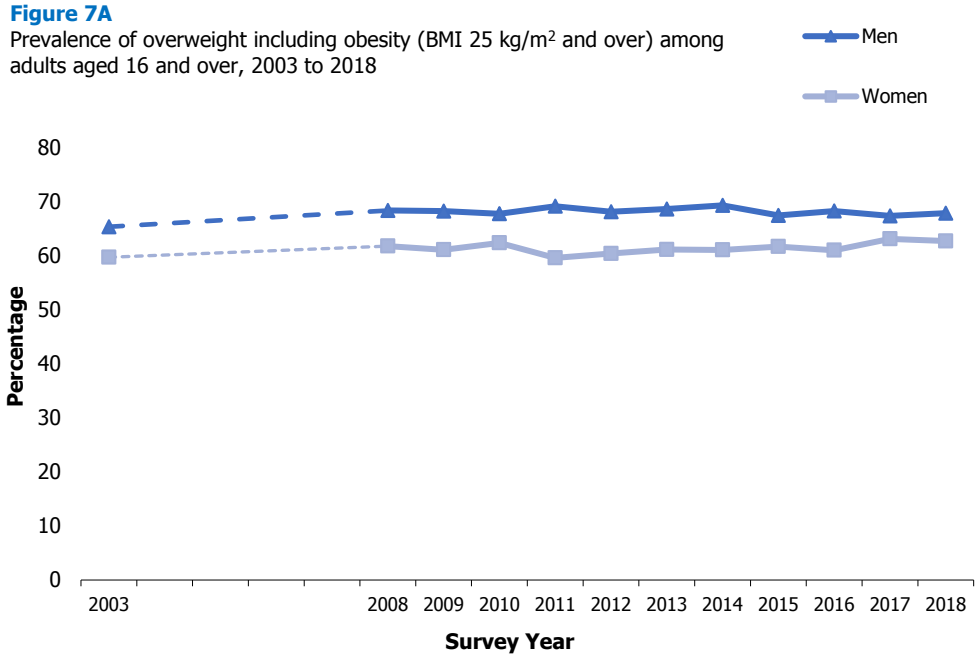
7.3 ADULT OVERWEIGHT AND OBESITY PREVALENCE

7.3.1 Trends in overweight including obesity prevalence since 2003

In 2018, 65% of adults were overweight or obese (BMI of 25 kg/m² or greater). Following an increase between 2003 and 2008 (62% to 65%), the prevalence of overweight including obesity has remained stable since, fluctuating between 64% and 65%.

Although prevalence of overweight including obesity has remained stable in both men and women since 2008, men have had consistently higher prevalence compared with women. Since 2008, the proportion of overweight or obese men has fluctuated between 67-69%, compared with 60-63% of women. As in previous years[48], in 2018 prevalence of overweight or obesity was significantly higher among men compared with women (68% and 63%, respectively). **Figure 7A, Table 7.1**

Figure 7A
Prevalence of overweight including obesity (BMI 25 kg/m² and over) among adults aged 16 and over, 2003 to 2018



7.3.2 Trends in obesity prevalence since 2003

The prevalence of obesity including morbid obesity (BMI of 30 kg/m² or greater) was 28% among adults in 2018. This pattern remains relatively unchanged since 2008, fluctuating between 27% and 29%.

There was no significant difference between the proportion of men that were obese or morbidly obese compared with the proportion of women. Among men, 27% were obese or morbidly obese in 2018, (fluctuating between 26% and 29% since 2008). Among women, 30% were obese or morbidly obese in 2018 (fluctuating between 27% and 30% since 2008).

Prevalence of morbid obesity has followed a similar pattern – remaining stable among both men and women since 2003 (2-4%). In 2018, significantly more women (5%) were morbidly obese compared with men (2%). **Table 7.1**

7.3.3 Trends in mean adult BMI since 2003

There has been a small but significant upward trend in mean BMI among adults over time, rising from 27.1 in 2003 to 27.7 in 2018. There was no significant difference between the mean BMI of men (27.6) compared with women (27.8) in 2018. Further, there has been no change in these figures since 2017. **Table 7.1**

7.3.4 Adult BMI in 2018, by age and sex

In 2018, 33% of adults were in the healthy weight category (BMI of 18.5 to less than 25 kg/m^2). Women were significantly more likely than men to be within the healthy weight range (35% compared with 30% respectively).

As in previous years[49], prevalence of overweight including obesity varied significantly with age. The percentage of those overweight including obese (BMI of 25 kg/m² or over), increased with age from 45% of those aged 16-24 to 76% of those aged 65-74, before decreasing to 68% among those aged 75 and over. A similar pattern was observed in both men and women. Prevalence of overweight including obesity was lowest among those aged 16-24 (47% for men, 43% for women) increasing to highest prevalence among those aged 45-54 for men (80%) and among those aged 55-74 for women (72 - 73%).

The prevalence of obesity (BMI of 30 kg/m² or more) also varied significantly by age. Of those aged 16-24, 14% were obese, increasing to 36% of those aged 45-54 before decreasing to 32% of those aged 55-64. Prevalence increased to 36% among those aged 65-74 before decreasing to 24% of those aged 75 and over.

This pattern of results was primarily driven by men, with prevalence increasing from 12% of those aged 16-24 to 39% of those aged 45-54, before decreasing to 30% of those aged 55-64. Prevalence then increased to 36% of those aged 65-74 before dropping to 23% of those

aged 75 and over. Among women, prevalence of obesity increased more steadily between those aged 16-74 (from 17% of those aged 16-24 to 36% of those aged 65-74) with prevalence only decreasing in the oldest age group (24% of those aged 75 and over).

Mean BMI varied significantly with age increasing from 25.1 kg/m^2 among those aged 16-24 to 28.5 to 28.9 kg/m^2 among those aged 45-74, before decreasing to 27.4 kg/m^2 among those aged 75 and over. Patterns of mean BMI by age did not differ significantly between men and women. **Figure 7B and 7C, Table 7.2**

Figure 7B
BMI scores among men aged 16 and over, 2018, by age

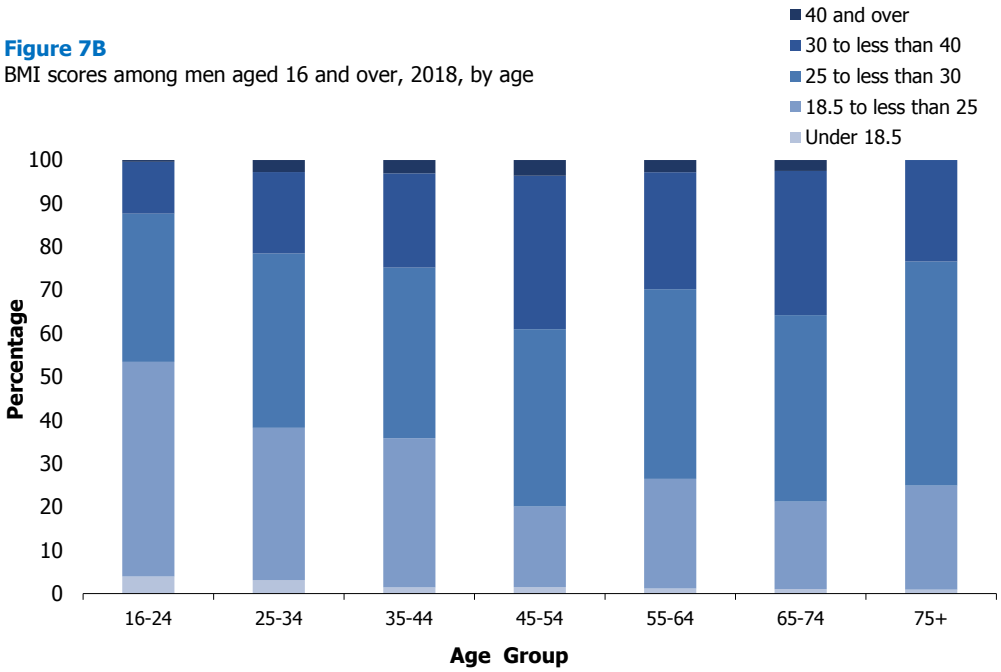
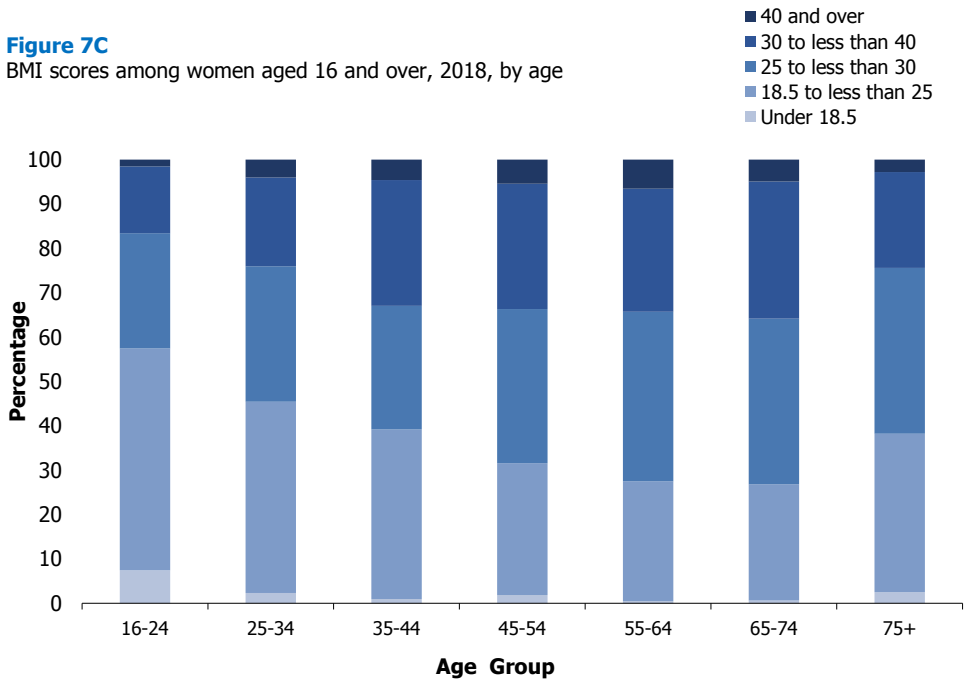


Figure 7C
BMI scores among women aged 16 and over, 2018, by age



7.4 CHILD OVERWEIGHT AND OBESITY PREVALENCE

7.4.1 Trends in child healthy weight prevalence since 1998

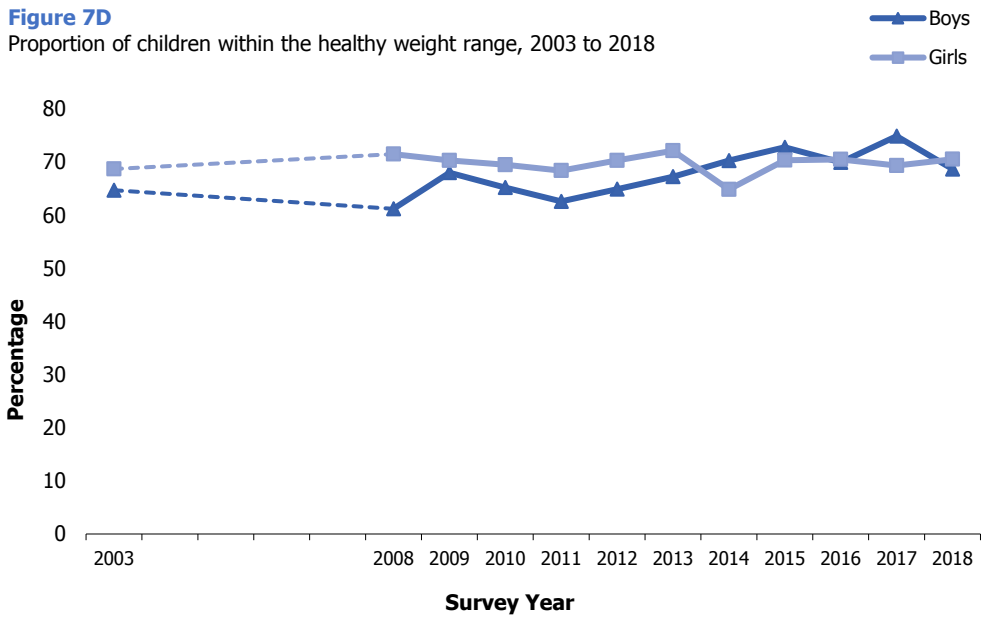
In 2018, 70% of children (aged 2-15) were in the healthy weight range (BMI above the 2nd percentile or below the 85th percentile). This was not significantly different to the proportion reported in 2017 (72%). The proportion of healthy-weight children has fluctuated since the beginning of the timeseries in 1998, with the lowest prevalence occurring in 2011 (65%) and the highest in 2015 and 2017 (both 72%).

Since 1998, the pattern over time has been different for boys and girls. Since the beginning of the timeseries, there have been relatively large fluctuations in the proportion of boys within the healthy weight range (61-75%).

In contrast, the proportion of girls within the healthy weight range has remained relatively stable since the beginning of the time series in 1998 (68-72%; 2014 was an exception at 65%). In 2018, 71% of girls were a healthy weight; this was not significantly different to 2017 (69%).

Figure 7D, Table 7.3

Figure 7D
Proportion of children within the healthy weight range, 2003 to 2018



Prevalence of children at risk of obesity has remained relatively stable in 2018 at 16%. Prevalence in 2017 was the lowest since the time series began, at 13%. However, the steady decline in the proportion of boys at risk of obesity (from 20% in 2012 to 12% in 2017) that had driven overall prevalence has not continued, with a significant rise in 2018 to 17%.

7.4.2 Child BMI categories in 2018, by age and sex

The proportion of children in the healthy weight range decreased significantly by age, from 73% of children aged 2-6 to 64% of children aged 12-15. This pattern was largely driven by girls, for whom

prevalence of healthy weight decreased significantly from 77% for those aged 2-6, to 60% for those aged 12-15.

The proportion of children at risk of overweight changed little between those aged 2-6 (15%) and those aged 12-15 (12%). The pattern by age was however significantly different between boys and girls. Among boys, the percentage at risk of overweight significantly decreased from 19% of those aged 2-6 to 9-10% of those aged 7 and over. The opposite pattern was seen among girls, whereby 10% of those aged 2-6 were at risk of overweight, gradually increasing to 15% of girls aged 12-15, however this change was not statistically significant.

The proportion of children at risk of obesity significantly increased with age, from 11% of those ages 2-6 to 21% of those aged 12-15. These proportions were the same among both boys and girls.

Figure 7E and 7F, Table 7.4

Figure 7E
BMI categories among boys aged 2-15, 2018, by age

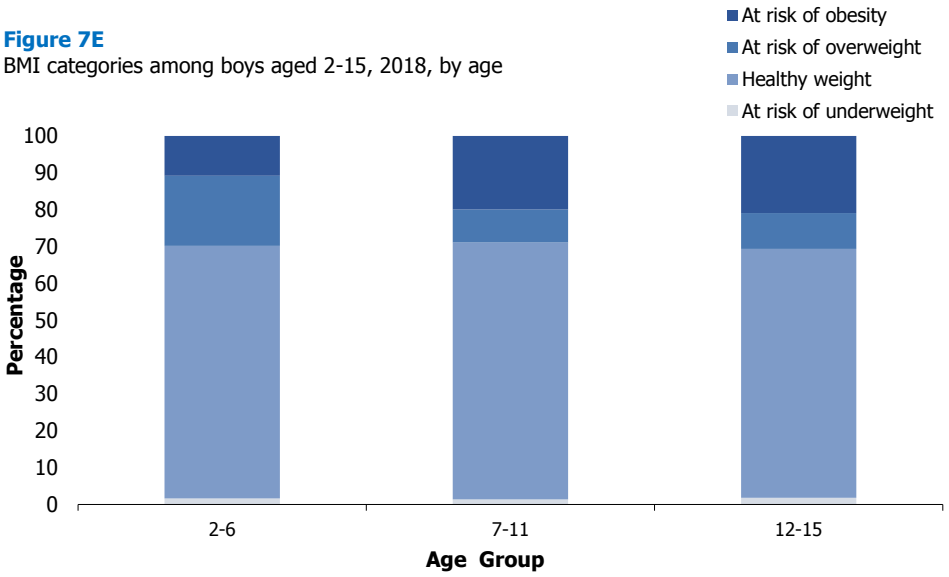
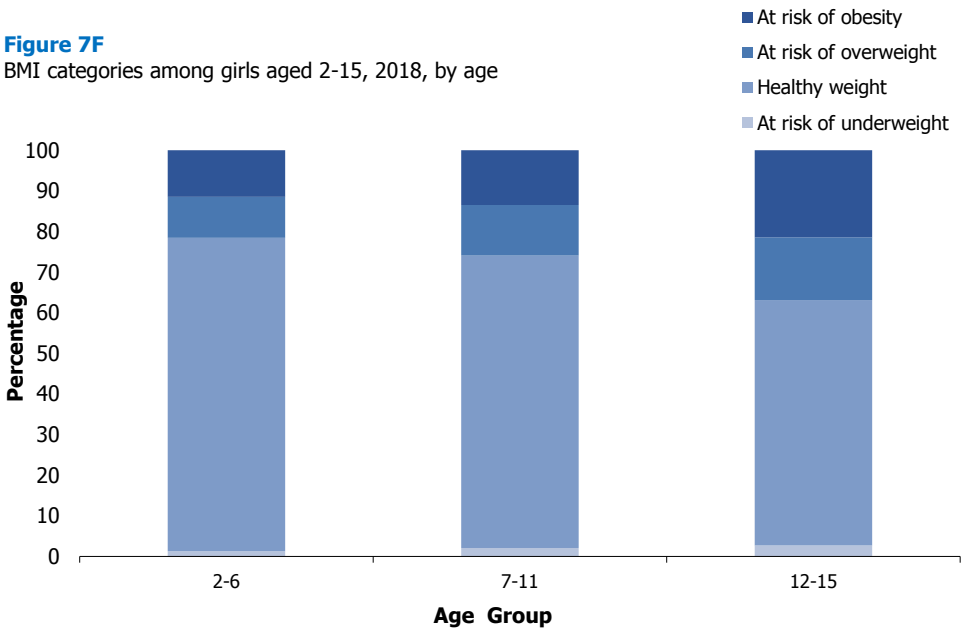


Figure 7F
BMI categories among girls aged 2-15, 2018, by age

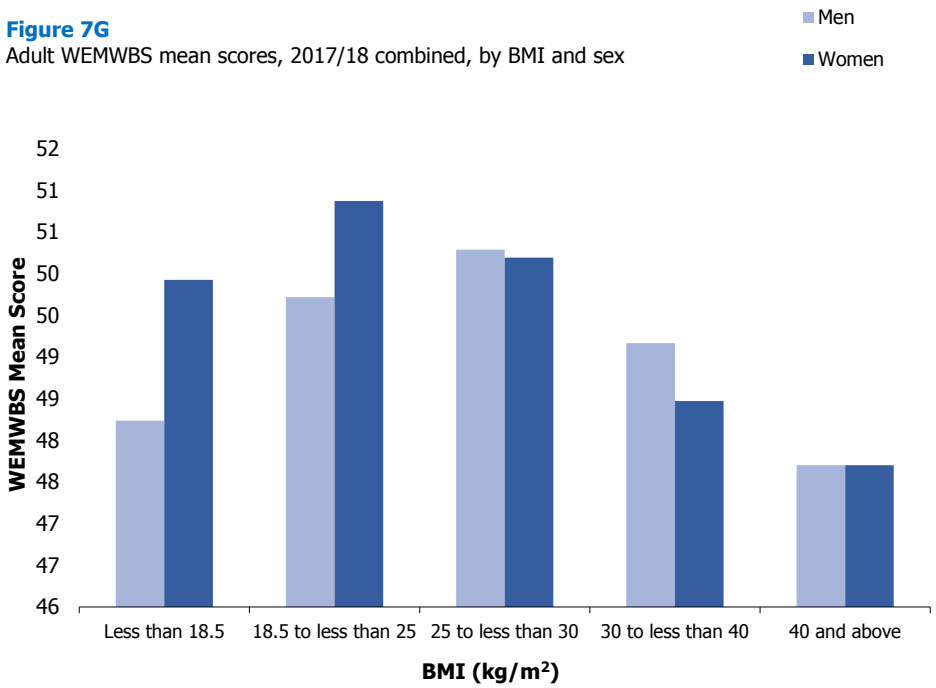


7.4 OVERWEIGHT, OBESITY AND WELLBEING

7.5.1 Adult WEMWBS mean scores (age-standardised), 2017/2018 combined, by BMI categories and sex

WEMWBS mean scores varied significantly by BMI category. The highest mean WEMWBS score was among adults in the 'healthy weight' or 'overweight but not obese' categories (BMI of 18.5 to less than 25 and BMI of 25 to less than 30 kg/m^2) at 50.3 and 50.2 respectively. The lowest mean WEMWBS score (47.7) was found among those in the 'morbidly obese' category (BMI of 40 kg/m^2 and above). The second lowest WEMWBS mean score (48.8) was found for those in the obese category (with a BMI of 30 to less than 40kg/m^2). There was not a statistical difference in the pattern of WEMWBS mean score by BMI category between men and women. **Figure 7G, Table 7.5**

Figure 7G
Adult WEMWBS mean scores, 2017/18 combined, by BMI and sex



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[30] These cut-offs differ to those used in the previous surveys. In 1995 and 1998 the normal weight range was defined as 20-25 kg/m^2, in 2003 it was changed to 18.5-25 kg/m^2. From 2008 onwards the ranges are defined as set out below. This brings the definition in line with WHO recommendations. The impact of the change of definition is very marginal as very few people have a BMI measurement that is exactly 18.5, 25, 30 or 40 kg/m^2.

	2003	2008 onwards
Underweight	18.5 or under	Less than 18.5
Normal weight	Over 18.5 – 25	18.5 to less than 25
Overweight	Over 25 – 30	25 to less than 30
Obese	Over 30 – 40	30 to less than 40
Morbidly obese	Over 40	40+

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Table list

Table 7.1: Mean adult BMI, prevalence of overweight and obesity, 2003 to 2018

Base: Aged 16 and over with valid height and weight measurements — *2003 - 2018*

			2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
BMI (kg/m2)			%	%	%	%	%	%	%	%	%	%	%	%
Men	25 and over[a]		65	68	68	68	69	68	69	69	67	68	67	68
	30 and over[b]		22	26	28	27	28	27	26	26	28	29	27	27
	40 and over[c]		2	1	2	2	2	2	2	2	2	3	2	2
	Mean BMI	Mean	27.0	27.3	27.6	27.5	27.6	27.4	27.5	27.5	27.7	27.7	27.6	27.6
		SE of the mean	0.10	0.12	0.12	0.13	0.12	0.14	0.14	0.17	0.15	0.17	0.19	0.17
		Standard deviation	4.79	4.85	5.02	5.09	4.94	4.86	4.88	4.91	5.09	5.30	5.11	5.29
Women	25 and over[a]		60	62	61	62	60	60	61	61	62	61	63	63
	30 and over[b]		26	27	28	29	28	28	30	29	30	29	30	30
	40 and over[c]		3	3	4	3	4	3	4	4	3	4	4	5
	Mean BMI	Mean	27.2	27.4	27.4	27.6	27.5	27.4	27.6	27.6	27.5	27.7	27.8	27.8
		SE of the mean	0.12	0.13	0.13	0.12	0.12	0.14	0.17	0.16	0.15	0.18	0.19	0.17
		Standard deviation	5.79	5.87	5.89	5.85	6.03	5.78	6.06	5.98	5.85	6.21	6.06	6.10
All adults	25 and over[a]		62	65	65	65	64	64	65	65	65	65	65	65
	30 and over[b]		24	27	28	28	28	27	28	28	29	29	29	28
	40 and over[c]		3	2	3	2	3	3	3	3	3	4	3	3
	Mean BMI	Mean	27.1	27.4	27.5	27.5	27.5	27.4	27.5	27.6	27.6	27.7	27.7	27.7
		SE of the mean	0.09	0.10	0.09	0.10	0.10	0.11	0.13	0.12	0.12	0.13	0.15	0.13
		Standard deviation	5.33	5.40	5.47	5.48	5.52	5.34	5.51	5.48	5.48	5.78	5.62	5.71

Continued…

Table 7.1: *- Continued*

Base: Aged 16 and over with valid height and weight measurements *2003 - 2018*

			2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
BMI (kg/m2)														
Bases	*Unweighted bases*	*Men*	*3016*	*2457*	*2843*	*2674*	*2745*	*1876*	*1844*	*1771*	*1863*	*1603*	*1281*	*1649*
		Women	*3684*	*3020*	*3456*	*3327*	*3389*	*2221*	*2288*	*2198*	*2187*	*1980*	*1669*	*2076*
		All adults	*6700*	*5477*	*6299*	*6001*	*6134*	*4097*	*4132*	*3969*	*4050*	*3583*	*2950*	*3725*
	Weighted bases	*Men*	*3217*	*2692*	*3161*	*2992*	*3003*	*2048*	*2027*	*1919*	*2043*	*1745*	*1444*	*1859*
		Women	*3458*	*2829*	*3214*	*3046*	*3100*	*2063*	*2104*	*2028*	*2075*	*1796*	*1528*	*1884*
		All adults	*6675*	*5521*	*6375*	*6038*	*6103*	*4110*	*4130*	*3948*	*4118*	*3542*	*2973*	*3743*

a 25 and over = overweight (including obese)

b 30 and over = obese

c 40 and over = morbidly obese

Table 7.2: Adult BMI, 2018, by age and sex

Base: Aged 16 and over with valid height and weight measurements *2018*

BMI (kg/m2)			Age 16-24 %	25-34 %	35-44 %	45-54 %	55-64 %	65-74 %	75+ %	Total %
Men	Under 18.5		4	3	1	2	1	1	1	2
	18.5 to less than 25		49	35	34	19	25	20	24	30
	25 to less than 30		34	40	39	41	44	43	52	41
	30 to less than 40		12	19	22	35	27	33	23	24
	40 and over[c]		0	3	3	4	3	3	-	2
	All 25 and over[a]		47	62	64	80	74	79	75	68
	All 30 and over[b]		12	22	25	39	30	36	23	27
	Mean BMI	Mean	25.0	27.1	27.4	29.2	28.3	28.8	27.7	27.6
		SE of the mean	0.52	0.43	0.43	0.34	0.34	0.32	0.31	0.17
		Standard deviation	4.94	5.52	5.28	5.23	5.12	5.08	3.98	5.29
Women	Under 18.5		7	2	1	2	0	1	2	2
	18.5 to less than 25		50	43	38	30	27	26	36	35
	25 to less than 30		26	31	28	35	38	37	37	33
	30 to less than 40		15	20	28	28	28	31	22	25
	40 and over[c]		2	4	5	5	7	5	3	5
	All 25 and over[a]		43	55	61	68	72	73	62	63
	All 30 and over[b]		17	24	33	34	34	36	24	30
	Mean BMI	Mean	25.2	26.9	28.0	28.6	28.8	29.0	27.2	27.8
		SE of the mean	0.62	0.40	0.35	0.38	0.32	0.33	0.42	0.17
		Standard deviation	5.88	5.95	5.94	6.43	5.93	6.02	5.38	6.10

Continued…

Table 7.2: *- Continued*

Base: Aged 16 and over with valid height and weight measurements *2018*

BMI (kg/m2)			Age 16-24 %	25-34 %	35-44 %	45-54 %	55-64 %	65-74 %	75+ %	Total %
All adults	Under 18.5		5	3	1	2	1	1	2	2
	18.5 to less than 25		50	39	36	24	26	23	30	33
	25 to less than 30		31	35	34	38	41	40	44	37
	30 to less than 40		13	19	25	32	27	32	22	25
	40 and over[c]		1	3	4	5	5	4	2	3
	All 25 and over[a]		45	58	63	74	73	76	68	65
	All 30 and over[b]		14	23	29	36	32	36	24	28
	Mean BMI	Mean	25.1	27.0	27.7	28.9	28.5	28.9	27.4	27.7
		SE of the mean	0.42	0.31	0.30	0.27	0.24	0.25	0.29	0.13
		Standard deviation	5.37	5.73	5.62	5.89	5.55	5.59	4.78	5.71
Bases	*Unweighted bases*	*Men*	*138*	*187*	*230*	*300*	*291*	*312*	*191*	*1649*
		Women	*151*	*277*	*311*	*371*	*384*	*375*	*207*	*2076*
		All adults	*289*	*464*	*541*	*671*	*675*	*687*	*398*	*3725*
	Weighted bases	*Men*	*277*	*314*	*289*	*315*	*286*	*236*	*141*	*1859*
		Women	*221*	*308*	*282*	*345*	*302*	*261*	*165*	*1884*
		All adults	*499*	*622*	*571*	*660*	*589*	*497*	*306*	*3743*

a 25 and over = overweight (including obese)

b 30 and over = obese

c 40 and over = morbidly obese

Table 7.3: Proportion of children with BMI within the healthy range, at risk of overweight and at risk of obesity, 1998 to 2018

Base: Aged 2-15 with valid height and weight measurements[a] *1998 - 2018*

		1998	2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
BMI status (National BMI percentiles)		%	%	%	%	%	%	%	%	%	%	%	%	%
Boys	Within healthy range[b]	70	65	61	68	65	63	65	67	70	73	70	75	69
	Outwith healthy range[c]	30	35	39	32	35	37	35	33	30	27	30	25	31
	At risk of overweight (including obesity)[d]	29	34	38	31	33	36	34	31	28	26	28	24	30
	At risk of obesity[e]	14	18	19	17	18	20	20	17	16	15	14	12	17
Girls	Within healthy range	70	69	71	70	70	68	70	72	65	70	71	69	71
	Outwith healthy range	30	31	29	30	30	32	30	28	35	30	29	31	29
	At risk of overweight (including obesity)	29	30	28	29	30	29	27	27	34	29	29	29	27
	At risk of obesity	14	14	14	16	14	15	14	15	18	14	14	15	15
All children	Within healthy range	70	67	66	69	67	65	68	70	68	72	70	72	70
	Outwith healthy range	30	33	34	31	33	35	32	30	32	28	30	28	30
	At risk of overweight (including obesity)	29	32	33	30	31	33	31	29	31	28	29	26	29
	At risk of obesity	14	16	17	16	16	17	17	16	17	15	14	13	16

Continued…

Table 7.3: *- Continued*

Base: Aged 2-15 with valid height and weight measurements *1998 - 2018*

		1998	2003	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
BMI status (National BMI percentiles)		%	%	%	%	%	%	%	%	%	%	%	%	%
Unweighted bases	*Boys*	*1780*	*1208*	*652*	*967*	*662*	*643*	*630*	*678*	*608*	*508*	*533*	*555*	*690*
	Girls	*1704*	*1215*	*640*	*914*	*569*	*626*	*644*	*630*	*602*	*452*	*542*	*509*	*602*
	All children	*3484*	*2423*	*1292*	*1881*	*1231*	*1269*	*1274*	*1308*	*1210*	*960*	*1075*	*1064*	*1292*
Weighted bases	*Boys*	*985*	*1243*	*669*	*958*	*641*	*655*	*663*	*687*	*620*	*502*	*548*	*579*	*671*
	Girls	*931*	*1182*	*621*	*924*	*612*	*621*	*620*	*660*	*590*	*467*	*539*	*536*	*648*
	All children	*1916*	*2425*	*1290*	*1882*	*1253*	*1276*	*1283*	*1347*	*1210*	*969*	*1088*	*1115*	*1319*

a Table only includes children whose BMI was more than 7 standard deviations above or below the norm for their age were excluded from the table

b 'Within healthy range' = BMI above 2nd percentile, below 85th percentile.

c 'Outwith healthy range' = BMI at or below 2nd percentile, at or above 85th percentile.

d 'At risk of overweight' = BMI at or above 85th percentile, below 95th percentile.

e 'At risk of obesity' = BMI at or above 95th percentile.

Table 7.4: Children's BMI, 2018, by age and sex

Base: Aged 2-15 with valid height and weight measurements[a] *2018*

		Age			Total
		2 - 6	7 - 11	12 - 15	
BMI status (National BMI percentiles)		%	%	%	%
Male	At risk of underweight[b]	2	1	2	2
	Healthy weight[c]	69	70	68	69
	At risk of overweight[d]	19	9	10	13
	At risk of obesity[e]	11	20	21	17
	Outwith healthy range[f]	31	30	32	31
	Overweight (including obese)[g]	30	29	31	30
Female	At risk of underweight[b]	1	2	3	2
	Healthy weight[c]	77	72	60	71
	At risk of overweight[d]	10	12	15	12
	At risk of obesity[e]	11	13	21	15
	Outwith healthy range[f]	23	28	40	29
	Overweight (including obese)[g]	22	26	37	27
All children	At risk of underweight[b]	1	2	2	2
	Healthy weight[c]	73	71	64	70
	At risk of overweight[d]	15	11	12	13
	At risk of obesity[e]	11	17	21	16
	Outwith healthy range[f]	27	29	36	30
	Overweight (including obese)[g]	26	27	34	29
Unweighted bases	*Boys*	*235*	*261*	*194*	*690*
	Girls	*230*	*223*	*149*	*602*
	All children	*465*	*484*	*343*	*1292*
Weighted bases	*Boys*	*228*	*251*	*192*	*671*
	Girls	*216*	*255*	*177*	*648*
	All children	*444*	*506*	*369*	*1319*

a Table only includes children whose BMI was more than 7 standard deviations above or below the norm for their age were excluded from the table
b 'At risk of underweight' = BMI at or below 2nd percentile.
c 'Healthy weight' = BMI above 2nd percentile, below 85th percentile.
d 'At risk of overweight' = BMI at or above 85th percentile, below 95th percentile.
e 'At risk of obesity' = BMI at or above 95th percentile.

Table 7.5 Adult WEMWBS mean scores (age-standardised), 2017/2018 combined, by BMI categories and sex

Base: Aged 16 and over with a valid height and weight measurement

2017/2018 combined

BMI (kg/m2)		WEMWBS Mean Score	WEMWBS SE	WEMWBS Standard Deviation	*Unweighted Bases*	*Weighted Bases*
Men	Less than 18.5	48.2	1.50	7.47	*34*	*54*
	18.5 to less than 25[a]	49.7	0.39	8.84	*733*	*928*
	25 to less than 30	50.3	0.41	8.47	*1131*	*1246*
	30 to less than 40	49.2	0.43	9.11	*752*	*776*
	40 and over	47.7	1.38	8.36	*61*	*52*
	All 25 and over[b]	*49.8*	*0.29*	*8.72*	*1944*	*2082*
	All 30 and over[c]	*49.1*	*0.42*	*9.08*	*813*	*836*
Women	Less than 18.5	49.9	1.94	9.72	*55*	*62*
	18.5 to less than 25[a]	50.9	0.30	8.69	*1154*	*1107*
	25 to less than 30	50.2	0.27	8.37	*1193*	*1049*
	30 to less than 40	48.5	0.39	9.28	*906*	*788*
	40 and over	47.7	0.92	9.05	*157*	*144*
	All 25 and over[b]	*49.3*	*0.22*	*8.81*	*2256*	*1981*
	All 30 and over[c]	*48.3*	*0.35*	*9.24*	*1063*	*932*
All adults	Less than 18.5	49.1	1.28	8.75	*89*	*116*
	18.5 to less than 25[a]	50.3	0.24	8.77	*1887*	*2035*
	25 to less than 30	50.2	0.26	8.42	*2324*	*2295*
	30 to less than 40	48.8	0.30	9.20	*1658*	*1564*
	40 and over	47.7	0.79	8.85	*218*	*196*
	All 25 and over[b]	*49.6*	*0.19*	*8.77*	*4200*	*4062*
	All 30 and over[c]	*48.7*	*0.28*	*9.17*	*1876*	*1768*

a 18.5 to less than 25 = healthy weight

b 25 and over = overweight (including obese)

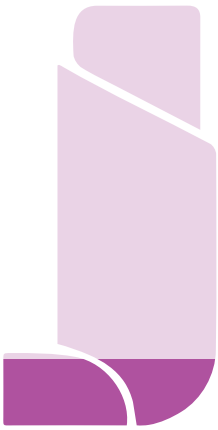
b 30 and over = obese

Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Chapter 8

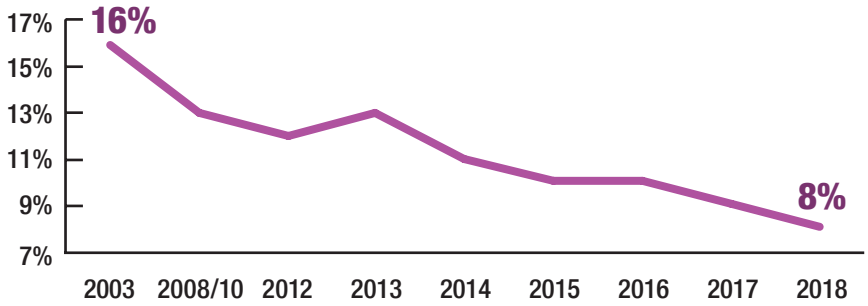
Respiratory

SUMMARY



Prevalence of self-reported asthma diagnoses among adults increased from 13% in 2003 to 16% in 2012 and has remained stable since (17% in 2018).

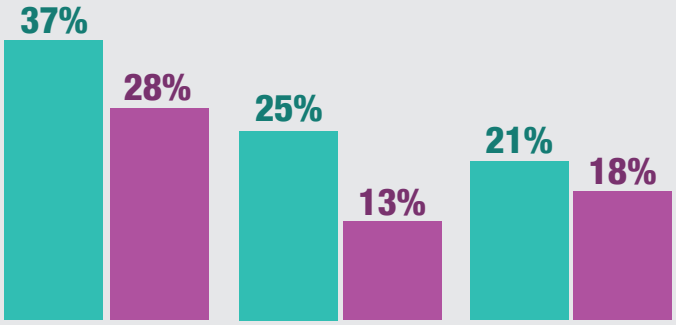
In 2018, **8%** of all children aged 0 to 15 were reported to be diagnosed with asthma by a doctor – the lowest level to date.



There was not a significant difference in this prevalence between boys (9%) and girls (7%).

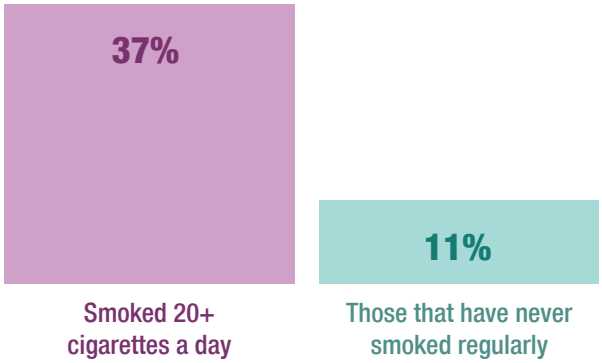
- The percentage of adults aged 16 and over who had wheezed in the last 12 months was 16% in 2018. This has not changed significantly since 2003.
- The proportion of children who were reported as having wheezed in the last 12 months was at its lowest in 2018 (10%) compared with between 12% and 14% between 2003 and 2017.

Difference in asthma diagnosis and wheezing between the most deprived and least deprived areas in 2018



- In 2018, 4% of adults reported having chronic obstructive pulmonary disease (COPD), continuing the stable level since 2008.
- COPD was four times higher among adults living in the most deprived areas (8%) compared with those living in the least deprived areas (2%).
- The prevalence of doctor-diagnosed COPD was thirteen times higher among smokers who smoked 20 or more cigarettes a day (13%) compared with among those who have never smoked regularly (1%).

Adults who smoked 20 or more cigarettes a day were more than three times more likely to have wheezed in the last 12 months than those that have never smoked regularly.



72% of adults diagnosed with COPD reported having received treatment for this, with older adults more likely to have done so.

8 RESPIRATORY HEALTH

Chi Keng Cheong

8.1 INTRODUCTION

Long-term respiratory conditions, such as asthma and chronic obstructive pulmonary disease (COPD), represent a significant challenge for the individuals that live with them and for health services in Scotland. These conditions affect the flow of air in and out of the lungs and both are currently incurable, with uncertainty and debate around whether asthma is over- or underdiagnosed[1,2,3].

The UK has one of the world's highest rates of asthma[4,5], an illness characterised by variable and recurring symptoms of breathlessness, wheezing, coughing and chest tightness. It is estimated that around 368,000 people in Scotland are currently receiving treatment for asthma, a fifth of whom are children[6]. For the majority of those diagnosed, asthma can be managed in such a way that it has a minimal impact on day-to-day life. However, as a long-term condition, commitment is required from the patient as well as the healthcare sector to manage it effectively and, where possible, limit asthma attacks which may cause lasting damage to the body[7].

The reasons for the high prevalence of asthma in the UK are not clear, however, risk factors identified include environmental (house dust mites, pollen, animals, specific foods, viral infections, moulds, fungi, environmental tobacco smoke and air pollutants) and genetic disposition, obesity and lifestyle/stage (diet, drug use, caesarean sections and breastfeeding)[8]. Occupational exposure also accounts for around one in ten cases of adult onset asthma[9]. Evidence on the financial burden of asthma in Scotland is limited, however, it is estimated to be in the region of £97.5 million per year[10].

The increased prevalence of COPD means that it is estimated that it will be the third most frequent cause of mortality worldwide by 2030. Not only does this strengthen the importance of monitoring and, where possible, tackling the causes and symptoms of this condition, the ageing population and additional complication of older COPD patients being more likely to have other long-term conditions presents a further challenge in managing this condition[11].

The associations of long term conditions like COPD with deprivation, lifestyle risk factors and wider social health determinants are of importance in Scotland given the country's health inequalities[12].While situational factors (such as air quality and working conditions) and genetics can have an impact, smoking is the main cause of COPD with up to 25% of long-term smokers estimated to develop COPD and up to four-fifths of those with the condition having smoked/ continuing to smoke[13]. The risk is increased for women, who tend to develop the condition with lower exposure to smoke than men[14].

Estimates suggest that the number of people with a COPD diagnosis in Scotland will rise from 100,000 (in 2011) to 120,000 by 2030[15]. While smoking rates are expected to decline[16], the impact of this will take some time be reflected in levels of COPD incidence[17]. Coupled with longer life expectancy, the costs of treating COPD in Scotland is expected to increase from £182million

(in 2016) to £207 million a year by 2030[18], placing a substantial financial burden on healthcare provision in Scotland for the foreseeable future.

8.1.1 Policy background

A key area of focus in relation to long-term health conditions, including respiratory conditions, is on empowering patients to take control of their care and the management of their long-term condition(s) [19]. **Gaun Yersel** is a strategy developed on behalf of the Scottish Government which aims to embed self-management across the country, improving the lives of those living with long-term conditions and giving them the support they need to make informed decisions about their own health[20, 21].

Alongside this focus are policies aimed at, or that include, respiratory conditions. One of the Scottish Government's **National Performance Framework National Outcomes** is for people in Scotland to 'live longer, healthier lives'[22], which includes a National Performance Indicator to 'reduce premature mortality' (deaths from all causes in those aged under 75)[23].

Quality Prescribing for Respiratory: A Guide for Improvement[24] is a healthcare professionals guide to the delivery of high- quality prescribing of medicine but also the recommendation of non-medicinal, in some cases preventative, approaches, such as smoking cessation, a healthy diet and being physically active, wherever possible. The **Cross Party Group for Lung Health** is a forum in which MSPs from all political parties, along with representatives from a range of relevant organisations, meet to discuss issues relating to respiratory health and strategies to help improve provision for those with such conditions[25].

COPD is a major cause of death in Scotland, hence COPD prevention, early diagnosis and better symptom management should contribute to reducing premature mortality. Within the Scottish Government National Indicators, health risk behaviours linked to respiratory disease, including smoking, harmful drinking, low physical activity and obesity, are monitored against an outcome of reducing the percentage of adults exhibiting two or more of these behaviours[26].

Healthcare Improvement Scotland produced clinical standards for COPD in 2010[27]. A number of clinical guidelines have been produced for respiratory conditions including the Scottish Intercollegiate Guidelines Network guideline on the management of asthma ((SIGN) Guideline 153 - published September 2016[28] alongside booklets explaining these recommendations to patients[29].

In 2016, the Smoking Prohibition (Children in Motor Vehicles) (Scotland) Bill was introduced, making it illegal from the 5th December 2016 to smoke in a car or vehicle whilst carrying those aged under 18 – an offence that could carry a £100 fixed penalty[30].

8.1.2 Reporting on respiratory conditions and symptoms in the Scottish Health Survey (SHeS)

The Scottish Health Survey (SHeS) is a valuable source of information on the self-reported prevalence of asthma and COPD in Scotland. It collects information about respiratory symptoms such as wheezing and breathlessness, symptoms often experienced by people without a diagnosed respiratory condition. It also provides valuable information on the patterning of these conditions and symptoms across different population groups.

This chapter presents data on adults' self-reported doctor-diagnosed asthma, COPD prevalence, and respiratory symptoms (wheezing). Children's asthma diagnoses and wheezing symptoms are also reported. Information on whether people with COPD receive treatment and the treatment type is also reported.

Area deprivation data for respiratory health are presented using Scottish index of Multiple Deprivation (SIMD) quintiles. To ensure that the comparisons presented are not confounded by the different age profiles of the quintiles, the data have been age-standardised. Readers should refer to the Glossary at the end of this Volume for a detailed description of SIMD and age-standardisation.

Supplementary tables providing further breakdowns are available on the Scottish Government SHeS website[31].

8.2 METHODS

8.2.1 Asthma and COPD diagnoses

Participants (including parents of children aged 0-12, and children themselves aged 13-15) were asked if a doctor had ever told them they had asthma. This question was asked in the 1998, 2003, 2008 and 2010 surveys, and has been included every year since 2012. Each year since 2008, adult participants have also been asked if they had ever had COPD, chronic bronchitis or emphysema and, if so, whether a doctor had told them they had one of these conditions. Those who reported doctor-diagnosed COPD were also asked what treatment or advice they had received. No objective measures were used to confirm these reported diagnoses.

8.2.2 Respiratory symptoms

Questions on respiratory symptoms were included in the 1995-2003 surveys, and in all even years since 2008. The symptoms covered were: phlegm production, breathlessness and wheezing or whistling in the chest. Breathlessness was classified as grade 2 if it occurred when hurrying on level ground or walking up a slight hill, or grade 3 (the more severe form) if it occurred when walking with other people of the same age on level ground. The impact of wheezing and whistling symptoms on sleep and people's daily activities was also measured. The Medical

Research Council Respiratory Symptom Questionnaire was used to collect some of this information[32].

8.2.3 Treatment for COPD

Questions on whether people are currently receiving any treatment or advice for COPD, chronic bronchitis or emphysema and, if so, what type of treatment were introduced in SHeS in 2008 and have been included in the survey every year since.

8.3 SELF-REPORTED DOCTOR-DIAGNOSED ASTHMA AND SELF-REPORTED WHEEZING

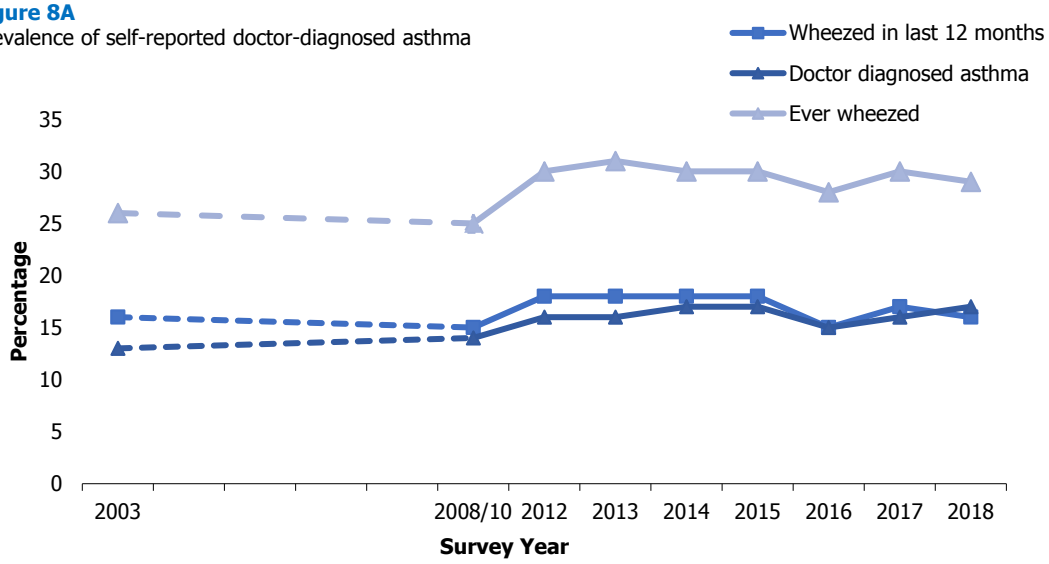
8.3.1 Trends in self-reported doctor-diagnosed asthma and wheezing prevalence in adults since 2003

The prevalence of doctor-diagnosed asthma in adults aged 16 and over in 2018 (17%) has not changed significantly since 2012 (16%), although this has increased significantly since 2003 (13%).

The percentage of adults aged 16 and over who had wheezed in the last 12 months was 16% in 2018 having remained relatively stable since the start of the time series in 2003 (fluctuating between 15% and 18%).

In 2018, 29% of adults aged 16 and over reported ever having wheezed which is consistent with previous survey years, the rate having fluctuated between 28% and 31% since 2012. **Figure 8A, Table 8.1**

Figure 8A
Prevalence of self-reported doctor-diagnosed asthma



8.3.2 Trends in self-reported doctor-diagnosed asthma and wheezing prevalence in children since 2003

At 8% in 2018, the proportion of children aged 0 to 15 who were reported as having doctor-diagnosed asthma was at its lowest since the beginning of the time series (having declined by eight percentage points from 16% in 2003). The trend of reduced prevalence from 2003 to 2018 was similar among boys (20% to 9%) and girls (12% to 7%) with no significant difference in prevalence of self-reported doctor-diagnosed asthma in 2018 between boys (9%) and girls (7%).

The proportion of children who were reported as having wheezed in the last 12 months was also at its lowest in the time series at 10% in 2018. In previous survey years prevalence has fluctuated between 12% and 14%.

Overall, the proportion of children who were reported as having ever wheezed was at its lowest in 2018 (19%) with no clear pattern of change in previous survey years (prevalence fluctuated between 22% and 25%). Unlike in previous years[33], there was not a significant difference in prevalence of having ever wheezed between boys and girls in 2018 (20% for boys and 17% for girls). **Figure 8A, Table 8.1**

8.3.3 Self-reported doctor-diagnosed asthma and wheezing prevalence in adults in 2018, by age and sex

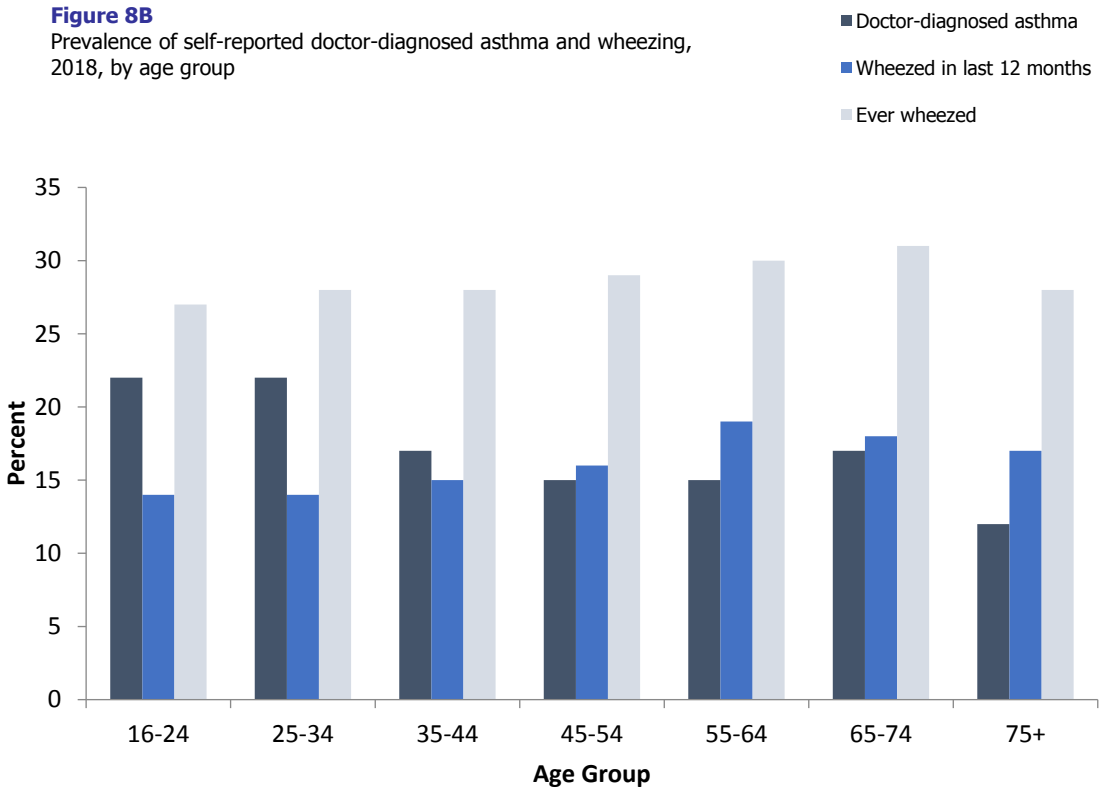
In 2018, the prevalence of self-reported doctor-diagnosed asthma among adults differed significantly by age. The highest prevalence was among those aged 16-34 at 22% and the lowest was among those aged 75 and over at 12%. Similar patterns were found for men and women.

There was no significant difference in the proportion of adults having wheezed in the last 12 months according to age. Prevalence ranged from 14-19% across age groups with no clear pattern by age for men or women.

The proportion of adults in 2018 that reported ever having wheezed fluctuated between 27% and 31% with no clear pattern by age.

Figure 8B, Table 8.2

Figure 8B
Prevalence of self-reported doctor-diagnosed asthma and wheezing, 2018, by age group



8.3.4 Self-reported doctor-diagnosed asthma and wheezing prevalence (age-standardised) in 2018, by area deprivation and sex

In 2018, prevalence of self-reported asthma and wheezing were both significantly linked with deprivation.

Adults living in the most deprived quintile had a higher prevalence (21%) of doctor-diagnosed asthma than those in the other four quintiles (14-18%). A similar pattern was found for both men and women.

The proportion of adults who reported wheezing in the last 12 months increased significantly with deprivation level; from 13% of adults (14% for men, 12% for women) living in the least deprived quintile compared with 25% of those living in the most deprived quintile (23% for men, 26% for women).

Those living in the most deprived quintile were more likely to report having ever wheezed (37%) than those living in the other four deprivation quintiles (25% to 29%). The pattern by deprivation varied between men and women. For women, there was a gradual increase in prevalence of having ever wheezed from 24% among those in the least deprived quintile to 39% in the most deprived quintile. There was no clear pattern in prevalence by deprivation for men. **Table 8.3**

8.3.5 Self-reported doctor-diagnosed asthma and wheezing prevalence (age-standardised) in 2018, by smoking status and sex

As in previous years[34] smoking status among adults was significantly associated with prevalence of self-reported doctor-diagnosed asthma and wheezing.

The proportions of adults who had ever wheezed or wheezed in the last 12 months were higher among current smokers than non-smokers or occasional smokers and those who used to smoke. Around a tenth (11%) of non-smokers or occasional smokers had wheezed in the last 12 months, the proportion increased to more than a third (37%) among those who smoked 20 or more cigarettes a day. The pattern was similar for men and women.

Similarly, double the proportion of adults who smoked 20 or more cigarettes per day (44%) reported having ever wheezed in their lifetime compared with around a fifth (22%) of non-smokers or occasional smokers. Similar patterns were found for men and women.

Prevalence of self-reported doctor-diagnosed asthma was significantly higher for those that smoke less than 20 a day than for non-smokers or those that only smoked occasionally. **Table 8.4**

8.4 DOCTOR-DIAGNOSED COPD

8.4.1 Trends in doctor-diagnosed COPD prevalence in adults since 2008

The prevalence of self-reported doctor-diagnosed COPD in adults was 4% in 2018, continuing the stable trend since 2008 of 4% for every year with the exceptions of 2009 (3%) and 2010 (5%).

There have been no significant differences between the prevalence rates of self-reported doctor-diagnosed COPD for men and women during the timeseries. **Table 8.5**

8.4.2 Doctor-diagnosed COPD prevalence in 2018, by age and sex

Similar to previous years[35], the prevalence of self-reported doctor-diagnosed COPD in 2018 was higher within older adults than younger adults. Prevalence increased from 1% among those aged 16-44 to 11% among those aged 65-74. Prevalence did not vary between the sexes and the same pattern by age was observed in both men and women. **Table 8.6**

8.4.3 Doctor-diagnosed COPD prevalence (age-standardised) in 2018, by area deprivation and sex

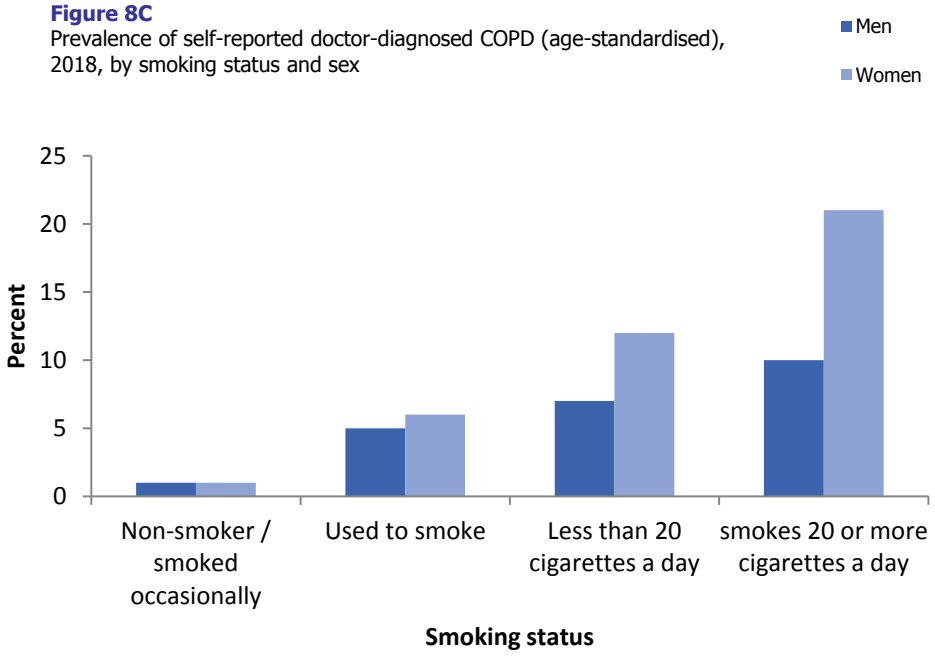
As in previous years[36], self-reported doctor-diagnosed COPD was significantly associated with area deprivation in 2018, with the lowest prevalence (2%) among adults living in the least deprived areas and the highest prevalence (8%) among those living in the most deprived areas. This association was observed among both men and women. **Table 8.7**

8.4.4 Doctor-diagnosed COPD prevalence (age-standardised) in 2018, by smoking status and sex

Prevalence of self-reported doctor-diagnosed COPD was lower among non-smokers or occasional smokers (1%) than among those who used to smoke (5%) and increased with the number of cigarettes smoked a day (9% for those who smoked less than 20 cigarettes a day to 13% among those who smoked more than 20 cigarettes a day).

A similar pattern for the prevalence of COPD and smoking status were evident among men and women. However higher proportions of female regular smokers reported doctor-diagnosed COPD than male regular smokers (12% to 21% for female smokers compared to 7% to 10% of male smokers). **Figure 8C, Table 8.8**

Figure 8C
Prevalence of self-reported doctor-diagnosed COPD (age-standardised), 2018, by smoking status and sex



8.4.5 COPD treatment and type of treatment in 2015-2018 combined, by age and sex

Among all adults who self-reported doctor-diagnosed COPD in 2018, 72% reported having received treatment for their condition, with similar rates observed among men (71%) and women (73%). This varied with age, with those aged 65 and over more likely to be receiving treatment for their condition than those aged between 16-64 (80% compared with 63% respectively). A similar pattern by age was similar for men and women.

Taking medication (tablets / inhalers)

Taking medication including tablets or inhalers was the most common form of treatment for COPD reported (67%) with similar findings for men and women (65% and 68% respectively). Adults aged 65 and over were more likely to report this as a treatment than those aged 16-64 (74%

compared with 59% respectively). This pattern by age was similar for men and women.

Regular check-up with GP / hospital / clinic

Regular check-ups with medical professionals was the second most common type of COPD treatment reported (59%) with similar rates for men (60%) and women (58%). Around two thirds (64%) of adults aged 65 and over had received this form of treatment compared with just over a half (53%) of those aged 16-64. This pattern by age was found for men and women.

Immunisations against flu / pneumococcus

Immunisations against flu and/or pneumococcus was the third most common treatment for COPD reported (34%). The rate did not differ significantly across the two age groups for men or women.

Advice or treatment to stop smoking

Just under a fifth (19%) of those who reported a COPD diagnosis had received advice or treatment to stop smoking as a COPD treatment. This varied significantly by age (23% of adults aged 16-64 compared with 15% of those aged 65 and above). A similar pattern by age was found for men and women. This contrasts with most of the other forms of treatment whereby receipt of the treatment was higher among the older age group than the younger age group.

Exercise or physical activity

A tenth of adults who reported doctor-diagnosed COPD reported engaging in exercise or physical activity as a treatment with similar figures for both age groups (10% among those aged 16-64 and 9% among those aged 65 and over). Men who had reported a COPD diagnosis were more likely to engage in exercise or physical activity as a form of treatment for COPD than women (13% compared with 7% respectively).

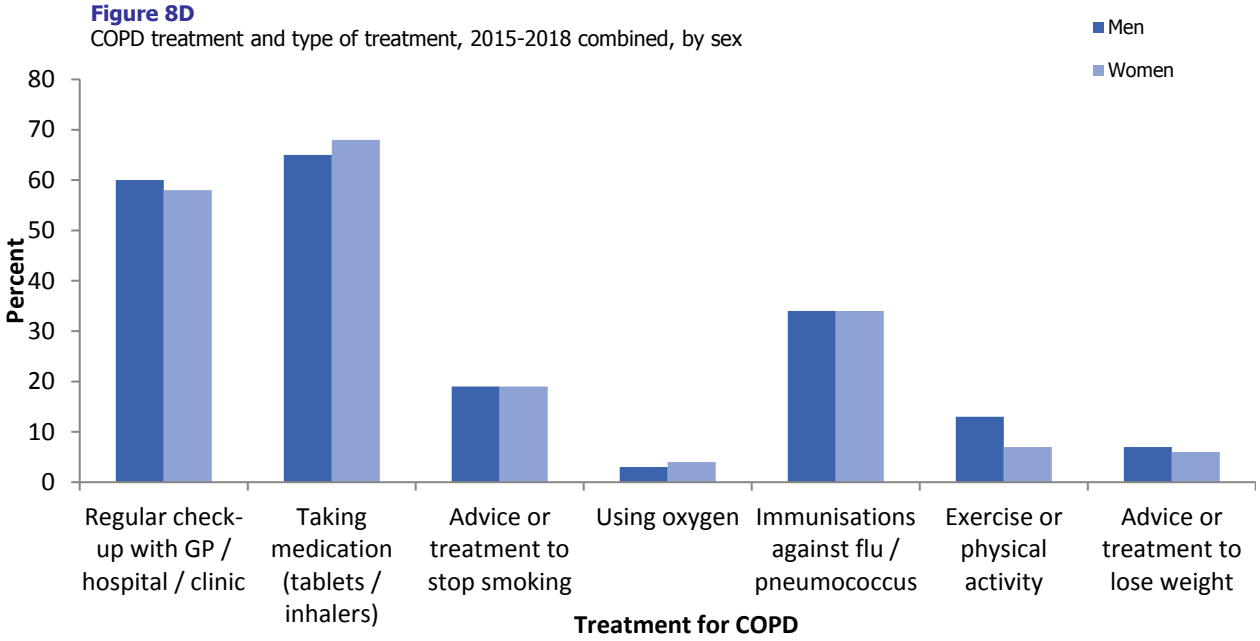
Advice / treatment to lose weight

Advice or treatment to lose weight for COPD was reported by 6% of those with a COPD diagnosis. No significant differences were found across the two age groups (16-64 and those aged 65 and over) or between men and women.

Using oxygen

Using oxygen was the least common treatment for COPD reported. Prevalence of this treatment among adults with COPD was 3% with no significant differences across the two age groups or between men and women. **Figure 8D, Table 8.9**

Figure 8D
COPD treatment and type of treatment, 2015-2018 combined, by sex



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[32] Prior to 2012 a fuller version of the MRC Respiratory Symptoms Questionnaire was included in the 1995-2003 and 2008 and 2010 surveys, alongside questions about wheezing and whistling in the chest that were added to the survey in 1998 as part of the asthma module. To reduce duplication and participant burden, from 2012 onwards the MRC Questionnaire items on wheezing were cut (the questions on phlegm and breathlessness were retained).

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Table list

Table 8.1: Doctor-diagnosed asthma, wheezed in last 12 months, and ever wheezed, 2003 to 2018, by age and sex

Base: All persons *2003 - 2018*

		2003	2008/2010 combined	2012	2013	2014	2015	2016	2017	2018
Asthma and wheezing		%	%	%	%	%	%	%	%	%
Males	**Doctor-diagnosed asthma**									
	0-15	20	14	15	15	12	11	10	13	9
	16+	13	13	16	16	16	16	15	15	17
	Wheezed in last 12 months[a]									
	0-15	16	14	15	17	13	13	15	14	11
	16+	16	14	17	17	18	18	16	18	16
	Ever wheezed									
	0-15	29	24	27	28	24	24	26	26	20
	16+	27	24	30	29	31	31	28	29	28
Females	**Doctor-diagnosed asthma**									
	0-15	12	12	9	12	10	10	9	7	7
	16+	14	15	17	17	18	18	16	17	17
	Wheezed in last 12 months[a]									
	0-15	12	11	11	12	12	11	12	11	9
	16+	16	16	18	19	18	18	15	17	16
	Ever wheezed									
	0-15	20	19	19	22	20	19	19	19	17
	16+	26	25	30	32	30	30	27	30	29

Continued…

Table 8.1: *- Continued*

Base: All persons *2003 - 2018*

Asthma and wheezing		2003 %	2008/2010 combined %	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %
	Doctor-diagnosed asthma									
	0-15	16	13	12	13	11	10	10	10	8
	16+	13	14	16	16	17	17	15	16	17
	Wheezed in last 12 months[a]									
All	0-15	14	12	13	14	12	12	13	12	10
	16+	16	15	18	18	18	18	15	17	16
	Ever wheezed									
	0-15	25	22	23	25	22	21	23	23	19
	16+	26	25	30	31	30	30	28	30	29
Unweighted bases	*Males 0-15*	*1655*	*994*	*879*	*947*	*842*	*735*	*771*	*557*	*1055*
	Males 16+	*3603*	*1999*	*2127*	*2137*	*2068*	*2243*	*1892*	*1069*	*2072*
	Females 0-15	*1667*	*883*	*907*	*891*	*825*	*685*	*790*	*542*	*925*
	Females 16+	*4536*	*2659*	*2688*	*2752*	*2589*	*2749*	*2428*	*1410*	*2732*
	All children 0-15	*3322*	*1877*	*1786*	*1838*	*1667*	*1420*	*1561*	*1099*	*1980*
	All adults 16+	*8139*	*4658*	*4815*	*4889*	*4657*	*4992*	*4320*	*2479*	*4804*
Weighted bases	*Males 0-15*	*1700*	*960*	*914*	*939*	*852*	*725*	*798*	*559*	*1014*
	Males 16+	*3847*	*2228*	*2309*	*2343*	*2237*	*2394*	*2073*	*1197*	*2313*
	Females 0-15	*1622*	*917*	*873*	*899*	*815*	*695*	*763*	*549*	*966*
	Females 16+	*4290*	*2432*	*2506*	*2546*	*2421*	*2596*	*2245*	*1295*	*2491*
	All children 0-15	*3322*	*1877*	*1786*	*1838*	*1667*	*1420*	*1561*	*1108*	*1980*
	All adults 16+	*8137*	*4660*	*4815*	*4889*	*4658*	*4989*	*4318*	*2491*	*4804*

a Wheezed in the last 12 months' refers to wheezing or whistling in the chest

Table 8.2: Doctor-diagnosed asthma, wheezed in last 12 months, and ever wheezed, 2018, by age and sex

Base: Aged 16 and over *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Asthma and wheezing		%	%	%	%	%	%	%	%
Men	Doctor-diagnosed asthma	25	23	14	16	13	15	11	17
	Wheezed in the last 12 months[a]	15	14	13	20	17	19	14	16
	Ever wheezed	30	28	26	31	27	32	23	28
Women	Doctor-diagnosed asthma	18	20	20	13	17	18	13	17
	Wheezed in the last 12 months[a]	13	13	17	13	20	17	19	16
	Ever wheezed	24	27	30	27	32	31	32	29
All adults	Doctor-diagnosed asthma	22	22	17	15	15	17	12	17
	Wheezed in the last 12 months[a]	14	14	15	16	19	18	17	16
	Ever wheezed	27	28	28	29	30	31	28	29
Unweighted bases	*Men*	*157*	*228*	*280*	*378*	*373*	*393*	*264*	*2073*
	Women	*205*	*363*	*408*	*473*	*492*	*468*	*323*	*2732*
	All adults	*362*	*591*	*688*	*851*	*865*	*861*	*587*	*4805*
Weighted bases	*Men*	*306*	*388*	*350*	*414*	*374*	*292*	*191*	*2315*
	Women	*298*	*402*	*368*	*445*	*396*	*319*	*264*	*2491*
	All adults	*603*	*789*	*718*	*859*	*769*	*611*	*455*	*4805*

a Wheezed in the last 12 months' refers to wheezing or whistling in the chest

Table 8.3: Doctor-diagnosed asthma, wheezed in last 12 months, and ever wheezed, (age standardised), 2018, by area deprivation and sex

Base: Aged 16 and over *2018*

		Scottish Index of Multiple Deprivation				
		5th (Least deprived)	4th	3rd	2nd	1st (Most deprived)
Asthma and wheezing		%	%	%	%	%
Men	Doctor-diagnosed asthma	20	13	18	15	21
	Wheezed in the last 12 months[a]	14	13	16	16	23
	Ever wheezed	32	23	27	26	35
Women	Doctor-diagnosed asthma	15	15	15	20	21
	Wheezed in the last 12 months[a]	12	13	13	18	26
	Ever wheezed	24	25	27	32	39
All adults	Doctor-diagnosed asthma	18	14	17	17	21
	Wheezed in the last 12 months[a]	13	13	15	17	25
	Ever wheezed	28	25	27	29	37
Unweighted bases	*Men*	*402*	*501*	*413*	*420*	*336*
	Women	*545*	*644*	*519*	*573*	*451*
	All adults	*947*	*1145*	*932*	*993*	*787*
Weighted bases	*Men*	*441*	*506*	*445*	*514*	*407*
	Women	*505*	*563*	*454*	*526*	*443*
	All adults	*946*	*1069*	*900*	*1040*	*849*

a Wheezed in the last 12 months' refers to wheezing or whistling in the chest
The bases in the table above are for the 'wheezed in the last 12 months' indicator only, bases for the other indicators may differ slightly.
Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Table 8.4: Doctor-diagnosed asthma, wheezed in last 12 months, and ever wheezed, (age standardised), 2018, by smoking status and sex

Base: Aged 16 and over *2018*

		Smoking status and number of cigarettes a day			
		Non-smoker or smoked occasionally	Used to smoke	Less than 20 cigarettes a day	20 or more cigarettes a day
Asthma and wheezing		%	%	%	%
Men	Doctor-diagnosed asthma	15	21	21	18
	Wheezed in the last 12 months[a]	10	18	30	34
	Ever wheezed	21	35	43	38
Women	Doctor-diagnosed asthma	15	16	22	19
	Wheezed in the last 12 months[a]	11	14	29	44
	Ever wheezed	23	30	46	55
All adults	Doctor-diagnosed asthma	15	18	22	18
	Wheezed in the last 12 months[a]	11	16	29	37
	Ever wheezed	22	33	45	44
Unweighted bases	*Men*	*1128*	*554*	*262*	*102*
	Women	*1628*	*637*	*372*	*73*
	All adults	*2756*	*1191*	*634*	*175*
Weighted bases	*Men*	*1311*	*509*	*356*	*107*
	Women	*1526*	*532*	*346*	*56*
	All adults	*2837*	*1041*	*702*	*163*

a Wheezed in the last 12 months' refers to wheezing or whistling in the chest

Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Table 8.5: Doctor-diagnosed COPD, 2008 to 2018

Base: Aged 16 and over *2008 - 2018*

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Doctor-diagnosed COPD		%	%	%	%	%	%	%	%	%	%	%
Men	Yes	3	3	4	3	4	3	3	4	4	4	4
	No	97	97	96	97	96	97	97	96	96	96	96
Women	Yes	4	4	5	4	4	4	4	4	4	4	4
	No	96	96	95	96	96	96	96	96	96	96	96
All adults	Yes	4	3	5	4	4	4	4	4	4	4	4
	No	96	97	95	96	96	96	96	96	96	96	96
Unweighted bases	*Men*	*2842*	*3288*	*3115*	*3279*	*2127*	*2139*	*2069*	*2246*	*1894*	*1598*	*2074*
	Women	*3623*	*4242*	*4130*	*4261*	*2688*	*2754*	*2590*	*2750*	*2429*	*2099*	*2736*
	All adults	*6465*	*7530*	*7245*	*7540*	*4815*	*4893*	*4659*	*4996*	*4323*	*3697*	*4810*
Weighted bases	*Men*	*3088*	*3601*	*3468*	*3609*	*2309*	*2345*	*2238*	*2401*	*2077*	*1778*	*2315*
	Women	*3377*	*3929*	*3777*	*3931*	*2506*	*2547*	*2421*	*2597*	*2246*	*1919*	*2495*
	All adults	*6465*	*7530*	*7245*	*7540*	*4815*	*4891*	*4659*	*4997*	*4323*	*3697*	*4810*

Table 8.6: Doctor-diagnosed COPD, 2018, by age and sex

Base: Aged 16 and over *2018*

		Age							Total
		16-24	25-34	35-44	45-54	55-64	65-74	75+	
Doctor-diagnosed COPD		%	%	%	%	%	%	%	%
Men	Yes	2	1	1	2	6	11	7	4
	No	98	99	99	98	94	89	93	96
Women	Yes	1	0	1	3	7	11	10	4
	No	99	100	99	97	93	89	90	96
All adults	Yes	1	1	1	3	6	11	9	4
	No	99	99	99	97	94	89	91	96
Unweighted bases	*Men*	*158*	*228*	*280*	*378*	*373*	*393*	*264*	*2074*
	Women	*205*	*363*	*408*	*473*	*492*	*469*	*326*	*2736*
	All adults	*363*	*591*	*688*	*851*	*865*	*862*	*590*	*4810*
Weighted bases	*Men*	*307*	*388*	*350*	*414*	*374*	*292*	*191*	*2315*
	Women	*298*	*402*	*368*	*445*	*396*	*320*	*267*	*2495*
	All adults	*604*	*789*	*718*	*859*	*769*	*612*	*458*	*4810*

Table 8.7: Doctor-diagnosed COPD, (age-standardised), 2018, by area deprivation and sex

Base: Aged 16 and over *2018*

		Scottish Index of Multiple Deprivation				
		5th (Least deprived)	4th	3rd	2nd	1st (Most deprived)
Doctor-diagnosed COPD		%	%	%	%	%
Men	Yes	2	3	3	5	7
	No	98	97	97	95	93
Women	Yes	1	3	2	6	9
	No	99	97	98	94	91
All adults	Yes	2	3	3	6	8
	No	98	97	97	94	92
Unweighted bases	*Men*	*402*	*501*	*413*	*420*	*338*
	Women	*545*	*645*	*519*	*574*	*453*
	All adults	*947*	*1146*	*932*	*994*	*791*
Weighted bases	*Men*	*441*	*506*	*445*	*514*	*409*
	Women	*505*	*564*	*454*	*527*	*444*
	All adults	*946*	*1070*	*900*	*1042*	*853*

Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Table 8.8: Doctor-diagnosed COPD, (age-standardised), 2018, by smoking status and sex

Base: Aged 16 and over *2018*

		Smoking status[a] and number of cigarettes a day			
		Non-smoker or smoked occasionally	Used to smoke	Less than 20 cigarettes a day	20 or more cigarettes a day
Doctor-diagnosed COPD		%	%	%	%
Men	Yes	1	5	7	10
	No	99	95	93	90
Women	Yes	1	6	12	21
	No	99	94	88	79
All adults	Yes	1	5	9	13
	No	99	95	91	86
Unweighted bases	*Men*	*1129*	*554*	*263*	*102*
	Women	*1628*	*638*	*372*	*74*
	All adults	*2757*	*1192*	*635*	*176*
Weighted bases	*Men*	*1312*	*509*	*357*	*107*
	Women	*1526*	*533*	*346*	*56*
	All adults	*2838*	*1042*	*703*	*164*

a Smoking status excludes cases where respondent did not know how many they smoked a day

Age-standardisation has been carried out using 2017 mid-year population estimates for private households in Scotland. Please see the technical report for more information.

Table 8.9: COPD treatment and type of treatment, 2015 to 2018 combined, by age and sex

Base: Aged 16 and over with COPD — *2015 - 2018 combined*

	Type of treatment received	16-64 %	65+ %	Total %
Men	Regular check-up with GP / hospital / clinic	53	67	60
	Taking medication (tablets / inhalers)	55	74	65
	Advice or treatment to stop smoking	24	14	19
	Using oxygen	2	4	3
	Immunisations against flu / pneumococcus	28	40	34
	Exercise or physical activity	13	12	13
	Advice or treatment to lose weight	8	7	7
	Other advice/treatment	0	-	0
	Any COPD treatment received	61	80	71
	No COPD treatment received	39	20	29
Women	Regular check-up with GP / hospital / clinic	53	62	58
	Taking medication (tablets / inhalers)	62	73	68
	Advice or treatment to stop smoking	22	16	19
	Using oxygen	4	3	4
	Immunisations against flu / pneumococcus	32	35	34
	Exercise or physical activity	8	7	7
	Advice or treatment to lose weight	8	4	6
	Other advice/treatment	1	1	1
	Any COPD treatment received	66	80	73
	No COPD treatment received	34	20	27
All Adults	Regular check-up with GP / hospital / clinic	53	64	59
	Taking medication (tablets / inhalers)	59	74	67
	Advice or treatment to stop smoking	23	15	19
	Using oxygen	3	4	3
	Immunisations against flu / pneumococcus	30	37	34
	Exercise or physical activity	10	9	10
	Advice or treatment to lose weight	8	5	6
	Other advice/treatment	1	0	0
	Any COPD treatment received	63	80	72
	No COPD treatment received	37	20	28

Continued…

Table 8.9: *- Continued*

Base: Aged 16 and over with COPD		*2015 - 2018 combined*		
		16-64	65+	Total
Type of treatment received				
Unweighted bases	*Men*	*147*	*221*	*368*
	Women	*196*	*252*	*448*
	All adults	*343*	*473*	*816*
Weighted bases	*Men*	*153*	*176*	*328*
	Women	*179*	*201*	*380*
	All adults	*332*	*377*	*708*

Appendix A:

Glossary

APPENDIX A: GLOSSARY

This glossary explains terms used in the report, other than those fully described in particular chapters.

Age Standardisation

Age standardisation has been used in order to enable groups to be compared after adjusting for the effects of any differences in their age distributions**.**

When different sub-groups are compared in respect of a variable on which age has an important influence, any differences in age distributions between these sub-groups are likely to affect the observed differences in the proportions of interest.
Age standardisation was carried out, using the direct standardisation method. The standard population to which the age distribution of sub-groups was adjusted was the mid-2017 population estimates for private households Scotland. All age standardisation has been undertaken separately within each sex.

The age-standardised proportion p' was calculated as follows, where p_i is the age specific proportion in age group *i* and N_i is the standard population size in age group *i*:

$$p' = \frac{\sum_i N_i p_i}{\sum_i N_i}$$

Therefore p' can be viewed as a weighted mean of p_i using the weights N_i. Age standardisation was carried out using the age groups: 16-24, 25-34, 35-44, 45-54, 55-64, 65-74 and 75 and over. The variance of the standardised proportion can be estimated by:

$$var(p') = \frac{\sum_i (N_i^2 p_i q_i / n_i)}{(\sum_i N_i)^2}$$

where $q_i = 1 - p_i$.

Anthropometric measurement

See **Body mass index** (BMI)

Arithmetic mean

See **Mean**

Bases

See **Unweighted bases, Weighted bases**

Blood pressure

Systolic (SBP) and diastolic (DBP) blood pressure were measured using a standard method. In adults, high blood

pressure is defined as SBP ≥140 mmHg or DBP ≥90 mmHg or on antihypertensive drugs.

Body mass index

Weight in kg divided by the square of height in metres. Adults (aged 16 and over) can be classified into the following BMI groups:

BMI (kg/m^2)	*Description*
Less than 18.5	Underweight
18.5 to less than 25	Normal
25 to less than 30	Overweight
30 to less than 40	Obese
40 and above	Morbidly obese

Although the BMI calculation method is the same, there are no fixed BMI cut-off points defining overweight and obesity in children. Instead, overweight and obesity are defined using several other methods including age and sex specific BMI cut-off points or BMI percentiles cut-offs based on reference populations. Children can be classified into the following groups:

Percentile cut-off	*Description*
At or below 2nd percentile	At risk of underweight
Above 2nd percentile and below 85th percentile	Healthy weight
At or above 85th percentile and below 95th percentile	At risk of overweight
At or above 95th percentile	At risk of obesity

Cardiovascular Disease

Participants were classified as having cardiovascular disease (CVD) if they reported ever having any of the following conditions diagnosed by a doctor: angina, heart attack, stroke, heart murmur, irregular heart rhythm, 'other heart trouble'. For the purpose of this report, participants were classified as having a particular condition only if they reported that the diagnosis was confirmed by a doctor. No attempt was made to assess these self-reported diagnoses objectively. There is therefore the possibility that some misclassification may have occurred, because some participants may not have remembered (or not remembered correctly) the diagnosis made by their doctor.

Chronic Obstructive Pulmonary Disease (COPD)

COPD is defined by the World Health Organisation (WHO) as 'a pulmonary disease characterised by chronic obstruction lung airflow that interferes with normal breathing and is not fully reversible.' It is associated with symptoms and clinical signs that in the past have been called 'chronic bronchitis' and 'emphysema,' including regular cough (at least three consecutive months of the year) and production of phlegm.

CIS-R See **Revised Clinical Interview Schedule**

Diastolic blood When measuring blood pressure the diastolic arterial pressure is the lowest pressure at the resting phase of the cardiac cycle. See also **Blood pressure, Systolic blood pressure.**

Electronic cigarettes Electronic cigarettes or e-cigarettes are battery-powered handheld devices which heat a liquid that delivers a vapour. The vapour is then inhaled by the user, which is known as 'vaping'. E-cigarettes typically consist of a battery, an atomiser and a cartridge containing the liquid. Earlier models, often referred to as 'cigalikes', were designed to closely resemble cigarettes but there is now a wide variety of product types on the market. The liquid is usually flavoured and may not contain nicotine, although in most cases e-cigarettes are used with nicotine. Unlike conventional or traditional cigarettes, they do not contain tobacco and do not involve combustion (i.e. they are not lit). The questions about e-cigarettes were amended in 2016 to include the term 'vaping devices'.

Food insecurity Food insecurity is 'the inability to acquire or consume an adequate quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so'[1]. Respondents answered three routed questions on food insecurity asking whether they had *worried about* running out of food, eaten less than they should have or had actually run out of food in the last 12 months.

Frankfort plane The Frankfort Plane is an imaginary line passing through the external ear canal and across the top of the lower bone of the eye socket, immediately under the eye. Informants' heads are positioned with the Frankfort Plane in a horizontal position when height is measured using a stadiometer as a means of ensuring that, as far as possible, the measurements taken are standardised.

Geometric mean The geometric mean is a measure of central tendency. It is sometimes preferable to the arithmetic mean, since it takes account of positive skewness in a distribution. An arithmetic mean is calculated by summing the values for all cases and dividing by the number of cases in the set. The geometric mean is instead calculated by multiplying the values for all cases and taking the *n*th root, where *n* is the number of cases in the set. For example, a dataset with two cases would use the square root, for

[1] Dowler E (2003). Food and Poverty in Britain: Rights and Responsibilities. In: Dowler, E and Jones Finer, C (Eds). *Welfare of Food: Rights and Responsibilities in a Changing World*. Oxford: Wiley-Blackwell; 140-159.

three cases the cube root would be used, and so on. The geometric mean of 2 and 10 is 4.5 (2x10=20, √20=4.5). Geometric means can only be calculated for positive numbers so zero values need to be handled before geometric means are calculated. See also **Mean**.

GHQ12

The General Health Questionnaire (GHQ12) is a scale designed to detect possible psychiatric morbidity in the general population. It was administered to informants aged 13 and above. The questionnaire contains 12 questions about the informant's general level of happiness, depression, anxiety and sleep disturbance over the past four weeks. Responses to these items are scored, with one point given each time a particular feeling or type of behaviour was reported to have been experienced 'more than usual' or 'much more than usual' over the past few weeks. These scores are combined to create an overall score of between zero and twelve. A score of four or more (referred to as a 'high' GHQ12 score) has been used in this report to indicate the presence of a possible psychiatric disorder.

Reference: Goldberg D, Williams PA. *User's Guide to the General Health Questionnaire.* NFER-NELSON, 1988.

Health risk category

Health risk category is derived from BMI and waist circumference. BMI is derived from height and weight data collected in the main interview and waist circumference measurements are collected in the biological module. These measures are used in combination to estimate the proportion of the adults who fall into each of the risk categories listed in the table below.

BMI Classification	**'High' WC** **Men WC 94-102cm** **Women WC 80-88cm**	**'Very high' WC** **Men WC >102cm** **Women WC >88cm**
Normal weight (BMI 18.5 - <25(kg/m^2))	-	-
Overweight (BMI 25 - <30(kg/m^2))	Increased	High
Obese		
I - Mild (BMI 30 - <35(kg/m^2))	High	Very high
II - Moderate (BMI 35 - <40(kg/m^2))	Very high	Very high
III - Extreme (BMI 40+(kg/m^2))	Extremely high	Extremely high

	Reference: Scottish Intercollegiate Guidelines Network Management of Obesity – A National Clinical Guideline. SIGN guideline no. 115. Edinburgh: SIGN, 2010.
Household	A household was defined as one person or a group of people who have the accommodation as their only or main residence and who either share at least one meal a day or share the living accommodation.
Household Reference Person	The household reference person (HRP) is defined as the householder (a person in whose name the property is owned or rented) with the highest income. If there is more than one householder and they have equal income, then the household reference person is the oldest.
Ischaemic heart disease	Ischaemic heart disease (IHD) is also known as coronary heart disease. Participants were classified as having IHD if they reported ever having angina, a heart attack or heart failure diagnosed by a doctor.
Mean	Most means in this report are **Arithmetic means** (the sum of the values for cases divided by the number of cases).
Median	The value of a distribution which divides it into two equal parts such that half the cases have values below the median and half the cases have values above the median.
Morbid obesity	See **Body mass index.**
NHS Health Board	The National Health Service (NHS) in Scotland is divided up into 14 geographically-based local NHS Boards and a number of National Special Health Boards. Health Boards in this report refers to the 14 local NHS Boards. (See Volume 2: Appendix B)
Nicotine Replacement Therapy (NRT)	The remedial administration of nicotine to the body by means other than tobacco, usually as part of smoking cessation. Common forms of nicotine replacement therapy are nicotine patches and nicotine gum.
Obesity	See **Body mass index**
Overweight	See **Body mass index**
Percentile	The value of a distribution which partitions the cases into groups of a specified size. For example, the 20th percentile is the value of the distribution where 20 percent of the cases have values below the 20th percentile and 80 percent have values above it. The 50th percentile is the median.

p value

A p value is the probability of the observed result occurring due to chance alone. A p value of less than 5% is conventionally taken to indicate a statistically significant result ($p<0.05$). It should be noted that the p value is dependent on the sample size, so that with large samples differences or associations which are very small may still be statistically significant. Results should therefore be assessed on the magnitude of the differences or associations as well as on the p value itself. The p values given in this report take into account the clustered sampling design of the survey. See also **Significance testing**.

Quintile

Quintiles are percentiles which divide a distribution into fifths, i.e., the 20th, 40th, 60th and 80th percentiles.

Raised waist circumference

See **Waist circumference**

Revised Clinical Interview Schedule

Details on symptoms of depression and anxiety are collected via a standardised instrument, the Revised Clinical Interview Schedule (CIS-R)[2]. The CIS-R is a well-established tool for measuring the prevalence of mental disorders. The complete CIS-R comprises 14 sections, each covering a type of mental health symptom and asks about presence of symptoms in the week preceding the interview. Prevalence of two of these mental illnesses - depression and anxiety - were introduced to the survey in 2008. Given the potentially sensitive nature of these topics, they were included in the nurse interview part of the survey prior to 2012, and in the computer-assisted self-completion part of the biological module from 2012 to 2015.

Questions on depression cover a range of symptoms, including feelings of being sad, miserable or depressed, and taking less of an interest and getting less enjoyment out of things than usual. Questions on anxiety cover feelings of anxiety, nervousness and tension, as well as phobias, and the symptoms associated with these.

Scottish Index of Multiple Deprivation

The Scottish Index of Multiple Deprivation (SIMD) is the Scottish Government's official measure of area based multiple deprivation. It is based on 37 indicators across 7 individual domains of current income, employment, housing, health, education, skills and training and geographic access to services and telecommunications. SIMD is calculated at data zone level, enabling small pockets of deprivation to be identified. The data zones are ranked from most deprived (1) to least deprived (6505) on the overall SIMD index. The result is a

[2] Lewis, G. & Pelosi, A. J. (1990). Manual of the Revised Clinical Interview Schedule CIS–R. London: Institute of Psychiatry; Lewis G, Pelosi AJ, Araya R, Dunn G. (1992) Measuring psychiatric disorder in the community; a standardised assessment for use by lay interviewers. *Psychological Medicine*; 22, 465-486.

comprehensive picture of relative area deprivation across Scotland.

This report uses the SIMD 2016.
http://www.scotland.gov.uk/Topics/Statistics/SIMD

Significance testing

Where differences in relation to a particular outcome between two subgroups, such as men and women, are highlighted in volume 1 of this report, the differences can be considered statistically significant, unless otherwise stated.

Statistical significance is calculated using logistic regression to provide a **p-value** based on a two-tailed significance test. One tailed-tests are used when the difference can only be in one direction. Two-tailed tests should always be used when the difference can theoretically be in either direction. For example, even though previous research has shown a higher prevalence of hazardous levels of alcohol consumption among men than among women, and we may expect this to be true in the most recent survey, a two-tailed test is used to confirm the difference.

Standard deviation

The standard deviation is a measure of the extent to which the values within a set of data are dispersed from, or close to, the mean value. In a normally distributed set of data 68% of the cases will lie within one standard deviation of the mean, 95% within two standard deviations and 99% will be within 3 standard deviations. For example, for a mean value of 50 with a standard deviation of 5, 95% of values will lie within the range 40-60.

Standard error

The standard error is a variance estimate that measures the amount of uncertainty (as a result of sampling error) associated with a survey statistic. All data presented in this report in the form of means are presented with their associated standard errors (with the exception of the WEMWBS scores which are also presented with their standard deviations). Confidence intervals are calculated from the standard error; therefore the larger the standard error, the wider the confidence interval will be.

Standard error of the mean

See **Standard Error**

Standardisation

In this report, standardisation refers to standardisation (or 'adjustment') by age (see **Age standardisation**).

Systolic blood Pressure

When measuring blood pressure, the systolic arterial pressure is pressure defined as the peak pressure in the arteries, which occurs near the beginning of the cardiac cycle. See also **Blood pressure, Diastolic blood pressure.**

Unit of alcohol Alcohol consumption is reported in terms of units of alcohol. A unit of alcohol is 8 gms or 10ml of ethanol (pure alcohol). See Chapter 1 of volume 1 of this Report for a full explanation of how reported volumes of different alcoholic drinks were converted into units.

Unweighted bases The unweighted bases presented in the report tables provide the number of individuals upon which the data in the table is based. This is the number of people that were interviewed as part of the SHeS and provided a valid answer to the particular question or set of questions. The unweighted bases show the number of people interviewed in various subgroups including gender, age and SIMD.

Waist circumference Waist circumference is a measure of deposition of abdominal fat. It was measured during the biological module. A raised waist circumference has been defined as more than 102cm in men and more than 88cm in women.

Weighted bases See also **Unweighted bases**. The weighted bases are adjusted versions of the unweighted bases which involves calculating a weight for each individual so that their representation in the sample reflects their representation in the general population of Scotland living in private households. Categories within the table can be combined by using the weighted bases to calculate weighted averages of the relevant categories.

WEMWBS The Warwick-Edinburgh Mental Well-being Scale (WEMWBS) was developed by researchers at the Universities of Warwick and Edinburgh, with funding provided by NHS Health Scotland, to enable the measurement of mental well-being of adults in the UK. It was adapted from a 40 item scale originally developed in New Zealand, the Affectometer 2[3]. The WEMWBS scale comprises 14 positively worded statements with a five item scale ranging from '1 - None of the time' to '5 - All of the time'. The lowest score possible is therefore 14 and the highest is 70. The 14 items are designed to assess positive affect (optimism, cheerfulness, relaxation); and satisfying interpersonal relationships and positive functioning (energy, clear thinking, self-acceptance, personal development, mastery and autonomy).

The briefing paper on the development of WEMWBS is available online from: <http://www.wellscotland.info/guidance/How-to-measure-mental-wellbeing/How-to-start-measuring-mental-wellbeing/The-Warwick-Edinburgh-Mental-Wellbeing-Scale->

[3] Kammann, R. and Flett, R. (1983). *Sourcebook for measuring well-being with Affectometer 2.* Dunedin, New Zealand: Why Not? Foundation.

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e-mail: statistics.enquiries@gov.scot

How to access background or source data

The data collected for the Scottish Health Survey:
☒ are made available via the UK Data Service

☒ may be made available on request, subject to consideration of legal and ethical factors. Please contact scottishhealthsurvey@gov.scot for further information.

Further breakdowns of the data:
☒ are available via the Scottish Health Survey website
http://www.gov.scot/Topics/Statistics/Browse/Health/scottish-health-survey

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