



Department
for Communities
& Local Government



English Housing Survey

Technical Advice Note

Survey Overview and Methodology: 2011-12 Update

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Introduction

1. This is one of a series of Technical Advice Notes about the English Housing Survey (EHS) to give users further information about how EHS data is collected and quality assured and how some of the key derived measures are created.
2. This note provides an overview of the survey methodology and describes how the data collection was conducted for the interview and physical survey components and the response rates achieved. Other technical advice notes cover the sampling and weighting process, data quality and the creation and modelling of derived measures for analysis.

Overview of the survey

3. The EHS was launched in April 2008 bringing together two former housing surveys - the Survey of English Housing (SEH) and the English House Condition Survey (EHCS). In 2011-12, EHS fieldwork comprised two core elements:
 - a household interview survey
 - a physical survey of both occupied and unoccupied dwellings
4. A market value survey (MVS) of dwellings, undertaken in previous survey years, was dropped on economic grounds in 2010-11 and therefore not undertaken in 2011-12. However, council tax bands continue to be provided by the Valuation Office Agency for all dwellings where an interview was achieved. The council tax band information is only for use in the production of statistics.
5. Up until 2010-11, the EHS also formed part of the Office for National Statistics' (ONS) Integrated Household Survey (IHS). However, the EHS withdrew from the IHS in 2011-12 as part of a cost review of the survey. More information about the IHS is available from the ONS website: <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/social-and-welfare-methodology/integrated-household-survey/index.html>
6. The survey was managed on behalf of the Department for Communities and Local Government (DCLG) by the Office for National Statistics (ONS) who undertook the interviews with householders as well as the sampling, weighting and interview data validation processes.
7. ONS worked in partnership with MMBL-CADS who are responsible for undertaking the visual inspection of all the sampled properties each

year. They employ a large field force of professional surveyors who work in close co-operation with the interviewers from ONS to maximise response to the survey and deliver high quality data.

8. The Building Research Establishment (BRE) operates as a development partner for the EHS. They are responsible for developing the physical survey questionnaire and surveyor training manuals, and delivering the surveyor training sessions. They are also responsible for the automated physical survey data collection and validation process. They work with DCLG in analysing the stock related survey measures and are responsible for developing and running models to create analytical variables such as energy efficiency ratings.
9. The survey initially consisted of three main elements: an initial interview survey of approximately 17,000 households with a follow up physical inspection and a desk based market valuation of a sub-sample of around 8,000 of these dwellings, including vacant dwellings.
10. Following a cost review of the EHS¹ in 2010, the 2011-12 sample size was reduced to an initial interview survey sample of around 13,300 households and a follow up physical inspection of a sub-sample of about 6,200 dwellings, including vacant dwellings. A fuller description of how the sample was drawn is provided in the sampling and weighting technical advice note.
11. EHS survey results are analysed and reported on as two separate data streams:
 - The 13,300 households where an interview has been undertaken (referred to as 'full interview' sample'). These data are analysed on an annual financial year basis, starting with 2008-09.
 - The 6,200 dwellings where both an interview has been conducted and a physical survey completed (or in the cases of vacant dwellings where a physical inspection only has been completed). This is referred to as the 'dwelling or household sub-sample' depending on whether the analysis relates to dwellings or households. These data are analysed on a two year rolling basis with the results presented for '2011' based on fieldwork conducted between April 2010 and March 2012.
12. The data sets underlying the EHS Households Report and the EHS Homes Report are available to external users via the UK Data Archive. Datasets are deposited annually at the time annual reports are published (usually July) and are available to the public shortly thereafter (usually August): <http://www.data-archive.ac.uk>

¹ See: www.gov.uk/government/uploads/system/uploads/attachment_data/file/8541/1799232.pdf for further details.

Interview survey

Interview survey fieldwork

13. The EHS brings together the key topics from the two former surveys, the EHCS and the SEH, and up to 2011-12 was administered as part of the wider ONS Integrated Household Survey (IHS). It comprised the IHS 'core module' of questions, a set of questions common to a number of ONS household surveys, followed by EHS specific questions, all via a face-to-face interview. The information collected from the IHS core module collected key descriptive and demographic details on all members of the household, while the EHS module concentrates on housing specific topics such as rent and mortgage payments and attitudes to the home. The EHS module is asked of the Household Reference Person or partner only.
14. In 2011-12, the EHS withdrew from the IHS as a result of the EHS cost review. Consequently, several of the IHS core modules not relevant to housing policy were removed from the EHS, with the intention to reduce the EHS interview length.
15. The interviews are conducted using computer-assisted personal interviewing (CAPI) which provides automatic routing and range checks. Other checks are also built into the CAPI system to highlight possible errors whilst the interview is in progress and so allow clarification and correction to be sought from the respondent.
16. Fieldwork for the survey commences in April each year and is spread over the year, in eight monthly batches with two consecutive months of fieldwork per quarter. The ONS interviewers take to the field at the start of each survey month and are given four weeks in which to complete their quotas of work. Surveyor fieldwork normally follows on from the interview fieldwork period and lasts 2-3 weeks. The later start date is to allow sufficient time for interviewers to make contact with sampled addresses and for the MMBL-CADS Helpline to book appointments for surveyors.
17. Interviewers working on the EHS are drawn from the ONS pool of interviewers. All interviewers pass a six-week training period as part of their induction to the ONS and before being allocated 'live' work. Before starting work on the EHS all interviewers are required to attend a one-day briefing on the survey. New briefings are held periodically to maintain a sufficient number of interviewers trained on the EHS. Over 400 interviewers are trained to work on the survey.
18. The sample is drawn from the Royal Mail's Postal Address File (PAF). For a full description of the sample design see the separate EHS sampling and weighting technical advice note. A brief summary is also provided in the annexes to the main EHS reports.

19. All sampled addresses receive an advance letter to help encourage participation, which informs the householder that an interviewer will be calling, to help maximise response. Enclosed with the letter is a general purpose leaflet that describes ONS and the work the office does, and provides information and what to expect when the interviewer arrives. Interviewers are provided with a specific EHS 'purpose leaflet' which they distribute to (potential) respondents at their discretion. This leaflet describes the survey, what information is collected and how the data will be used, as well as giving more information about DCLG and MMBL-CADS. Finally a further leaflet is left with householders whose property has been selected for a physical survey describing the purpose of the surveyor's visit. These leaflets are reviewed annually and latest versions are available on the EHS web site.
20. Prior to seeking an interview with a respondent at a sampled address there are a series of contact procedures undertaken using the EHS 'doorstep form'. These include:
 - collecting 'first impression' data from the sampled address to be used in non-response analysis
 - dwelling identification and, where necessary, randomly selecting a dwelling
 - identifying households and, where necessary, randomly selecting a household for interview
 - collecting information from neighbours about non-contacts and vacant addresses.
21. One of the interviewer's tasks is to gain consent from those households eligible for the physical survey for the surveyor to call. The approach to making appointments is kept under close review in order to maximize this consent rate. Information about the appointment times/preferences is transferred from ONS to a secure MMBL-CADS website and Helpline staff assist in confirming arrangements between the surveyors and respondents for the physical inspection.
22. As part of their training, interviewers are briefed on how to explain the physical survey to respondents and collect information about their preferred times for a visit. An Interviewer-Surveyor Protocol has been developed to facilitate this process.
23. Properties that were vacant at the time of the interviewer's first call are also passed forward by the interviewers to MMBL-CADS to approach for a physical survey. These are sub-sampled on the same basis as occupied properties based on the last known tenure of the property.
24. As part of the interview, private sector tenants are asked for permission to contact their landlord and to provide their landlord contact details. Those cases where this permission is given, and contacts can be successfully traced, form the sample for the EHS Private Landlord Survey (PLS). This survey with landlords and agents collects

information on the size and composition of different groups of landlords, their property portfolio, why they are involved in renting, how they approach the maintenance and management of their properties, their future plans and their views on a range of issues within the private sector market.

25. The PLS was last conducted in 2010 based on landlord contact details collected in 2007-08 (in the EHCS) and in 2008-09 (in the EHS). Results were published on the DCLG website in 2011². Data are available for download from the UK Data Archive. A PLS was not conducted in 2011-12, although information on landlords was still collected to enable a PLS to be conducted in the future.

Interview survey content

26. The content of the interview survey is reviewed annually. In 2011-12, a more radical overhaul of the questionnaire was conducted. This was as a result of the reduced funding and the desire to reduce the length of the interview from around 50 minutes to 30 minutes. This was partly achieved by withdrawing from the IHS (see above) and partly by reducing some of the housing questions, either by removing them from the survey altogether or by rotating the questions between years. A full description of the content of the 2011-12 EHS can be found on the DCLG website: <https://www.gov.uk/english-housing-survey-guidance-for-survey-users-and-participating-households>
27. The main question topics are:
- housing history
 - type of dwelling
 - attitudes to home and neighbourhood
 - detailed question on tenure
 - work done to the home (rotating)
 - detailed questions on income and benefits
 - second homes
 - fires (rotating)
 - damp
 - rent and mortgages including arrears
 - housing aspirations

Interview survey response rates

28. In 2011-12 interviews were achieved for 13,829 households which represents 62% of sampled addresses eligible for interview. The table

² www.gov.uk/government/publications/private-landlords-survey-2010

below provides an overview of response rates to the household interview survey for the EHS in 2009-10, 2010-11 and 2011-12.

Table 1: Response to interview survey 2009-10, 2010-11 and 2011-12

	2009-10 EHS			2010-11 EHS			2011-12 EHS		
	N	%	%	N	%	%	N	%	%
Total issued sample,	32,100	100	-	32,100	100	-	24,299	100	-
of which									
ineligible addresses ^a	1,781	6	-	1,192	4	-	979	4	-
unoccupied at interview ^b	1,268	4	-	1,289	4	-	983	4	-
Total eligible for interview,	29,051	91	100	29,619	92	100	22,337	92	100
of which									
refused at interview ^c	9,250	-	32	9,344	-	32	6,643	-	30
non-contact at interview	2,759	-	9	2,719	-	9	1,865	-	8
All achieved interviews,	17,042	-	59	17,556	-	59	13,829	-	62
of which									
eligible for but refused appointment for physical survey	2,181	-	8	2,451	-	8	1,630	-	7
eligible for and consented to physical survey	11,476	-	40	12,115	-	41	8,809	-	39

^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

Post fieldwork quality assurance

29. Following return of data from interviewers, a series of quality assurance checks are carried out by ONS. These include:

- a visual inspection of aggregate frequency distributions, e.g. to compare against previous years' data and to review outliers
- a review of notes made by interviewers regarding problem questions or cases
- checking of responses recorded under open-ended question codes (for example 'other specify' questions) and back-coding to the original response frame where appropriate
- a reconciliation of key data from the household interview and physical surveys
- arising from above, listings of problematic cases and, where necessary, correction of data prior to delivery.

Physical survey

Physical survey fieldwork

30. The physical survey component of the EHS built upon the successful approach of the continuous EHCS and much of the methodology was carried forward, including a modified version of the appointments system and the website for managing appointments. Although a lot of the previous methodology used for the EHCS remains the same, a new electronic system of data collection was introduced for the start of the EHS in 2008-09. The new digital pen system delivers clean data more quickly and cost effectively for the annual round of reporting for the EHS.
31. After a review of the appointment system, since 2009-10 interviewers have been provided with details of surveyors' availability at the start of fieldwork. Once they have secured the agreement of the respondent to a surveyor visit, they make if possible a firm appointment with a named surveyor at a time that suits both the respondent and the surveyor. Appointment details are transferred directly to the surveyor's diary.
32. MMBL-CADS have five full-time Regional Managers (RMs) who manage the EHS fieldwork and who are responsible to a Project Manager (PM). RMs are responsible for managing their area's surveyors and for carrying out appraisals of their individual surveyors' performances, including:
 - recruitment of new surveyors, which includes a pre-training selection procedure
 - assistance to the BRE with the development of the digital pen system, surveyor training and surveyors' final assessment at the completion of their training
 - provision of technical assistance and general quality control in the field
 - the general management of their surveyors and their progress
33. Prior to fieldwork the BRE provide training to the surveyors on the technical content of the survey. Prior to attending the introductory briefing, surveyors are provided with the detailed surveyor manual, a training DVD, a set of exercises and are asked to undertake some preparatory work.
34. Surveyors new to the survey receive a five-day residential briefing. Surveyors with previous EHCS/EHS experience receive a one-day refresher briefing. The rigorous residential training involves both desk based and practical sessions. This is designed to encourage surveyors to adopt a standard approach to the assessment and reporting of the condition of dwellings.

35. In 2011-12, there was no recruitment of new surveyors. Returning surveyors had a one-day refresher briefing, supplemented by distance learning modules. The modules and subsequent quizzes were completed by the surveyors at home prior to attending the briefing.
36. The subjective nature of some assessments means that a degree of variability is inevitable between surveyors in some of their judgements. To minimise the impact that any one surveyor can have on the results of any one area or type of property an upper target of 60 surveys is set on the number of surveys any one surveyor can complete. An additional target is set relating to work within any one geographical area – such that no one surveyor should complete more than 3% of the total surveys in any area although in exceptional circumstances this can be increased to 5 %. These rules contribute to improving the statistical reliability of the survey and providing more robust measures of housing condition below the national level. Full details of the impact of surveyor variability have been explored in some detail in the technical note on that topic³.
37. Up to 2011-12, approximately 190 surveyors worked on the survey each year, each completing an average of 40 full surveys each. Around 92% of the surveyors who were recruited to work on the EHS initially had worked on the EHCS 2007-08. There is a limited amount of turnover of surveyors each year.
38. In 2011-12 the surveyor field force was reduced in line with the reduced sample size to 155 surveyors from almost 190 in 2010-11. Many of these 'de-selected' surveyors were then placed on a reserve list and have used to fill some gaps in the surveyor team that have arisen since.
39. Surveyors are assigned to work with several interviewers in each quarterly field period. Surveyors work in two consecutive quarters each year and therefore there are around 95 surveyors in the field at any one time. Occasionally, local surveyors working other quarters are drawn upon to meet appointments.

Physical survey content

40. The physical survey form is designed to collect:
- facts and observations about the dwelling and its surroundings, and
 - observations and judgements about the condition of the property and what would need to be done to remedy defects
41. As far as possible, the form is designed to mirror the job of a surveyor: any remedial work on the property is assessed; the energy efficiency of the property is assessed; a specification of any work needed is drawn up. As the survey is carried out on a wide variety of dwellings, using a

³ <https://www.gov.uk/government/publications/english-housing-survey-technical-advice>

large number of surveyors, the survey process is standardised so that any two surveyors faced with the same dwelling should provide very similar assessments. To achieve this, the survey is made as factually based as possible with a standard format. Therefore the surveyor records facts, observations and judgements mainly by marking or completing the appropriate boxes on the form.

42. The content of the physical survey has remained largely unaltered from the former EHCS. Surveyors continue to record details of the nature and type of each dwelling; the presence and condition of facilities and services; the condition of the internal and external building fabric; the presence and condition of shared facilities and services in blocks of flats or on estates and an assessment of the environment in which the dwelling was located. Assessments are made of health and safety risks associated with the dwelling and these were extended in 2008-09.
43. The content of the physical survey is reviewed annually and new questions are added where appropriate to reflect, for example, changing technology, e.g. the presence of solar panels or wind turbines.
44. In addition to the completed survey form photographs of the dwellings and the local environment are taken. Four digital photographs are taken of the dwelling and streetscape. The survey takes approximately one hour on average.

Physical survey data collection

45. With the introduction of the EHS, a new system of gathering and validating the physical survey was adopted, using a paper form and digital pen. The system was developed by the BRE and extensively piloted, in actual field conditions, between 2006 and 2008.

The data collection process is as follows:

- surveyors conduct the survey using digital pen, paper form and digital camera
- surveyors upload the survey data to a dedicated website where it is displayed as a facsimile of each page, for the surveyor to check and correct electronically. An extensive series of validation checks on range, plausibility and consistency have been developed which enable the surveyor to validate their own survey before submitting it to their Regional Manager (RM)
- photographs are added to the website
- corrected data is submitted to the RM for final checking and, if necessary, returned to the surveyor for correction via the web site, and finally
- the checked data is forwarded to the BRE by the MMBL-CADS RMs for consolidation with the EHS results

46. A method of measuring any shift in the way surveyors were assessing properties, based on a series of calibrated workbook exercises, had previously been undertaken on the EHCS. This approach has now been automated and workbooks are completed electronically. The workbooks are normally completed annually after the majority of fieldwork has been undertaken. Comparisons are made with the baseline established in 2001 and subsequent years of the EHCS to provide a robust means of identifying and measuring any shift in surveyors' judgements. To date, no significant shifts have been found. More details of the calibration workbook methodology are given in the technical advice note on data quality.

Physical survey response rates

47. Not everyone who takes part in the interview survey is eligible to take part in the physical survey. As part of the interview survey CAPI program, cases eligible for the physical survey are identified based on their tenure and interviewers are alerted that the consent of the householder to a surveyor visit should be sought.
48. Eligibility for a physical survey is determined using sub-sampling rates dependent on tenure. Because the rented sector is smaller than the owner occupied sector, the rented sector is over-sampled to ensure sufficient numbers for analysis. Sub-sampling rates are reviewed at the start of each year and are kept under review throughout the year in order to ensure a sufficiently large sample is achieved. The sub-sampling rates for 2011-12 are shown in Table 2.

Table 2: Sub-sampling rates for the EHS 2011-12

	Sub-sample rates			
	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Owner-occupiers	54.5%	45%	40%	40%
Private renters	100%	100%	90%	90%
Local authority	100%	100%	85%	90%
Registered social landlords	100%	100%	85%	90%

49. The sub-sample rate used in 2011/12 varied throughout the year. The original plan was to use a sub-sample rate of 50% throughout the year for owner occupiers, to achieve the 6,200 physical surveys required. However the process was complicated by an incorrect sub-sample rate being applied in quarter 1, and also better than expected response rates achieved throughout the year. As a result, the sub-sample rate was revised throughout the year to achieve the required number of interviews and physical surveys. As the surveyor field force is split into two, with half working in quarters 1 and 4 and the other half working in quarters 2 and 3, it was also necessary to adjust sub-sampling rates to ensure that roughly equal numbers of surveys were conducted by each group of surveyors.
50. Vacant properties are sub-sampled at the same rates as occupied cases based on their last known tenure gathered by interviewers as part of their initial visit.

51. A lower proportion of full physical surveys are obtained in unoccupied dwellings, compared with occupied dwellings, because of the difficulty in gaining access to a property that is currently unoccupied. Surveyors managed to gain access and obtain full physical surveys in 35% of dwellings that were unoccupied at interview in 2011-12. This is an increase from 32% in 2010-11.
52. Non-response to the physical survey can arise because of:
- non-response to the initial household interview survey
 - refusal, at the end of the interview, to an appointment for a follow-up physical survey
 - non-response to the follow-up physical survey
53. Table 3 below shows the levels of response achieved in the four years of the EHS from 2008-09 to 2011-12. In 2011-12, physical surveys were achieved in 6,459 cases, including 248 vacant properties.
54. Between April and December 2011 (quarters 1, 2 and 3) Telephone Operations at ONS were used in an effort to persuade some respondents who had refused a physical survey at the time of the interview to take part. From July 2011, this was targeted on areas where a poor response had been achieved in the first place. Following this exercise, an additional 82 households agreed to a surveyor visiting to conduct a physical survey, so a physical survey was actually conducted at 6,459 dwellings. This total includes vacant dwellings.

Table 3: Response to physical survey, 2008-08 to 2011-12

	2008-09 EHS N	2009-10 EHS N	2010-11 EHS N	2011-12 EHS N
Interviewed and consented to physical survey	11,045	11,476	12,115	8,809
Unoccupied at interview, of which	1,408	1,268	1,289	983
Unoccupied at interview and potentially eligible for physical survey ^a	1,102	913	997	699
Unoccupied at interview and known to be ineligible for physical survey ^b	306	355	292	284
Eligible for physical survey of which,	12,147	12,389	13,112	9,508
Interviewed and response to physical survey	7,640	7,872	8,175	6,211
Unoccupied and response to physical survey	332	306	317	248
Paired cases (dwelling sample) ^c	7,972	8,178	8,492	6,459
Response rates:				
Interviewed and full physical survey ^d (%)	69%	69%	67%	71%
Unoccupied properties with full physical survey ^e (%)	30%	34%	32%	35%
<i>Paired (dwelling sample) response rate ^f (%)</i>	<i>66%</i>	<i>66%</i>	<i>65%</i>	<i>68%</i>

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

^b some cases identified as vacant at interview were found to be occupied when a surveyor visited the property, and a retrospective interview was attempted were possible. In some instances, these cases were found to be ineligible for the physical survey once their true tenure was established. A few cases were 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

55. Interviewers contacted surveyors before fieldwork commenced to discuss any issues there may be on availability and booking appointments for the physical survey. This had initially been introduced in 2010-11 but became more common practice in 2011-12.
56. The response rate for the physical survey has increased from 65% in 2010-11 to 68% in 2011-12, with a higher proportion of households consenting to a physical survey at the end of the interview. This could in part be due to improvements to the way appointments are arranged. As with other ONS surveys, response rates varied by geographical area and other background characteristics. Adjustments for possible non-response bias were incorporated as part of the grossing procedures and details are provided in the Advice note on Sampling and Weighting.

Physical survey post fieldwork checking

57. A system of data validation has been introduced as part of the move to using digital pens. The process is subject to continuous development and operates as a three-stage process.
58. Firstly, a large number of checks are built into the EHS surveyors' website as a survey is uploaded. This includes:
 - range checks - where the entered answer fell outside a valid range of responses
 - logic checks - where a combination of responses to certain questions were not logically consistent (e.g. to check that the sum of 'tenths of area' across rows added up to ten)
 - consistency checks - to determine whether linked responses in different parts of the form were consistent with each other (e.g. that detailed room data was only entered where a room had been coded as existing), and
 - plausibility checks - to determine whether a response was reasonable given that there was not a well defined range of possible answers (e.g. ceiling height of a room entered as 24 metres instead of 2.4 metres)
59. Surveyors also visually check all pages to ensure that the digital pen entries mirror those on the paper form ie that handwritten numbers have not been misinterpreted by the software.
60. Secondly, the MMBL-CADS RMs check the data and where necessary discuss with surveyors to agree on a final set of responses.
61. Finally, extensive sense checks are undertaken by the BRE to flag up and correct any questionable values that fell outside the online system checks as part of their data modelling work. This includes validating any extreme values; comparing frequencies against previous year's data and checking for logical inconsistencies.
62. A further important quality check involves comparing interview survey data with the corresponding physical survey data for each case. Possible areas of discrepancies between the two parts of the survey are highlighted in automatic reports by the ONS. This information is used to check:
 - that the sampled dwelling was correctly visited at both the interview survey and the physical survey, and
 - whether certain key variables are consistent between the two different parts of the survey.