



Department for
Communities and
Local Government



English Housing Survey

Smoke Alarms in English Homes Report, 2014-15



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Introduction and main findings

1. The English Housing Survey is a national survey of people's housing circumstances and the condition and energy efficiency of housing in England. It was first run in 2008-09. Prior to then, the survey was run as two standalone surveys: the English House Condition Survey and the Survey of English Housing.
2. This report provides the findings from the 2014-15 survey. It covers smoke alarms, their prevalence, the characteristics of households that don't have them, and the frequency with which households test them.

Main findings

There are around 1.5 million households in England that do not have a single smoke alarm.

- While the majority of households in England (93%) had at least one smoke alarm, 7% or around 1.5 million households did not have a single smoke alarm in 2014-15.

Households without smoke alarms were more likely to live in older dwellings and to be owner occupiers.

- Once other factors are controlled for, properties built before 1945 were less likely to have a smoke alarm while properties built after 1980 were more likely to have a smoke alarm.
- Compared with owner occupiers, social renters (both local authority and housing association renters) were significantly more likely to have a smoke alarm. Private renters were also more likely to have smoke alarms. However this finding just falls short of the 0.05 significance level.

Around a quarter of households tested their smoke alarm at least once a month while around a quarter had never tested their smoke alarm.

- In 2014-15, 28% of households tested their smoke alarm at least once a month (8% tested weekly, while 20% tested less frequently than weekly, but still at least once a month). This did not vary much by tenure, though housing association renters had a slightly higher rate of regular testing (31% tested at least once a month).
- At the other end of the spectrum, 22% of households never tested their smoke alarm. This varied by tenure. A third (33%) of private renters had never tested their smoke alarm compared with 18% of owner occupiers and 27% of social renters.

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- The biggest determinant of whether a household had tested their smoke alarm in the last month was household type. Compared with couples without children, couples with children were more likely to test their smoke alarm at least once a month. However, lone parents with dependent children, single person households and multi-person households were less likely to test at least once a month.

There were around 699,000 households in England that had smoke alarms, none of which were in working order. There was a slight over-concentration of such households in the private rented sector.

- Among households that had at least one smoke alarm, 3% of households had none of their smoke alarms in working order. This equates to 699,000 households. These households are referred to throughout the report as having 'non-working' smoke alarms.
- Tenure was the strongest predictor of having non-working smoke alarms. Once the effect of all other factors were controlled for, social renters (both local authority and housing association renters) were less likely to have non-working smoke alarms than owner occupiers while private renters were more likely than owner occupiers to have non-working smoke alarms.

Acknowledgements and further queries

3. Each year the English Housing Survey relies on the contributions of a large number of people and organisations. The Department for Communities and Local Government (DCLG) would particularly like to thank all the households who gave up their time to take part in the survey, NatCen Social Research, the Building Research Establishment (BRE) and CADS Housing Surveys, without whom the 2014-15 survey and this report, would not have been possible.
4. The report was produced in collaboration by DCLG, ZK Analytics and NatCen.
5. If you have any queries about the report, would like any further information or have suggestions for analyses you would like to see included in future EHS reports, please contact ehs@communities.gsi.gov.uk.
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Chapter 1

Prevalence of smoke alarms

- 1.1 There were 139 fire-related deaths in England from April to September 2015, 59% of which were in accidental house fires¹. Nearly one fifth of fire-related deaths occurred in homes which did not have a working smoke alarm. Correctly installed and maintained smoke alarms are essential in helping to reduce fire deaths and injuries. Since June 1992, building regulations (Part B) require that every new build home must allow for mains wired, interconnected smoke alarms to be installed. Landlords have a legal obligation to ensure all properties they let have at least one smoke alarm on every floor of their property, and to ensure that these are working on the first day of each new tenancy.
- 1.2 The Fire Kills Campaign promotes fire safety especially in regard to promoting the installation of smoke alarms including campaigns to remind households to regularly test their smoke alarms.
- 1.3 This chapter provides headline statistics on the prevalence of smoke alarms in English homes, how this varies by tenure, and how this has changed over time. It also seeks to identify the personal and property-related factors that best explain not having a smoke alarm.

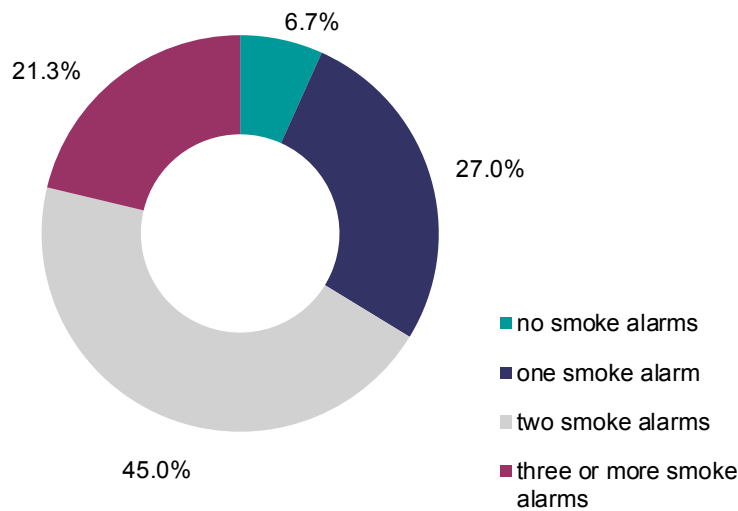
Prevalence of smoke alarms

- 1.4 In 2014-15, the majority of households in England (93%) had at least one smoke alarm; 27% had one smoke alarm, 45% had two smoke alarms, while 21% had three or more smoke alarms. The remaining 7% of households did not have a single smoke alarm, Figure 1.1. This means that around 1.5 million households in England did not have a smoke alarm².

¹https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/511628/Fire_Statistics_Monitor_April_to_September_2015.pdf

²The English Housing Survey Headline Report, published in February 2016, reported the proportion of properties with a *working* smoke alarm. In 2014-15, 88% of households had at least one working smoke alarm. For more information, see: <https://www.gov.uk/government/statistics/english-housing-survey-2014-to-2015-headline-report>

Figure 1.1: Prevalence of smoke alarms, 2014-15



Base: all households

Note: underlying data are presented in Annex Table 1.1

Source: English Housing Survey, full household sample

1.5 The proportion of households without smoke alarms varied by tenure. The private rented sector had the highest proportion of households without a smoke alarm (9%) while the social rented sector had the lowest (3% of local authority and 2% of housing association households). Meanwhile, 7% of owner occupiers did not have a smoke alarm, Figure 1.2.

Figure 1.2: Households without smoke alarms, by tenure, 2014-15



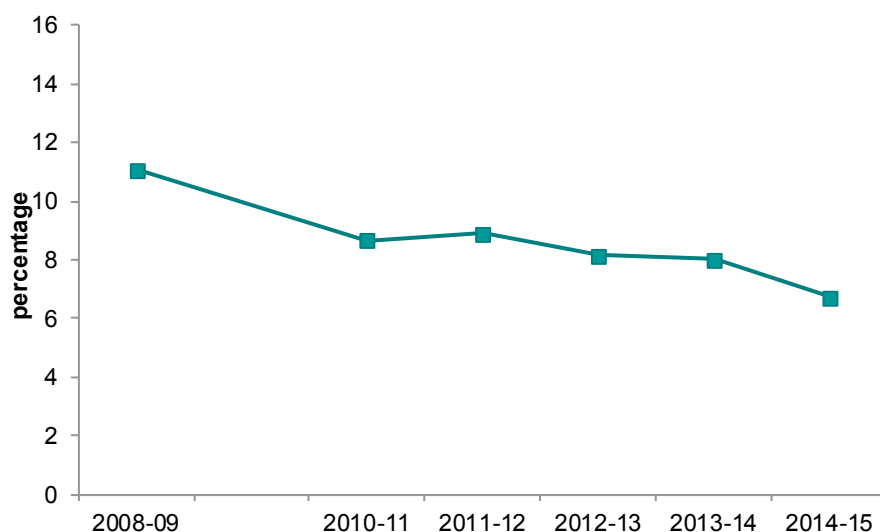
Base: all households

Note: underlying data are presented in Annex Table 1.1

Source: English Housing Survey, full household sample

1.6 Between 2008-09 and 2014-15, the proportion of households without a smoke alarm declined from 11% to 7%, Figure 1.3. The fall occurred across all tenures and indicates an overall upward trend in smoke alarm ownership, Annex Table 1.2.

Figure 1.3: Proportion of households without smoke alarms, 2008-09 to 2014-15



Base: all households

Notes:

1) data was not collected in 2009-10

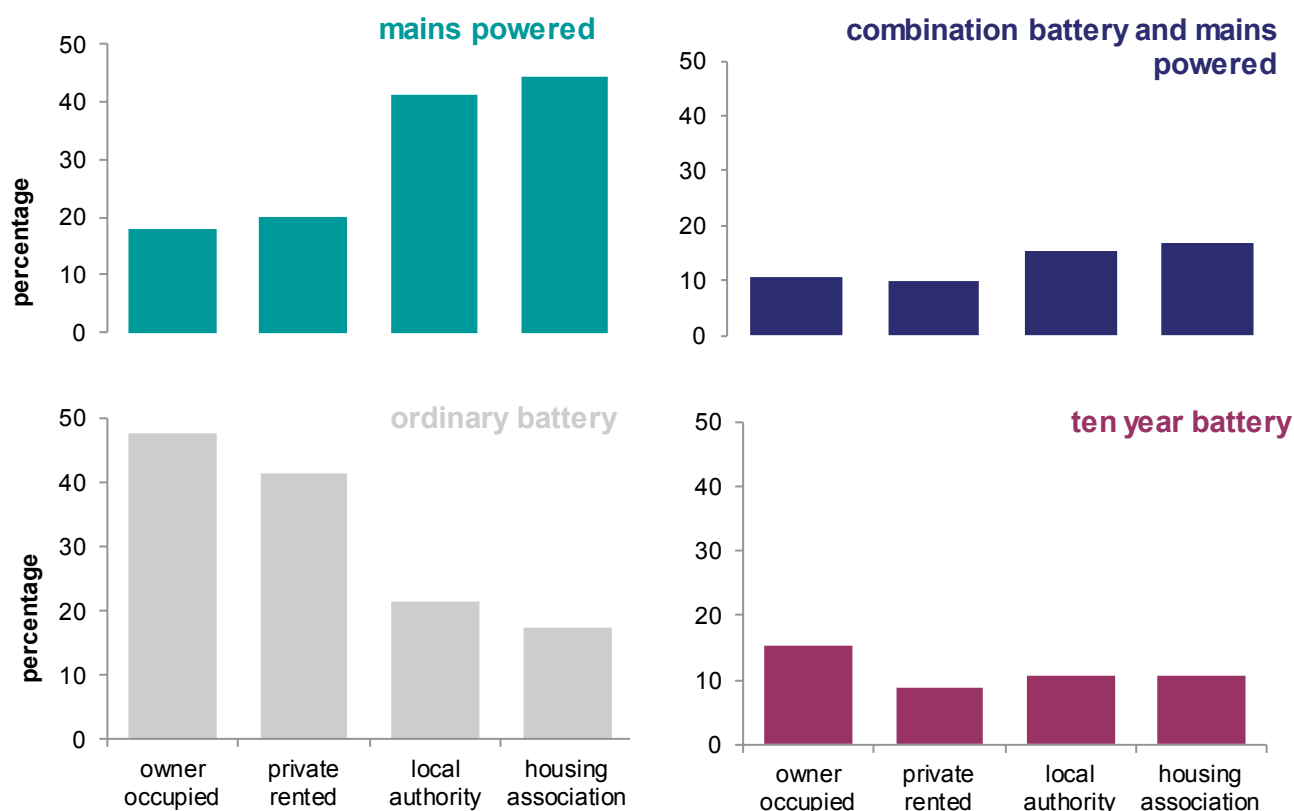
2) underlying data are presented in Annex Table 1.2

Source: English Housing Survey, full household sample

How smoke alarms are powered

- 1.7 The English Housing Survey also collects information on how households power their smoke alarms (e.g. by batteries, wired into the mains etc.).
- 1.8 Ordinary batteries were the most common way of powering smoke alarms (used by 41% of households). Smaller proportions had mains powered smoke alarms (21%) or used ten year batteries (13%). Around 1 in 10 (12%) relied on a combination of batteries and mains power. Only a very small proportion of households had smoke alarms that were part of a mains powered security system or which plugged into their lights, Annex Table 1.3.
- 1.9 How smoke alarms were powered varied by tenure. Mains powered smoke alarms were more common in the social rented sector while it was more common for owner occupiers and private renters to rely on ordinary batteries, Figure 1.4.

Figure 1.4: How smoke alarms are powered, by tenure, 2014-15



Base: all households with a smoke alarm

Note: underlying data are presented in Annex Table 1.3

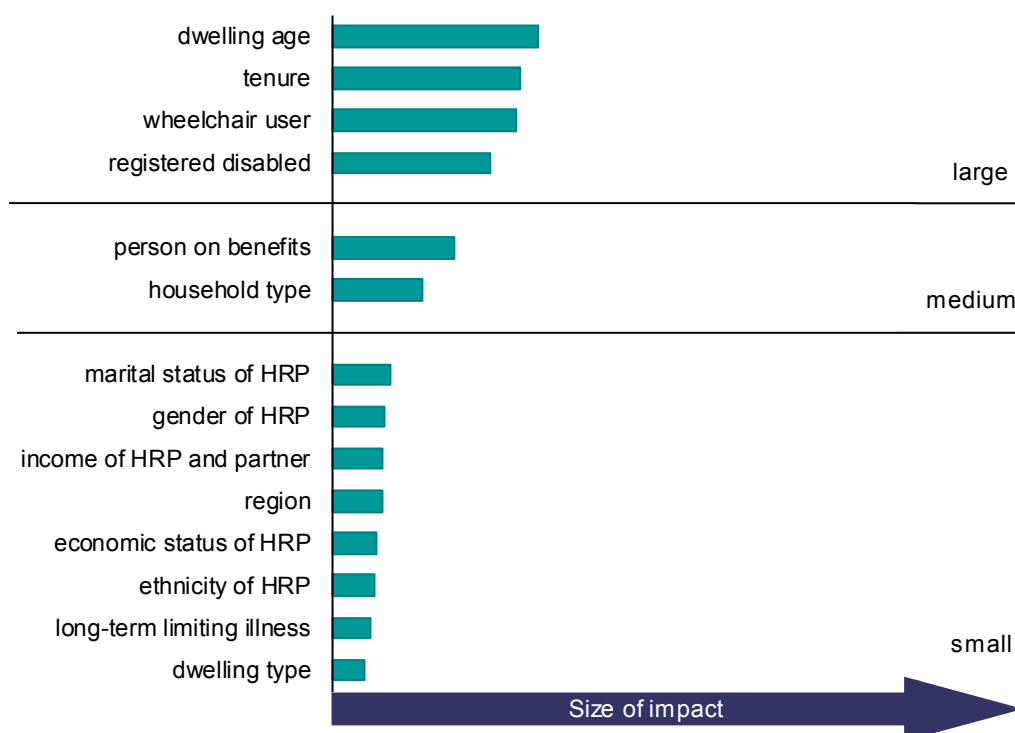
Source: English Housing Survey, full household sample

The drivers of *not* having a smoke alarm

- 1.10 In order to better understand the characteristics of the 7% or 1.5 million households that do not have a smoke alarm, multivariate logistic regression analysis was carried out. This analysis sought to assess the impact that various individual and property characteristics had on not having a smoke alarm.
- 1.11 The analysis was undertaken in two stages. First, personal and property-related factors were ranked by the strength of their impact on not having a smoke alarm. Second, each factor was analysed in turn to determine which of its categories were more likely to be associated with not having a smoke alarm.
- 1.12 Full findings from this analysis can be found in Annex Tables 1.4 and 1.5. The methodology is summarised in the technical notes section of this report.
- 1.13 The strongest predictor of not having a smoke alarm was the **age of the property**. In particular, properties built before 1945 were less likely to have a

smoke alarm (compared with those built between 1945 and 1980) while properties built after 1980 were more likely to have a smoke alarm, Figure 1.5.

Figure 1.5: The predictors of not having smoke alarms, 2014-15



Base: all households

Note: underlying data are presented in Annex Tables 1.4 and 1.5

Source: English Housing Survey, full household sample

- 1.14 The second most important predictor of not having a smoke was **tenure**. Compared with owner occupiers, social renters (both local authority and housing association renters) were significantly more likely to have a smoke alarm. Private renters were also more likely to have smoke alarms. However this finding just falls short of the 0.05 significance level.
- 1.15 The third and fourth most important predictors of not having a smoke alarm were linked to vulnerability. Households which included a person who used a **wheelchair** or where the household reference person (HRP)³ or partner was registered **disabled** were more likely to be equipped with a smoke alarm. Conversely, households which included a person with a **long-term illness** or a where the HRP or partner was on **benefits**⁴ were less likely to have a smoke alarm.
- 1.16 **The type of household** was also an important predictor. Compared to childless couples, households with children were more likely to have at least

³ The HRP is the 'householder' in whose name the accommodation is owned or rented. In the case of joint ownership or tenancy, the HRP is the person with the highest income (see the glossary for further information).

⁴ Benefits include any means tested benefits or tax credits, and certain disability-related benefits.

one smoke alarm. So too were multi-family and lone female households. Lone males, on the other hand, were less likely to have a smoke alarm.

- 1.17 More moderate predictors of not having a smoke alarm included the HRPs' **marital status**, **employment status** and **gender** and the joint **income** of the HRP and their partner. Compared to married people, single people were less likely to have a smoke alarm, as were persons on lower incomes compared to high earners. Meanwhile, unemployed people were less likely to have smoke alarms compared to people in full-time employment. However, people in full-time education were more likely to have smoke alarms. Finally, after controlling for all other factors, men were more likely to have a smoke alarm than women.
- 1.18 Households in London were significantly less likely to have a smoke alarm than households in other regions (with the exception of the West Midlands where the likelihood of having a smoke alarm was the same as in London).
- 1.19 **Ethnicity** had a small impact on not having a smoke alarm. In particular, households with an Indian, Pakistani or Bangladeshi HRP were less likely to have a smoke alarm than households with a white HRP.
- 1.20 The **type of dwelling** had a small impact on whether households had a smoke alarm, and purpose build flats were less likely than terraced houses to have a smoke alarm.

Chapter 2

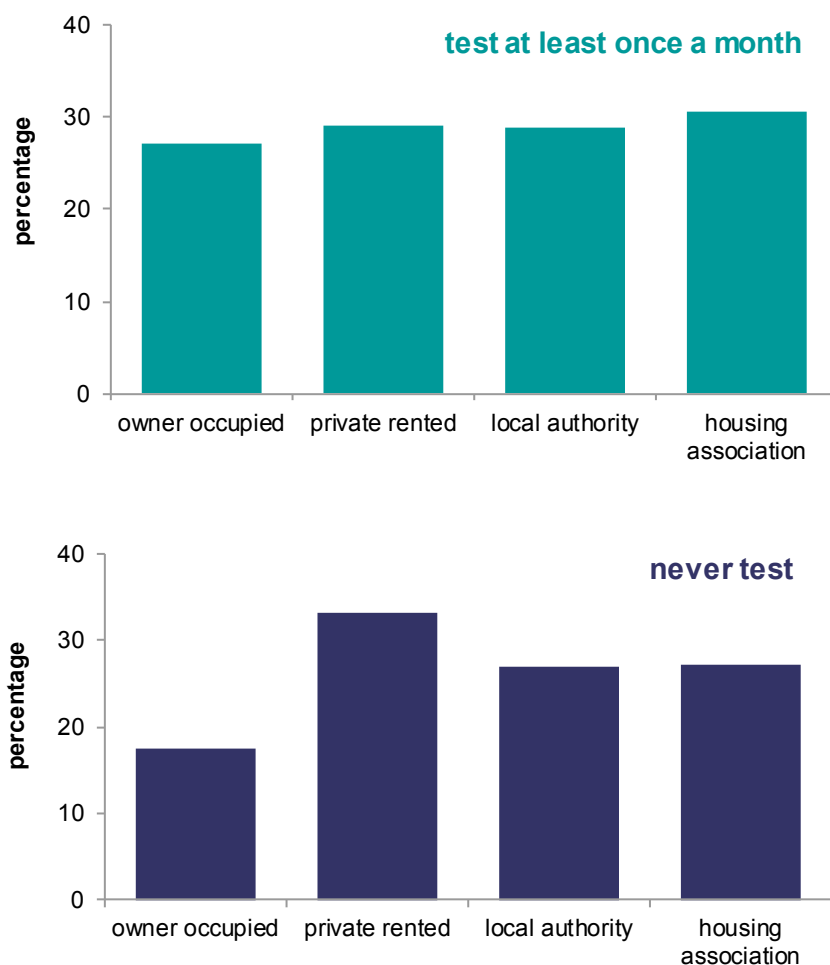
Frequency of smoke alarm testing

- 2.1 The National Fire Kills Campaign emphasises the importance of testing smoke alarms to ensure that they are working. The guidance is that households should test their smoke alarm at least once a month.
- 2.2 This chapter focuses on the households that have at least one smoke alarm and explores the frequency with which these households test their smoke alarms. It also seeks to identify the personal and property-related factors that best explain less frequent testing (i.e. less often than once a month).

Frequency of testing

- 2.3 In 2014-15, 28% of households tested their smoke alarm at least once a month (8% tested weekly, while 20% tested less frequently than that, but still at least once a month), Annex Table 2.1. This did not vary much by tenure, although housing association renters had a slightly higher rate of regular testing (31% tested at least once a month), Figure 2.1.
- 2.4 At the other end of the spectrum, 22% of households never tested their smoke alarm. This varied by tenure. A third (33%) of private renters had never tested their smoke alarm compared with 18% of owner occupiers and 27% of social renters.

Figure 2.1: The frequency of alarm testing, by tenure, 2014-15



Base: all households with a smoke alarm

Note: underlying data are presented in Annex Table 2.1

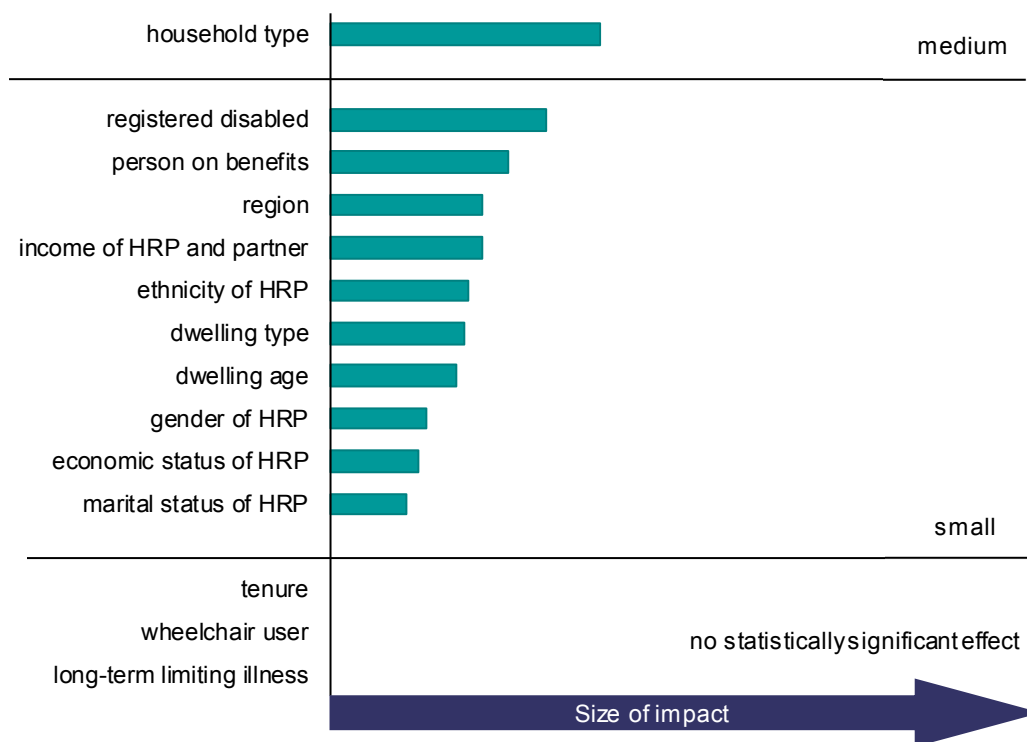
Source: English Housing Survey, full household sample

Drivers of *not* testing smoke alarms at least once a month

- 2.5 In order to better understand the characteristics of the households that test their smoke alarms less than the recommended once a month, multivariate logistic regression analysis was carried out. This analysis sought to assess the impact that various individual and property characteristics had on a household not regularly testing their smoke alarm.
- 2.6 As in Chapter 1, the analysis was done in two stages. First, personal and property-related factors were ranked by the strength of their impact on a household not testing their smoke alarm at least once a month. Second, each factor was analysed in turn to determine which of its categories were more likely to be associated with not regularly testing.

- 2.7 Full findings from this analysis can be found in Annex Tables 2.2 and 2.3. The methodology is summarised in the technical notes section of this report.
- 2.8 The **type of household** was the principal predictor of not testing smoke alarms at least once a month. Compared to couples without children, couples with children were more likely to test at least once per month. Although, lone parents with dependent children were less likely to test at least once per month. Not testing once per month was also more likely in the case of lone people living alone (whether male or female) and for lone persons sharing with other lone persons, Figure 2.2.

Figure 2.2: The predictors of smoke alarm testing, 2014-15



Base: all households with a smoke alarm

Note: underlying data are presented in Annex Table 2.3 and 2.2

Source: English Housing Survey, full household sample

- 2.9 The second and third strongest predictors were **disability** and being on **benefits**. Households where the HRP or partner was registered disabled or on benefits were more likely to test their smoke alarms at least once per month.
- 2.10 **Region** was also an important predictor of smoke alarm testing. Compared to London, living in the North West, the West Midlands, the East and the South East increased the likelihood of regular testing. However, living in the North East decreased this likelihood.

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- 2.11 The joint **income** of the HRP and their partner also had an impact on whether smoke alarms were tested at least once a month. The results indicate that higher income households were less likely than lower income households to test their smoke alarms at least once per month.
- 2.12 **Ethnicity** had a small impact on whether households regularly tested their smoke alarm. Compared with households with a white HRP, households with a HRP from a black, Pakistani, Bangladeshi or other Asian (excluding Indian but including Chinese) background were less likely to test smoke alarms at least once a month.
- 2.13 The **type of dwelling** was also shown to have an effect on the frequency of testing. Compared to terraced houses, those who lived in detached houses and purpose-built flats were less likely to test their smoke alarms at least once a month.
- 2.14 The **age of dwelling** had a small effect on smoke alarm testing. Compared to properties built between 1945 and 1980, households living in both newer and older properties were less likely to test their smoke alarms at least once a month.
- 2.15 The **gender** of the HRP, their **employment status** and their **marital status** also had a small impact. Compared to women, men were more likely to test their smoke alarm at least once a month. Meanwhile, compared to people in full-time employment, those who were unemployed, inactive or in full-time education were more likely to live in properties where the smoke alarms are tested at least once every month. Finally, compared to married people, those widowed were more likely to test at least once a month.
- 2.16 **Tenure**, having a person in a **wheelchair** or someone with a **long-term illness** in the household had no impact on whether smoke alarms were tested at least once a month.

Chapter 3

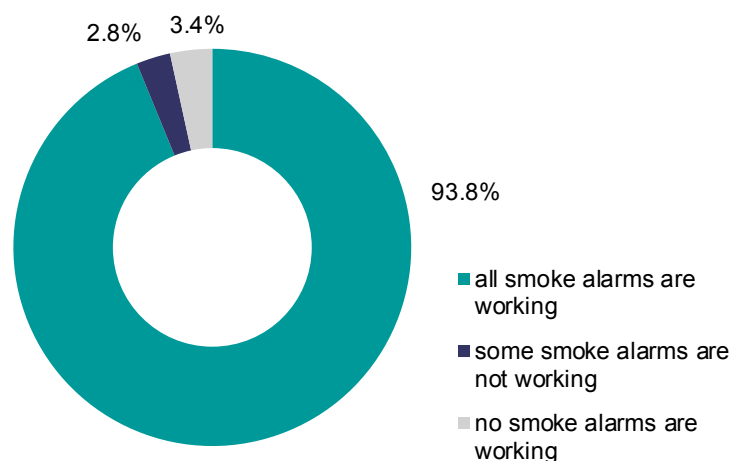
Prevalence of non-working smoke alarms

3.1 This chapter focuses exclusively on the very small group of people who had smoke alarms that didn't work. In particular, the analysis seeks to identify which personal characteristics or property related factors were the most important predictors of having a smoke alarm that does not work.

Prevalence of non-working smoke alarms

3.2 Among households that had at least one smoke alarm, 3% had at least one smoke alarm that did not work. In a further 3% of households that had smoke alarms, none of the alarms they owned were in working order, Figure 3.1. The rest of this chapter focuses on this 3% or 699,000 households that had smoke alarms, none of which were functional (referred throughout as having 'non-working' smoke alarms).

Figure 3.1: Working and non-working smoke alarms, 2014-15



Base: all households with a smoke alarm

Note: underlying data are presented in Annex Table 3.1

Source: English Housing Survey, full household sample

3.3 The proportion of households with non-working smoke alarms varied by tenure. Private renters had the highest rate of non-working smoke alarms (6%) compared with between 2% and 3% of the other tenure groups, Figure 3.2.

Figure 3.2: Non-working smoke alarms, by tenure, 2014-15



Base: all households with a smoke alarm
Note: underlying data are presented in Annex Table 3.1
Source: English Housing Survey, full household sample

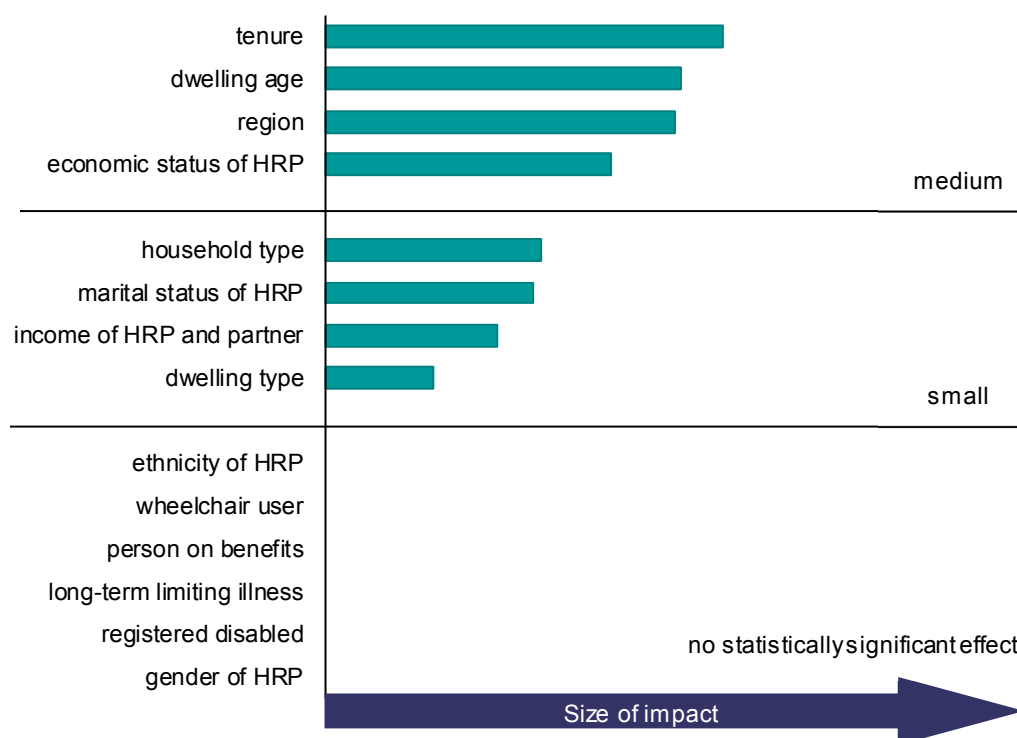
3.4 Between 2008-09 and 2014-15, the proportion of households with non-working smoke alarms declined from 4% to 3%, Annex Table 3.2. This small drop was driven by a decline in the proportion of households in the social rented sector with non-working smoke alarms. Between 2008-09 and 2014-15, the proportion of local authority renters with non-working smoke alarms declined from 6% to 3%. A drop from 4% to 2% was observed among housing association renters. Rates remained unchanged among owner occupiers and private renters.

Predictors of having non-working smoke alarms

- 3.5 In order to better understand the characteristics of the 3% or 699,000 households that have non-working smoke alarms, multivariate logistic regression analysis was carried out. This analysis sought to assess the impact that various individual and property characteristics had on having a non-working smoke alarm.
- 3.6 As in previous chapters, the analysis was done in two stages. First, personal and property-related factors were ranked by the strength of their impact on having non-working smoke alarms. Second, each factor was analysed in turn to determine which of its categories were more likely to be associated with having non-working smoke alarms.
- 3.7 Full findings from this analysis can be found in Annex Tables 3.3 and 3.4. The methodology is summarised in the technical notes section of this report.
- 3.8 The **type of tenure** was the strongest predictor of having non-working smoke alarms. Once the effect of all other factors were controlled for, social renters

(both local authority and housing association renters) were less likely to have non-working smoke alarms than owner occupiers while private renters were more likely than owner occupiers to have non-working smoke alarms, Figure 3.3.

Figure 3.3: The predictors of having non-working smoke alarms, 2014-15



Base: all households with a smoke alarm

Note: underlying data are presented in Annex Tables 3.3 and 3.4

Source: English Housing Survey, full household sample

- 3.9 The **age of the dwelling** was also an important predictor of a household having a non-working smoke alarm. Not surprisingly, newer properties (built after 2002) were less likely to have non-working smoke alarms compared to dwellings built between 1945 and 1980.
- 3.10 The third most important predictor of non-working alarms was the **region** the household lived in. Compared to London, all other areas in England were significantly less likely to have non-working smoke alarms, meaning that having non-working smoke alarms was more prevalent in London.
- 3.11 The **employment status** and the **marital status** of the HRP were identified as the most important personal characteristics in predicting whether a household had a non-working smoke alarm. Compared to people in full-time employment, part-time employees, retirees and students were less likely to have non-working smoke alarms. Compared to married people, single people and widowers were more likely to have non-working smoke alarms.

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- 3.12 The **type of household** also had an impact on whether households had a non-working smoke alarm. Compared to couples without children, couples with independent children and lone persons sharing with other lone persons were more likely to have non-working smoke alarms.
- 3.13 The joint **income** of the HRP and their partner also had an impact on whether households had non-working smoke alarms. Compared to high income households, lower income households were less likely to have non-working smoke alarms.
- 3.14 The **type of dwelling** influenced whether a household had non-working smoke alarms. Compared to terraced houses, those living in unusual type of properties (e.g. industrial conversions) were less likely to have non-working smoke alarms.
- 3.15 The factors which had no bearing on whether a household had non-working smoke alarms included having someone in the household in a **wheelchair**, or a **long-term illness**, whether the HRP or partner was on **benefits** or registered **disabled** along with the **ethnicity** or **gender** of the HRP.

Technical notes and glossary

Technical notes

1. Results for this report are presented for '2014-15' and are based on fieldwork carried out between April 2014 and March 2015 on a sample of 13,174 households. Throughout the report, this is referred to as the 'full household sample'.
2. Where the numbers of cases in the sample are too small for any inference to be drawn about the national picture, the cell contents are replaced with a 'u'. This happens where the cell count is less than 5. When percentages are based on a row or column total with unweighted total sample size of less than 30, the figures are italicised. Figures in italics are therefore based on a small sample size and should be treated as indicative only.
3. Where comparative statements have been made in the text, these have been significance tested to a 95% confidence level. This means we are 95% confident that the statements we are making are true.
4. Additional annex tables, including the data underlying the figures and charts, are published on the website: <https://www.gov.uk/government/collections/english-housing-survey>, alongside many supplementary tables that are too numerous to include in our reports. Further information on the technical details of the survey, and information and past reports on the Survey of English Housing and the English House Condition Survey, can also be accessed via this link.

Multivariate analysis

5. In this report, binary logistic regression was used to assess which personal characteristics and property-related factors are statistically related to various measures related to smoke alarms in England.
6. Three different dependent variables were used:
 - *NumAla3*: How many smoke alarms do you have in your property? (0) None; (1) One; (2) Two; (3) Three or more.
 - *AlaTst*: How often do you test that your smoke alarm is working by pressing its button? (1) Weekly; (2) At least once a month; (3) At least once every 3 months; (4) At least once every 6 months; (5) At least once a year; (6) Less than once a year; (7) Never.

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- *Ownala*: Can I just check, is/are your smoke alarm(s) in working order at the moment? Yes – (all) in full working order; some in full working order, some not; No – (all) not working for some reason.

7. The dependent variables were recoded into dichotomous variables as follows:

- *NumAla3* was recoded into a new variable so that value 0 combined values 1, 2 and 3 of *NumAla3* (one, two, three or more smoke alarms) and value 1 included only value 0 of *NumAla3* (no smoke alarms). The new dependent variable measures whether a household has no smoke alarms versus having at least one smoke alarm. The regression indicates what factors affect not having any smoke alarms. All households were included in the analysis.
- *AlaTst* was recoded into a new dichotomous variable so that value 0 combined values 1 and 2 of *AlaTst* (smoke alarms are tested weekly or at least once per month) while value 1 combined values 3, 4, 5, 6 and 7 of *AlaTst* (smoke alarms are not tested at least once per month). The new dependent variable measures whether households do not comply with the recommended testing frequency (at least once per month) versus households complying and testing with the recommended frequency. The regression indicates what factors affect not complying with the recommended testing frequency. Only households that own at least one smoke alarm were included in the analysis.
- *Ownala* was recoded into a new dichotomous variable so that value 0 combines values 1 and 2 of *Ownala* (some or all smoke alarms are in working order) and value 1 includes value 3 of *Ownala* (no smoke alarms are in working order). The new dependent variable measures whether a household has no working smoke alarms at all versus having at least one working smoke alarm. The regression indicates what factors influence not having any working smoke alarms at all. Only households that own at least one smoke alarm were included in the analysis

8. All explanatory variables in the model were entered as categorical variables. When using categorical variables in regression analysis they are introduced as dummy variables and one of the categories is specified as the 'reference category'. The model assigns a zero value to this group and all others are estimated in comparison to it. In general, the reference category was set to be the group with the highest sample size, or, in particular cases, the group that was most relevant from a substantive point of view. The reference category for each of set of dummy variables is detailed in each annex table.

9. The following categorical variables were entered in all models: type of tenure, type of dwelling, age of the property, household type; marital status of HRP, gender of HRP, ethnicity of HRP, the joint income of the HRP and their partner, employment status of HRP, disability, long-term illness, being in a wheelchair, being on benefits and region.

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10. The age of the HRP, household composition and the household size were tested but not included in the final models as they were collinear with other variables in the models.
 11. The regression analysis was carried out on standardised weighted data. Standardisation involved scaling the household population weight (aagfh14) so that the sum of scaled weights (associated with cases in the regression model) equalled the sample size. This ensured that any relationships found would not be biased to the over-sampled groups or the very large weighted data sample size.
 12. The ‘significance’ of a regression parameter is an indication of how reliably it has been estimated. Where parameters have significance equal to, or less than 0.05 they are treated as reliable and are highlighted in the relevant tables. Where the regression analysis yields a parameter with significance greater than 0.05 that parameter value is treated as unreliable.
 13. In addition to the results of the logistic regressions that generated the odds ratios comparing each group to its reference category, we also computed the overall effect size for each factor that was introduced as a set of dummy variable (irrespective of the reference category that was used).
 14. To compare between the effects of the categorical variables their overall effects were computed using *sheaf coefficients*. The computation of sheaf coefficients was detailed by Heise⁵ and was implemented in Stata⁶. This method implements a post-estimation calculation which is executed after the logistic regression. In essence it reorganises the information in the logistic regression output and generates the overall effect of each underlying variable which is defined in the model by a set of dummy variables. As such, we generate one estimate for each set of dummy variables. The results were graphed.
 15. The graphs (Figures 1.5, 2.2 and 3.3) illustrate the odds ratios associated with each significant factor. The bars are plotted on a logarithmic scale that ranges between 1 and 2. To ensure comparability, we compare the absolute effect of a variable, without emphasising the sign of the effect⁷. All graphs use the same size of scale. The scale itself is removed from the graphs to make interpretation easier. The aim of the graphs is to illustrate visually the relative importance of factors.
 16. In addition, factors were grouped by the size of their impact. Factors that had an impact smaller than an odds ratio of 1.3 or less were classed as ‘small’. Factors that had an effect equal to an odds ratio that ranged between 1.31 and 1.6 were classified as having a ‘medium effect’. Finally, those factors that achieved effects higher than an odds ratio of 1.61 were designated as having a large effect.

⁵ Heise, David (1972) ‘Employing Nominal Variables, Induced Variables, and Block Variables in Path Analyses’ *Sociological Methods Research* 1 (2): 147-173 <http://smr.sagepub.com/content/1/2/147>

⁶ See here: <http://maartenbuis.nl/software/sheafcoef.html> for more information

⁷ Odds ratios vary between 0 and plus infinity. 1 indicates no relationship. Values between 0 and 1 indicate a negative relationship and value over 1 indicate a positive relationship.

17. Finally, although regression analysis can be used to explore associations between variables, it does not necessarily imply causation and results should be treated as indicative rather than conclusive.

Glossary

Dwelling: A unit of accommodation which may comprise one or more household spaces (a household space is the accommodation used or available for use by an individual household). A dwelling may be classified as shared or unshared. A dwelling is shared if:

- the household spaces it contains are 'part of a converted or shared house', or
- not all of the rooms (including kitchen, bathroom and toilet, if any) are behind a door that only that household can use, and
- there is at least one other such household space at the same address with which it can be combined to form the shared dwelling.

Dwellings that do not meet these conditions are unshared dwellings.

The EHS definition of dwelling is consistent with the Census 2011.

Dwelling age: The date of construction of the oldest part of the building.

Dwelling type: Dwellings are classified, on the basis of the surveyor's inspection, into the following categories:

- **small terraced house:** a house with a total floor area of less than 70m² forming part of a block where at least one house is attached to two or more other houses. The total floor area is measured using the original EHS definition of usable floor area, used in EHS reports up to and including the 2012 reports. That definition tends to yield a smaller floor area compared with the definition that is aligned with the Nationally Described Space Standard and used on the EHS since 2013. As a result of the difference between the two definitions, some small terraced houses are reported in the 2014 Housing Stock Report as having more than 70m².
- **medium/large terraced house:** a house with a total floor area of 70m² or more forming part of a block where at least one house is attached to two or more other houses. The total floor area is measured using the original EHS definition of useable floor area which tends to yield a small floor area compared with the definition used on the EHS since 2013.
- **end terraced house:** a house attached to one other house only in a block where at least one house is attached to two or more other houses.
- **mid terraced house:** a house attached to two other houses in a block.

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- **semi-detached house:** a house that is attached to just one other in a block of two.
 - **detached house:** a house where none of the habitable structure is joined to another building (other than garages, outhouses etc.).
 - **bungalow:** a house with all of the habitable accommodation on one floor. This excludes chalet bungalows and bungalows with habitable loft conversions, which are treated as houses.
 - **converted flat:** a flat resulting from the conversion of a house or former non-residential building. Includes buildings converted into a flat plus commercial premises (such as corner shops).
 - **purpose built flat, low rise:** a flat in a purpose built block less than six storeys high. Includes cases where there is only one flat with independent access in a building which is also used for non-domestic purposes.
 - **purpose built flat, high rise:** a flat in a purpose built block of at least six storeys high.

Economic status: Respondents self-report their situation and can give more than one answer.

- **working full-time/part-time:** full-time work is defined as 30 or more hours per week. Part-time work is fewer than 30 hours per week. Where more than one answer is given, 'working' takes priority over other categories (with the exception that all those over State Pension Age (SPA) who regard themselves as retired are classified as such, regardless of what other answers they give).
- **unemployed:** this category covers people who were registered unemployed or not registered unemployed but seeking work.
- **retired:** this category includes all those over the state pension age who reported being retired as well as some other activity. For men the SPA is 65 and for women it is 60 if they were born before 6th April 1950. For women born on or after the 6th April 1950, the state pension age has increased incrementally since April 2010⁸.
- **full-time education:** education undertaken in pursuit of a course, where an average of more than 12 hours per week is spent during term time.
- **other inactive:** all others; they include people who were permanently sick or disabled, those looking after the family or home and any other activity.

Ethnicity: Classification according to respondents' own perceived ethnic group.

⁸ For further information see: www.gov.uk/browse/working/state-pension

Ethnic minority background is used throughout the report to refer to those respondents who do not identify as white.

Full-time education: Full-time education is education undertaken in pursuit of a course, where an average of more than 12 hours per week is spent during term time.

Household: 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.

The EHS definition of household is slightly different from the definition used in the 2011 Census. Unlike the EHS, the 2011 Census did not limit household membership to people who had the accommodation as their only or main residence. The EHS included that restriction because it asks respondents about their second homes, the unit of data collection on the EHS, therefore, needs to include only those people who have the accommodation as their only or main residence.

Household reference person (HRP): The person in whose name the dwelling is owned or rented or who is otherwise responsible for the accommodation. In the case of joint owners and tenants, the person with the highest income is taken as the HRP. Where incomes are equal, the older is taken as the HRP. This procedure increases the likelihood that the HRP better characterises the household's social and economic position. The EHS definition of HRP is not consistent with the Census 2011, in which the HRP is chosen on basis of their economic activity. Where economic activity is the same, the older is taken as HRP, or if they are the same age, HRP is the first listed on the questionnaire.

Household type: The main classification of household type uses the following categories, some categories may be split or combined in different tables:

- **couple no dependent child(ren)** married/cohabiting couple with no dependent children or with independent child(ren) only.
 - **couple, no children**
 - **couple, independent child(ren) only**
- **couple with dependent child(ren)** married/cohabiting couple with dependent child(ren) – may also include independent child(ren).
- **lone parent with dependent child(ren)** lone parent family (one parent with dependent child(ren) – may also include independent child(ren).
- **other multi-person households:**
 - **lone parent, independent child(ren) only**
 - **other type of household** (includes flat sharers and households containing more than one couple or lone parent family)

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- **one person:**
 - **one person aged under 60**
 - **one person aged 60 or over**

The married/cohabiting couple and lone parent household types (the first three categories above) may include one-person family units in addition to the couple/lone parent family.

Independent children: any person aged over 18 or those aged 16-18 who are not in full-time education living in a family with his or her parent(s) or grandparent(s).

Long-term limiting illness: This is consistent with the core definition of disability under the Equality Act 2010. A person is considered to have a disability if they have a long-standing illness, disability or impairment which causes substantial difficulty with day-to-day activities. This is variously referred to throughout the report as long-term limiting illness or disability, long-term limiting illness and long-term limiting disability.

Tenure: In this report, households are typically grouped into three broad categories known as tenures: owner occupiers, social renters and private renters. The tenure defines the conditions under which the home is occupied, whether it is owned or rented, and if rented, who the landlord is and on what financial and legal terms the let is agreed.

- **owner occupiers:** households in accommodation which they either own outright, are buying with a mortgage or as part of a shared ownership scheme.
- **social renters:** this category includes households renting from Local Authorities (including Arms' Length Management Organisations (ALMOs) and Housing Action Trusts) and Housing Associations, Local Housing Companies, co-operatives and charitable trusts.

A significant number of Housing Association tenants wrongly report that they are Local Authority tenants. The most common reason for this is that their home used to be owned by the Local Authority, and although ownership was transferred to a Housing Association, the tenant still reports that their landlord is the Local Authority. There are also some Local Authority tenants who wrongly report that they are Housing Association tenants. Data from the EHS for 2008-09 onwards incorporate a correction for the great majority of such cases in order to provide a reasonably accurate split of the social rented category.

private renters: this sector covers all other tenants including all whose accommodation is tied to their job. It also includes people living rent-free (for example, people living in a flat belonging to a relative).

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and Signifying compliance with the Code of Practice for Official Statistics.

Designation can be broadly interpreted to mean that the statistics:

- 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.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

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