# Health Survey for England 2016

## Background Data Quality Statement

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This report may be of interest to members of the public, policy officials, people working in public health and to commissioners of health and care services who wish to read more about data quality for the Health Survey for England 2016.

# Introduction

This document is a background quality report for the Health Survey for England (HSE). The statistics included in this release are the latest available figures at the time of publication.

# Background

## Context

The Health Survey for England series was designed to monitor trends in the health and health related behaviours of adults and children in England. The survey is used to estimate the proportion of people in England who have specified health conditions, and the prevalence of risk factors and behaviours associated with these conditions. The surveys provide regular information that cannot be obtained from other sources. The surveys have been carried out since 1994 by the Joint Health Surveys Unit of NatCen Social Research and the Research Department of Epidemiology and Public Health at UCL.

The report on the 2016 survey is published on the NHS Digital website at https://digital.nhs.uk/pubs/hse2016

## Purpose of document

This paper aims to provide users with an evidence based assessment of quality of the statistical output included in this report.

It reports against those of the nine European Statistical System (ESS) quality dimensions and principles[1] appropriate to this output. In doing so, this meets NHS Digital's obligation to comply with the UK Statistics Authority (UKSA) Code of Practice for Official Statistics[2], particularly Principle 4, Practice 2 which states:

*"Ensure that official statistics are produced to a level of quality that meets users' needs and that users are informed about the quality of statistical outputs, including estimates of the main sources of bias and other errors and other aspects of the European Statistical System definition of quality"*

The Health Survey for England was assessed in 2010 by the United Kingdom Statistical Authority (UKSA) for compliance with the Code of Practice and the publication was recommended for continued designation as National Statistics.

[1] The original quality dimensions are: relevance, accuracy and reliability, timeliness and punctuality, accessibility and clarity, and coherence and comparability; these are set out in Eurostat Statistical Law. However more recent quality guidance from Eurostat includes some additional quality principles on: output quality trade-offs, user needs and perceptions, performance cost and respondent burden, and confidentiality, transparency and security.

[2] UKSA Code of Practice for Statistics: http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html

# Assessment of statistics against quality dimensions and principles

## Relevance

***This dimension covers the degree to which the statistical product meets user needs in both coverage and content.***

Each survey in the series includes core questions and measurements (such as blood pressure, height and weight and analysis of blood and saliva samples), as well as some modules of questions that are on specific topics that vary from year to year.

Frequent topics include:

- height, weight, BMI (body mass index)
- perceptions of own weight and perceptions of child's weight
- smoking
- exposure of children to second-hand smoke
- alcohol
- fruit and vegetable consumption
- general health, acute sickness and long-standing illness
- General Health Questionnaire (GHQ-12) an indicator of probable mental ill health
- blood pressure and hypertension
- diabetes
- prescribed medicines taken
- well-being
- social care for older people

Most of these are included each year in the survey, but some may be every two or three years.

The survey is the main source of data on the prevalence of overweight and obesity and body mass index data on adults in England.

Some additional topic modules such as physical activity or cardiovascular disease are repeated every few years and so are comparable over time.

There is also scope to incorporate topics into the questionnaire for just one survey year and a variety of different topics have been reported on over time. Examples are dental health, eye care, sexual health, chronic pain, gambling and end of life care. Further details can be found in the publications and at http://healthsurvey.hscic.gov.uk/content-by-topic.aspx

The trends tables report on key elements of the survey every year and the longevity of the survey means there is a long time series of comparable data available. It is one of the longest running health surveys across Europe.

The contents of the topic reports vary from year to year. NHS Digital consults the HSE Steering Group each year to try and ensure we meet most users' needs for reporting.

Analysis by region is provided in the topic reports using the former Government Office Regions. Unfortunately, estimates below regional level, e.g. for local authorities, cannot

be produced as the HSE sample size is not large enough. The Index of Multiple Deprivation is also available at a grouped level.

## Accuracy and reliability

***This dimension covers, with respect to the statistics, their proximity between an estimate and the unknown true value.***

As the data are based on a sample (rather than a census) of the population, the estimates are subject to sampling error. The Health Survey for England 2016 used a clustered, stratified multi-stage sample design and in addition, weights were applied when obtaining survey estimates. One of the effects of using the complex design and weighting is that standard errors for survey estimates are generally higher than the standard errors that would be derived from an unweighted simple random sample of the same size. The calculation of standard errors shown in the tables, and comments on statistical significance have been included in the report, all of which have taken into account the clustering, stratification and weighting of the data.

In general, attention is drawn to differences between estimates only when they are significant at the 95% confidence level, thus indicating that there is less than 5% probability that the observed difference could be due to random sampling variation when no difference occurred in the population from which the sample is drawn.

A household response rate of 59% was achieved for Health Survey for England 2016. Details of the sample design, survey methods and sampling errors and design effects are in the Methods report.

The sample was designed to be representative of the population living in private households in England. People living in institutional settings such as residential care homes, offender institutions, prisons, in temporary housing (such as hostels or bed and breakfasts) or sleeping rough are outside the scope of the survey. This should be borne in mind when considering survey findings, especially those for older people, since the institutional population in care homes is likely to be older and, on average, less healthy than those living in private households. The health of other people not covered by the survey might also vary from that of people in private households in some ways. However, the proportion of these in the England population is very small and so is unlikely to have little impact on most prevalence estimates.

The scope for analyses of some data for children may be limited by relatively small sample sizes.

## Timeliness and punctuality

***Timeliness refers to the time gap between publication and the reference period. Punctuality refers to the gap between planned and actual publication dates.***

A report about the survey findings and trend data tables with commentary are published annually and as soon as possible following completion of fieldwork data collection, data validation and analysis (usually the December following the survey year). Addresses were issued from January to December 2016. Fieldwork was completed in March 2017

This publication has not suffered any delay compared to the planned and pre-announced release date.

## Accessibility and clarity

***Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.***

The publication is accessible on the NHS Digital website free of charge. Reports are PDF documents. These include charts to illustrate the survey findings. All tables in the publication are provided in Excel format. These documents are available at https://digital.nhs.uk/pubs/hse2016

The publication may be requested in large print or other formats through the NHS Digital's contact centre: enquiries@nhsdigital.nhs.uk (please include 'HSE' in the subject line).

NHS Digital has published reports about each survey since the 2004 survey on its website. Prior to this the Department of Health produced these reports. These are now available via the national archives http://webarchive.nationalarchives.gov.uk/20070506192648/http://www.dh.gov.uk/en/Publicationsandstatistics/PublishedSurvey/HealthSurveyForEngland/Healthsurveyresults/index.htm

Recent HSE publications include findings and metadata at varying levels of detail to suit different readers' needs.

Shorter, less detailed information is available in the:

- summary report of the survey results
- webpages highlighting key findings from the survey
- a quick guide introducing the survey and its methods

More detailed findings, with key points selected at the front of the reports are published in:

- a set of topic reports covering different topics.
- a report and tables focusing on trends in children's health
- a report and tables focusing on trends in key statistics about adults' health

Detailed metadata are published in:

- a methods report, giving a full account of the technical aspects of the survey
- Excel tables showing true standard errors, confidence intervals and design effects for key survey measures
- A user guide explaining how estimates of the numbers of people with health related behaviours and in BMI categories were calculated
- Documentation, including questionnaires, field materials and protocols for conducting survey measures

A respondent level data file which has been disclosure controlled and anonymised will become available on the UK Data Service website at UK Data Service archive. for the purposes of not-for-profit research, teaching or personal educational development. Previous surveys data files are available there at https://discover.ukdataservice.ac.uk/series/?sn=2000021

## Coherence and comparability

***Coherence is the degree to which data which have been derived from different sources or methods but refer to the same topic are similar. Comparability is the degree to which data can be compared over time and domain.***

There have been over twenty five annual surveys in the series. Since 1995, the surveys have included children who live in households selected for the survey; children aged 2-15 were included from 1995, and infants under two years old were added in 2001.

The data are weighted relative to the size of each group of the population making the results comparable over the time series. Chapter 7 of the Methods report gives further details on the weighting procedures used.

The core topics covered by the survey include; general health, fruit and vegetable consumption, height and weight, obesity and overweight, alcohol consumption and smoking. The trend tables present data for key measures for the years in which they were collected to make comparisons over time more accessible. The number of years of data available varies: from a few years for newer topics such as well-being to others, such as general health, smoking status, height, weight and body mass index, for which data were first collected in 1993 or 1995.

There are a lot of data available at England level but differences in survey methodology and questionnaire design between this survey and health surveys carried out in other countries may sometimes limit comparisons across countries. Users are advised to check these details when using information from different sources for countries within the United Kingdom and Europe as well as for non-European countries.

## Trade-offs between output quality components

***This dimension describes the extent to which different aspects of quality are balanced against each other.***

When asking questions about smoking and drinking in a survey there is potential for the methodology to have an impact on how people answer. In particular there was some evidence published previously in the Health Survey for England 2013 report which shows that young people appear less willing to admit to smoking when answering questions at home, particularly in comparison with school-based surveys[3]. The HSE does collect these data via self-completion method to make it easier for respondents to answer honestly.

It is also possible that some question topics in HSE (e.g. smoking, drinking and fruit and vegetable consumption) may be susceptible to social desirability bias, where the individual is tempted to give an answer which is more socially acceptable. Respondents are assured that their answers will be kept private to reduce this temptation.

[3] Health Survey for England 2013: Chapter 9 Children's' smoking and exposure to others' smoke, http://www.hscic.gov.uk/catalogue/PUB16076/HSE2013-Ch9-chi-smok-exp.pdf

## Assessment of user needs and perceptions

***This dimension covers the processes for finding out about users and uses and their views on the statistical products.***

From our engagement with customers, we know that there are many users of these statistics. They are used by the Department of Health, Public Health England, NHS England, Local Government, NHS, charities, academics, professional groups, the public and the media. Uses of the data include: informing and monitoring and evaluating policy; monitoring the prevalence of health or illness and changes in health or health related behaviours e.g. smoking; comparing local indicators with national figures; informing the planning of services; and writing media articles, Universities, charities and the commercial sector use the data for health and social research. The survey data are also used for teaching purposes and by students in their work. The Media use the data to underpin articles in newspapers, journals etc.

NHS Digital tries to engage with users of these statistics to gain a better understanding of the uses and users and to ensure these statistics remain relevant and useful. The most recent consultation with users about the HSE was in 2016 around proposed cuts to the survey and a report on the findings is available on the NHS Digital website at http://content.digital.nhs.uk/media/22910/Health-Survey-for-England-HSE-Survey-Consultation-Report/pdf/HSE-Report-on-the-Consultation.pdf. The style of the report was also part of a wider consultation on outputs from NHS Digital. The proposal for HSE was in section A3.

Prior to this there was a consultation in 2013 looking at how the survey findings were used and what user priorities were for future surveys and this influenced its future size and design and reports. A report from the 2013 consultation is available through the following link: http://content.digital.nhs.uk/article/3659/Health-Survey-for-England. In 2013 the majority of respondents rated the survey publications as very good or good. We also received some comments, feedback and suggestions from other users of the report as ad-hoc requests via email.

We received over 240 enquiries about HSE in the past year. We capture information on the number of unique page views the reports and trend tables receive and this survey is one of our most frequently viewed publications. In the year since their publication there were 20,991 unique page views for the 2015 Health Survey for England report and trend tables combined and 20,431 downloads of the documents or tables they contain.

The survey questionnaire and content of the report is discussed and agreed with a steering group which contains representatives from NHS Digital, Department of Health, Public Health England, NHS England, academia, Local Government Public Health, other government departments and the UK Health Forum, as well as the contractor carrying out the survey.

NHS Digital is keen to gain a better understanding of the users of this publication and of their needs; feedback is welcome and may be sent to enquires@digital.nhs.uk (please include ‘Health Survey for England’ in the subject line).

## Performance, cost and respondent burden

***This dimension describes the effectiveness, efficiency and economy of the statistical output.***

Data for the Health Survey for England (HSE) 2016 were collected from the population living in private households in England.

As in previous years, the HSE 2016 used a stratified random probability sample of households. The sample comprised 9,550 addresses selected at random in 531 postcode sectors. Adults and children were interviewed in households identified at the selected addresses. To limit the burden of responding for parents, no more than four children in each household were selected at random: up to two children aged between 0 and 12, and up to two aged between 13 and 15.

Data collection comprised an interview, followed by a visit from a specially trained nurse for all those who agreed. The nurse visit included additional questions, measurements, collection of blood and urine samples from adults, and collection of saliva samples from children aged between 4 and 15.

A household response rate of 59% was achieved. In total, 8,011 adults and 2,056 children were interviewed, including 5,049 adults and 1,117 children who had a nurse visit.

## Confidentiality, transparency and security

***The procedures and policy used to ensure sound confidentiality, security and transparent practices.***

An annual risk assessment is undertaken prior to publication which addresses any potential issues around disclosure. Information is presented at a high level of aggregation in the reports and tables and data are never presented in a form that can reveal any personal information that could be used to identify individuals.

A copy of a reduced versions of the survey datasets at individual level are available on the UK Data Service catalogue (https://www.ukdataservice.ac.uk/) for the purposes of not-for-profit research, teaching or personal educational development. The datasets do not include personal identifiers has also undergone disclosure control to mitigate against individuals being identified. To access the dataset users need to register with a username and password and agree to the End User Licence (EUL), which outlines the terms and conditions of use of the Service. Specifically these forbid onward sharing of the dataset and attempts to identify individuals. Full details on how to access the resources are available on the UK Data Archive sign up page.

Disclosure control has recently been reviewed for this survey and advice from ONS Statistical Disclosure control unit taken. The 2015 and 2016 datasets will not contain personal identifiers and spatial variables are region (not local authority) or banded area types e.g. IMD quintile. It will contain around 10,000 records. This end user licence dataset will not contain information which links respondents within households. Therefore, the risk of disclosure of a person's answers is very low, even if a user has some knowledge about an individual.

The addresses and names of people who take part are maintained by the survey contractor and not known to NHS Digital.

The publication and dissemination of the data via the UK Data Archive are subject to a NHS Digital risk assessment prior to release which is signed off by the Government Statistical Service Head of Profession for statistics.

The data contained in this publication are National Statistics. The code of practice for official statistics is adhered to from collecting the data to publishing.

www.statisticsauthority.gov.uk/national-statistician/guidance/index.html

### Statistical Governance Policy

www.hscic.gov.uk/media/1350/Publications-Calendar-Statistical-Governance-Policy/pdf/The-NHS Digital-Statistical-Governance-Policy.pdf

### Freedom of Information Process

http://content.digital.nhs.uk/foi

### Statement of Compliance with Pre-Release Order

http://content.digital.nhs.uk/media/1349/Statement-of-Compliance-with-Pre-Release-Order/pdf/Statement-of-Compliance-with-Pre-release-Order.pdf

### Small Numbers Procedure

http://content.digital.nhs.uk/media/13158/Small-Numbers-Procedure/pdf/Small-Numbers-Procedure.pdf

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