Home Office

Fire Statistics: England April 2015 to March 2016

Statistical Bulletin 05/17

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Introduction

This release provides more detail on the 2015/16 headline figures published on 17 August 2016. These detailed figures are the latest in the series last published for 2014/15 on 29 June 2016. 2016/17 data will be published in summer 2017.

Topics include the causes of fires, the use of smoke alarms, the seasonality and temporality of fires and other topics of interest to the fire statistics community. The Fire Statistics Monitor provides updates on key variables such as the number of incidents attended, fires attended, fire-related fatalities and casualties.

Prior to the 2014/15 release this publication covered Great Britain. However, after a survey of Fire Statistics Great Britain users, it was decided to change the scope of the release to reflect user needs. This is the second release to contain statistics about incidents attended by fire and rescue services in England, except in section 7 where some national comparisons with Scotland and Wales are shown.

Each time a fire and rescue service (FRS) attends an incident in England, details of that incident are uploaded to the Home Office's Incident Recording System (IRS) by the FRS. The IRS is used as the source for all the statistics in this publication. More information on the IRS can be found at:

www.gov.uk/government/publications/incident-recording-system-for-fire-and-rescue-authorities

This publication is accompanied by reference data tables. All fire statistics tables can be found at:

www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables

The following tables have been updated as part of this publication:

Incidents attended: 0101, 0102, 0103, 0104

Dwelling fires: 0201, 0202, 0203

Non-dwelling fires attended: 0301, 0302, 0303, 0304

Deliberate fires: 0401, 0402

Fatalities and Casualties: 0501, 0502, 0503, 0504, 0505, 0506, 0507

Cause of fire: 0601, 0602, 0603, 0604, 0605

Smoke alarms: 0701, 0702, 0703, 0704, 0705, 0706, 0707, 0708

Temporal and seasonal: 0801, 0802

Special service incidents: 0901, 0902

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1 Key facts

- In 2015/16 there were around **529,000 incidents** attended by fire and rescue services in England, 7 per cent more than in 2014/15 (496,000) and 18 per cent fewer than 2010/11 (647,000). The number of incidents has been on a general downward trend since the peak of about 1,016,000 incidents attended in 2003/04. (Section 2).
- Of these incidents, around **153,000 (29%)** were **non-fire incidents** (also known as special service incidents[1]). Non-fire incidents attended in England increased by 22 per cent since 2014/15. (Section 2.2).
- The increase in non-fire incidents was driven to a large extent by increases in **medical incidents** (first responder and co-responder), which increased by 98 per cent (15,500).
- The overall increase of 5 per cent in **fires** in 2015/16 may be in part driven by an 8 per cent increase in deliberate fires since 2014/15, which account for 45 per cent of all fires. More specifically, deliberate road vehicle fires increased by 15 per cent, and deliberate other building fires showed a 16 per cent increase since 2014/15. (Section 2.3).
- In 2015/16 there were **303 fire related fatalities** and **7,661 casualties** in fires. For every million people in England, there were 5.5 fire related fatalities in 2015/16. This fatality rate was 11.6 people for those 65 to 79 years old and 19.5 for those 80 years and over. (Section 3, Figure 3.1).
- Smokers' materials (such as cigarettes, cigars or pipe tobacco) were the source of ignition in **7 per cent of accidental dwelling** fires and 9 per cent of dwelling fire non-fatal casualties in 2015/16. In contrast, smokers' materials were the source of ignition in 36 per cent of fatalities in accidental dwelling fires in 2015/16, and was by far the largest ignition category involved in accidental dwelling fire-related fatalities. (Section 4.1, figure 4.1).
- Fires where a **smoke alarm** was not present accounted for 28 per cent of all dwelling fires and 33 per cent (76) of all dwelling fire fatalities in 2015/16. This is in the context of 11 per cent of dwellings not having a working smoke alarm in 2015/16 (the latest year for which data are available). (Section 5.1, Figure 5.1).
- **Mains powered alarms** continue to have a lower "failure rate" than battery powered alarms. Twenty-one per cent of mains powered smoke alarms and 38 per cent of battery powered smoke alarms failed to operate in dwelling fires in 2015/16 in England. (Section 5.1).

[1] For more detailed technical definitions of non-fire incidents, see the Fire Statistics Definitions document.

2 All incidents attended

2.1. Overall trends in incidents

In 2015/16 there were around 529,000 incidents attended by fire and rescue services in England, 7 per cent more than in 2014/15 (496,000) and 18 per cent fewer than in 2010/11 (647,000). The number of incidents has been on a general downward trend since the peak of about 1,016,000 incidents attended in 2003/04 (Source: FIRE0101).

Of the total incidents attended in 2015/16 around 162,000 (31%) were fire incidents, an increase of 5 per cent since 2014/15 (155,000). Around 214,000 (40%) were false alarms, and around 153,000 (29%) were non-fire incidents (also known as special service incidents[2]). Non-fire incidents attended in England increased by 22 per cent since 2014/15 (125,000). (Source: FIRE0102).

2.2. Non-fire incidents attended

Fire and rescue services attend a range of non-fire incidents including medical incidents. Medical incidents attended include co-responding (where the FRS has a formal agreement with the ambulance service about the mobilisation of trained fire crews to provide emergency medical assistance) and first medical response (where there is no formal agreement in place between the FRS and the ambulance service, and as such, the FRS has responded on an ad-hoc basis)[2].

- The total number of medical incidents (first response and co-responding) increased by 98 per cent (31,300) in 2015/16 as compared with 2014/15 (15,800). (Source: FIRE0901). The 22 per cent overall increase in non-fire incidents was driven to a large extent by increases in medical incidents.

- The increase in medical incidents attended reflects the greater level of collaboration between FRSs and ambulance services at a local level, for example, FRS personnel providing slips, trips and falls assistance.

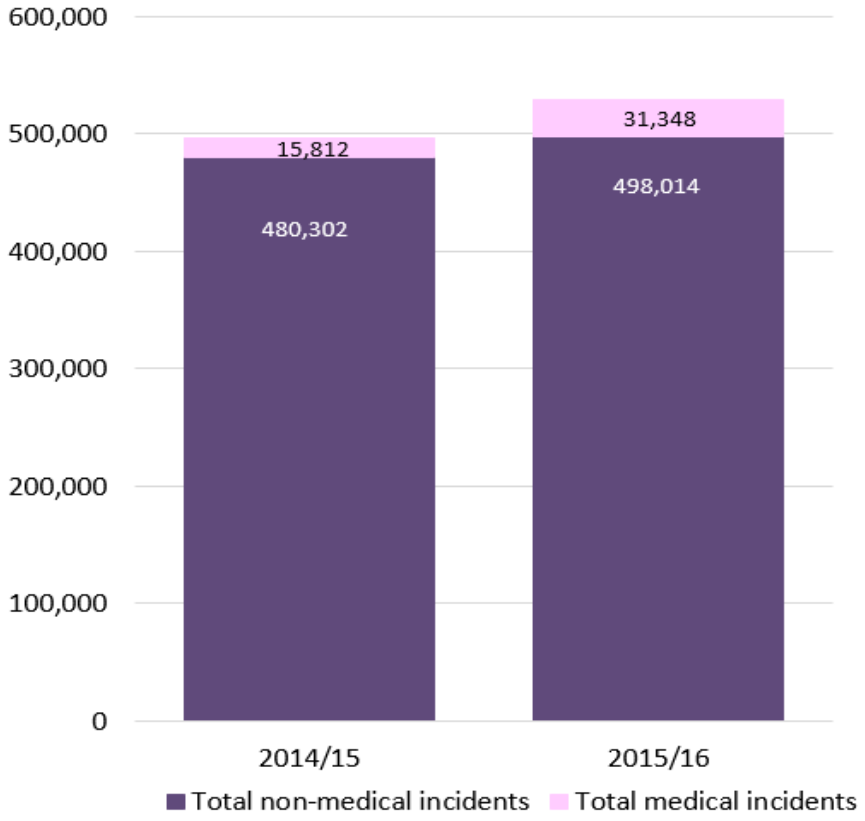
- Medical incidents commonly required action for ‘Chest pain/ Cardiac Arrest/ Heart condition’ - 29 per cent of co-responder and 20 per cent of first responder incidents. (Source: FIRE0902).

- When medical responses attended are excluded, the number of non-fire incidents attended in 2015/16 increased by 11 per cent since 2014/15, compared with the 22 per cent increase in non-fire incidents overall.

[2] For more detailed technical definitions of non-fire incidents, see the Fire Statistics Definitions document.

- Similarly, when medical incidents are excluded, total incidents attended increased by 4 per cent since 2014/15, compared with the 7 per cent increase in incidents overall. (See Figure 2.2).

Figure 2.1. Total incidents attended by type of incident, England; 2014/15 and 2015/16



Source: Tables FIRE0102, FIRE0901

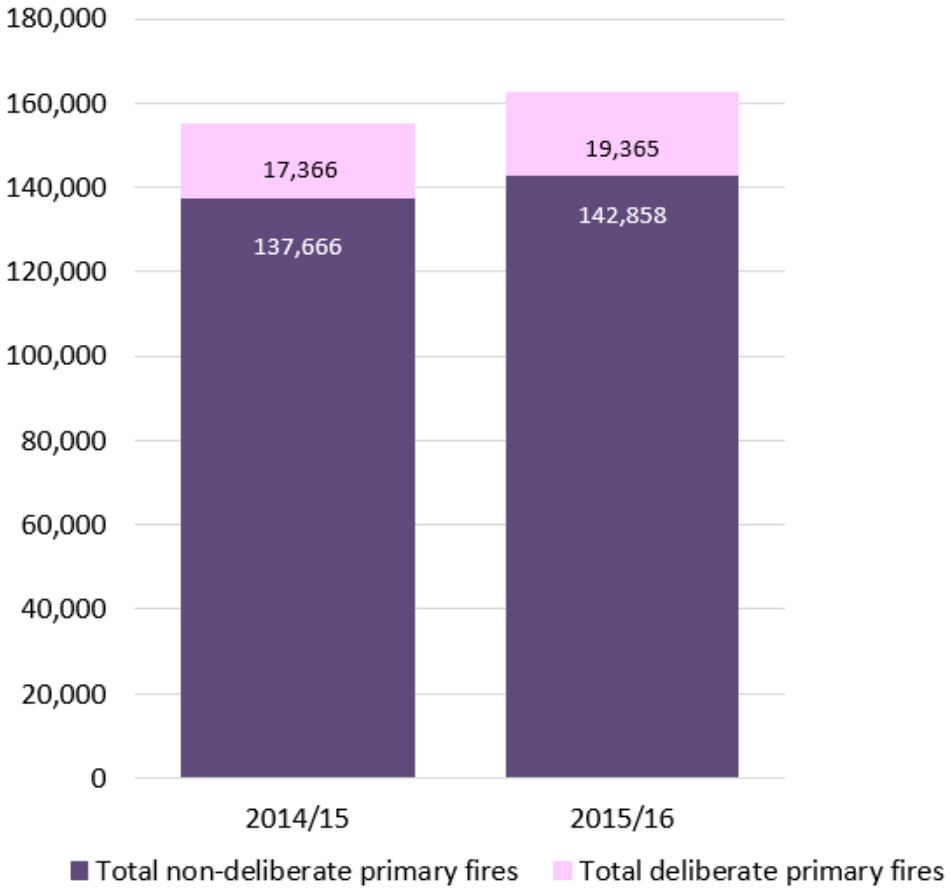
2.3. Deliberate primary fires attended

- In 2015/16 162,000 (31%) of incidents attended were fires, an increase of 5 per cent since 2014/15 (155,000). The overall increase in fires in 2015/16 may be in part driven by an 8 per cent increase in deliberate primary fires since 2014/15, which account for 12 per cent of all fires. (Source: FIRE0102, FIRE0401).

- More specifically, deliberate road vehicle fires have seen an increase of 15 per cent since 2014/15, and to a lesser extent deliberate other building fires. Deliberate other building fires account for 23 per cent of all deliberate primary fires and showed a 16 per cent increase since 2014/15.

- If deliberate road vehicle fires are excluded, in 2015/16 there is a smaller increase of around 4 per cent to total fires attended in 2014/15. Correspondingly, a decrease of 2 per cent to primary fires is shown when deliberate road vehicle fires are excluded, compared with 12 per cent increase in deliberate primary fires overall. *(See Figure 2.3).*

Figure 2.2. Total fires attended and deliberate primary fires attended, England; 2014/15 and 2015/16



Source: **Tables FIRE0102, FIRE0401**

3 Fire-related fatalities and casualties

In 2015/16 there were 303 fire-related fatalities[3] and 7,661 non-fatal casualties[4] in fires, an increase of 39 fatalities and 71 non-fatal casualties since 2014/15. (Source: FIRE0501, FIRE0502).

- In 2015/16, the majority of fire-related fatalities (229, 76%) and casualties (5,761, 75%) occurred in dwelling fires. The number of fire fatalities in other buildings in 2015/16 was 21, this compares with 19 fatalities in 2014/15.

- The number of non-fatal casualties in other buildings increased by 23 per cent to around 1,000 in 2015/16 from around 900 in 2014/15. Non-fatal casualties have risen to a level similar to those recorded between 2007/08 and 2011/12.

The sections below presents further analyses of fire fatalities and casualties by age and by the cause of death. Generally the risk of fire fatality increases with age[5].

3.1. Fire fatalities and casualties by age

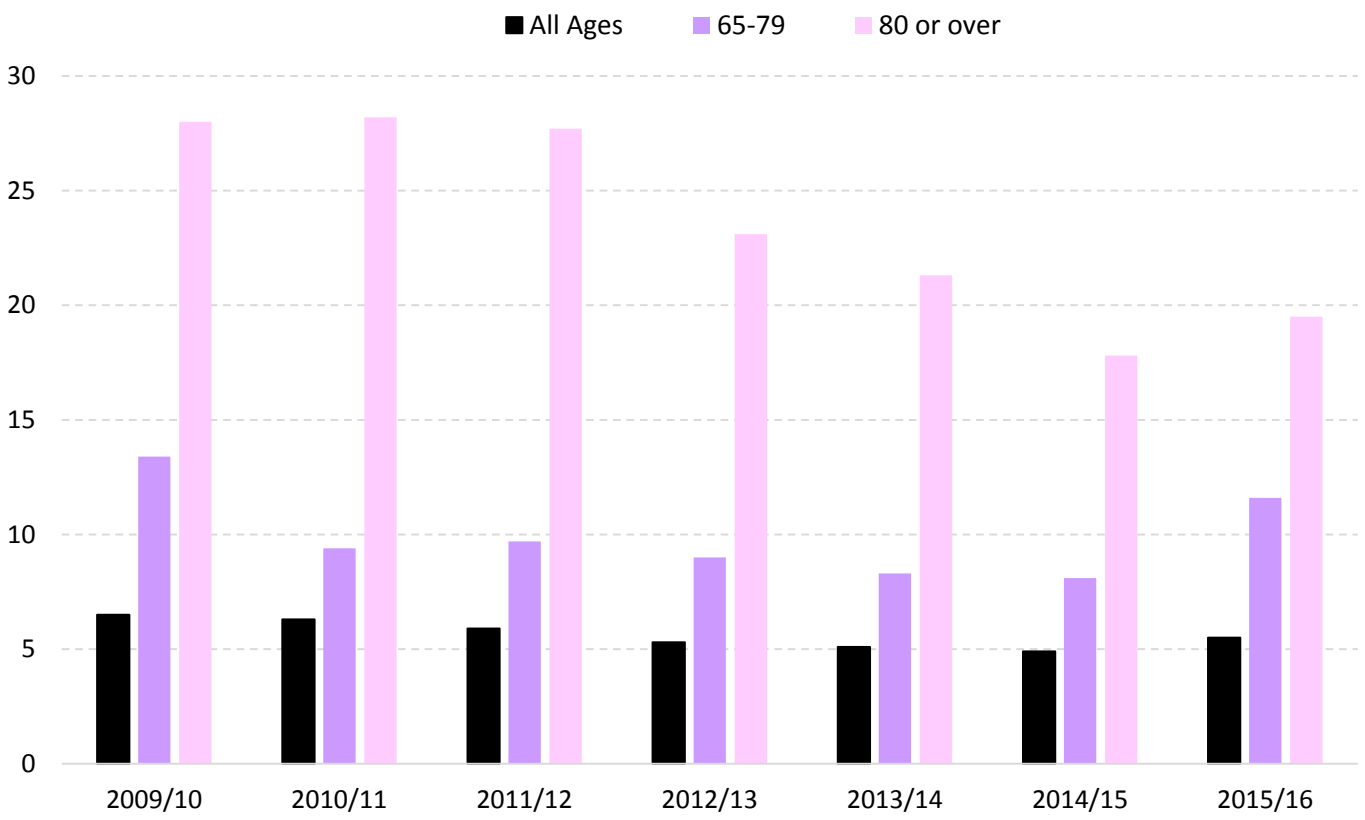
- Forty-four per cent of all fire-related fatalities in England were 65 years old and over in 2015/16, compared with 21 per cent of all casualties. This is similar to the previous year (39% of fire-related fatalities and 21% of all casualties). (Source: FIRE0503).

- Similarly, 52 per cent of all fire-related fatalities in dwelling fires were 65 years old and over in 2015/16, compared with 25 per cent of casualties. This is similar to the previous year (48% fire-related fatalities and 24% of casualties were aged 65 years and over in dwelling fires in 2014/15).

- For every million people in England, there were 5.5 fire-related fatalities in 2015/16. This fatality rate was 11.6 people per million for those 65 to 79 years old and 19.5 for those 80 years and over. (Figure 3.1).

[3] Excludes fatalities marked as not fire-related but includes fatalities where the nature (fire-related or not) is recorded as not-known. Fire related deaths are those that would not have otherwise occurred had there not been a fire i.e. 'no fire = no death'.
[4] For more detailed technical definitions of fire-related non-fatal casualties, see the Fire Statistics Definitions document. A further breakdown of the different types of non-fatal casualties are available in the published data tables.
[5] Further detail on these figures can be found on the Home Office's 'fire statistics data tables' page. The relevant tables are FIRE0501 to FIRE0507. The tables can be found here- https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables#fatalities-and-casualties

Figure 3.1. Fatality rate (fatalities per million people) for all ages and selected age bands, England; 2009/10 to 2015/16



Source: **Table FIRE0503a**

3.2. Cause of death

- The most common cause of fire-related fatalities in 2015/16 (where the cause of death was known) was ‘overcome by gas or smoke’ (given in 36 per cent of fire-related fatalities, compared with 35 per cent in 2014/15). (Source: FIRE0504).

- The causes of death ‘burns’ alone (62 fire-related fatalities) or the combination of ‘burns and overcome by gas and smoke’ (62 fire-related fatalities), accounted for 41 per cent of all fire-related fatalities. The number of fire-related fatalities caused by a combination of burns and overcome by gas or smoke increased by 35 per cent (16 fatalities) since 2014/15.

4 Causes of dwelling fires and fire-related fatalities

This section focuses on some of the causes and ignition source of fires and fire-related fatalities, in total dwelling fires and accidental dwelling fires. The Incident Recording System[6] collects information on: cause of fire e.g. 'fault in equipment or appliance', source of ignition e.g. 'smokers materials', item/material responsible for the fire e.g. 'clothing/textiles' and other factors including ignition power e.g. gas[7].

Since 2010/11 accidental dwelling fires have decreased by 11 per cent. This is in part due to a nine per cent decrease (between 2010/11 and 2015/16) in fires where the ignition was "cooking appliances", as these make up around half of all accidental dwelling fires . Other ignition types that have contributed to the decrease include "matches" and "space heating appliances" (a decrease of 36% and 32% over the same time, respectively). (Source: Fire0601).

4.1. Main source of ignition in accidental dwelling fires

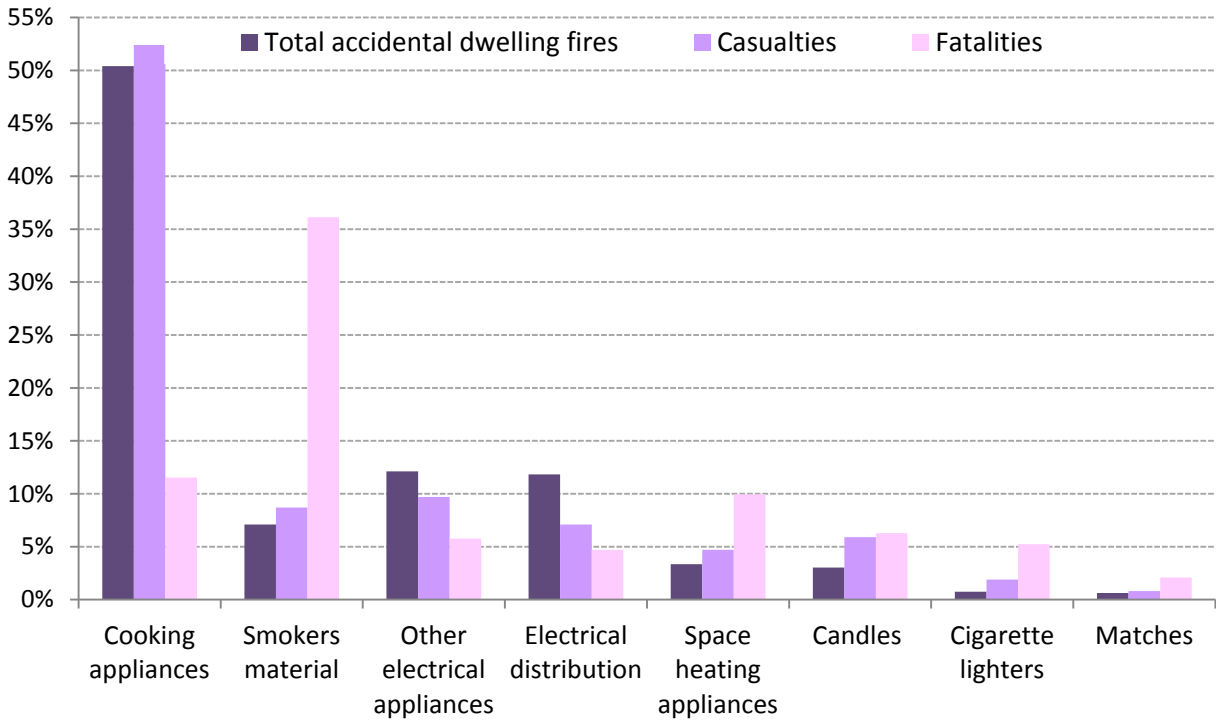
Figure 4.1, below, presents the percentage of accidental dwelling fires by selected ignition types[8] and the percentage of casualties and fatalities in accidental dwelling fires. It shows that while some sources of ignition cause relatively many fires they often result in relatively few fire-related fatalities, and vice versa[9].

- Smokers' materials (such as cigarettes, cigars or pipe tobacco) were the source of ignition in 7 per cent of accidental dwelling fires and 9 per cent of dwelling fire non-fatal casualties in 2015/16. In contrast, smokers' materials were the source of ignition in 36 per cent of fatalities in accidental dwelling fires in 2015/16, and was by far the largest ignition category involved in accidental dwelling fire-related fatalities. (Source: FIRE0602).

- Cooking appliances were the source of ignition in 50 per cent of accidental dwelling fires and 52 per cent of non-fatal casualties in dwelling fires in 2015/16, and was by far the largest ignition category. In contrast, there were only 12 per cent of accidental dwelling fire fatalities where the source of ignition was cooking appliances in 2015/16.

[6] Further detail on The Incident Recording System can be found here.
[7] For a more detailed definition on the different types of cause of fire, see the definitions document.
[8] This excludes the smallest source of ignition categories: 'Central and water heating appliances' and 'Blowlamps, welding and cutting equipment'.
[9] Further detail on these figures can be found on the Home Office's 'fire statistics data tables' page. The relevant tables are **FIRE0601 to FIRE0605**. The tables can be found here- https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables#cause-of-fire

Figure 4.1. Percentage of incidents and fatalities by selected sources of ignition in accidental dwelling fires, England; 2015/16



Source: Table FIRE0602

4.2. Main cause of dwelling fires

- 36 per cent of accidental dwelling fires in 2015/16 were caused by “misuse of equipment or appliances”, this is unchanged since 2013/14. The second largest cause category was “faulty appliances and leads” which caused 15 per cent of all accidental dwelling fires. (Source: FIRE0601).

- The material mainly responsible for the fire in 25 per cent of all dwelling fires and the item first ignited in 25 per cent of all dwelling fires in 2015/16 was “Textiles, upholstery and furnishings”. These fires caused 66 per cent of all dwelling fire-related fatalities. (Source: FIRE 0603, FIRE0604).

- “Food” was the material mainly responsible for 25 per cent of all dwelling fires and the item first ignited in 32 per cent of all dwelling fires. Whilst “food” was the material mainly responsible in only 6 per cent and item first ignited in only 5 per cent of all dwelling fire-related fatalities.

5 Smoke alarms

The proportion of dwellings with a smoke alarm increased greatly in the 1990s and has continued to increase since then (Source: FIRE0701). This is likely to be one of a number of contributing factors to the reduction in fire-related fatalities that occurred in the 1990s and 2000s. The number of fires and fire-related fatalities in relation to smoke alarm ownership in 2015/16 is similar to the numbers seen in 2014/15.

5.1. Fires

- Fires where a smoke alarm was not present accounted for 28 per cent of all dwelling fires and 33 per cent (76) of all dwelling fire-related fatalities in 2015/16. This is in the context of 11 per cent of dwellings not having a working smoke alarm in 2015/16[10]. (Source: FIRE0701, FIRE0702).

- Fires where a smoke alarm was present but either did not operate or did not raise the alarm, accounted for 31 per cent of all dwelling fires, a 3 per cent increase since 2014/15.

- Mains powered alarms continue to have a lower “failure rate” than battery powered alarms. Twenty-one per cent of mains powered smoke alarms and 38 per cent of battery powered smoke alarms failed to operate in dwelling fires in 2015/16 in England. (Source: FIRE0703).

- Fire not close enough to detector/in area not covered by mains powered smoke alarm system accounted for 47 per cent of incidents and continue to be the main reason mains powered smoke alarms failed to operate in dwelling fires in 2015/16, as in the previous 5 years. (Source: FIRE0704).

- The main reason battery powered smoke alarms failed to operate in dwelling fires in 2015/16, in England, was due to the fire not occurring close enough to detector/in area not covered by smoke alarm system (43% of incidents). This has been the main cause of battery powered smoke alarm failure over the previous five years.

- Fires where a smoke alarm was not present accounted for 46 per cent of all other building (i.e. buildings that are not dwellings) fires, unchanged since 2014/15 and a decrease of 6 per cent since 2010/11. (Source: FIRE0706).

5.2. Fire-related fatalities and casualties

- Fires where a smoke alarm was present but either did not operate or did not raise the alarm accounts for 37 per cent of all dwelling fire-related fatalities in 2015/16 (38% in 2014/15).

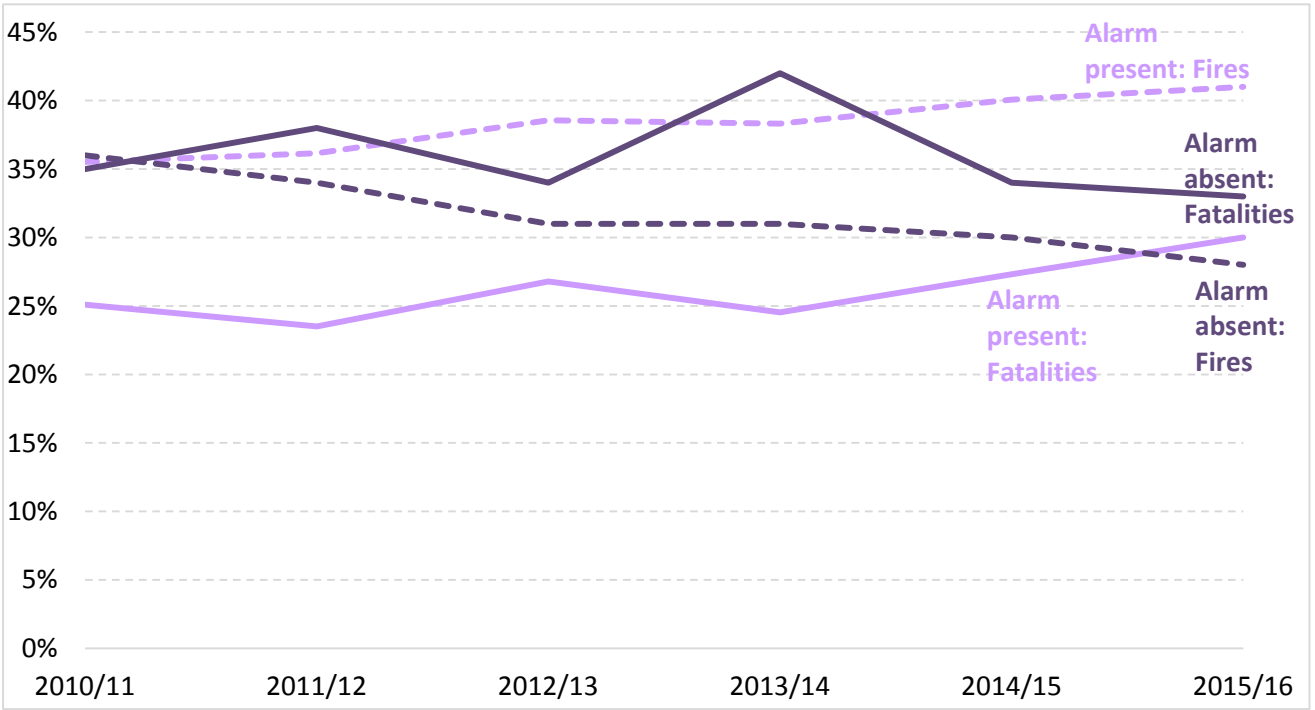
[10] English Housing Survey (2008/09- 2015/16).

- The greatest reason for smoke alarm failure in dwelling fires involving casualties was 'Other' (this includes: alerted by other means, system damaged by fire, other and don't know), which accounted for 32 per cent of these fires, an increase of 9 percentage points since 2010/11. This is followed by missing batteries, which account for 16 per cent of fires involving casualties. (Source: FIRE0704).

- Fires where a smoke alarm was not present accounted for 30 per cent of all other building fire-related fatalities and casualties (combined) in 2015/16, a decrease of 7 percentage points since 2014/15 and 12 percentage points since 2010/11. (Source: FIRE0706).

Figure 5.1, below, shows the proportion of dwelling fires and dwelling fire-related fatalities where the alarm was "present, operated and raised the alarm" and "absent". It shows that since the online Incident Recording System was introduced, the proportion of fires where the alarm was present, operated and raised is consistently ten to fifteen percentage points higher than the proportion of fire fatalities where the smoke alarm was present, operated and raised[5]. Totals do not add to 100 per cent. This is due to the exclusion of two smoke alarm operation categories: "present, operated but did not raise the alarm" and "present, but did not operate".

Figure 5.1. The proportion of dwelling fires and dwelling fire fatalities by smoke alarm operation, England; 2010/11 to 2015/16



Source: **Table FIRE0702**

[5] Further detail on these figures can be found on the Home Office's 'fire statistics data tables' page. The relevant tables are FIRE0701 to FIRE0708. The tables can be found here- https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables#smoke-alarms

6 Temporal and seasonal fire analyses

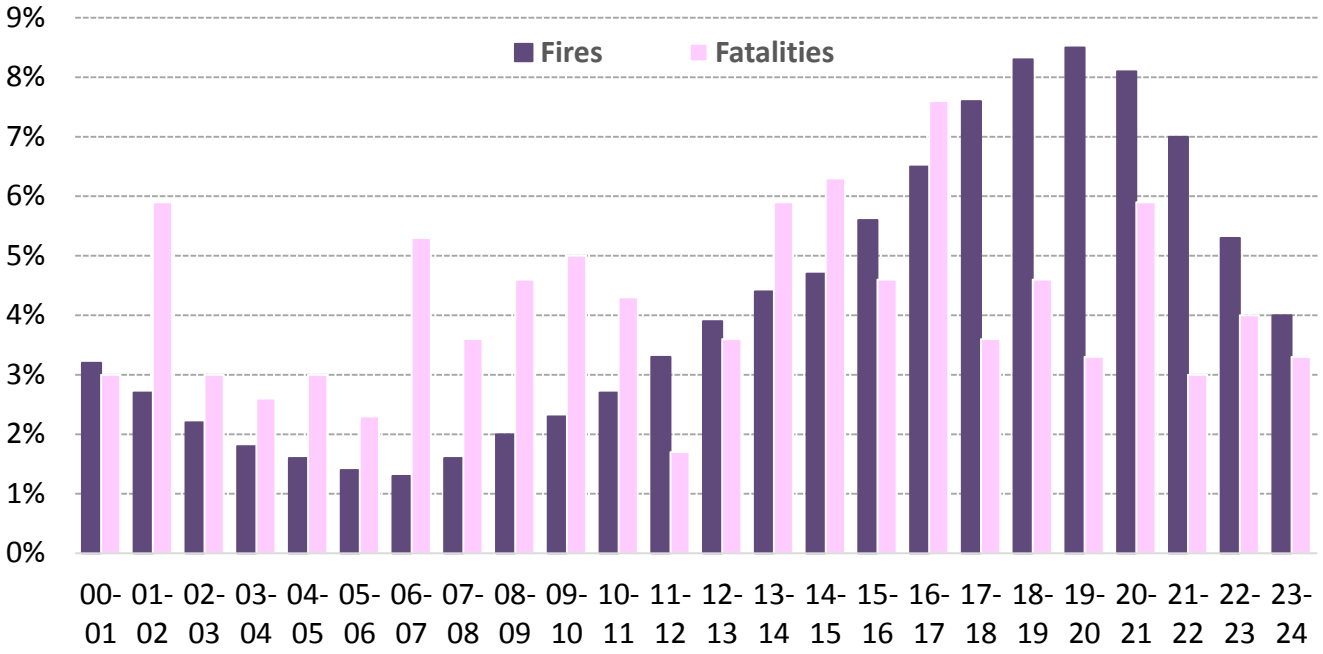
Fire incidents and fire-related fatalities are affected by seasonality and time of day. Similar to previous years, generally fewer fires happen between midnight and 11am, but the number of fire-related fatalities is relatively high. This difference is even more marked in accidental dwelling fires than all fire incidents.

6.1. Temporal fire analyses

- 46 per cent of all fires in 2015/16 in England took place between 16:00 and 22:00. These six hours were the six individual hours where the highest proportion of fires took place. The peak was between 19:00 and 20:00 with around nine percent of fires in this single hour. Between 8 and 9 per cent of fires have occurred at this time, each year since 2010/11. (Source: FIRE0801).

- In contrast to the number of fires, the number of fire-related fatalities showed no clear pattern across the day in 2015/16, with the highest number of fire-related fatalities (8%) occurring between 16:00 and 17:00 hours.

Figure 6.1. Percentage of Fire Incidents and Fatalities by hour of the day, England 2015/16



Source: Table FIRE0801

6.2. Seasonal fire analyses

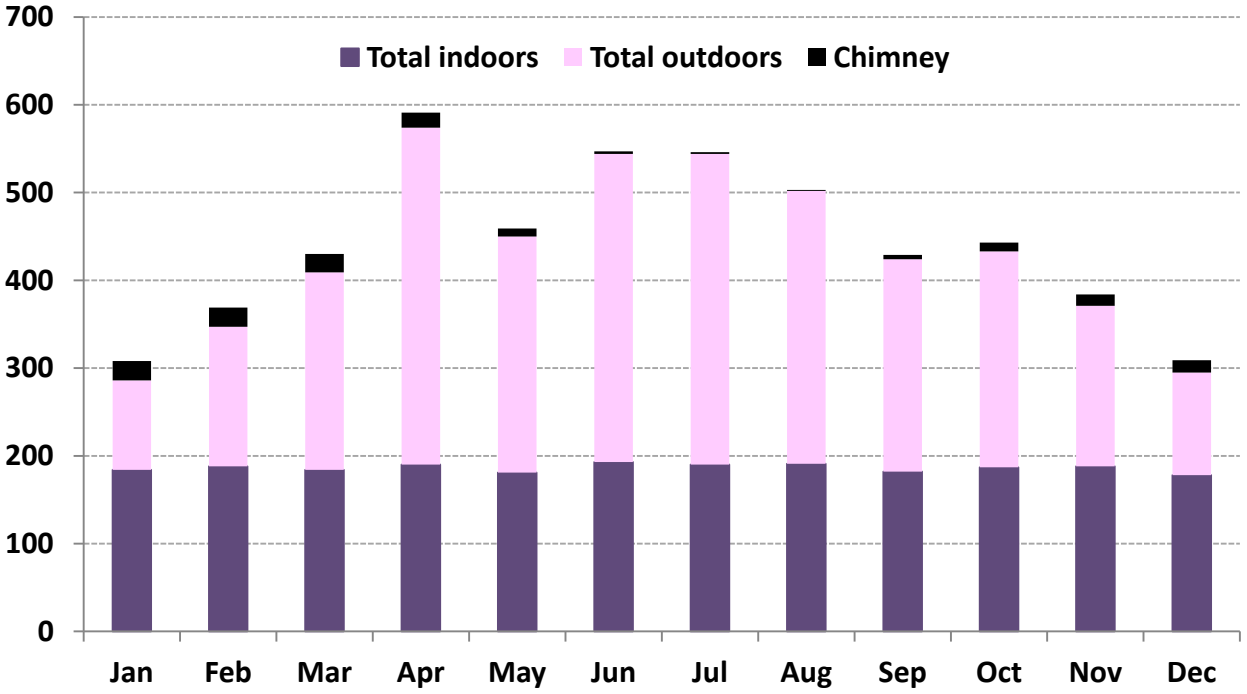
Dwelling, other building and road vehicle fires show little seasonality, however outdoor fires and chimney fires do. Grassland, refuse and other outdoor fires tend to be greater in the summer and seem to reflect weather patterns, while chimney fires are greater in the winter months. These seasonality effects differed in 2015/16 compared with 2014/15.

- April experienced the most fires per day in 2015/16, with an average of 591 fires per day being attended by Fire and Rescue Services, whilst January had the fewest (308 fires per day on average). This compares with 2014/15 when July experienced the most fires per day (550 fires). The majority of fires attended per day in April 2015/16 were all types of outdoor fires, with the average daily rate of outdoor fires attended being 384. (Source: FIRE0802).

- Indoor fires (fires in dwellings, buildings other than dwellings and road vehicles) showed relatively little seasonality, with the average daily rate of fires attended varying between 178 and 193 per month in 2015/16 in England.

Figure 6.2, below, shows outdoor, indoor and chimney average daily fires in 2015/16 across the year. It shows how stable indoor fires are across months, compared to the very seasonal outdoor fires series and, to a lesser extent, the chimney fires series[11].

Figure 6.2. Average Daily Fire Incidents by month and location, England 2015/16



Source: **Table FIRE0802**

[11] Further detail on these figures can be found on the Home Office's 'fire statistics data tables' page. The relevant tables are **FIRE0801 to FIRE0802**. The tables can be found here- https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables#temporal-and-seasonal

7 National comparisons

England, Scotland and Wales all use the Home Office's Incident Recording System and therefore data are comparable. All three nations publish more detailed information on fire incidents, focusing on the particular user needs in their nation. Below are some comparisons of the key measures[12].

- There were approximately 73,000 primary fires in England, 11,000 in Scotland and 5,000 in Wales attended by fire and rescue services in 2015/16. The number of primary fires have increased by around 3 per cent in each of the three nations since 2014/15. (Source: FIRE0103).

- The numbers of primary fires attended corresponded to rates per million people of 1,341 in England, 2,048 in Scotland and 1,510 in Wales. All of these figures have been on a downward trend over the past decade.

- There were approximately 7,700 casualties from fires in England, 1,300 in Scotland and 600 in Wales in 2015/16. This corresponded to rates per million people of 140 in England, 234 in Scotland and 191 in Wales. All of these figures have been on a downward trend over the past decade. (Source: FIRE0501).

The latest fire statistical releases for Scotland can be found at:
http://www.firescotland.gov.uk/about-us/fire-and-rescue-statistics.aspx

And for Wales:
http://gov.wales/statistics-and-research/fire-statistics/?lang=en

Northern Ireland fire statistics are published by the Northern Ireland Fire and Rescue Service using data from a system similar to the Incident Recording System, which means that they are not directly comparable to English, Welsh and Scottish data. Their latest fire statistical releases can be found at:
http://www.nifrs.org/statistics/

[12] Further detail on these figures can be found on the Home Office's 'fire statistics data tables' page. The relevant tables are **FIRE0101, FIRE0103, FIRE0201 and FIRE0501**. The tables can be found here-
https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables

8 Further information

This release contains statistics about incidents attended by fire and rescue services in England except in Section 7 where some national comparisons with Scotland and Wales are shown. The statistics are sourced from the Home Office's online Incident Recording System, which allows fire and rescue services to complete an online incident form for every incident attended, be it a fire, a false alarm or a special service (i.e. other) incident. The online Incident Recording System was introduced in April 2009, previously paper forms were submitted by fire and rescue services and an element of sampling was involved in the data compilation process.

Fire Statistics England and other Home Office statistical releases are available from the Statistics at Home Office pages on the GOV.UK website. The dates of forthcoming fire and other Home Office publications are pre-announced and can be found via the Statistics: release calendar. For further information about the statistics in this publication, email firestatistics@homeoffice.gsi.gov.uk.

Data tables linked to this release and all other fire statistics releases can be found on the Home Office's 'fire statistics data tables' page. The sections above state the most relevant tables for each section. The tables can be found here:
https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables

Guidance for using these statistics and other fire statistics outputs can be found on the fire statistics collection page, found here:
https://www.gov.uk/government/collections/fire-statistics

The information published in this release is kept under review, taking into account the needs of users, burdens on suppliers and producers, in line with the Code of Practice for Official Statistics. Feedback on the changes detailed below, and proposals for future changes, are welcome. If you have any comments, suggestions or enquiries, please contact the team via email using firestatistics@homeoffice.gsi.gov.uk or via the user feedback form on the fire statistics collection page.

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