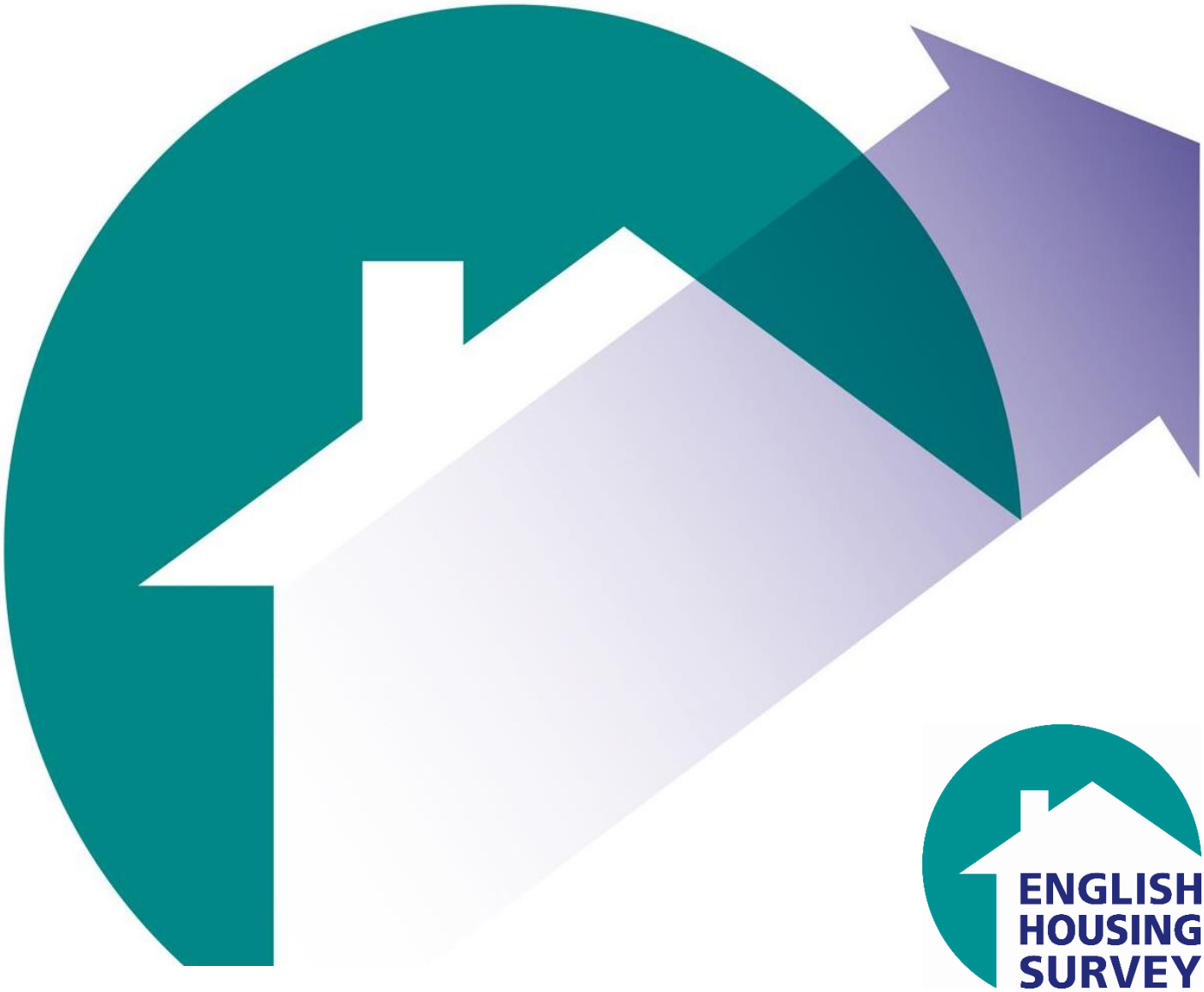
Ministry of Housing, Communities & Local Government

Official Statistics Accredited

English Housing Survey

Quality Report, 2023-24



ENGLISH HOUSING SURVEY

Contents

Introduction and summary

1. This Quality Report provides a brief summary of the key quality-related matters, of which users of the 2023-24 English Housing Survey (EHS) need to be aware. A more detailed discussion of the survey methodology and how it affects quality is provided in the EHS Technical Report, which includes chapters on sampling, questionnaire, fieldwork, response rates, data processing, weighting and standard errors.

2. This report is aligned to the UK Statistics Authority's Code of Practice for Statistics[1] and the core principles set out by the Government Statistics Service (GSS) Strategy, Statistics for the Public Good[2]. This report sets out how the EHS adheres to the UK Government's Data Quality Framework[3]. It covers how we:

    - Commit to data quality;
    - Know users and their needs;
    - Assess quality throughout the data lifecycle;
    - Communicate data quality clearly and effectively; and
    - Anticipate changes affecting data quality.

A history of the English Housing Survey

3. The English Housing Survey (EHS) is the flagship survey of the Ministry of Housing, Communities and Local Government (MHCLG), formerly the Department of Levelling Up, Housing and Communities (DLUHC). It collects information about people's housing circumstances and the energy efficiency and condition of the housing stock in England. It covers all housing tenures and provides valuable information and evidence to inform the development and monitoring of MHCLG's housing policies.

4. The Department for Energy Security and Net Zero (DESNZ), makes an annual financial contribution to the EHS and uses the data to measure the effectiveness of

[1] https://code.statisticsauthority.gov.uk/the-code/
[2] https://uksa.statisticsauthority.gov.uk/about-the-authority/strategy-and-business-plan/statistics-for-the-public-good/
[3] https://www.gov.uk/government/publications/the-government-data-quality-framework/the-government-data-quality-framework

its policies designed to improve energy efficiency and to monitor the statutory fuel poverty targets.

5. The EHS is one of the longest standing surveys in government, with 2017 marking the 50th anniversary of the first survey in 1967. The initial one-page survey form used in 1967 was the first in the world to set a benchmark for housing conditions based on inspections of a random sample of the homes across whole nations. At that time, the survey covered England and Wales[4]. Data collection was carried out by trained public sector personnel including environmental health professionals.

6. The EHS, as we know it now, was launched in April 2008 bringing together two former housing surveys – the English House Condition Survey[5] and the Survey of English Housing[6]. The EHS has retained and developed the design features of its predecessors. It collects a wide range of data using a random probability interview survey and a physical inspection of a random sample of the dwelling of the survey participants.

7. In April 2011, the UK Statistics Authority designated the official outputs of the EHS as National Statistics (now called Accredited Official Statistics) following an assessment in September 2010[7]. The assessment was made in accordance with the Statistics and Registration Service Act 2007 and signified compliance with the Code of Practice for Official Statistics. Designation means the official outputs of the EHS meet the highest standards of trustworthiness, quality and public value as set out in the Code of Practice. In short, the official outputs of the EHS: meet identified user needs; are well explained and readily accessible; are produced according to sound methods and are managed impartially and objectively in the public interest.

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[4] A report to mark the 50th anniversary of the EHS, which examines how the English housing stock changed between 1967 and 2017 can be found here: https://www.gov.uk/government/publications/50-years-of-the-english-housing-survey

[5] The English House Condition Survey started in 1976 and was carried out every five years until 2001. From 2003 onwards, the English House Condition Survey operated continuously until it merged with the Survey for English Housing to form the EHS. Prior to the English House Condition Survey, a Regional Housing Survey in 1967 and Housing Condition Survey in 1971 included a physical survey similar to that in the English House Conditions Survey. The physical survey from 1986 was carried out by professional chartered surveyors, architects or environmental health officers. The English House Condition Survey reports are available on The National Archives website - https://webarchive.nationalarchives.gov.uk/20121102183508/http://www.communities.gov.uk/housing/housingresearch/housingsurveys/englishhousecondition/

[6] The Survey of English Housing was a continuous household survey. It collected information from nearly 20,000 households each year about the housing characteristics of households and people's attitudes to housing and related matters. It started in 1993-94 and operated continuously until 2007-08. The Survey of English Housing reports are available on The National Archives website - http://webarchive.nationalarchives.gov.uk/20121108165934/http://www.communities.gov.uk/housing/housingresearch/housingsurveys/surveyofenglishhousing/

[7] https://uksa.statisticsauthority.gov.uk/wp-content/uploads/2015/12/images-assessment-report-57-statistics-from-the-english-housing-survey_tcm97-34184.pdf

8. Since the designation of the EHS as Accredited Official Statistics, MHCLG has improved the EHS further by:

    - publishing annual quality and technical reports as formal documentation of the quality and technical aspects of the EHS;
    - shortening the publication timeline of the headline and annual reports by two and three months respectively;
    - releasing more accessible findings using thematic reports, fact sheets and infographics; and
    - sharing best practice with the housing surveys in Scotland, Wales and Northern Ireland and, when possible, presenting UK-wide findings.

9. The Office for Statistics Regulation carried out a compliance check on the EHS in Autumn 2020 and reconfirmed the survey's official outputs as Accredited Official Statistics (formerly National Statistics).

10. Conducting the EHS requires a diverse range of technical expertise not available in-house, so MHCLG has commissioned the consortium of research agencies below to conduct the EHS:

    - 2008-09 to 2011-12 - the Office for National Statistics, MMBL- CA Design Services (CADS) and the Building Research Establishment (BRE);
    - 2012-13 to 2015-16 - the National Centre for Social Research (NatCen), CADS, BRE and Bryson Purdon Social Research;
    - 2016-17 to 2021-22 - NatCen, CADS and BRE; and
    - 2022-23 to 2025-26 - NatCen, CADS and BRE.

11. The 2023-24 EHS carried out the interview and physical survey via our traditional face-to-face methods, with the addition of a telephone interview option. A letter was sent out to sampled addresses explaining the purpose of the survey and informing respondents that an interviewer would call at their address. Interviewers visited the sampled addresses in person to seek consent to the interview and carry out the interview face-to-face, or if a face-to-face interview was not possible to collect the respondents' contact details and arrange an appointment for a telephone interview. For the physical survey a full visual inspection of the interior and exterior of the property was carried out in person by the surveyor.

Overview of methodology

12. The population or key units of interest of the EHS are residential households and dwellings in England. A dwelling is defined as a unit of accommodation where all the rooms and amenities are for the exclusive use of the household(s) occupying them. The EHS collects information about the respondents' main home, so it defines a household as one person or a group of people (not necessarily related) who have the accommodation as their only or main residence, and (for a group) share cooking facilities and share a living room or sitting room or dining area. This definition is slightly different from the definition used in the Census[8].

13. The EHS has two components, a household interview survey and a physical inspection of dwellings. In previous years the interview survey included approximately 13,300 households, and the physical inspection covered around 6,000 occupied households and a further 200 vacant dwellings. This was increased in 2023-24 to a target of 16,308 interviews, 7,584 physical surveys, and 200 surveys of vacant dwellings. The sample of both the interview survey and physical inspection are selected using random probability sampling. The interview surveys are conducted by trained interviewers and the physical surveys are carried out by qualified surveyors. Data collection on the EHS operates continuously over all four quarters of the year.

14. The data collected from the interview surveys are analysed on an annual, financial year, basis. The data from the physical survey are analysed on a two-year rolling basis. The results of the physical survey presented for '2023' are based on fieldwork conducted between April 2022 and end March 2024.

15. The sample of the EHS is representative of the population of England. For the survey years 2008-09 to 2011-12, the sample was selected using a simple random sample design. The sample design changed in 2012-13 so that the sample is currently unclustered over two years of the survey but is clustered over a single year. The advantage of this approach is that it reduces the fieldwork area to half the country in any one year, so interviewer and surveyor travel time and costs are significantly reduced.

16. The EHS sample is stratified by geographic region, Census-based data on tenure and households with a Household Reference Person (HRP) who worked in non-

[8] Unlike the EHS, the 2011 and 2021 Census' definition of a household did not require household members to have the accommodation as their only or main residence. So those Censuses defined a household as one person living alone, or a group of people (not necessarily related) **living at the same address** who shared cooking facilities and shared a living room or sitting room or dining area.

manual occupations, and subsampled by tenure (identified using Experian's Residata)[9].

17. To produce unbiased estimates for the population of households and dwellings in England, a process of weighting is carried out. This includes:

    - Scaling up to the total number of addresses in the sample frame;
    - Adjusting for selection probabilities where there is not a one-to-one relationship between the address and dwelling or the dwelling and household;
    - Modelling to produce response weights adjusting for non-response bias;
    - Calculating a design factor to adjust for tenure subsampling; and
    - Calibration to control totals.

18. Since the 2013-14 EHS, weights have been calibrated to one set of control totals for households/dwellings using the MHCLG dwelling stock estimates. Before that, the calibration was to two sets of control totals for households by age, sex and tenure from the Labour Force Survey and dwelling control totals from MHCLG's dwelling stock estimates. Details on the weighting methodologies applied before and after 2013-14 are available on Gov.uk[10].

19. A smoothing procedure was introduced to the weighting process from the 2015-16 EHS. The smoothed weights were used for producing the published findings of the 2015-16 and subsequent surveys in the series. The dwelling-to-household ratios used to derive the weights were smoothed by taking the average ratio across two years of the EHS (2022-23 and 2023-24 for the 2023-24 EHS weights). The smoothing procedure is described in more detail in the technical report of the 2015-16 EHS[11].

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[9] Experian possess a database that contains information obtained from a number of sources including insurance companies, Census, etc. referred to as Residata. It is from this that information is taken on predominant tenure within a postcode as well as other information. The matching of the EHS sample to Residata is carried out by BRE.

[10] https://www.gov.uk/government/publications/english-housing-survey-weighting-methodology-introduced-in-2013-to-2014

[11] https://www.gov.uk/government/publications/english-housing-survey-2015-to-2016-technical-report

Current strengths

- The EHS has a long history of review and development, having run continuously in England in one form or another since 1967.
- Face-to-face interviewing enables the collection of data on a wide range of topics, which are not available from administrative sources.
- The suppliers who collect the interview and physical survey data use experienced and well-trained interviewers and surveyors respectively to collect high quality data and have established and agreed data processing procedures. Careful attention is paid to the accurate collection of survey information, followed by meticulous data processing, editing and quality assurance.
- The EHS uses a systematic random sample design, constructed to reduce sampling error.
- The EHS has increased sample sizes to increase robustness, achieving 15,846 interviews and 7,496 physical surveys in 2023-24.
- Against a backdrop of declining survey response rates generally, the EHS typically achieves good response rates, and MHCLG actively works with our contractor to ensure these are maintained. In 2023-24, the interview response rate was 30% and for the physical survey it was 56%.

Current limitations

- We are aware response rates have fallen since the COVID-19 pandemic. As the lower the response rate to a survey, the greater the likelihood that those who responded are significantly different to those who did not, we recognise the greater risk of systematic bias in our survey results.
- During the pandemic and post-pandemic years (2020-2022) we had to make some methodological changes and could not facilitate face-to-face interviews or physical surveys at that time due to social distancing restrictions. This resulted in smaller sample sizes during those years and some impact to the comparability of the time-series. Please see the Technical Reports from those years for further details.
- The EHS questionnaire is lengthy and demanding and a key concern is, where possible, to reduce (or at least not increase) its length, so as not to overburden respondents or interviewers.
- Robust analysis of the data is only possible at the regional geographic level

Section 1
Commit to data quality

1.1. This section outlines the ways the EHS commits to data quality, including how we embed effective data management and governance into our processes, how we build data quality capability, and how we focus on continuous improvement.

Quality assurance of reports and ad hoc analysis

1.2. The EHS has rigorous quality standards embedded in all of our data collection and analysis processes. A summary of the quality assurance processes for both data collection and reporting are provided in Section 3, starting at paragraph 3.22.

1.3. In addition to regular publication and data collection activities, the EHS also has a standard Quality Assurance process for ad hoc analysis. For each piece of analysis produced by the team, we require quality assurance via 'double running' – namely, the results must be replicated in individual analysis by two different team members.

Building data quality capability

1.4. The EHS is run by a team of mixed profession analysts, including Statisticians, Social and Operational Researchers. Each team member brings specialist skills and knowledge to the team, but we also offer a rigorous training programme that starts upon joining the team. New members are trained in EHS analysis, and are also given additional training on using SPSS, R, questionnaire development, project management and in quantitative and qualitative analysis as necessary.

Continuous Improvement

1.5. The team seek to continuously improve and modify quality assurance processes as new best practices emerge, or as new technologies or methodologies are adopted. Below are a handful of examples of how the team look to continuously improve our approach to data and analytical quality.

Reproducible Analytical Pipelines

1.6. For example, the team have recently automated some more frequent and complex analytical processes into Reproducible Analytical Pipelines (RAPs). Recognising that, in these cases, full ‘double running’ can be disproportionate, we have integrated peer review into the process, and robustness check against previous syntax and results to ensure stability in the process.

Maintaining and improving response rates

1.7. As mentioned in the introduction, since the beginning of the COVID-19 pandemic, response rates for most large surveys have dropped. Just before the pandemic, in the 2019-20 survey year, the response rate to the EHS interview survey was 52%. This dropped to 30% for the 2023-24 year. Conscious of the implications of this drop (that reliability of data is positively correlated with a higher response rate) we have put in a great deal of effort to increase or, at the very least, maintain response rates. This included monitoring the achieved sample and adapting our approach, modifications to interviewer and surveyor training, and use of discretionary incentives.

Mixed mode data collection experiments

1.8. As part of the current contract and in response to the methodological changes that had to be made at pace during the COVID-19 pandemic, MHCLG commissioned a series of experiments, to better understand the implications of moving to mixed mode data collection for the mainstage survey. This included two smaller scale and one large-scale pilot surveys to test the impact on response rates, drop-off, physical survey agreement rate, sample profile and response variation.

1.9. For further information on continuous improvement in data collection methods, please see section 5 on anticipating changes affecting data quality.

Section 2
Know your users and their needs

2.1. This section summarises the steps taken to ensure the relevance of the EHS, including how we research our users' needs, how we ensure data are fit for purpose, and how we make the EHS accessible to users through a range of platforms.

Annual review and user consultation

2.2. The EHS continues to take steps to meet longer term user needs by conducting an annual review and user consultation.

2.3. Each Autumn, the EHS team conducts a review and user consultation to decide the forthcoming data collection and reporting priorities of the following year. The review has four main objectives:

- To review the data collected and develop the data collection strategy of the next year to ensure that policy requirements are being met.
- To review the modelled data to ensure that the concepts measured and standards applied are still appropriate to what users want to measure.
- To review the outputs published and decide on the reporting strategy of the next year's annual reports and the live tables.
- To identify and prioritise evidence gaps, and determine whether the EHS can be used to fill them.

2.4. Data collection on each year's EHS takes place between April and the end of March of the following year. For 2023-24, fieldwork took place between March 2023 and March 2024.

Reporting strategy for the 2023-24 EHS

2.5. The findings from the 2023-24 EHS have been published in a series of short thematic reports and factsheets in two tranches in May and July 2025. The topics covered include:

- Rented Sectors;
- Experiences of the 'Housing Crisis';
- Understanding housing circumstances: a multivariable analysis;

- Drivers and Impacts of Housing Quality;
- Health and housing (factsheet);
- Leasehold Experience (factsheet);
- Low Carbon Technologies (factsheet);
- Climate Resilient Homes (factsheet).

The contents of the reports are designed to support a range of government priorities, particularly housing policy, including housing quality, the reform of the private rented and leasehold sectors and decarbonisation.

2.6. The initial reporting format was developed in 2014-15 as a direct response to feedback from survey users who felt that the EHS reports produced before 2014-15 were too lengthy and technical. The current approach also fits well with guidance produced by the Government Statistical Service (GSS) Good Practice Team and it is our view that it makes the EHS data more accessible to a wider audience.

2.7. In addition to the annual thematic reports, a series of around 100 data tables are published on gov.uk each year. These 'live tables' are a rich source of trend data as they have been published each year since 2008-09.

2.8. The 2023-24 thematic reports supplement information provided in the headline report which was produced by the EHS team and was published in two parts in November 2024 and January 2025 respectively. While the user consultation helped identify priorities for the headline report, the content of the headline report does not change much year on year and the EHS team does not consult directly on its content.

2.9. Our annual review of outputs for 23-24 data was also more extensive than in previous years. In line with the team's goals to increase usefulness and accessibility of the data, we undertook a widescale review of our output formats – both reports and 'live tables'. This took the format of a number of user 'workshops' with internal and external stakeholders. On the basis of this engagement, the EHS team developed a strategy to change reporting, including producing more focused topical reports, and revising our live tables, changing some, discontinuing others, and adding additional tables where new topics of interest have emerged.

Fuel Poverty Statistics

2.10. The EHS is a key data source for the annual Fuel Poverty Statistics published by DESNZ. As specified in the Memorandum of Understanding in Relation to Data Sharing between DESNZ and MHCLG, the two departments are to coordinate

the publication of the EHS and Fuel Poverty Statistics. DESNZ published the latest Fuel Poverty Statistics[12] based on the combined 2022-23 and 2023-24 EHS in spring 2025 after the release of the 2023-24 EHS headline report.

GOV.UK

2.11. Users can access reports and live tables containing a wide range of EHS statistics as well as documentation on the EHS from the EHS webpages, which are accessible from the MHCLG statistics launch page[13]. The team monitor interest in analytical products via media monitoring and checking page views. The table below shows the total number of views on selected EHS webpages or documents from mid-July 2024 to mid-July 2025.

Page	Page views
https://www.gov.uk/government/collections/english-housing-survey annual reports and live table	13,941
https://www.gov.uk/government/collections/english-housing-survey-2023-to-2024-headline-findings-on-demographics-and-household-resilience	3,212
https://www.gov.uk/government/collections/english-housing-survey-2023-to-2024-headline-findings-on-housing-quality-and-energy-efficiency	2,448
https://www.gov.uk/government/publications/english-housing-survey-2023-to-2024-questionnaire-and-physical-survey-form	489
https://www.gov.uk/guidance/english-housing-survey-guidance-and-methodology	594

2.12. Between April 2023 and end of March 2024 the EHS team received a large number of requests for advice/information about the EHS from other government departments and outside the government as well as for ad-hoc analysis by MHCLG colleagues. The team also responded to a large number of Parliamentary Questions. The team take note of topics of interest as a part of these requests, and integrate this into annual reporting strategies, or use the information to update the content of live tables.

[12] Fuel poverty statistics - GOV.UK (www.gov.uk)
[13] https://www.gov.uk/government/organisations/department-for-levelling-up-housing-and-communities/about/statistics

UK Data Archive

2.13. Users can access the anonymised EHS datasets via the UK Data Service of the UK Data Archive[14]. Checks are undertaken on the archived datasets to avoid the release of disclosive information. Any potentially disclosive data items such as free text and string variables are removed from the datasets and only high-level statistical region geographic identifiers are included. From the release of the 2014-15 data, only simplified versions of the derived variables datasets are available under the End User Licence to minimise the risk of data disclosure. More detailed data are available only as Special Licence datasets. The Special Licence datasets include the detailed 'raw' interview and 'raw' physical survey files and extended versions of the derived datasets. The lowest geography in the End User and Special Licence datasets is region. A list of the general, interview and physical derived variables released under the End User and Special Licences is available in Chapter 5 of the EHS technical report.

2.14. The decision to release the datasets under Special Licence was taken to ensure the EHS complies with the Government Statistical Service guidance contained in GSS/GSR Disclosure Control Guidance for Microdata Produced from Social Surveys[15]. The contents and the level of disclosure control applied to the 'new' Special Licence datasets is similar to what had been released under the End User Licence up to and including 2013-14. For more information on Special Licence datasets, see https://www.ukdataservice.ac.uk/get-data/how-to-access/conditions/special-licence.

2.15. To enhance the analytical potential of the EHS, the postcode and the Lower Layer Super Output Area code of the households that have taken part in the EHS are released through the Secure Data Service (SDS) of the UK Data Archive to enable researchers to attach on additional data that describe the respondents' local area. The SDS provides access to data that are too detailed, sensitive or confidential to be made available under the standard End User or Special Licences. Researchers accessing data released by the SDS have to be accredited and to have undergone special training on data security and disclosure. They also have to apply to MHCLG for access the EHS data on a project by project basis. Researchers accessing the SDS data cannot download the data but have to access them remotely from their institutional desktop or in the Safe Centre at the University of Essex. In addition, outputs of all completed analyses have to be reviewed by the SDS to ensure that no individual

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[14] http://ukdataservice.ac.uk/

[15] Published October 2014, available from: http://www.ons.gov.uk/methodology/methodologytopicsandstatisticalconcepts/disclosurecontrol/policyforsocialsurveymicrodata

respondents can be identified before they are released to the researcher for publication.

2.16. EHS datasets are available in SPSS, Stata or tab delimited formats. Due to limited demand, data are not routinely made available in SAS or R, but data in SPSS format can be imported into some versions of SAS or R.

Open data standards

2.17. To make the data more accessible to a broader range of users, the data published on the EHS pages of GOV.UK are subject to rights detailed in the Open Government Licence v2.0, as specified on the MHCLG statistics summary page[16]. Since July 2021, statistical tables are published in ods format and the 2021-22 reports are published in HTML format.

2.18. The more disclosive of the EHS datasets released through the UK Data Service dictate a more restrictive licence than the Open Government Licence. As discussed above, EHS datasets are released on an End User or a Special Licence and a dataset of postcodes and Lower Layer Super Output Area identifiers is released by the Secure Data Service of the UK Data Archive. The datasets from the UK Data Service are available in tab-delimited format (meeting Level 3 of the Scheme, namely, data made available in an open, non-proprietary format).

2.19. The MHCLG Linked Open Data Communities is an initiative launched to improve the accessibility of datasets held by the Department.[17] Data released through the Linked Open Data Communities meet Level 5 of the Five Star Scheme (i.e. linked data in multiple machine-readable formats including JSON, RDF, Turtle and N-triples, and a SPARQL 1.1 endpoint). The EHS is not currently included in the sets of data on Open Data Communities, but will be considered as the site is expanded to publish new data.

English Housing Survey data security strategy

2.20. In addition to ensuring users can access EHS data, we also ensure that all respondents taking part in the EHS are given an assurance by MHCLG and its suppliers that the information they provide will be handled in the strictest confidence as directed by the Code of Practice for Statistics, the Data Protection Act and General Data Protection Regulation. MHCLG undertakes to ensure that

[16] http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2/
[17] http://opendatacommunities.org/

the survey information is used to produce anonymous statistics for decision making in government and for genuine research purposes only. The steps taken to ensure respondent anonymity while still maximising the utility of the statistics for users are published on the EHS pages on Gov.uk[18].

[18] https://www.gov.uk/government/publications/english-housing-survey-data-security-strategy-and-arrangements

Section 3
Assess quality throughout the lifecycle

3.1. This section outlines the steps we take to quality assure the EHS data throughout the lifecycle of the EHS, and the main sources of bias and other errors that affect a sample survey of this type.

Sources of Error

3.2. The main sources of error are sampling error and non-sampling error, which includes coverage error, non-response error, measurement error, processing error and model assumption error. While it is not possible to measure all sources of error, quantitative estimates have been produced where possible and are published in the Technical Report.

Sampling error

Sampling error is the error that arises because the estimate is based on a sample survey rather than a full census of the population.

3.3. The results obtained for any single sample may, by chance, differ from the true values for the population but the difference would be expected to average to zero over a number of repeats of the survey. The amount of variation depends on the size of the sample and the sample design and weighting method.

3.4. Although the estimates produced from a sample survey will rarely be identical to the population value, statistical theory allows us to measure the accuracy of any survey result. Standard errors can be estimated from the results obtained for the sample, and these allow calculation of confidence intervals which give an indication of the range in which the true population value is likely to fall.

3.5. A measure of the impact of the variation introduced by the sample design and the weighting is the design factor (deft). This is evaluated relative to the error that would have been produced had the survey been carried out using a simple random sample. A deft greater than one shows that the design and weighting have increased the variability of the estimate and increased the measure of the standard error relative to simple random sample design.

3.6. Sampling error is discussed in more detail in Chapter 7 of the 2023-24 EHS Technical Report. That chapter includes examples of standard errors and confidence intervals calculated using the appropriate design factors.

Coverage error

Coverage error arises from failure to cover all members of the population being studied adequately

3.7. The EHS sample is drawn from the Postcode Address File (PAF), a list of addresses maintained by the Post Office. That source provides good coverage of the population of interest, i.e. residential households and dwellings in England. The achieved sample of dwellings does not include any new dwellings built since the creation dates of PAF files from which the sample taken. The weights are adjusted using the number of new dwellings built between the PAF date and the reference date for the weighting to account for this error in coverage.

Measurement error

Measurement error may arise due to inaccuracies in individual measurements of survey variables because of the inherent difficulties of observing, identifying and recording what has been observed

3.8. Measurement error may occur randomly or may reflect a problem experienced by most or all interviewers or surveyors. The EHS has key mechanisms in place to minimise measurement error, through the questionnaire and physical survey form development process and interview and surveyor training.

3.9. For the interview survey, researchers at NatCen responsible for the interview fieldwork, use in-house expertise in question design and testing to ensure that the questions are understood by respondents in the way intended. In addition, new questions introduced to the survey are reviewed by NatCen and MHCLG after the first quarter of data collection. While full-scale piloting of questions is not routinely undertaken for the EHS, NatCen's Questionnaire Development and Testing Hub reviewed the EHS questions asked of leaseholders in 2017-18 using a method known as cognitive testing. The recommendations of the review were implemented on the EHS from 2018-19[19].

[19] https://www.gov.uk/government/publications/english-housing-survey-methodology-paper-cognitive-testing-of-leasehold-questions

3.10. For the physical survey, BRE and CADS who lead on the inspections work together apply expert knowledge of buildings research and housing surveys to minimise inconsistencies in the data collection process.

3.11. Assessing the condition of an individual dwelling poses more practical difficulties compared with collecting information about the characteristics of a household. Those difficulties mainly stem from the technical problems in the diagnosis and prognosis of any defects found in the dwelling. Difficulties are found particularly in more subjective assessments such as the state of repair. To assess effects of surveyors making different judgements about the same information, a calibration workbook exercise and a surveyor variability study (SVS) were conducted in 2014-15. The calibration workbook was a desk-based exercise, with surveyors asked to record assessments as they would in the field for a set of examples with descriptions and photographs of a number of dwelling faults. Results from the 2014-15 exercise showed no significant difference overall in the surveyors' assessments. The SVS involved a call-back exercise in which 300 properties were re-surveyed by a second surveyor and results compared with the first surveyor[20]. The survey measures with low levels of agreement tended to be found in the topic areas covering external environments and stock condition, and typically required a surveyor's opinion on topics with generally high degrees of variability (e.g. an opinion of the local area or the condition of a property). The annual training sessions for surveyors have been updated to target more of the topics identified as having a higher observed level of variability.

3.12. In 2019-20, the EHS carried out a Surveyor Quality Study (SQS) to explore measurement errors in the physical survey component of the EHS. The SQS required all surveyors to survey two test properties for which a model answer had been produced by BRE and CADS. The test properties contained dwelling condition features of particular interests to the EHS. The surveyors carried out the work as a component of the practical element of their 2019-20 EHS briefing. The SQS was carried out in place of the SVS because the SQS can provide data on surveyor variance against an ideal or 'model' answer and so is of greater value for driving improvements in data quality compared with the SVS. The report of the SQS was published in 2021 on the EHS Methodology page of Gov.uk[21].

3.13. All new interviewers receive distance learning material and complete a one-day training course in administering the EHS interview before starting fieldwork. All new surveyors receive distance learning material and complete a week-long residential briefing course before starting work on the survey. Ongoing refresher

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20 https://www.gov.uk/government/publications/english-housing-survey-methodology-paper-findings-from-the-2014-15-surveyor-variability-study

21 https://www.gov.uk/government/collections/english-housing-survey-technical-advice

distance learning via a newsletter and briefing days for interviewers and surveyors are provided as needed to ensure that fieldwork staff are kept up to date with new developments in the EHS.

Processing error

Processing error includes errors in data capture, coding, editing and tabulation of the data as well as in the assignment of weights.

3.14. Processing error can be systematic, for example, an error in the programming syntax that leads to a wrong code being consistently applied in a particular set of circumstances. The EHS has mechanisms in place to ensure accurate data capture and processing to minimise processing error. They include:

- carrying out systematic testing of the Computer Assisted Personal Interviewing (CAPI) program used by interviewers to record interview survey answers;
- conducting extensive tests on the validation systems used in processing physical survey data; and
- testing the syntax for the automated data checking processes.

3.15. While random errors in entering data would, across replications, cancel each other out, such processing error can have an impact on the variance of survey estimates. The key checks put in place to minimise processing errors include:

- minimising data entry errors caused by the interviewer or incorrect answers given by respondents using a number of validation checks built into the CAPI program;
- reviewing addresses containing multiple households or dwellings to ensure the selection followed the sampling protocol;
- comparing key variables collected at the household interview with the physical survey; and
- validating data outputs with:
    - checks on case and variable completeness;
    - investigation of outliers;
    - time series comparison;
    - comparison with external data sources; and
    - selective case by case analysis.

3.16. The number of errors that required alterations to raw data is monitored to ensure that quality standard is maintained.

Response rates

Non-response bias may occur if non-respondents differ from respondents. Non-response can lead to an increase in the variance of survey estimates, as non-response will reduce the sample size.

3.17. The effect of non-response bias is minimised by steps applied in the weighting process. Valid but non-responding cases are checked to assess if they are typical of those that have responded to the EHS. Where non-response biases were found at any stage of the survey, adjustments were made to the responding cases in the weighting procedures for that stage.

3.18. To ensure that an adequate sample size is attained with an acceptable level of variance, a target number of interview surveys are set and an assumption made for non-response rate, from which the size of the required issued sample is calculated. Response rates are continually monitored and interviewers are trained to maximise response rates.

3.19. For item non-response, imputation is carried out when creating key derived variables, using either external data sources or sample median from other information collected on the EHS. Addressing non-response through imputation can lead to the appearance of the variance being reduced, as imputed values are usually less extreme than would be observed from sampling alone.

3.20. Imputation rates are monitored and reported in the quarterly Quality Monitoring reports. Overall response rates, key item non-response and imputation rates are published in the EHS technical report. As in the 2022-23 Headline Report, unexpected year-on-year changes to the number of imputations made at data item level will be noted in the published reports.

Model assumption error

3.21. In October 2012, the Cabinet Secretary and the Head of the Civil Service commissioned a review of the quality assurance of analytical models that inform government policy. The review published a final report in March 2013, setting out results of work to map business critical models and quality assurance in

government.[22] The models used in the EHS have been reviewed in light of the recommendations in that report and updated model documentation has been produced. In particular, the underlying assumptions of the model are now clearly identified, the inputs required and the key outputs of the models are documented, and any changes to the model are recorded. The model documentation is consistent with that used for other models in MHCLG developed as part of a Quality Assurance working group. The model assumptions are discussed further in the EHS Technical Report.

Quality assurance processes

3.22. A summary of the quality assurance processes for both data collection and reporting are provided below.

Quality assurance processes: data collection

1. The EHS team conducts a review of forthcoming data collection and reporting priorities to ensure that the EHS meets user requirements.
2. Meetings with EHS stakeholders across MHCLG and DESNZ to develop data collection and reporting strategy.
3. Strategy signed off by EHS User Group.
4. Questionnaire revised in line with data collection strategy using cognitive testing methods if required.
5. Random probability sample stratified by region, tenure and percentage of Household Reference Persons in non-manual occupations, drawn from the PAF.
6. Sample issued and fieldwork commences:
    - Contractors set response targets
    - Interviewers and surveyors receive face-to-face and regular refresher training, personalised support and performance monitoring during fieldwork
    - Data collection programme contains built-in checks to identify and correct data entry errors
    - Data collection procedures tested before fieldwork launches and monitored throughout fieldwork period
    - The EHS returned to the traditional survey modes in 2022-23, namely a face-to-face interview survey (with a telephone survey option) and a full interior and exterior physical inspection of the dwelling
7. Fieldwork complete / Datasets produced. Quality assurance and mitigation of possible errors:

[22] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/206946/review_of_qa_of_govt_analytical_models_final_report_040313.pdf

- Sampling error – confidence intervals of key estimates calculated and published annually. All analyses carried out using an average design factor based on the design factors of key estimates
- Coverage error – weights applied to take account of unequal selection probabilities and unit nonresponse
- Measurement error – Cognitive testing if required; survey questions reviewed using expert and peer review; interviewer and physical surveyor training
- Processing error – automatic validations at data input; checks on case and variable completeness; investigation of outliers; time series comparison; comparison with external data sources; and selective case by case analysis
- Response rates – weighting; imputation
- Model assumption error – reviews carried out

8. Additional checks:
    - Consistency checks by edit programme – inconsistencies rectified using pre-set rules or reviewed by analysts on a case by case basis
    - Dwellings coded as homes in multiple occupation (HMOs) are reviewed by analysts to ensure that the survey correctly identifies all HMOs
    - Data are validated along a range of dimensions by an edit programme
    - Plausibility checks undertaken and MHCLG notified of any unusual trends
    - Oddly-performing questions referred to questionnaire development team for improvement
    - Data modelling on some missing variables, by applying pre-set rules as well as case-by-case review and action by analysts
    - Ready for analysis and reporting

Quality assurance processes: reporting

Headline Report (written internally by MHCLG)

1. Interview and physical survey datasets sent to MHCLG
2. Quality assure datasets, checking for:
    - Consistency across tables
    - Missing data
    - Variable correct type
    - Changes in variables
    - Correct number of cases
    - Check weighted totals
3. Send any data queries to suppliers
4. Sign off all data
5. Quality assure analysis, by:
    - Re-writing syntax

    - Re-running analysis and significance testing
    - Making comparisons to previous year's report to ensure results are sensible
6. Write report
7. Quality assure report, checking for:
    - Plausibility of results
    - Text to table checks
8. Senior Analyst signs off final report
9. Publication (November and January)
10. Data sent to the UK Data Archive (following disclosure control)

Thematic Annual Reports (written by NatCen/BRE in collaboration with MHCLG report lead)

1. Detailed report specifications sent to supplier-side report authors
2. Analysis run as per the specifications, raising any queries with the MHCLG report lead
    - Check of syntax to ensure the correct variables are used
    - Templates used to ensure consistency across all reports
    - Significance testing using ready reckoner
    - Data shared with MHCLG and analysis meeting held to discuss findings
3. First draft of report delivered to MHCLG
4. Draft reviewed/checked to see that it meets the specification. Comments sent to supplier-side authors
5. Comments incorporated into report
    - Parallel run of all analysis
    - Consistency checks
    - Second draft of report delivered to MHCLG
6. Draft reviewed to ensure comments have been actioned
    - If new analysis has been carried out, the way it has been done is checked
    - Sense check and plausibility of results
    - Text to table checks
    - Comments sent back to supplier-side authors
7. Comments incorporated into report
8. Final draft of report delivered to MHCLG
9. Quality assure report, checking for:
    - Plausibility of results
    - Text to table checks
10. Senior Analyst signs off final report/s
11. Publication (May and July)
12. Data sent to the UK Data Archive (following disclosure control)

Revision policy

3.23. The revision policy of the EHS has been developed in accordance with the UK Statistics Authority's Code of Practice for Statistics and the Ministry of Housing, Communities and Local Government (formerly DLUHC) Revisions Policy and can be found at: https://www.gov.uk/government/publications/statistical-notice-dclg-revisions-policy. It covers two types of revisions:

- Non-scheduled revisions - where a substantial error has occurred as a result of the compilation, imputation or dissemination process. The headline or annual reports, live tables and other accompanying releases will be updated with a correction notice as soon as possible.

- Scheduled revisions – To provide timely data to users, key headline figures from the EHS are published in a headline report, usually within 10 months of the end of each survey year. A further series of thematic annual reports and/or factsheets are published in the year after the end of each survey year.

Section 4

Communicate data quality clearly and effectively

4.1. This section outlines the work we do to ensure data quality, development and caveats are communicated to users in a clear and effective way – this includes technical information on the data for survey users, methodological developments, caveats and information on harmonisation and coherence.

Technical and methodological reports

4.2. MHCLG releases the outputs of the EHS in a range of formats via several channels. We also publish an annual technical report and publish reports detailing findings of methodological studies and survey development. All technical reports are published on Gov.uk here: English Housing Survey: technical advice - GOV.UK

4.3. Additionally, the EHS frequently publishes the results of experiments and methodological development work. We communicate this with our users through our Methodology Reports series, which can also be found online.

4.4. Where data quality may impact the interpretation of analysis, we ensure an explanation or any caveats appear alongside the analysis. In HTML format, we make frequent use of 'call to action' boxes to explain terms or circumstances.

Devolved administration data sources

4.5. Scotland, Northern Ireland and Wales conduct their own housing surveys. The EHS Team has regular meetings with the research team of those surveys to share best practice and to help improve coherence across data sources.

- **Scottish House Condition Survey** – the largest single housing research project in Scotland, and the only national survey to look at the physical condition of Scotland's homes as well as the experiences of householders. Since 2012, the survey has been an integrated component of the Scottish Household Survey[23].

[23] http://www.scotland.gov.uk/Topics/Statistics/SHCS

- **Northern Ireland House Condition Survey** – provides a comprehensive picture of the dwelling stock, including condition and energy efficiency, and examine the association between dwelling conditions and the social and economic circumstances of households.[24]

- **Welsh Housing Conditions Survey** – is very similar to the EHS and the housing surveys in Scotland and Northern Ireland and is run on an ad-hoc basis. The most recent Welsh Housing Conditions Survey took place in 2017-18 using a sample drawn from eligible households in the National Survey for Wales 2017-18[25].

EHS data for sub-national geographies

4.6. MHCLG receive frequent queries on the availability of EHS data for sub-national geographies, such as at former Government Office Region (GOR), local authority or Lower Layer Super Output Areas (LSOA) level. The EHS datasets available through the End User and Special Licences from the UK Data Service provide geographical identifier for statistical region (England divided into nine areas) to allow users to create their own regional statistics.

4.7. Due to the relatively small sample size at local authority and LSOA level, the EHS is not designed to be representative at local authority or a lower level of geography. EHS data cannot, therefore, be used for analysis below regional level. MHCLG has concerns about the potential disclosure of individual respondents if EHS datasets containing lower geography variables were released with no restrictions. Restricted access to the lower geography variables is made available only via the Secure Data Service of the UK Data Archive for users to link the EHS to other datasets for analyses designed to produce aggregated national or regional level findings (see Accessibility section).

Harmonisation of statistics inputs and outputs

4.8. The Government Statistical Service (GSS) published a Harmonisation Strategy in 2019[26]. Its aim is to make it easier for users to draw clearer and more robust comparisons between data sources. The harmonised standards are organised by topic, outlined and published online here. EHS adopts harmonised questions where possible.

[24] https://www.nihe.gov.uk/Working-With-Us/Research/House-Condition-Survey
[25] https://gov.wales/welsh-housing-conditions-survey
[26] https://gss.civilservice.gov.uk/policy-store/government-statistical-service-gss-harmonisation-strategy/

4.9. The EHS is also a founding member of the Cross-government Survey Sharing Group formed to support the sharing of knowledge, experience and innovation amongst analysts in government and public sector survey research.

Section 5
Anticipate changes affecting data quality

5.1. This section outlines some of the action MHCLG has taken to anticipate changes that could affect data quality – in particular, highlighting the changes taken both during and after the COVID-19 pandemic, and the methodological work we have undertaken in the interim to help future-proof the survey.

COVID-19 and the Household Resilience Survey

5.2. Early into the COVID-19 pandemic, it became apparent that the EHS could not carry on as usual (with face-to-face interviews and in-person physical inspections of the dwelling) for the benefit of our interviewers and respondents, and to comply with social distancing requirements at the time.

5.3. To that end, while we figured out how to effectively deploy the mainstage survey, we quickly mobilised resource and used the EHS 're-contact list' (a list of respondents who agreed to participate in future research) for a longitudinal panel survey to help understand resilience and households' changing relationships to their homes throughout the pandemic period.

5.4. The EHS 'Household Resilience Survey' data was collected and published across three waves at key points throughout the pandemic. Reports are published online here. The findings of this survey continue to influence the research questions we explore, and the development work we undertake, to this day.

Mixed mode data collection experiments

5.5. While it was difficult to have foreseen the changes required in light of the COVID-19 pandemic, it was not ideal to make the methodological changes necessary without proper investigation of the impact. MHCLG therefore commissioned a strand of development work as part of the current EHS contract, to help us understand the implications of moving to mixed mode data collection.

5.6. Throughout the 2023-24 and 2024-25 fieldwork periods, we developed and undertook two small-scale and one large sample experiments to test the impact of a mixed face-to-face and online approach to data collection. As part of these experiments, we aimed to understand the mode impact on response rates,

respondent profile, physical survey agreement rates and response differentiation, among other factors. The results of these experiments are due to be published shortly.

Data matching and administrative sources

5.7. For the 2024-25 fieldwork year, the EHS moved to an assumed consent model for data matching. Prior to that, up to and including the 2023-24 fieldwork year, on which the reports that accompany this document are based, the survey relied on explicit consent for matching respondent data to administrative data.

5.8. As part of the assumed consent model, information is sent to prospective respondents about the likely uses of their data, the sources we are likely to match to, and other considerations

5.9. The idea is that, in theory, MHCLG could match the full EHS sample using key identifying information, and draw upon administrative sources of data to supplement the data gathered as a part of the survey. In some instances, where subject matter is complicated or niche, administrative can be more reliable than self-reported data. This is the case, for example, for concepts like leasehold and freehold, where cognitive testing shows that quite a few respondents misunderstand the leasehold relationship, with some not knowing they are leaseholders. We hope that, through data matching, we can not only gain efficiencies in the survey, but also improve data quality.

Sources for further information or advice on the EHS

- Headline report
  https://www.gov.uk/government/collections/english-housing-survey
- Annual reports
  https://www.gov.uk/government/collections/english-housing-survey
- Technical reports
  https://www.gov.uk/government/collections/english-housing-survey-technical-advice
- Data security strategy
  https://www.gov.uk/government/publications/english-housing-survey-data-security-strategy-and-arrangements

- Open data standards
  https://www.gov.uk/government/publications/open-data-white-paper-unleashing-the-potential
- Guidelines for Quality, published by the Government Statistical Service Quality Centre
  https://gss.civilservice.gov.uk/guidances/quality/
- Official Statistics Release Calendar
  https://www.gov.uk/government/statistics/announcements
- Code of Practice for Statistics
  Code of Practice for Statistics (statisticsauthority.gov.uk)
- Further information email
  ehs@communities.gov.uk

This document/publication is also available on Gov.uk
https://www.gov.uk/government/publications/english-housing-survey-quality-report

If you have any enquiries regarding this document/publication, complete the form at http://forms.communities.gov.uk/ or write to us at:

Ministry of Housing, Communities and Local Government
Fry Building
2 Marsham Street
London
SW1P 4DF
Telephone: 030 3444 0000

Email: ehs@communities.gov.uk

For all our latest news and updates follow us on Twitter: https://twitter.com/mhclg

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