Chapter 2
Smoke alarms and fire safety measures in the home

2.1 In 2013-14, 181 people were killed by accidental house fires[1]. Dwellings with no smoke alarm accounted for 38% of deaths in home fires in Great Britain, and nearly one fifth of deaths occurred where no smoke alarm worked[2]. The Fire Kills Campaign has promoted fire safety especially in regard to promoting the installation of smoke alarms including advertising campaigns to remind households to regularly test their smoke alarms. Correctly installed and maintained smoke alarms are essential in helping to reduce fire deaths and injuries in the home. Since June 1992, building regulations (Part B)[3] require that every new build home must allow for mains wired, interconnected smoke alarms to be installed.

2.2 Although there is no legal requirement for homes built prior to June 1992 in single household occupation to install smoke alarms, landlords are advised by DCLG's Fire Kills campaign to install at least one smoke alarm on each floor of the property. Landlords have a legal obligation to do this if their property is registered as a House in Multiple Occupation (HMO).

2.3 This chapter will focus on the characteristics of households who have a working smoke alarm in 2013-14 and whether this provision has changed since 2003-04[4]. In addition, the chapter provides information on the presence of other fire safety measures in the home and how this has altered over time. For more information on the profile of households that did not have a working smoke alarm refer to the English Housing Survey, Fire and fire safety report 2012-13[5].

[1] https://www.gov.uk/government/statistics/fire-statistics-monitor-april-2013-to-march-2014

[2] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/410287/Fire_Statistics_Great_Britain_2013-14___PDF_Version_.pdf

[3] http://www.planningportal.gov.uk/uploads/br/BR_PDF_ADB1_2006.pdf

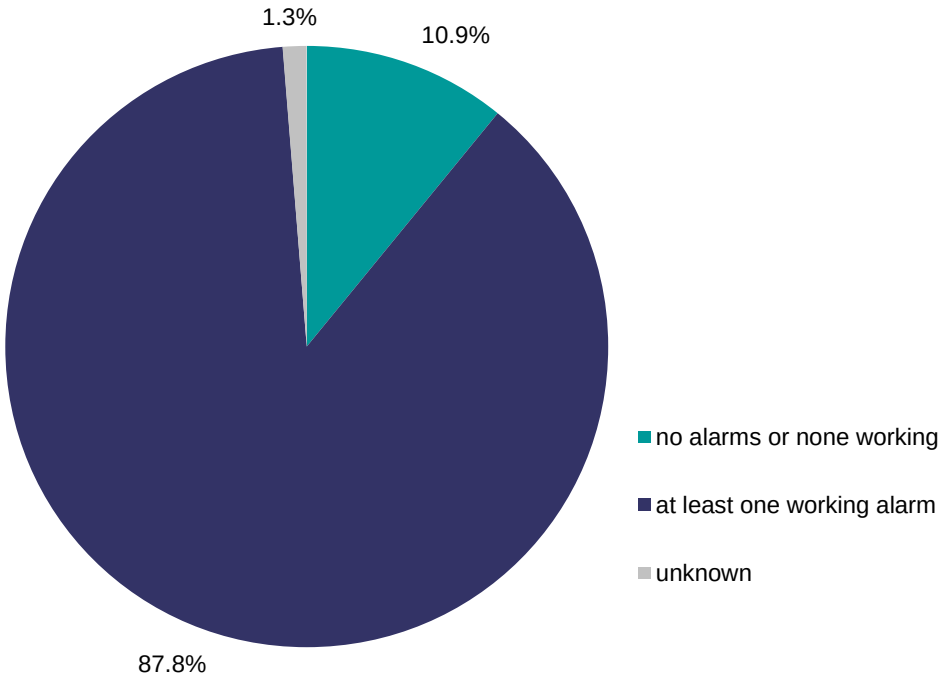
[4] The household's response to the presence and working order of their fire safety equipment was taken as correct. None of the fire safety measures have been checked as present or tested as working.

[5] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/335757/EHS_Fire_and_Fire_Safety_2012-13.pdf

Smoke alarm ownership

2.4 In 2013-14, 20.8 million (92%) of all households in England stated they had one or more smoke alarms installed in their home (Annex Table 2.7) but 19.9 million (88%) reported they had at least one alarm working at the time of the survey. Almost 2.5 million households (11%) either did not have a smoke alarm or had one but it was not working, while nearly 300,000 households (1%) did not know if their smoke alarm was working or not, Figure 2.1.

Figure 2.1: Profile of smoke alarm ownership, 2013-14



Base: all households
Note: underlying data are presented in Annex Table 2.1
Source: English Housing Survey, full household sample

Working smoke alarm ownership

Tenure and property type

2.5 Housing association households (94%) were most likely to have at least one working smoke alarm in their home, reflecting the greater proportion of newer homes in this tenure. Some 91% of local authority tenants and 88% of owner occupiers had this feature. Private renters

(82%) were least likely to have a working smoke alarm, highlighting the need for improvement within this sector, Figure 2.2.

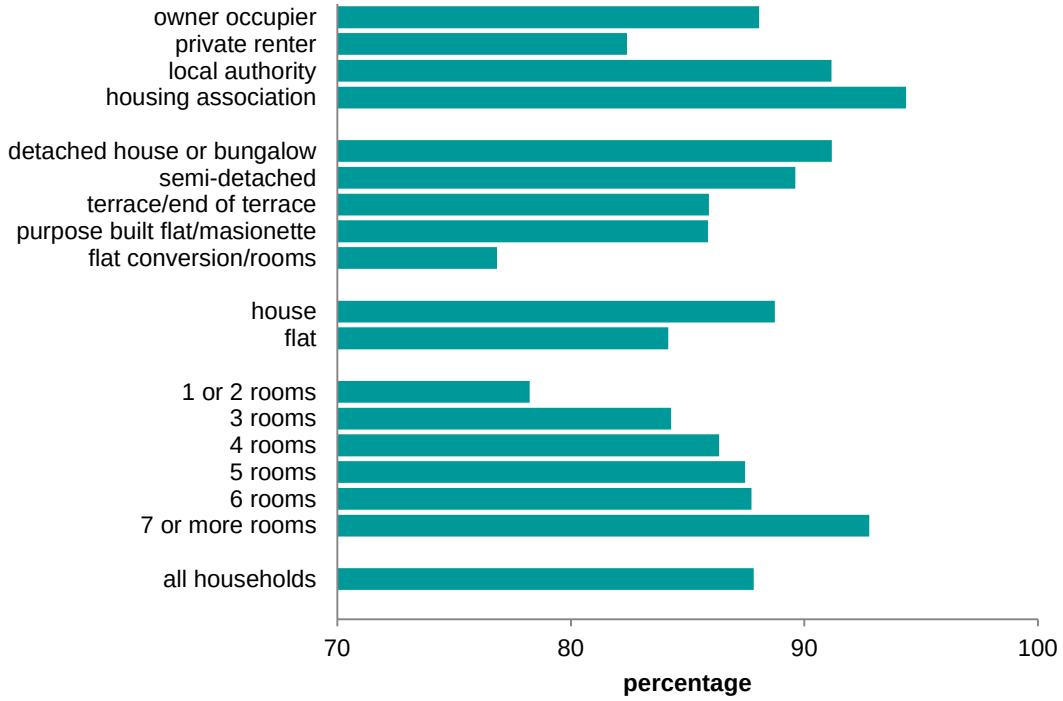
2.6 Overall, households living in houses (89%) were more likely to have a working smoke alarm than those living in flats (84%); although the prevalence of ownership was related to the type of house or flat that a household lived in, Figure 2.2.

2.7 For households that occupied houses, those living in detached houses and bungalows (91%) and semi-detached houses (90%) were more likely to have a working smoke alarm than those households living in terraced houses (86%), Figure 2.2.

2.8 Among households living in flats, households were more likely to have a working smoke alarm if they lived in a purpose built flat (86%) compared with those households that lived in a converted flat (77%). The latter were most likely to be privately rented (see chapter 1 of the Profile of English housing report), Figure 2.2.

2.9 There was a general relationship between the likelihood of having a working smoke alarm and the number of habitable rooms available to the household. Households that had one or two habitable rooms (78%) were less likely to have this feature than those households that had five (87%) six (88%) or seven or more habitable rooms (93%). Households which had seven or more habitable rooms were most likely to have this feature compared with all other households. This finding may be linked to those regarding property type and household composition (examined below).

Figure 2.2: Households with at least one working smoke alarm by tenure, property type and number of habitable rooms 2013-14



Base: all households
Note: underlying data are presented in Annex Table 2.1
Source: English Housing Survey, full household sample

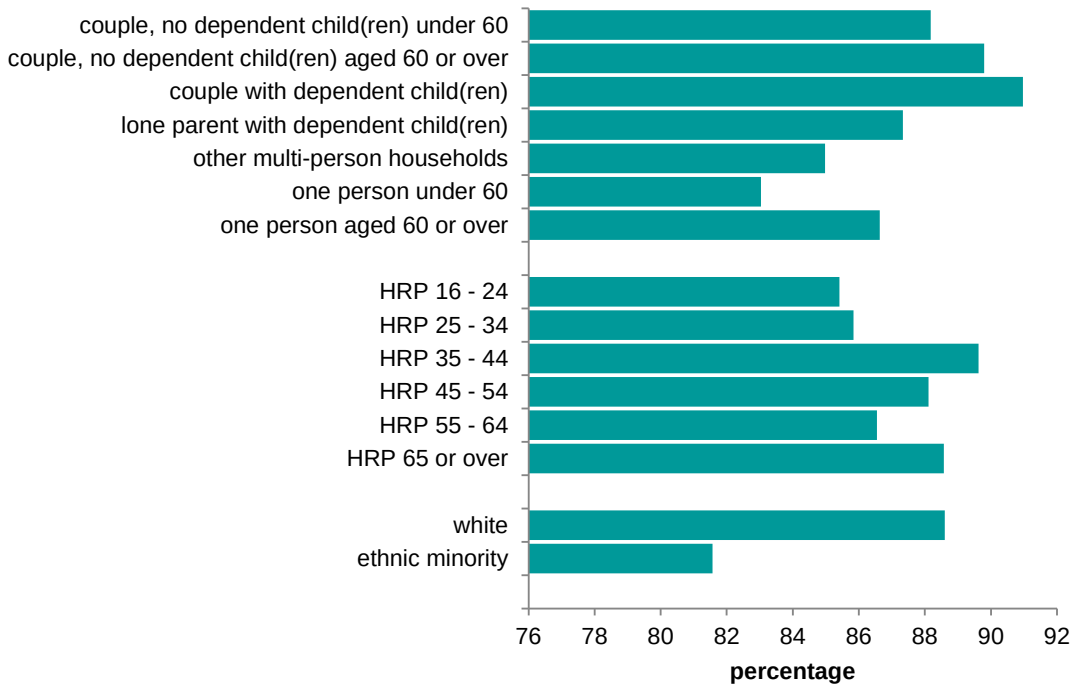
Household characteristics

2.10 In 2013-14, households comprising of a couple with dependent children were most likely to have a working smoke alarm (91%) compared with any other household type. Single households under 60 years of age were less likely to have this feature (83%) compared with all other types of households except multi-person households.

2.11 The age of the HRP is related to the likelihood of working smoke alarm ownership; households with a HRP aged under 35 years of age were less likely to have a working smoke alarm (85%) compared with older households, except those where the HRP was aged between 55 and 64 years of age.

2.12 Households with a white HRP were more likely to have at least one working smoke alarm compared with households that had a HRP from an ethnic minority background (89% compared with 82%), Figure 2.3.

Figure 2.3: Households with at least one working smoke alarm by household composition, age and ethnicity of HRP, 2013-14

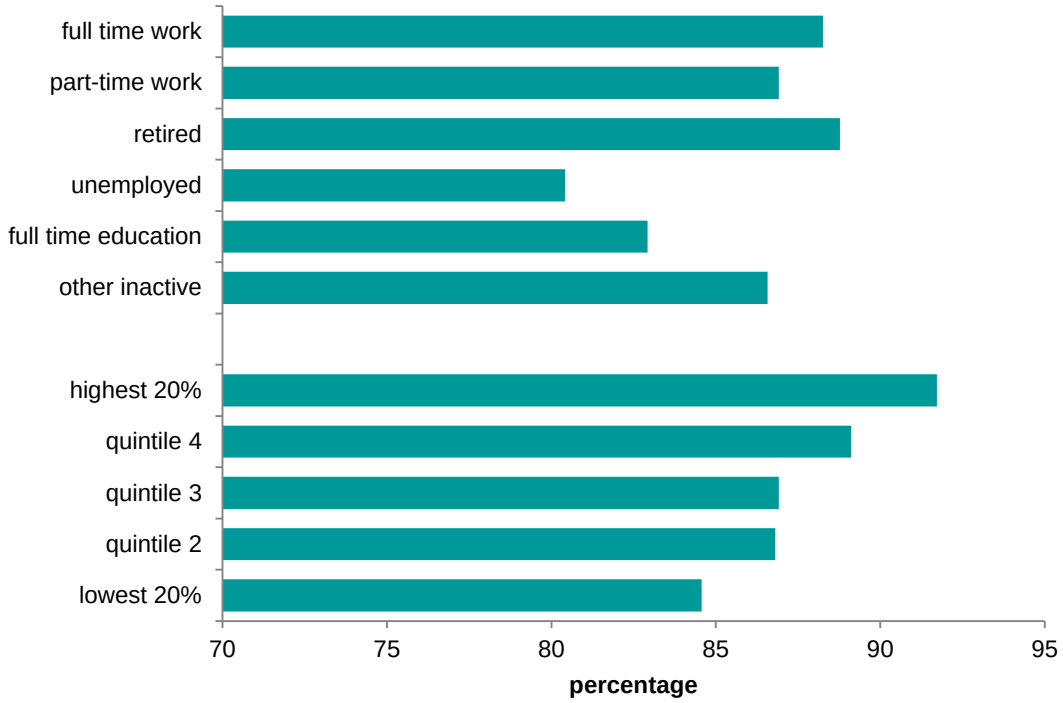


Base: all households
Note: underlying data are presented in Annex Table 2.2
Source: English Housing Survey, full household sample

2.13 Households where the HRP was unemployed (80%) were less likely to have a working smoke alarm than households where the HRP was working part-time (87%), full time (88%) or retired (89%), Figure 2.4.

2.14 Figure 2.4 shows that in 2013-14 households in the lowest 20% of household incomes were less likely to have this feature compared with all higher income bands.

Figure 2.4: Households with at least one working smoke alarm, by employment status of HRP and income band, 2013-14



Base: all households
Note: underlying data are presented in Annex Table 2.3
Source: English Housing Survey, full household sample

2.15 The proportion of households with working smoke alarms was similar for households irrespective of whether they were in receipt of means tested benefits or not (87 and 88% respectively). Households with either the HRP or partner registered disabled were a little more likely to have this feature (90%) compared to households without a registered disabled HRP or partner (88%), Annex Table 2.3.

2.16 The analysis for this chapter has been undertaken using simple bivariate analysis, namely, each factor was examined separately against the variable for the ownership of a working smoke alarm to determining any relationship between them. In the 2012/13 EHS Fire and fire safety report[6], however, multivariate analysis (using logistic regression) was undertaken to identify those factors most likely to result in the ownership of a working smoke alarm.This multivariate analysis found that household composition was the strongest predictor of whether a household had a working smoke alarm, followed by

[6] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/335757/EHS_Fire_and_Fire_Safety_2012-13.pdf

household income and tenure. Within these three groups, couples with dependent children, households in the highest income band and housing association tenants respectively, were found to have the highest likelihood of having a working smoke alarm.

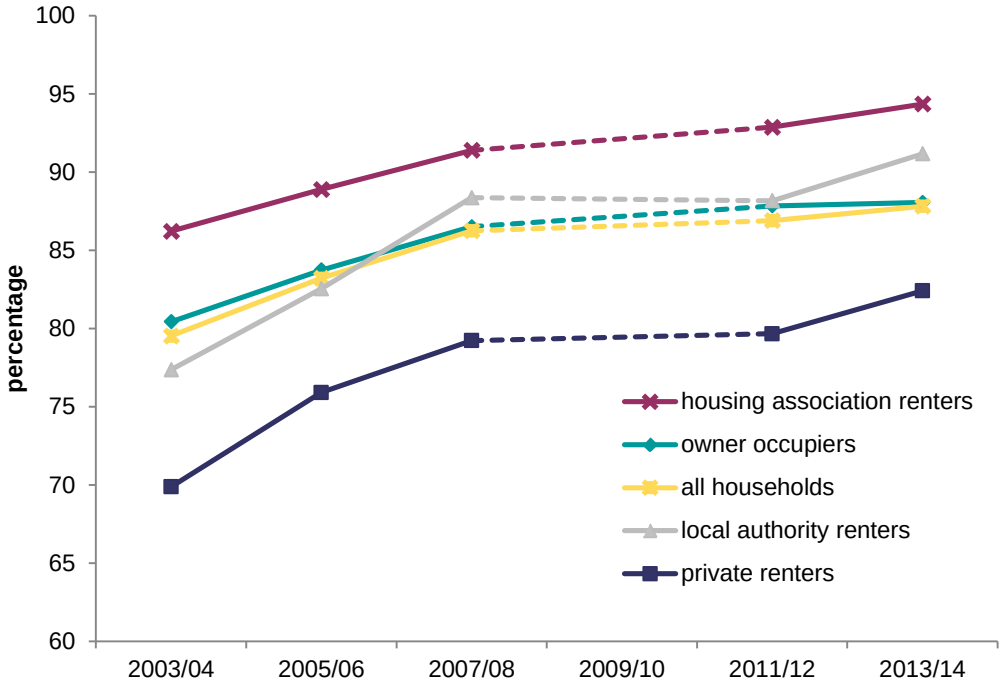
Changes in working smoke alarm ownership since 2003-04

2.17 Between 2003-04 and 2013-14[7], there was an increase in the proportion of households with at least one working smoke alarm, from 80% to 88%. This increase occurred across all tenures and was likely to be partly due to factors such as the National Smoke Alarm Campaign and the Fire and Rescue Services community fire safety activities which included the free installation of smoke alarms, Figure 2.5.

2.18 The most noticeable improvement over this period was for both local authority tenants (from 77% to 91%) and private renters (from 70% to 82%). This is likely to reflect social sector improvements in home safety, as part of planned and responsive maintenance programmes, the Decent Homes programme as well as the relatively high proportion of newer homes within the housing association sector. For private renters the increase was partly due to a shift in the age profile of their homes; a marked rise in the proportion of newer stock which would have smoke alarms installed due to the building regulations governing new build properties.

[7] it is not possible to provide a complete time line trend for this analysis as questions regarding smoke alarm ownership were not collected for 2009-10 EHS household interview survey.

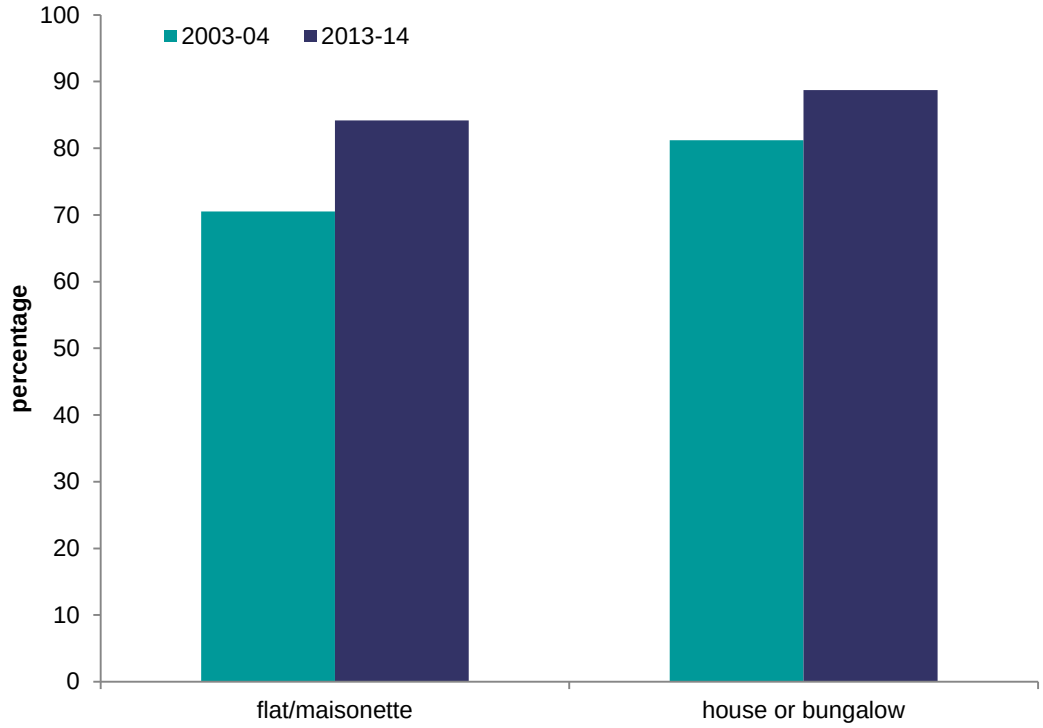
Figure 2.5: Household ownership of at least one working smoke alarm by tenure, 2003-04 to 2013-14



Base: all households
Note: underlying data are presented in Annex Table 2.4
Sources:
2003-04 to 2007-08 English House Condition Survey, full household sample
2011-12 to 2013-14 English Housing Survey, full household sample

2.19 Over this 10 year period there has been an increase in the proportion of households with at least one working smoke alarm in all types of homes (from 80% to 88%), but particularly for households living in flats (from 71% to 84%) since 2003-04. In the same period, the presence of this feature increased among households living in houses by 8 percentage points (from 81% to 89%), Figure 2.6 and Annex Table 2.1.

Figure 2.6: Household ownership of at least one working smoke alarm by property type, 2003-04 and 2013-14



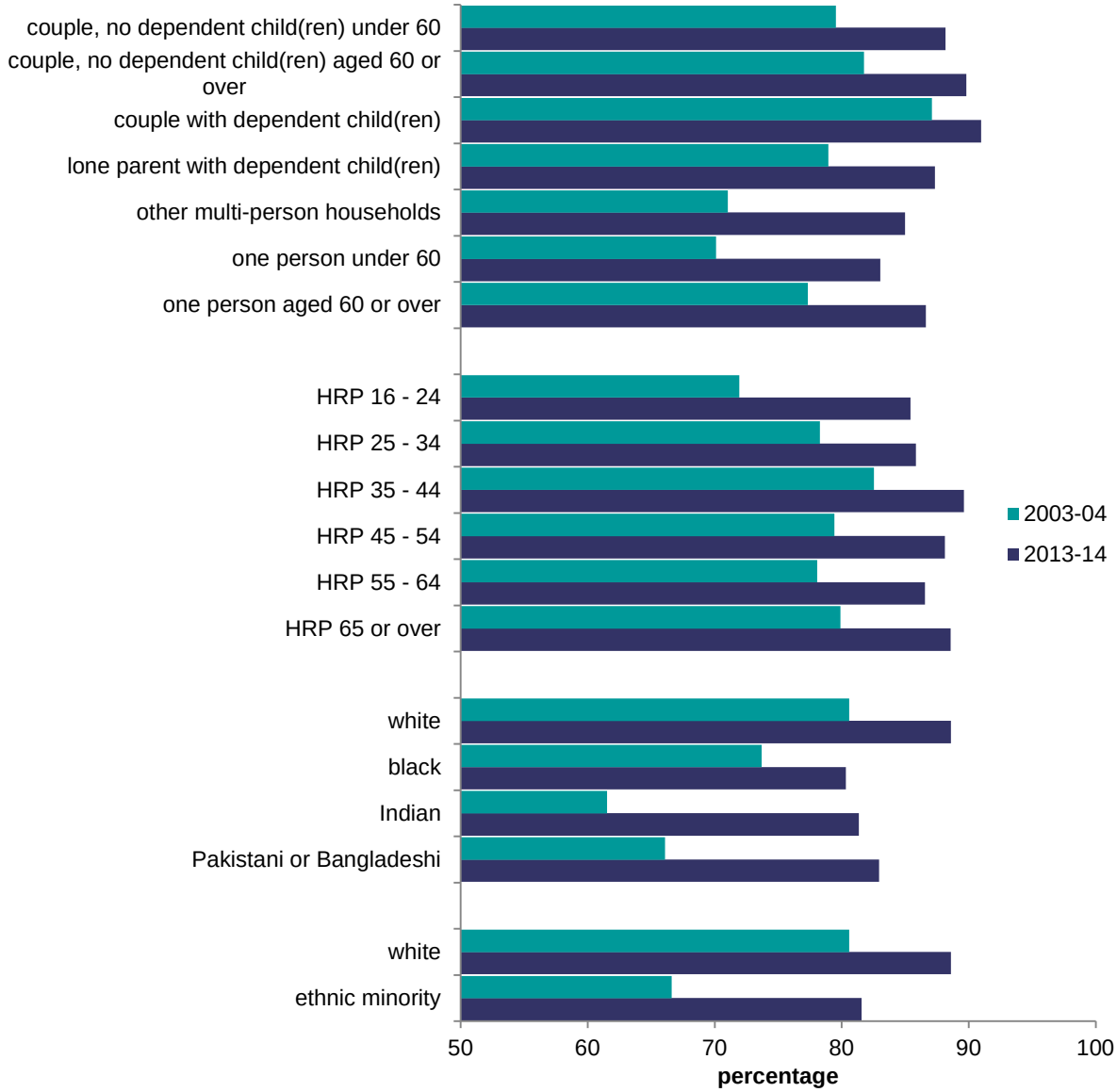
Base: all households
Note: underlying data are presented in Annex Table 2.1
Sources:
2003-04 English House Condition Survey, full household sample
2013-14 English Housing Survey, full household sample

2.20 For all types of households, there has been an increase in the proportion who had a working smoke alarm in this ten year period, particularly multi-person households (from 71% to 85%) and single person households under 60 years of age (from 70% to 83%), Figure 2.7.

2.21 There was also a considerable increase in working smoke alarm ownership for households where the HRP was aged 16-24; ownership rose by 13 percentage points from 72% in 2003-04 to 85% in 2013-14, Figure 2.7.

2.22 Over this 10 year period, the proportion of ethnic minority HRP households with a working smoke alarm increased at a greater rate (67% to 82%) compared with white HRP households (81% to 89%). Within ethnic minority HRP households, the proportion of households with a Pakistani or Bangladeshi HRP had the most marked growth in ownership of working smoke alarms (61% to 84%). The proportion of Indian HRP households with a working smoke alarm also increased notably over the period (63% to 77%), Figure 2.7.

Figure 2.7: Household ownership of at least one working smoke alarm by household type, age and ethnicity of HRP, 2003-04 and 2013-14



Base: all households
Note: underlying data are presented in Annex Table 2.2
Sources:
2003-04 English House Condition Survey, full household sample
2013-14 English Housing Survey, full household sample

2.23 The proportion of households with a working smoke alarm has improved for all income and working status categories over this period. There was a noticeable increase for those households in the lowest 20% of incomes category (from 75% to 85%). There was a similar percentage point increase in working smoke alarm ownership for the second lowest income quintile. There were also similar increases in the proportion of households with a working smoke alarm for the following groups; unemployed households (from 69% to 80%), those in part-time

(from 80% to 87%) or full time work (from 81% to 88%), and those who were retired (from 80% to 89%). Unemployed households were least likely to have at least one working smoke alarm in their homes throughout this period, Annex Table 2.3.

Number of smoke alarms

2.24 The number of smoke alarms in homes has increased over the last ten years. In 2003-04, nearly half (44%) of all households with a working smoke alarm had only one smoke alarm installed. By 2013-14, this proportion had fallen to around a third (30%) of households due to the increase in the proportion of households with two (from 43% to 49%) or three or more (from 13% to 21%) smoke alarms installed, Annex Table 2.5.

How smoke alarms are powered

2.25 Households were asked how their smoke alarms were powered during the interview survey; multiple responses were allowed as households may have had differently powered alarms.

2.26 In 2013-14, two-thirds (67%) of working smoke alarms were battery powered with no other power source; these comprised 1 year battery (40%), 10 year battery (16%) and type of battery unknown (11%). A fifth (21%) of working smoke alarms were mains only powered and a very small proportion (2%) of smoke alarms were part of the mains security system. Some 11% of smoke alarms were powered by a combination of both battery and mains, Annex Table 2.6.

2.27 Owner occupiers (74%) and private renters (67%) were much more likely to have smoke alarms powered by batteries only compared with local authority households (45%) and housing association households (39%), Figure 2.8.

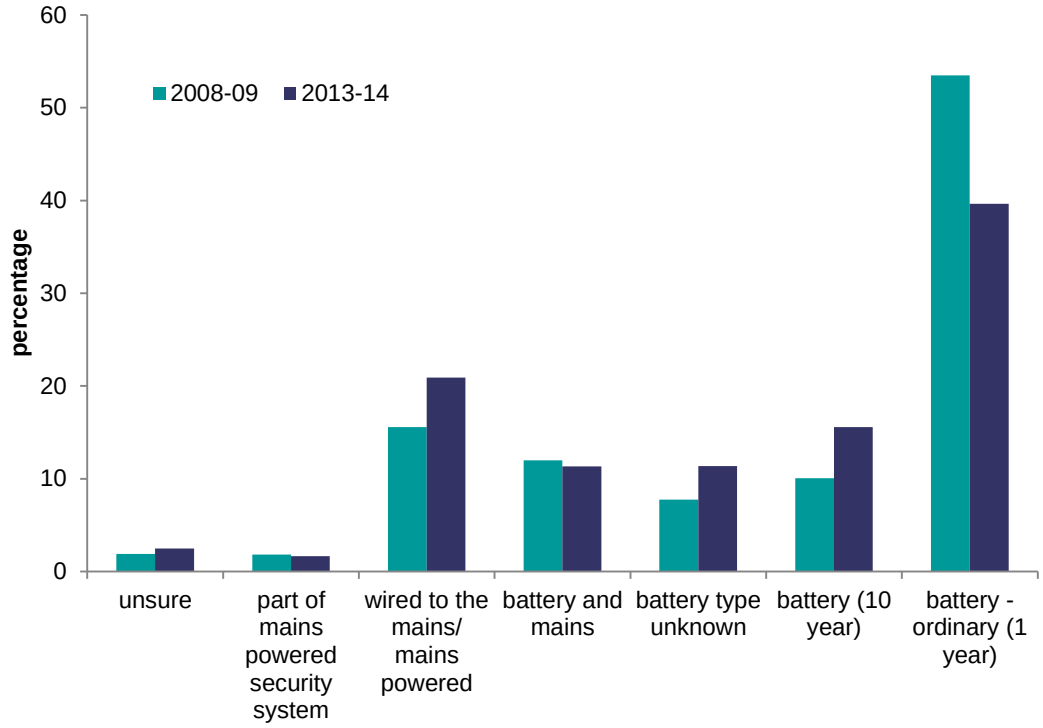
2.28 Just over a quarter of private renters (29%) and owner occupiers (28%) had a smoke alarm powered by mains power including any mains powered security system, or by a combination of mains and battery power. This was considerably less than the proportion of housing association (61%) and local authority households (55%) that had their smoke alarms powered by this means, Figure 2.8.

Figure 2.8: How working smoke alarms are powered, by tenure 2013-14

Base: all households with at least one working smoke alarm
Notes:
1) multiple responses allowed for households with more than one smoke alarm
2) underlying data are presented in Annex Table 2.6
Source: English Housing Survey, full household sample

2.29 From 2008-09 to 2013-14, there was a 13 percentage point reduction in the number of smoke alarms that were powered by a 1 year ordinary battery (from 53% to 40%) and an increase in smoke alarms that were powered by a 10 year battery (10% to 16%) or that were mains powered only (from 16% to 21%). These findings are likely to reflect the increase in new homes within the housing stock that were subject to building regulation requirements on the installation of smoke alarms, Figure 2.9.

Figure 2.9: How working smoke alarms are powered, 2008-09 and 2013-14



Base: all households with at least one working smoke alarm
Notes:
1) multiple responses allowed for households with more than one smoke alarm
2) underlying data are presented in Annex Table 2.6
Sources: English Housing Survey, full household sample

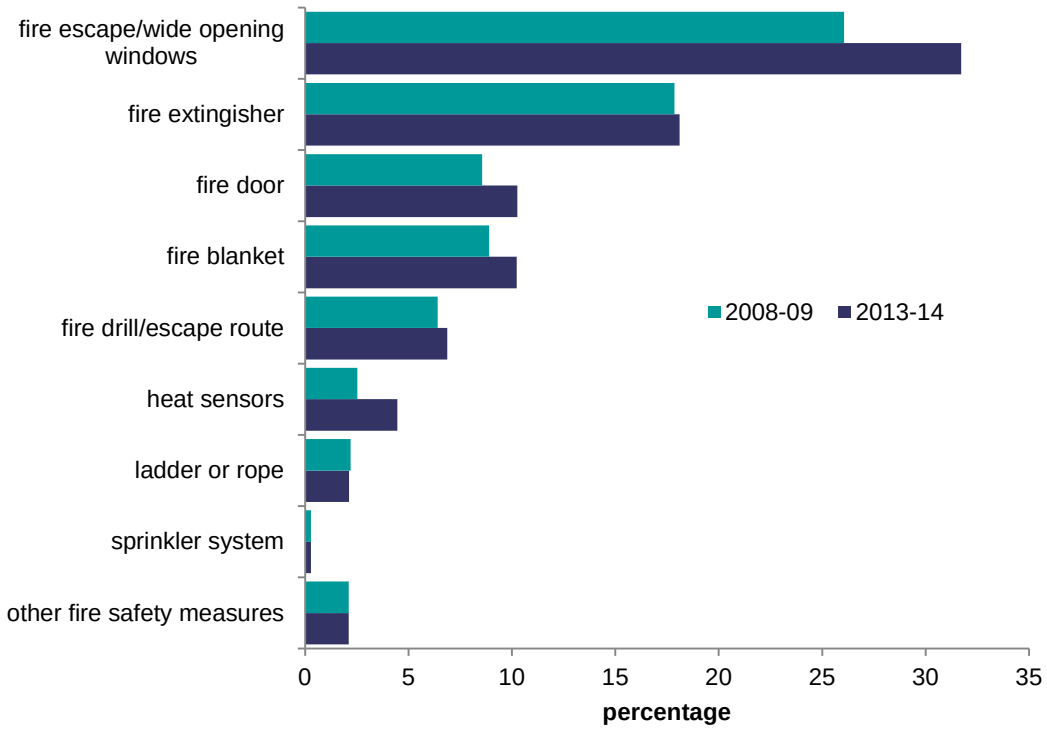
Other fire safety measures in the home

2.30 All households were asked which fire safety measures were present in the habitable part of their home; items kept in, for example, a garage or shed were excluded.

2.31 A third of households reported having a fire escape/wide opening window(s) (32%), while smaller proportions of households had a fire extinguisher (18%), a fire door (10%) or a fire blanket (10%), Figure 2.10. Only 5% of households had none of these fire safety measures or a smoke alarm installed in their home, Annex Table 2.7.

2.32 Between 2008-09 and 2013-14 the presence of fire escapes/wide opening windows rose from 26% to 32% among households, Figure 2.10.

Figure 2.10: Other fire safety measures in the home, 2008-09 and 2013-14



Base: all households
Note: underlying data are presented in Annex Table 2.7
Source: English Housing Survey, full household sample

2.33 Overall, the proportion of households that had no fire safety features, including a smoke alarm, reduced from 8% in 2008-09 to 5% in 2013-14, Annex Table 2.7