

Update on survey methods, sampling and
weighting for 2010-11

English Housing Survey technical advice note





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Department for Communities and Local Government

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Introduction

1. A series of Technical Advice Notes, along with annual updates, about the English Housing Survey (EHS) are available on the EHS website to provide users with additional information on how the EHS data is collected and quality assured, how some key measures are derived, and how the sample is designed and the data weighted. These can be found at:

<http://www.communities.gov.uk/publications/housing/ehstechnicaladvisenotes>

2. These advice notes provide an overview of how the survey was run in 2008-09. Although the methodology has remained largely unchanged in subsequent years, some updates are required to the Technical Advice Notes to document minor changes and provide annual updates on issues such as response rates. These updates are also available on this website.
3. This note documents the changes introduced for the 2010-11 survey, providing updates on the sample sizes and response rates and changes in the way derived variables were created. Paragraph references to the relevant original Technical Advice Note are provided for ease of reference.

Survey overview and methodology

4. The Technical Advice Note that relates to the survey overview and methodology can be found at:

<http://www.communities.gov.uk/documents/housing/pdf/1798711.pdf>

with an update for the 2009-10 survey at:

<http://www.communities.gov.uk/documents/housing/pdf/1937160.pdf>

5. The following updates for the 2010-11 survey (referencing the appropriate paragraph in the original note) are as follows:
 - a. A market value survey of dwellings at which a physical inspection was undertaken did not form part of the 2010-11 EHS. This part of the survey was dropped in 2010-11 to make efficiency savings. Instead, DCLG contracted the Valuation Office Agency to supply property values derived from their council tax band information, to feed into the statistical modelling of survey data (Paragraph 3).
 - b. In 2010-11 the interview survey sample remained part of the Office for National Statistics' (ONS) Integrated Household Survey (IHS) and the core questions from the IHS formed part of the English Housing Survey questionnaire (Paragraph 5).
 - c. The anonymised household and housing stock data sets continue to be made available to external users via the UK Data Archive and

are deposited as soon as the corresponding annual reports are published each year (Paragraph 10):

<http://www.data-archive.ac.uk/>

- d. The content of the interview survey is reviewed annually. A full description of the content of the 2010-11 English Housing Survey, including topics incorporated on a rotating basis, can be found on the EHS website (Paragraph 24):

<http://www.communities.gov.uk/publications/housing/ehssurveychanges>

- e. In 2010-11, interviews were achieved with 17,556 households which represented 59 per cent of sampled addresses eligible for interview. This was above the target response rate of 58%. The table below provides an overview of response to the household interview survey for the EHS in 2008-09, 2009-10 and 2010-11 (Paragraph 26).

Response to interview survey 2008-09, 2009-10 and 2010-11

	2008-09 EHS			2009-10 EHS			2010-11 EHS		
	N	%	%	N	%	%	N	%	%
Total issued sample,	32,065	100	-	32,100	100	-	32,100	100	-
of which									
ineligible addresses ^a	1,278	4	-	1,781	6	-	1,192	4	-
unoccupied at interview ^b	1,408	4	-	1,268	4	-	1,289	4	-
Total eligible for interview,	29,379	92	100	29,051	91	100	29,619	92	100
of which									
refused at interview ^c	9,088	-	31	9,250	-	32	9,344	-	32
Non-contact at interview	2,600	-	9	2,759	-	9	2,719	-	9
All achieved interviews,	17,691	-	60	17,042	-	59	17,556	-	59
of which									
Eligible for physical survey	11,045	-	38	11,476	-	40	12,115	-	41
Eligible for but refused appointment for physical survey	1,514	-	5	2,181	-	8	2,451	-	8

^a These cases include second/holiday homes, dwellings that were derelict at both the interview and physical survey, non-residential properties, demolished dwellings and addresses that were not found or not worked

^b Includes a small number of cases recorded as derelict by the interviewer but determined as appropriate for physical survey by surveyors

^c These cases include both refusals to ONS field office following the receipt of an advance letter and refusals direct to the interviewer

- f. In quarters 1 and 2, Telephone Operations at the Office for National Statistics (ONS) were used in an effort to persuade some

respondents who had initially refused a physical survey at the time of the interview to take part. Following telephone contact, 109 households agreed to a surveyor visiting to conduct a physical survey and a physical survey was conducted at 52 households.

- g. There was no recruitment of surveyors for the physical survey during the survey year 2010-11 (Paragraph 29).
- h. The content of the physical survey is also reviewed annually and new questions are added where appropriate to reflect, for example, changing technology and priority areas of interest to government, e.g. the presence of solar panels or underfloor heating, along with the recording of meter readings to form part of an Energy Follow Up Survey (EFUS) conducted by the Department for Energy and Climate Change (a key stakeholder in the EHS). A summary of the changes made each year is again given on the EHS website (Paragraph 38):

<http://www.communities.gov.uk/publications/housing/ehssurveychanges>

- i. Eligibility for a physical survey is determined using sub-sampling rates dependent upon tenure. The sub-sampling rates used to select the sample for the physical survey are kept under review throughout the year in order to ensure a sufficiently large sample is achieved. However, despite this review, the 2010-11 rates remained unaltered throughout the year (Paragraph 44):

Sub-sampling rates for the EHS 2010-11

	Sub-sample rates
Owner-occupiers	55%
Private renters	100%
Local authority	100%
Registered social landlords	100%

- j. The table below shows the levels of response achieved in the three years of the EHS, 2008-09, 2009-10 and 2010-11. In 2010-11, physical surveys were achieved in 8,492 cases, including 317 vacant properties (Paragraph 48).

Response to physical survey, 2008-08, 2009-10 and 2010-11

	2008-09 EHS	2009-10 EHS	2010-11 EHS
	N	N	N
Interviewed and eligible for physical survey	11,045	11,476	12,115
Unoccupied at interview, of which	1,408	1,268	1,289
Unoccupied at interview and potentially eligible for physical survey ^a	1,102	913	997
Unoccupied at interview and known to be ineligible for physical survey ^b	306	355	292
Eligible for physical survey	12,147	12,389	13,112
of which,			
Interviewed and response to physical survey	7,640	7,872	8,175
Unoccupied and response to physical survey	332	306	317
Paired cases (dwelling sample) ^c	7,972	8,178	8,492
Response rates:			
Interviewed and full physical survey ^d (%)	69%	69%	67%
Unoccupied properties with full physical survey ^e (%)	30%	34%	32%
<i>Paired (dwelling sample) response rate ^f (%)</i>	<i>66%</i>	<i>66%</i>	<i>65%</i>

^a includes refusals and non-contacts (at physical survey) for which tenure, and hence eligibility, could not be established

^b some cases which were vacant at interview were found to be ineligible for the physical survey once their tenure was established by the interviewer; with a few of these found to be derelict, i.e. ruinous and/or too dangerous to survey

^c paired cases were those where an interview and full physical survey were achieved, or the dwelling was unoccupied at interview and a full physical survey was achieved

^d calculated as a percentage of all interviewed cases that were eligible for physical survey and where consent was obtained

^e calculated as a percentage of those not known to be ineligible for physical survey

^f the paired response rate is calculated as paired cases as a proportion of the eligible physical sample

k. In an attempt to improve response rates to the physical survey and the allocation of work to surveyors by interviewers, contact between interviewers and surveyors prior to the start of interview fieldwork was introduced, initially on an experimental basis and later as a permanent feature. It has been welcomed by many interviewers and surveyors although its success has been varied (Paragraph 49).

l. Further information on the changes made to the appointment system can be found in the 2009/10 Technical Advice note update (pages 6 and 7), available at:

<http://www.communities.gov.uk/documents/housing/pdf/1937160.pdf>

Sampling and weighting

6. The Technical Advice Note that relates to the sampling and weighting for the 2008-09 EHS can be found at

<http://www.communities.gov.uk/documents/housing/pdf/1799086.pdf>

with an update for the 2009-10 survey at:

<http://www.communities.gov.uk/documents/housing/pdf/1937160.pdf>

7. The following updates for the 2010-11 survey (referencing the appropriate paragraph in the original note) are as follows:

Sampling

- a. In 2010-11, 32,100 addresses were issued to interviewers. A small proportion of these were found to be ineligible, including addresses that were found to be commercial properties, second and holiday homes or demolished properties. Of the remainder, interviews were achieved at 17,556 addresses (the full household sample). A further 1,289 addresses were found to relate to vacant dwellings. After sub-sampling, 13,112 dwelling addresses were passed to surveyors, and physical surveys were achieved at 8,492 of these (the 2010-11 component of the dwelling sample) (Paragraph 6).
- b. The table below compares the target paired case annual tenure distribution with the national stock updated to show the 2010-11 totals (Paragraph 12).

Tenure distribution of target achieved physical survey sample compared with the national stock

Tenure	Target sample		National stock ^{a, c}
	N	%	%
Owner-occupied	4,000	50	66
Private rented	1,000	12	17
Local authority	2,000	25	17
Registered social landlord	1,000	12	
Total^b	8,000	100	100

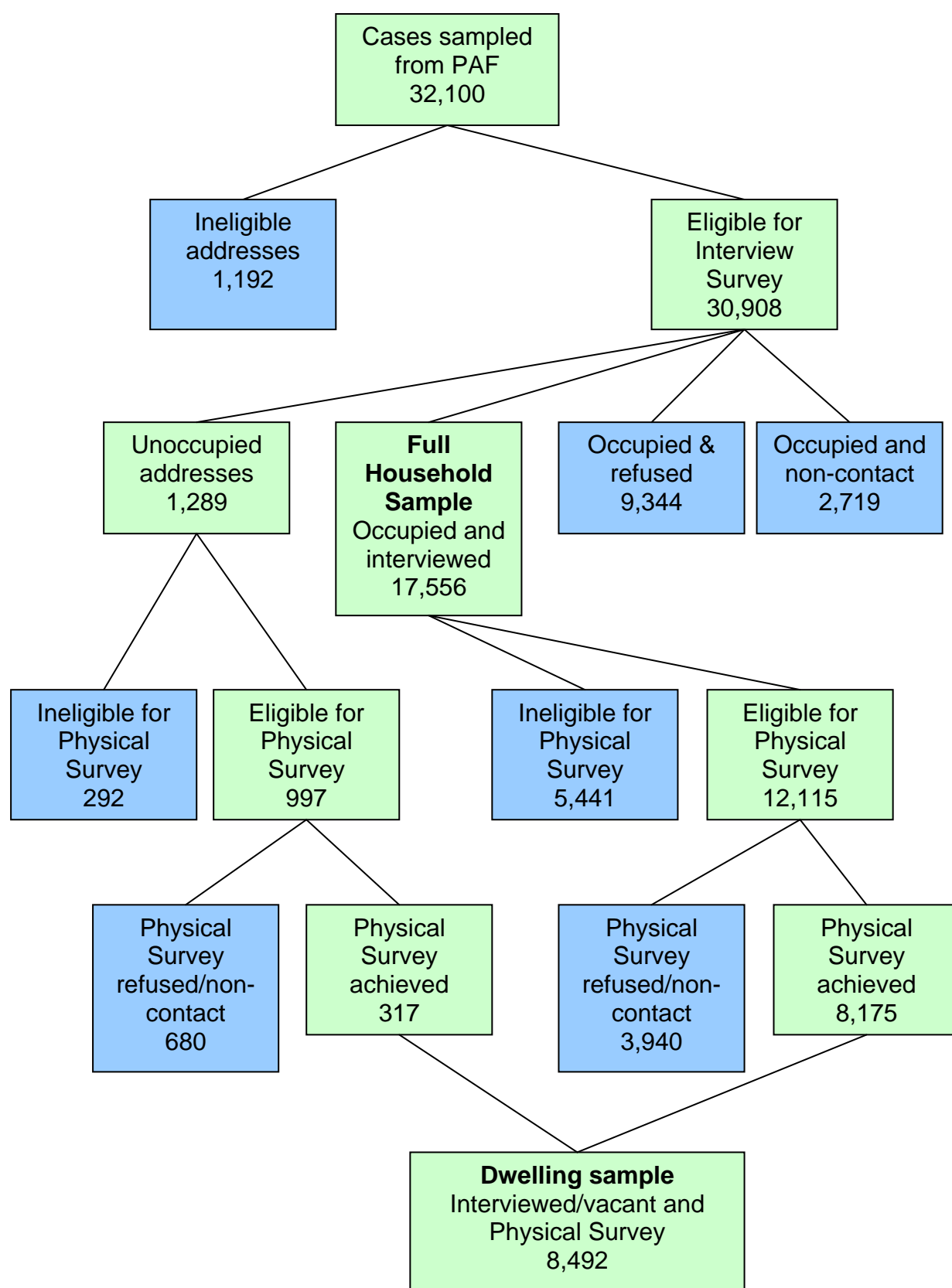
^a Taken from Table 1 of the English Housing Survey Headline Report 2010-11

^b Percentages may not add up to 100 per cent because of rounding

^c The split between local authority and registered social landlord is not available

- c. The figure below shows the details of the numbers of cases going forward at each successive stage of the survey process in 2010-11 (Paragraph 17).

Figure: Sample structure of the EHS, 2010-11



Weighting the full household sample

- d. The control totals used for Stage 6 of the weighting process were based on ONS population projections by sex and age group by region, derived from the 2001 Census, and tenure (owner-occupied, social sector and private rented sector) from the Labour Force Survey (LFS), as at 1 October of the survey year (Paragraph 27).

Weighting the dwelling sample

- e. At stage 10 of the weighting process, a small number of cases had high weights that were identified as outliers. For these cases the weight produced at the end of this stage was considerably higher when compared with cases belonging to the same tenure and regional group. These outliers had their value adjusted to the value of the highest 'non-outlier' within the same group. The difference between the original and new values was then redistributed within the same tenure and regional group (Paragraph 35).
- f. Estimates by tenure and region for the mid-points of the survey year are not available at the time the weighting is carried out. It is therefore necessary to use provisional figures as at 1 April of the survey year and project these forward to the control point of 1st October. These are then used to weight up the survey data to provide national estimates of dwellings for the survey year (addition to paragraph 37).

Calculating two-year weights

- g. The two-year dataset was produced by combining data from the 2009-10 and 2010-11 EHS. As in previous years, it was decided to combine the two datasets after the sampling and response adjustments and calibrate the combined dataset (Paragraph 43).
- h. Paragraph 44 is not relevant to the production of the '2010' two-year weights.
- i. The 2009-10 and 2010-11 EHS datasets were individually reweighted to the 1 April 2010 reference point. These datasets were then merged together and the weights halved so that each dataset had equal influence.

Housing and Neighbourhood Conditions

8. The Technical Advice Note relating to the creation of derived variables on housing and neighbourhood conditions can be found at:

<http://www.communities.gov.uk/documents/housing/pdf/1799094.pdf>

9. The following update for the 2010-11 survey (referencing the appropriate paragraph in the original note) is as follows:
 - a. Table 4: Methods used to model Housing Health and Safety Rating Systems (HHSRS) hazards using English Housing Survey data (Paragraph 17). The methodology for modelling excess cold was changed in 2010 following changes to the Standard Assessment Procedure (SAP) methodology (from SAP05 to SAP09). A specific value of SAP05 does not equate to a specific value of SAP09 so it was no longer appropriate to use the threshold value of 31.49 with SAP09 as had been used for SAP05. Instead a new 'equivalent' value of SAP09 was derived that ensured that the number and % of dwellings failing on excess cold would be the same on both SAP05 and SAP09 for the 2010 data set. This new equivalent threshold value under SAP09 is 35.79 and all dwellings with a SAP09 rating less than this are categorised as posing a Category 1 excess cold hazard.

Household derived indicators

10. The Technical Advice Note relating to the creation of household derived indicators for the 2008-09 survey can be found at

<http://www.communities.gov.uk/documents/housing/pdf/1799101.pdf>

with an update for the 2009-10 survey at:

<http://www.communities.gov.uk/documents/housing/pdf/1937160.pdf>

11. The Technical Advice Note relating to the creation of household derived indicators has been revised to include changes made for the 2009-10 survey and the 2010-11 survey. This revised version can be found at:

<http://www.communities.gov.uk/documents/statistics/pdf/2173758.pdf>

Energy efficiency and energy improvements

12. The Technical Advice Note relating to the creation of derived indicators relating to energy efficiency and energy improvement for the 2008-09 survey can be found at

<http://www.communities.gov.uk/documents/housing/pdf/1799108.pdf>

with an update for the 2009-10 survey at:

<http://www.communities.gov.uk/documents/housing/pdf/1937160.pdf>

13. The Technical Advice Note relating to the creation of energy efficiency and energy improvement has been revised to include changes made for the 2009-10 survey and the 2010-11 survey. This revised version can be found at

<http://www.communities.gov.uk/documents/statistics/pdf/2173740.pdf>

Data quality

14. The Technical Advice Note relating to data quality can be found at

<http://www.communities.gov.uk/documents/housing/pdf/1894760.pdf>

15. The following update for the 2010-11 survey (referencing the appropriate paragraph in the original note) is as follows:

- a. Results from the 2010-11 calibration workbook exercise showed no significant difference overall in the surveyors' assessments of repair costs, the overall distribution of which remained similar through 2001-2010. Two new Housing Health and Safety Rating System examples, falling between the level and Fire, were introduced for the first time. These replaced the outgoing falls on stairs and hot surfaces examples which had been completed successfully over the past 3 years. The 2010-11 results saw a wide range of responses for each hazard which suggests the majority of surveyors are not utilising their HHSRS worked examples manual for benchmarking purposes (paragraph 30).

16. There was no surveyor variability study conducted in 2010-11.

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