

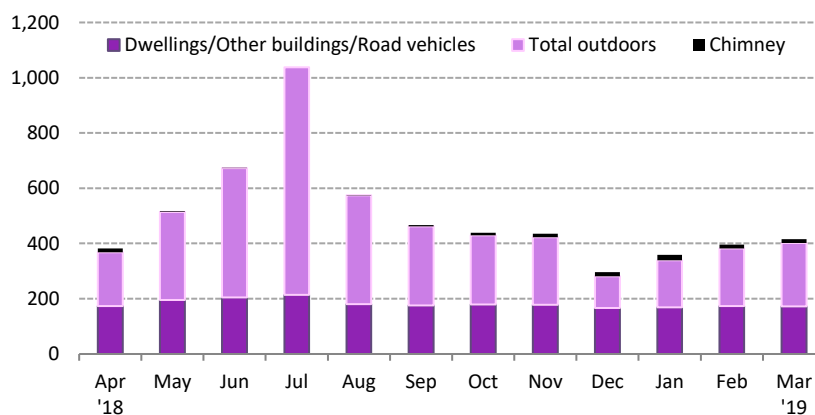


# Detailed analysis of fires attended by fire and rescue services, England, April 2018 to March 2019

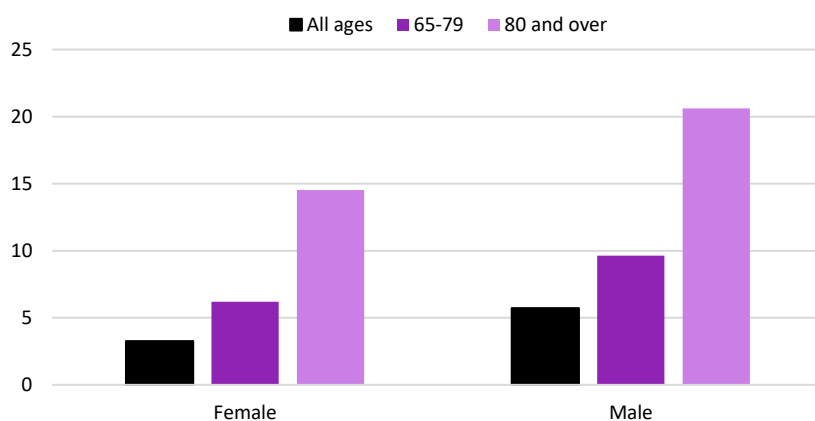
This release presents detailed statistics on fire incidents which covers the financial year 2018/19 (1 April 2018 to 31 March 2019) for fire and rescue services (FRSs) in England.

## Key results

In 2018/19, FRSs in England attended 182,825 fires, up nine per cent from 2017/18. This was driven by secondary and primary 'other outdoors' fires linked to the hot dry summer of 2018, with a particularly **high daily rate of fires in July 2018**.



The **fire-related fatality rate per million is higher for men and older people**. For men aged 65 to 79 the fatality rate was 9.6 per million population while the equivalent rate for women was 6.2 per million. For those aged 80 and over, the rate for men was 20.6 per million and for women was 14.5 per million.



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# 1 Introduction

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Headline figures on incidents attended by fire and rescue services (FRSs) in England in 2018/19, and fire-related fatalities and non-fatal casualties in those incidents, were published in '[Fire and rescue incident statistics](#)' on 8 August 2019.

This release provides more detailed analysis of fire incidents attended by FRSs in 2018/19, including detailed breakdowns of fire-related fatalities, non-fatal casualties, the causes of fires, the functioning of smoke alarms in fires and the seasonality and temporality of fires.<sup>1</sup>

Previously, detailed statistics on all types of incidents attended by FRSs were published in '[Fire Statistics: England](#)'. This has now been replaced by this release, the third of its kind covering fire incidents, and a new [detailed analysis of non-fire incidents](#) release covering non-fire incidents.

This release covers data for England only. Commentary on national comparisons (England, Scotland and Wales) can be found in the [Fire and rescue incident statistics: England, year ending June 2018](#) release. The latest statistical releases on the Scottish and Welsh fire and rescue services can be found on the following websites:

<http://www.firescotland.gov.uk/about-us/fire-and-rescue-statistics.aspx>

<https://gov.wales/fire-and-rescue-incident-statistics>

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.

As the Incident Recording System (IRS) is a continually updated database, the statistics published in this release may not match those held locally by FRSs and revisions may occur in the future. This may be particularly relevant for fire-related fatalities where a coroner's report could lead to revisions in the data some time after the incident. For example, after the events of the Grenfell Tower fire a further victim, who had initially survived the fire, passed away in hospital on 29 January 2018. As a result, a figure of 72 fatalities from the fire has been widely cited in the media and the Grenfell Tower inquiry honoured her memory at the commemoration hearings. However, at the time of writing the Metropolitan Police had not yet added her to the official list of fatalities from the fire pending the results of a coroner's report which will determine whether her death was a direct result of the fire or caused by her pre-existing medical condition. She, therefore, remains counted in the list of non-fatal casualties.

In this publication, statistics for the Grenfell Tower fire are in the comparator year (2017/18).

The figures in this release refer to records of incidents which had reached the IRS by 16 June 2019, when a snapshot of the database was taken for the purpose of analysis. More information on the IRS can be found at:

<https://www.gov.uk/government/statistical-data-sets/fire-statistics-guidance>

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

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<sup>1</sup> For more information about historical trends in fires and fire-related fatalities and a discussion of factors that may have contributed to the trends see our [focus on trends in fires and fire-related fatalities](#) publication.

[www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables](http://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables)

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

Dwelling fires attended: [0203, 0204](#)

Non-dwelling fires attended: [0304, 0305](#)

Fatalities and non-fatal casualties: [0503, 0504, 0505, 0506, 0507, 0511](#)

Cause of fire: [0601, 0602, 0603, 0604, 0605](#)

Smoke alarms: [0701, 0702, 0703, 0704, 0705, 0706, 0707, 0708](#)

Temporal and seasonal: [0801, 0802](#)

## 2 Overview of incidents attended

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### Key results

- In 2018/19, **576,040 incidents were attended by FRSs** in England. This was a two per cent increase compared with the previous year (566,433) and was driven by a rise in the number of fires attended, and in particular, secondary fires. (Source: [FIRE0102](#))
- Of all incidents attended by FRSs in 2018/19, **fires accounted for 32 per cent, fire false alarms 40 per cent and non-fire incidents 28 per cent**. (Source: [FIRE0102](#))

The [Fire and Rescue Incidents Statistics](#) publication provides information on a quarterly basis on types of and trends in fires, non-fire incidents and fire false alarms attended by fire and rescue services (FRSs). Key points are included here for background to the following chapters.

### Trends in all incidents

In 2018/19, FRSs in England attended around 576,000 incidents, two per cent more than in 2017/18 (566,000) and nine per cent more than five years ago in 2013/14 (527,000). The number of incidents has been on a general downward trend since the peak of around 1,016,000 incidents attended in 2003/04, levelling off between 2012/13 and 2014/15, then increasing in the last four years. These increases were mainly driven by higher numbers of non-fire incidents attended and the number of fires attended, in particular, secondary fires (Chart 1). (Source: [FIRE0102](#)).

Of the total incidents attended in 2018/19 around 183,000 (32%) were fires, around 231,000 (40%) were fire-false alarms and around 162,000 (28%) were non-fire incidents (also known as special service incidents). Non-fire incidents attended in England decreased by six per cent since 2017/18 (173,000) but have increased by 29 per cent since 2014/15. (Source: [FIRE0102](#)).

### Fires attended

The total number of fires attended by FRSs decreased for around a decade, falling from a peak of around 474,000 in 2003/04 to the series low of around 154,000 in 2012/13 (Chart 1). Since then the total number of fires has slowly increased but with a larger increase of nine per cent in the last year from around 167,000 in 2017/18 to around 183,000 in 2018/19. This can be attributed to the greatest number of secondary fires in any quarter since 2011/12 Q1 – Apr to Jun (43,034 in 2018/19 Q2 – Jul to Sept 2018) linked to the hot, dry summer in 2018. By contrast, most other categories of fire (e.g. dwellings, other buildings and road vehicles) decreased from 2017/18 to 2018/19.

## Types of fire as recorded in the Incident Recording System

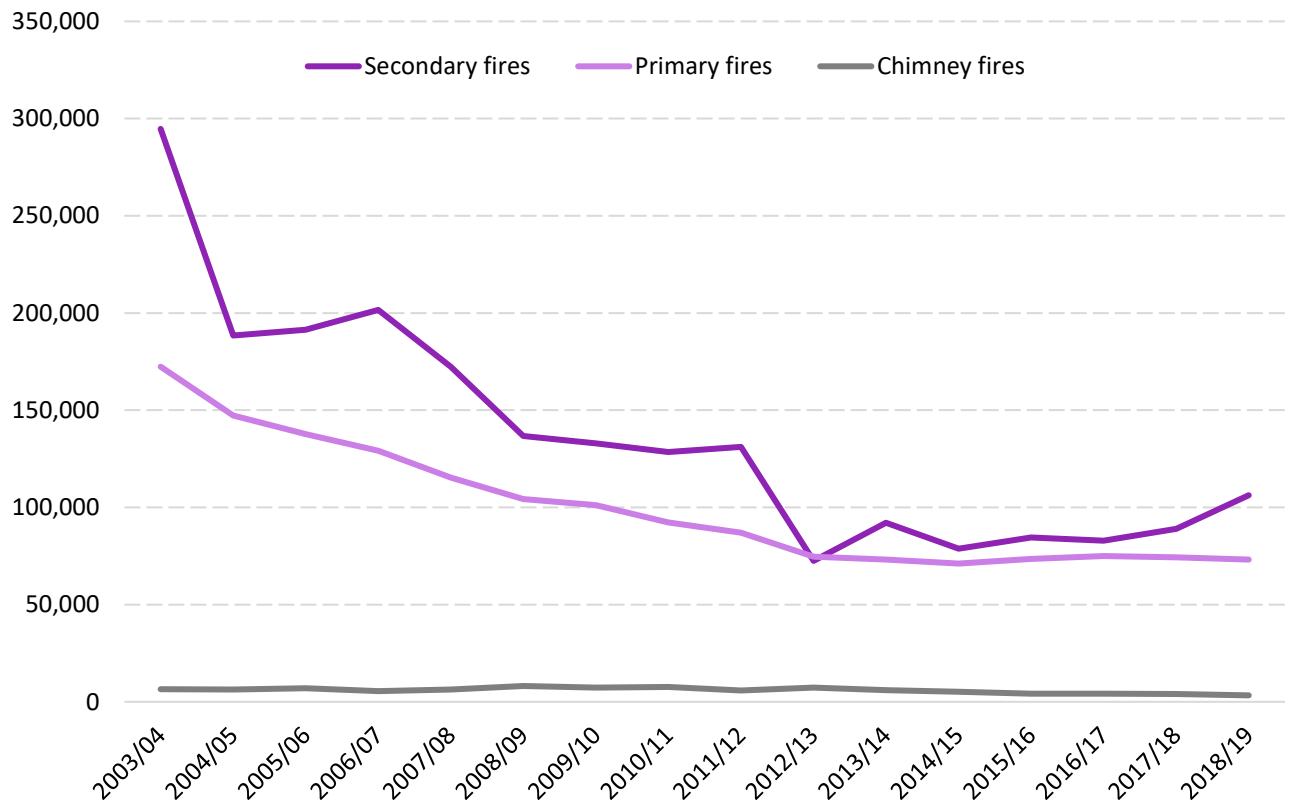
- Primary – potentially more serious fires that cause harm to people or damage to property. To be categorised as primary these fires must either: be a fire that occurred in a (non-derelect) building, vehicle or outdoor structure, be a fire that involved fatalities, non-fatal casualties or rescues, or be a fire that was attended by 5 or more pumping appliances.
- Secondary – are generally small outdoor fires, not involving people or property.
- Chimney fires – are fires in buildings where the flame was contained within the chimney structure, and did not meet any of the criteria for primary fires.

The IRS also captures the motive for a fire, which is recorded as either accidental, deliberate or unknown. Those recorded as unknown are included in the accidental category for the purposes of this report. Accidental fires are therefore those where the motive for the fire was presumed to be accidental or is unknown. Deliberate fires include those where the motive was ‘thought to be’ or ‘suspected to be’ deliberate and includes damage to own or other’s property. These fires are not the same as (although include) arson, which is defined under the Criminal Damage Act of 1971 as ‘an act of attempting to destroy or damage property, and/or in doing so, to endanger life’.

### Specifically:

- There were **106,283 secondary fires** attended in 2018/19. This was an increase of 19 per cent compared with the previous year in 2017/18 (89,033) and drove the increase in fires attended. This was also an increase of 15 per cent compared with five years ago in 2013/14 (92,132) but a decrease of 22 per cent compared with ten years ago in 2008/09 (136,744).
- There were **73,214 primary fires** attended in 2018/19. This was a decrease of 1 per cent compared with the previous year in 2017/18 (74,257). This was unchanged compared with five years ago in 2013/14 (73,230) but a decrease of 30 per cent compared with ten years ago in 2008/09 (104,348).
- The one per cent decrease in primary fires from 2017/18 to 2018/19 comprised a four percent decrease in dwelling fires (from 30,813 to 29,570), a four per cent decrease in other building fires (15,612 to 15,005), a two per cent decrease in road vehicle fires (22,453 to 21,918) but a 25 per cent increase in other outdoor primary fires (from 5,379 in 2017/18 to 6,721 in 2018/19).
- There were **29,570 dwelling fires** attended in 2018/19. This was a decrease of four per cent since 2017/18 (30,813), a decrease of seven per cent compared with five years ago in 2013/14 (31,910) and a decrease of 23 per cent compared with ten years ago in 2008/09 (38,584). (Source: [FIRE0102](#))

**Chart 1: Fires attended by type of fire, England; 2003/04 to 2018/19**



Source: Home Office, [FIRE0102](#)

### 3 Fire-related fatalities, non-fatal casualties, rescues and evacuations

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As the Incident Recording System (IRS) is a continually updated database, the statistics published in this release may not match those held locally by FRSs and revisions may occur in the future (see the revisions section for further detail). This may be particularly relevant for fire-related fatalities where a coroner's report could lead to revisions in the data some time after the incident. It should also be noted that the numbers of fire-related fatalities are prone to year-on-year fluctuations due to relatively low numbers.

#### Key results

- There were **253 fire-related fatalities** in 2018/19; the lowest for a financial year in the series (from 1981/82).
- **Seventy-seven per cent (196)** of fire-related fatalities were in **dwelling fires** in 2018/19.
- For every million people in England, there were **4.5 fire-related fatalities** in 2018/19. The fatality rate was highest among older people: 7.8 people per million for those aged 65 to 79 years old and 17.3 for those aged 80 years and over (Chart 2). The fatality rates for age bands within 54 years and younger were all below 5 fatalities per million population.
- **Men have a greater likelihood of dying in a fire than women.** The overall fatality rate per million population for males in 2018/19 was 5.7 while the rate for females was 3.2 per million. For men aged 65 to 79 the fatality rate was 9.6 per million while the equivalent rate for women was 6.2 per million. For those aged 80 and over, the rate for men was 20.6 per million and for women was 14.5 per million.
- The most common cause of death for fire-related fatalities in 2018/19 (where the cause of death was known) was '**overcome by gas or smoke**', given in 34 per cent (86 fire-related fatalities) of fire-related fatalities.
- In 2018/19, there were **2,981 rescues from primary fires**. This was a decrease of five per cent compared with 2017/18 (3,124) and a decrease of ten per cent from five years ago in 2013/14 (3,308).
- In 2018/19, there were **5,639 primary fires that involved an evacuation**. This was a decrease of ten per cent compared with 2017/18 (6,246) and a decrease of 21 per cent from five years ago in 2013/14 (7,096).

In 2018/19, there were 253 fire-related fatalities and around 7,200 non-fatal casualties in fires, a decrease of 86 fatalities and around 100 non-fatal casualties since 2017/18. The majority of fire-related fatalities in 2018/19 occurred in single occupancy dwellings (183; 72%) with the next largest category being road vehicles (24; 9%). Single household occupancy (as opposed to homes in multiple occupancy) dwelling fires accounted for 70 per cent of non-fatal casualties in 2018/19 but, in contrast to fire-related fatalities, the next largest category was other buildings (15%) (Source: [FIRE0501](#), [FIRE0502](#), [FIRE0503](#)).

**Fire-related fatalities** here includes the number of fatal casualties that were recorded as 'fire-related' or 'don't know', excluding only those recorded as 'not fire-related'.

**Non-fatal casualties** includes all non-fatal casualties in fire incidents whether the injurers were recorded as fire-related or not.

Specifically:

- The majority, **196 (77%) of fire-related fatalities**, were in **dwelling fires** in 2018/19. This compares with 264 (78%) in 2017/18, 217 (78%) five years previously in 2013/14 and 255 (79%) ten years previously in 2008/09.
- There were **17 fire-related fatalities in other buildings** in 2018/19, down three from 20 fire-related fatalities in 2017/18.
- **Seventy-three per cent (5,239) of non-fatal casualties** were in **dwelling fires** in 2018/19. This compares with 5,458 (75%) in 2017/18, 6,118 (78%) five years previously in 2013/14 and 7,455 (81%) ten years previously in 2008/09.
- **Non-fatal casualties requiring hospital treatment comprised 44 per cent (3,145) of all non-fatal casualties** in 2018/19, similar to the 45 per cent in 2017/18.
- The number of **non-fatal casualties in other buildings increased by seven per cent** to 1,061 in 2018/19 from 994 in 2017/18. Non-fatal casualties in other buildings have fluctuated over the last five years. Before this, the number of non-fatal casualties in other buildings was on a downward trend.

## Fire-related fatalities and non-fatal casualties by gender and age

The likelihood of dying in a fire is not uniform across all age groups or genders. Generally, the likelihood increases with age, with those aged 80 and over by far the most likely to die in a fire. Overall, men are nearly twice (1.8 times) as likely to die in a fire as women, while men in the 40–54 and 55–64 years old brackets are around 2.5 times as likely as women in the same age brackets to die in a fire. Although the overall number of fire-related fatalities is relatively low, and so prone to fluctuation, these general patterns have been consistent since data became available in 2009/10. (Source: [FIRE0503](#))

Specifically:

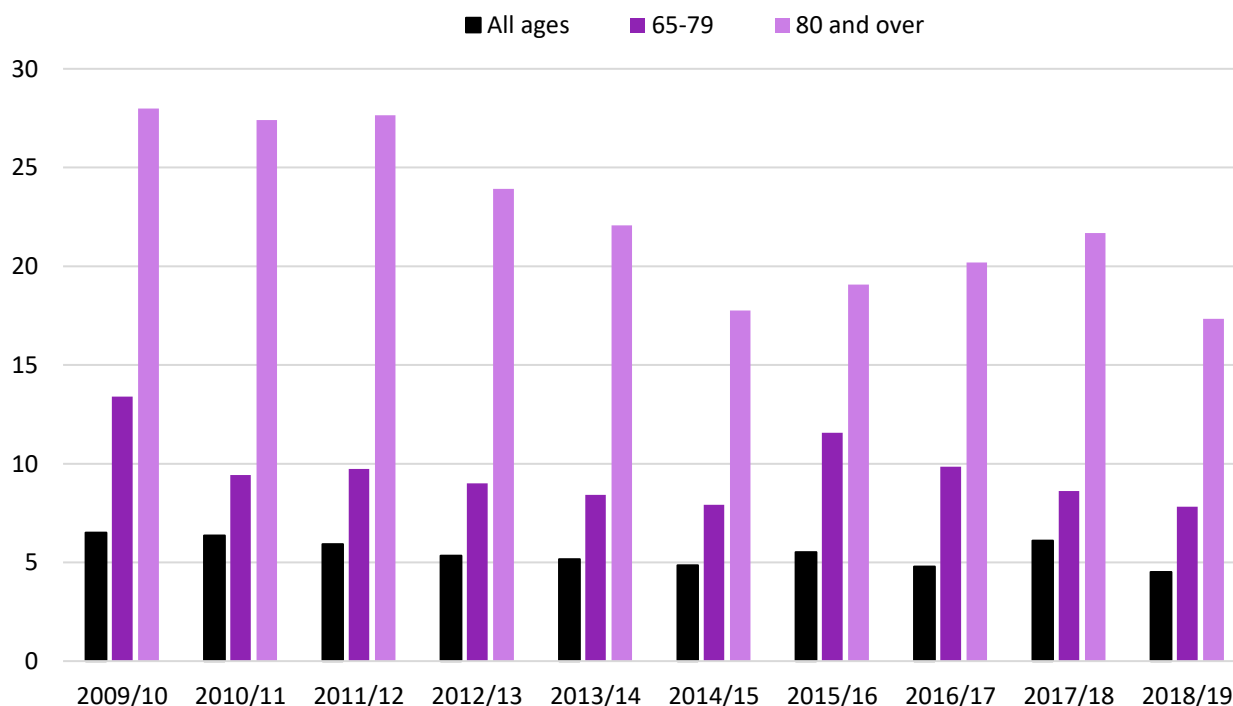
- **Forty-two per cent** of all fire-related fatalities in England were **65 years old and over** in 2018/19, compared with 20 per cent of all non-fatal casualties. This proportion is similar to the previous year for non-fatal casualties (19% in 2017/18) but is higher for fire-related fatalities (36% in 2017/18) due to the Grenfell Tower fire in



June 2017, as a large proportion of the fatalities from that fire were people under the age of 65.

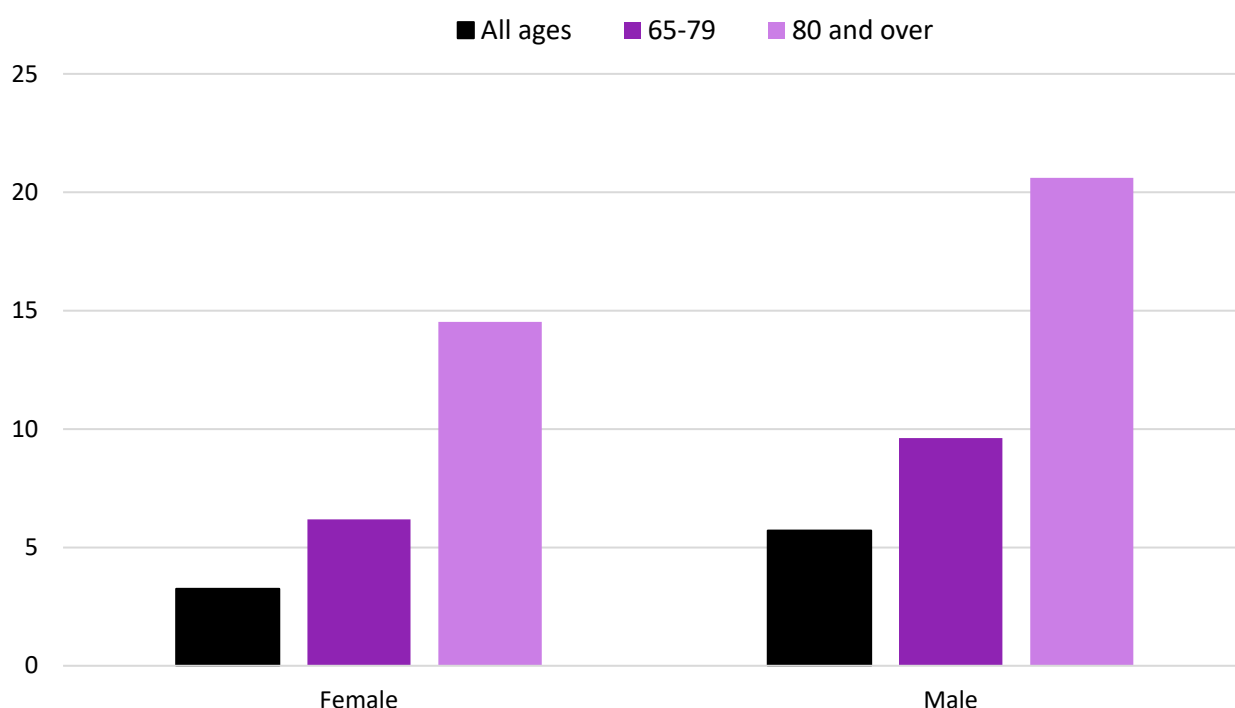
- In dwelling fires, **46 per cent of fire-related fatalities were 65 years old and over** in 2018/19, compared with 24 per cent of non-fatal casualties. This proportion is again similar to the previous year for non-fatal casualties (22% in 2017/18) but is higher for fire-related fatalities (39% in 2017/18) due to the Grenfell Tower fire in June 2017, as a large proportion of the fatalities from that fire were people under the age of 65.
- For every million people in England, there were **4.5 fire-related fatalities** in 2018/19. The fatality rate was highest among older people: 7.8 people per million for those aged 65 to 79 years old and 17.3 for those aged 80 and over (Chart 2). The fatality rates for age bands within 54 years and younger were all below 5 fatalities per million population.
- **Men have a greater likelihood of dying in a fire than women.** The overall fatality rate per million population for males in 2018/19 was 5.7 while the rate for females was 3.2 per million. For men aged 65 to 79 the fatality rate was 9.6 per million while the equivalent rate for women was 6.2 per million. For those aged 80 and over, the rate for men was 20.6 per million and for women was 14.5 per million (Chart 3).
- There were **158 male and 92 female fire-related fatalities** in 2018/19, with three recorded as 'not known'.

**Chart 2: Fatality rate (fatalities per million people) for all ages and selected age bands, England; 2009/10 to 2018/19**



Source: Home Office, [FIRE0503a](#)

**Chart 3: Fatality rate (fatalities per million people) for all ages and selected age bands by gender, England; 2018/19**



Source: Home Office, [FIRE0503a](#)

### Causes of deaths and injuries

The IRS records the cause of death or nature of injury for fire-related fatalities and non-fatal casualties in fires. As for almost every year since the start of the online IRS in 2009/10, the most common cause of death for fire-related fatalities in 2018/19, where known, was ‘overcome by gas or smoke’.

Specifically:

- The most common cause of death for fire-related fatalities in 2018/19 (where the cause of death was known) was ‘**overcome by gas or smoke**’, given in 34 per cent (86) of fire-related fatalities. This was followed by ‘burns alone’ (26%; 67 fire-related fatalities) and the combination of ‘burns and overcome by gas and smoke’ (19%; 49 fire-related fatalities).
- The proportions for causes of death in fire-related fatalities are fairly stable across most years, except for 2017/18 where the ‘unspecified’ category was higher (27% compared with a usual range of between 10–20%) due to the Grenfell Tower fire, where a large proportion of the fatalities are recorded as ‘unspecified’ while the public inquiry into the fire is still ongoing. (Source: [FIRE0506](#))
- There were **4,627 non-fatal casualties from accidental dwelling fires** in 2018/19, including those who received first aid (1,408) and who were advised to seek

precautionary checks (1,190). When these two groups are removed and non-fatal casualties requiring hospital treatment are looked at, the largest category of injury was 'overcome by gas or smoke' (955; 47%) followed by 'burns' (420; 21%) and 'other breathing difficulties' (316; 16%). All other categories combined<sup>2</sup> comprised the remaining 17% of injuries. (Source: [FIRE0506](#))

## Rescues and evacuations

The IRS records the exact number of people rescued from primary fires attended by FRSs. The number of people rescued from primary fires attended by FRSs has been on a downward trend since the online IRS was introduced, decreasing from around 4,400 in 2009/10 to around 3,000 in 2018/19 (Chart 4). This has been driven by a decrease in rescues from primary dwelling fires.

**A rescue** is where a person has received physical assistance to get clear of the area involved in the incident.

**An evacuation** is the direction of people from a dangerous place to somewhere safe.

For evacuations from fires attended by FRSs, the IRS records how many people were assisted in eight separate bands (e.g. 6-20 means there were between 6 and 20 people evacuated from a fire). The number of primary fires attended that involved an evacuation has also been on a downward trend (see Chart 5), decreasing from around 9,300 in 2009/10 to around 5,600 in 2018/19. This decrease has been mainly driven by those in primary other building fires but also by primary road vehicle and dwelling fires.

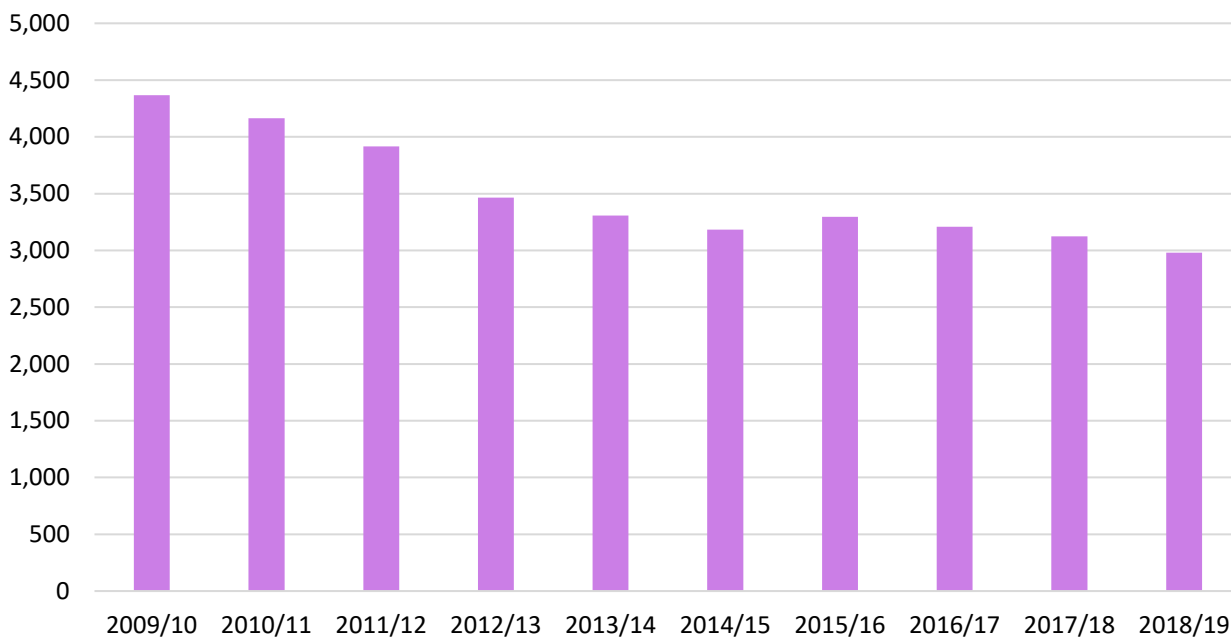
Specifically:

- In 2018/19, there were **2,981 people rescued** from primary fires. This was a decrease of five per cent compared with 2017/18 (3,124) and a decrease of ten per cent from five years ago in 2013/14 (3,308). In 2018/19, over three quarters (79%) of rescues were from primary dwelling fires with other building, road vehicle and other outdoor fires accounting for 15 per cent, four per cent and two per cent, respectively.
- In 2018/19, there were **5,639 primary fires that involved an evacuation**. This was a decrease of ten per cent compared with 2017/18 (6,246) and a decrease of 21 per cent from five years ago in 2013/14 (7,096). The most common evacuation band was '1 to 5' (i.e. there were 1 to 5 people evacuated from the fire), accounting for 88 per cent of primary fires that involved an evacuation. (Source: [FIRE0511](#))

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<sup>2</sup> For a full list of injury categories, see fire statistics table [FIRE0506](#).

**Chart 4: Number of people rescued from primary fires, England; 2009/10 to 2018/19**



Source: Home Office, [FIRE0511](#)

**Chart 5: Number of primary fires with an evacuation, England; 2009/10 to 2018/19**



Source: Home Office, [FIRE0511](#)

## 4 Extent of damage and spread of fire

The IRS also records the extent of damage and the spread of fire. The extent of damage (due to smoke, heat, flame and water etc.) to dwellings and other buildings is recorded by the area in square metres broken down into thirteen categories, from 'None' up to 'Over 10,000' square metres.<sup>3</sup> The spread of fire in dwellings and other buildings is recorded according to the extent the fire reached different parts of the building based on eight categories from 'no fire damage' to 'fire spread to the whole building'.

### Key results

- The **average area of damage to dwellings** (excluding those over 5,000m<sup>2</sup>) in England in 2018/19 was 16.2m<sup>2</sup>, **no change** compared with the previous year but a decrease of 10 per cent from five years ago (18.1m<sup>2</sup> in 2013/14) and a 25 per cent decrease from ten years ago (21.6m<sup>2</sup> in 2008/09)
- The **average area of damage to other buildings** (excluding those over 1,000m<sup>2</sup>) **increased by four per cent** to 28.3m<sup>2</sup> in 2018/19 compared with 27.3 m<sup>2</sup> in 2017/18. This was a *decrease* of four per cent from five years ago (29.6m<sup>2</sup> in 2013/14) but an *increase* of four per cent from ten years ago (27.3m<sup>2</sup> in 2008/09).
- In 2018/19, **eight per cent of fires in purpose-built high-rise flats spread beyond the room of origin**, compared with nine per cent of fires in purpose-built medium-rise flats, nine per cent in purpose-built low-rise flats and 12 per cent of fires in houses, bungalows, converted flats and other dwellings combined.

### Extent of damage

The average extent of damage to **dwellings** has generally fallen since 2003/04 but has levelled off over the last five years. The average extent of damage to **other buildings** has fluctuated since 2009/10 (from when the average extent of damage to other buildings started being more accurately recorded).<sup>4</sup>

Specifically:

- In 2018/19, the **average area of damage to dwellings** (excluding those over 5,000m<sup>2</sup>) in England was 16.2m<sup>2</sup>. This was **no change** compared with 2017/18 but a 10 per cent decrease since 2013/14 (18.1m<sup>2</sup>) and a 25 per cent decrease since 2008/09 (21.6m<sup>2</sup>). (Source: [FIRE0204](#))
- The **average area of damage to other buildings** (excluding those over 1,000m<sup>2</sup>) **increased by four per cent** from 27.3m<sup>2</sup> in 2017/18 to 28.3m<sup>2</sup> in 2018/19. This has fluctuated over the years: a *decrease* of four per cent since 2013/14 (29.6m<sup>2</sup>) but an *increase* of four per cent since 2008/09 (27.3m<sup>2</sup>). (Source: [FIRE0305](#))

<sup>3</sup> For a list of the damaged area size bands, see the [Fire Statistics Definitions](#) document.

<sup>4</sup> For detail on the discontinuity between 2008/09 and 2009/10 please see page 17 in the 2011/12 Fire incidents response times report: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/6759/21721295.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/6759/21721295.pdf)

Dwelling fires with more than 5,000m<sup>2</sup> of damage and other buildings fires with more than 1,000m<sup>2</sup> of damage can skew the averages, so were removed for the averages reported here; however, for completeness, other calculations are available in tables FIRE0204 and FIRE0305, which accompany this release. It should be noted that excluding these area categories removed zero per cent of dwelling fires and around one per cent of other building fires for 2018/19 (0.1% and 1.2% across all years, respectively).

## Spread of fire

In 2018/19, nearly one third (30%) of dwelling fires had no fire damage, in just under a third (32%) the damage was limited to the item first ignited and in a quarter (25%) the damage was limited to the room of origin.

Eight per cent of fires in purpose-built high-rise flats spread beyond the room of origin<sup>5</sup>, a similar percentage to purpose-built medium-rise flats and purpose-built low-rise flats (9% each) and compared with 12 per cent for houses, bungalows, converted flats and other dwellings combined, all of which were similar to previous years.

In 2018/19, the proportion of fires affecting the 'whole building' in primary other building fires was 16 per cent, which is similar to previous years. Since 2010/11 to 2018/19 the proportion of primary other building fires that were 'limited to item 1<sup>st</sup> ignited' has increased from 26 per cent to 28 per cent. Over the same time period, the percentage of primary other building fires that had no fire damage has decreased from 27 per cent to 22 per cent.

In contrast, the proportion of fires affecting the 'whole building' in primary dwelling fires was two per cent in 2018/19, much lower than the 16 per cent for primary other building fires (above) and is similar to previous years. Since 2010/11 to 2018/19 the proportion of primary dwelling fires that were 'limited to item 1<sup>st</sup> ignited' has increased from 28 per cent to 32 per cent, a trend shared with primary other building fires. Over the same time period, the percentage of primary dwelling fires that had no fire damage has decreased from 33 per cent to 30 per cent.

Specifically:

- In 2018/19, **64 (8%) of the 820 fires in purpose-built high-rise flats spread beyond the room of origin** compared with 52 (7%) in the previous year in 2017/18 and 51 (6%) five years ago in 2013/14. (Source: [FIRE0203](#))
- In 2018/19, **2,451 (16%) of the 15,005 primary other building fires affected the 'whole building'** compared with 2,228 (15%) of the 15,612 primary other building fires in the previous year in 2017/18 and 2,390 (14%) of the 16,524 primary other building fires five years ago in 2013/14. (Source: [FIRE0304](#))

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<sup>5</sup> Fire spread beyond the room of origin comprises the following IRS categories: where the spread of fire was limited to the floor of origin, where the spread of fire was limited to 2 floors, where the spread of fire was affecting more than 2 floors and where the fire spread to the whole building.

## 5 Causes of dwelling fires and fire-related fatalities

The IRS collects information on the source of ignition (e.g. 'smokers' materials'), the cause of fire (e.g. 'fault in equipment or appliance'), which item or material was mainly responsible for the spread of the fire (e.g. 'clothing/textiles'), as well as other factors, including ignition power (e.g. gas).<sup>6</sup>

### Key results

- **Cooking appliances** were the largest ignition category for accidental dwelling fires and non-fatal casualties from accidental dwelling fires, accounting for **48 per cent** of these fires and 51 per cent of non-fatal casualties, but were the source of ignition in only eight per cent of accidental dwelling fire-related fatalities.
- **Smokers' materials** were the source of ignition in **eight per cent of accidental dwelling fires** and 10 per cent of accidental dwelling fire non-fatal casualties but were the source of ignition in the accidental dwelling fires which led to 34 per cent of fire-related fatalities in 2018/19.
- Of the 26,610 dwelling fires with accidental causes in 2018/19, **34 per cent were caused by "misuse of equipment or appliances"**, no change from 2017/18. The second largest cause category was "faulty appliances and leads" which caused 15 per cent of all accidental dwelling fires.

### Sources of ignition in accidental dwelling fires

Since 2010/11, the number of accidental dwelling fires has decreased by 16 per cent. This was in large part driven by a 19 per cent decrease (between 2010/11 and 2018/19) in fires where the ignition source was "cooking appliances", as these make up nearly half of all accidental dwelling fires. Other ignition types that have contributed to the decrease include "central and water heating appliances", "space heating appliances" and "other electrical appliances" (decreases of 45%, 41% and 21% over the same time period, respectively). (Source: [FIRE0602](#))

Chart 6 shows the proportion of accidental dwelling fires, and their resulting non-fatal casualties and fire-related fatalities, attributable to different sources of ignition.<sup>7</sup> It shows that while some ignition sources cause many fires, they often result in relatively few fire-related fatalities, and vice versa.<sup>8</sup>

Specifically:

- **Cooking appliances** were by far the largest ignition category for accidental dwelling fires and non-fatal casualties from accidental dwelling fires, accounting for **48 per cent** of these fires and 51 per cent of non-fatal casualties 2018/19. In contrast,

<sup>6</sup> For a more detailed definition on the different types of cause of fire, see the [definitions document](#).

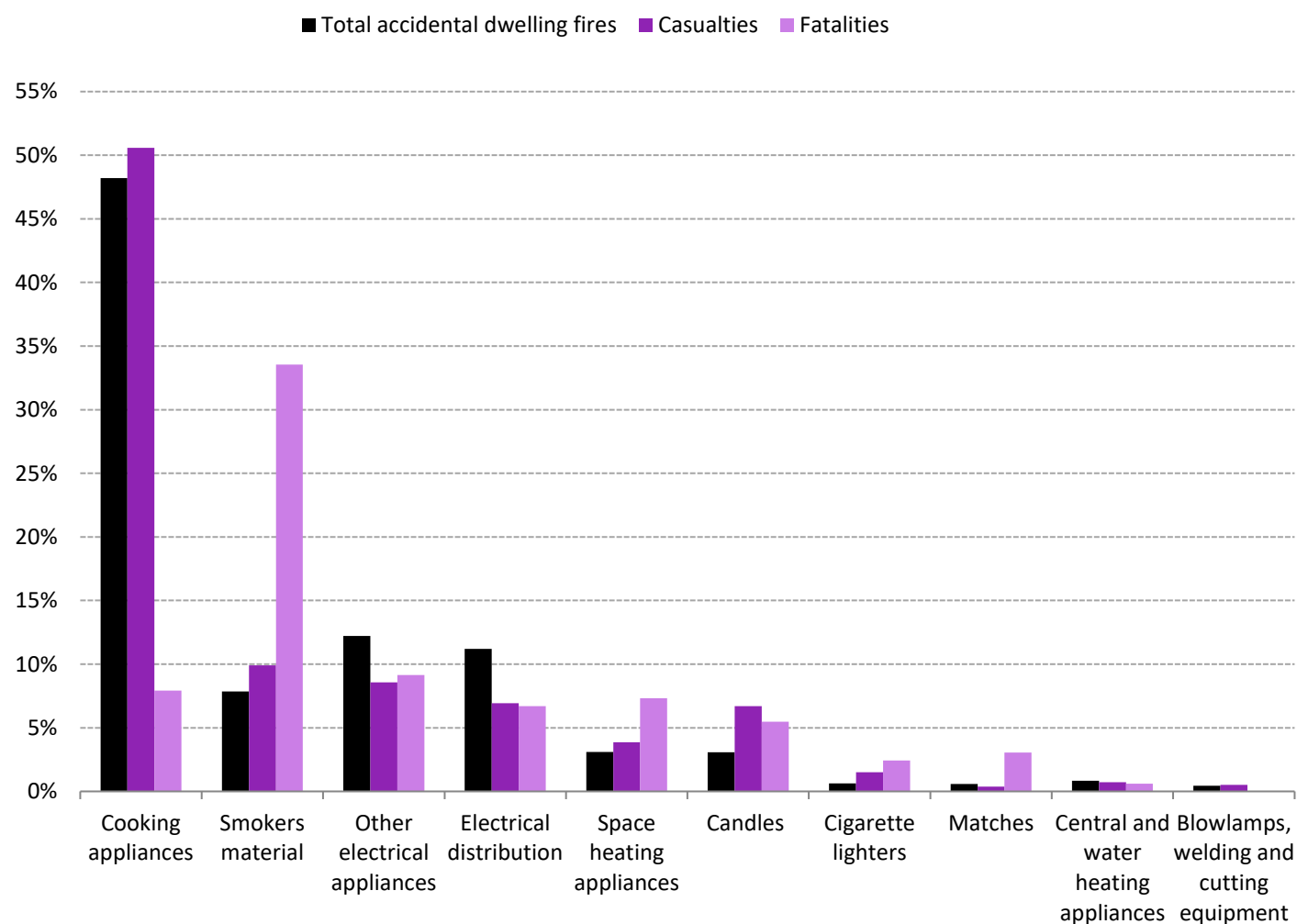
<sup>7</sup> This excludes 'Other/Unspecified'.

<sup>8</sup> 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](#).

cooking appliances were the source of ignition in only eight per cent of accidental dwelling fire-related fatalities.

- **Smokers' materials** (such as cigarettes, cigars or pipe tobacco) were the source of ignition in **eight per cent of accidental dwelling fires** and 10 per cent of accidental dwelling fire non-fatal casualties in 2018/19. In contrast, smokers' materials were the source of ignition in 34 per cent of fire-related fatalities in accidental dwelling fires in 2018/19. (Source: [FIRE0602](#))

**Chart 6: Percentage of fires, non-fatal casualties and fire-related fatalities in accidental dwelling fires by selected sources of ignition, England; 2018/19**



Source: Home Office, [FIRE0602](#)

### Main cause of, and material mainly responsible for, dwelling fires

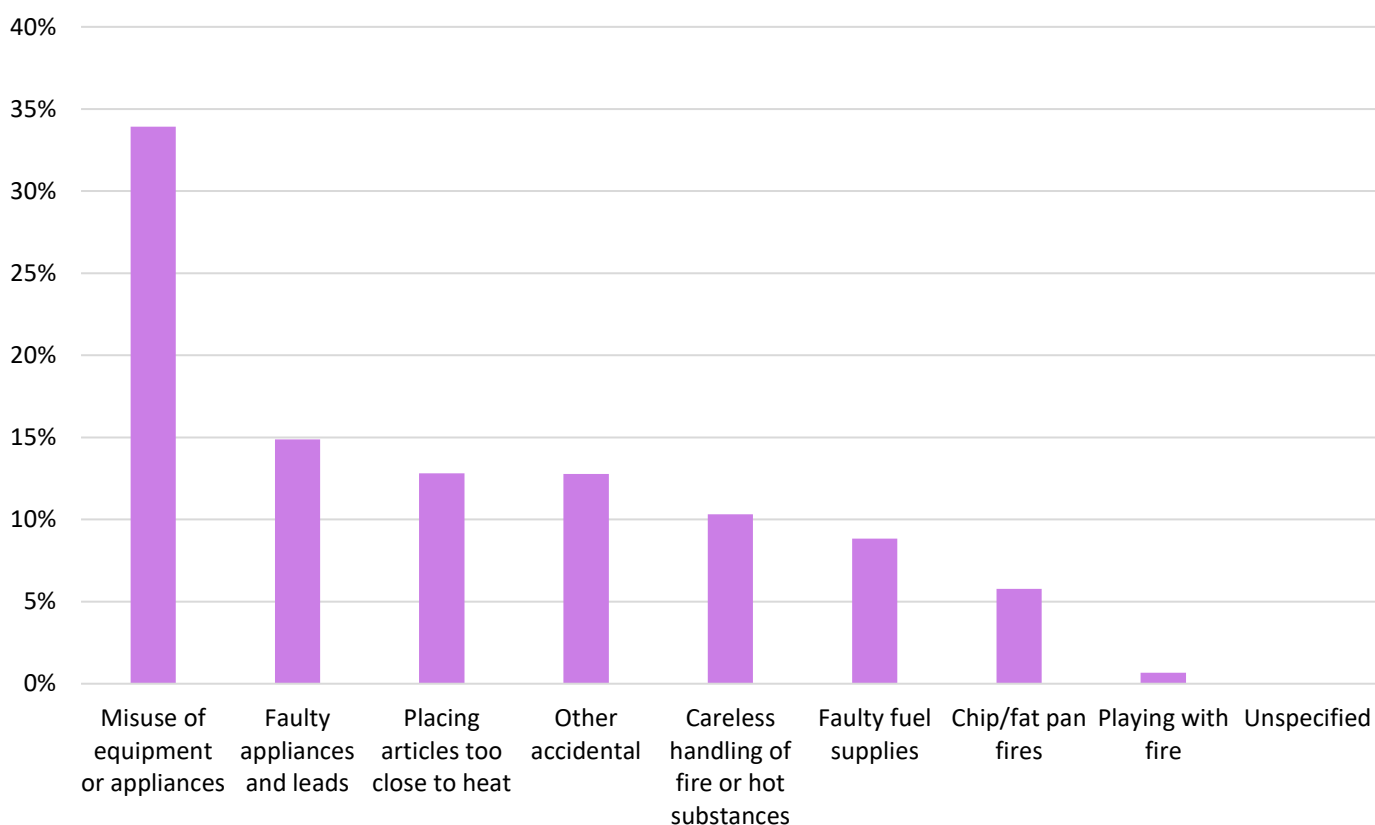
Exactly how a fire originated, and then the material which was mainly responsible for it spreading, are both important determinants in the outcomes of fires. Notably, and similarly to sources of ignition, above, the most common causes and materials responsible for the spread of fires are not those that lead to the greatest proportion of fire-related fatalities.

Specifically:



- Of the 26,610 dwelling fires with accidental causes in 2018/19, **34 per cent were caused by “misuse of equipment or appliances”** (see Chart 7 below), no change from 2017/18. 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 development of the fire in **24 per cent** of all dwelling fires and the item first ignited in **26 per cent** of all dwelling fires in 2018/19 was **“Textiles, upholstery and furnishings”**. The former caused 58 per cent of all fire-related fatalities in dwellings. (Source: [FIRE0603](#), [FIRE0604](#))
- **“Food”** was the material mainly responsible for the development of the fire in **21 per cent** of all dwelling fires and the item first ignited in **29 per cent** of all dwelling fires in 2018/19. However, it was the material mainly responsible for the development of the fire and item first ignited in only three per cent of all dwelling fire-related fatalities.

**Chart 7: Percentage of fires in accidental dwelling fires by cause of fire, England; 2018/19**



Source: Home Office, [FIRE0601](#)

## 6 Smoke alarm function

### Key results

- Fires where a **smoke alarm** was not present accounted for 25 per cent (7,446) of all dwelling fires and 28 per cent (55) of all dwelling fire-related fatalities in 2018/19. This is in the context of 10 per cent of dwellings not having a working smoke alarm in 2017/18 (the latest year for which data are available).
- **Mains powered smoke alarms** continue to have a lower “failure rate” than battery powered smoke 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 2018/19.

The IRS records information on whether a smoke alarm was present at the fire incident, as well as the type (mains or battery powered) and whether or not it functioned as intended i.e. if it operated and if it raised the alarm.

### Reasons alarms did not function as expected

*Did not operate:* alarm battery missing; alarm battery defective; system not set up correctly; system damaged by fire; fire not close enough to detector; fault in system; system turned off; fire in area not covered by system; detector removed; alerted by other means; other; not known.

*Operated but did not raise the alarm:* no person in earshot; occupants did not respond; no other person responded; other; not known.

### Smoke alarms in dwelling fires

Fires where a smoke alarm was present but either did not operate or did not raise the alarm accounted for just under a third (31%) of all dwelling fires in 2018/19, similar to the 32% in 2017/18.

#### *Presence of smoke alarm*

Fires where a smoke alarm was not present accounted for 25 per cent (7,446) of all dwelling fires and 28 per cent (55) of all fire-related fatalities from dwelling fires in 2018/19. This is in the context of 10 per cent of households not having a working smoke alarm in 2017/18<sup>9</sup>.

#### *Smoke alarm failure to operate*

Mains powered alarms continued to have a lower “failure rate” than battery powered alarms: 21 per cent of mains powered smoke alarms and 38 per cent of battery powered smoke alarms failed to operate in dwelling fires in 2018/19 in England. These rates have been virtually unchanged since 2010/11. (Source: [FIRE0702](#), [FIRE0703](#))

<sup>9</sup> [English Housing Survey](#) (2017 to 2018).

**Table 1: Reason smoke alarms did not operate in dwelling fires and dwelling fires resulting in casualties<sup>10</sup>, by type of alarm, England, 2018/19**

Reason for failure	Battery powered		Mains powered <sup>11</sup>	
	Fires	Fire resulting in casualties	Fires	Fire resulting in casualties
Missing battery	11%	10%	1%	3%
Defective battery	9%	8%	0%	6%
Other act preventing alarm from operating	2%	13%	7%	19%
Fire products did not reach detector(s)	45%	8%	52%	14%
Fire in area not covered by system	13%	13%	14%	11%
Faulty system / incorrectly installed	3%	13%	4%	14%
Other	17%	38%	22%	33%

'Fire products did not reach detector(s)'<sup>12</sup> and 'fire in area not covered by system' accounted for 66 per cent of mains powered smoke alarm failures and continued to be the principal reasons mains powered smoke alarms failed to operate in dwelling fires in 2018/19, as in previous years (Table 1). Similarly, the main reasons battery powered smoke alarms failed to operate in dwelling fires were due to 'fire products did not reach detector(s)' and 'fire in area not covered by system' (58% of dwelling fires in 2018/19). These have also been the principal causes of battery powered smoke alarm failures in previous years.

As for all years since 2010/11, the most common category of smoke alarm failure in dwelling fires involving any casualties was 'Other' (including 'alerted by other means', 'system damaged by fire', 'other' and 'don't know'), which accounted for 38 per cent of these fires where battery powered smoke detectors were present and 33 per cent where mains powered detectors were present (see Table 1 above) in 2018/19. (Source: [FIRE0704](#))

(Source: [FIRE0704](#))

### *Smoke alarm function and outcomes*

A smoke alarm was present and raised the alarm (i.e. functioned as desired) in 43% of dwelling fires in 2018/19 but in only 34% of fire-related fatalities, highlighting the importance of having both working smoke alarms and enough of them to cover all areas in a dwelling. (Source: [FIRE0701](#), [FIRE0702](#))

By combining IRS and English Housing Survey data, Home Office statisticians have calculated that you are around eight times more likely to die in a fire if you do not have a working smoke alarm in your home.<sup>13</sup>

<sup>10</sup> Includes all non-fatal casualties and fire-related fatalities.

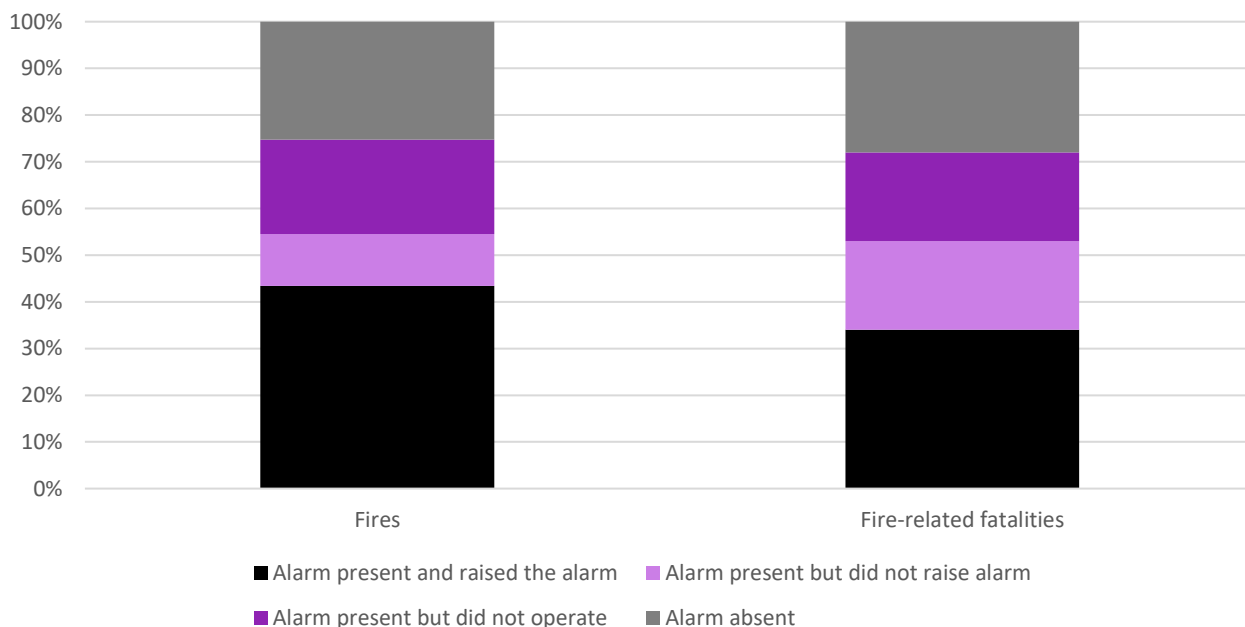
<sup>11</sup> Mains powered smoke alarms includes those recorded as 'mains and battery' in the IRS, therefore there are a small number of mains powered smoke alarms where the reason for failure is 'missing battery' or 'defective battery'.

<sup>12</sup> Fire products did not reach detectors(s) can be where the smoke alarms present were poorly sited (e.g. not on the floor of origin) so the smoke did not reach the detector.

<sup>13</sup> For details of the calculation and assumptions made, see the [fire statistics definitions](#) document.

Chart 8, below, shows the proportion of dwelling fires and fire-related fatalities in dwelling fires where the alarm was either “present, operated and raised the alarm” or “absent”. It shows that the proportion of dwelling fires where the alarm was present, operated and raised the alarm was higher than for fire-related fatalities in those fires. Alarms were absent in a slightly higher proportion for fire-related fatalities (28%) than in dwelling fires (25%). This pattern is consistent with previous years.

**Chart 8: Smoke alarm operation outcomes in primary dwelling fires and fire-related fatalities, England; 2018/19**



**Source:** Home Office, [FIRE0702](#)

### Smoke alarms in primary other building fires

Fires where a smoke alarm was not present accounted for 48 per cent of all primary other building fires in 2018/19. This has been relatively stable since 2012/13. (Source: [FIRE0706](#))

Fires where a smoke alarm was not present accounted for 33 per cent of all primary other building fire-related fatalities and non-fatal casualties (combined) in 2018/19, no change from 2017/18 but a decrease of six percentage points since 2013/14. (Source: [FIRE0706](#))

Fires where a smoke alarm was present but did not raise the alarm accounted for six per cent, and fires where an alarm was present but did not operate 12 percent, of primary other building fires in 2018/19. These proportions have been relatively stable since 2010/11. (Source: [FIRE0706](#))

## 7 Temporal and seasonal fire analyses

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### Key results

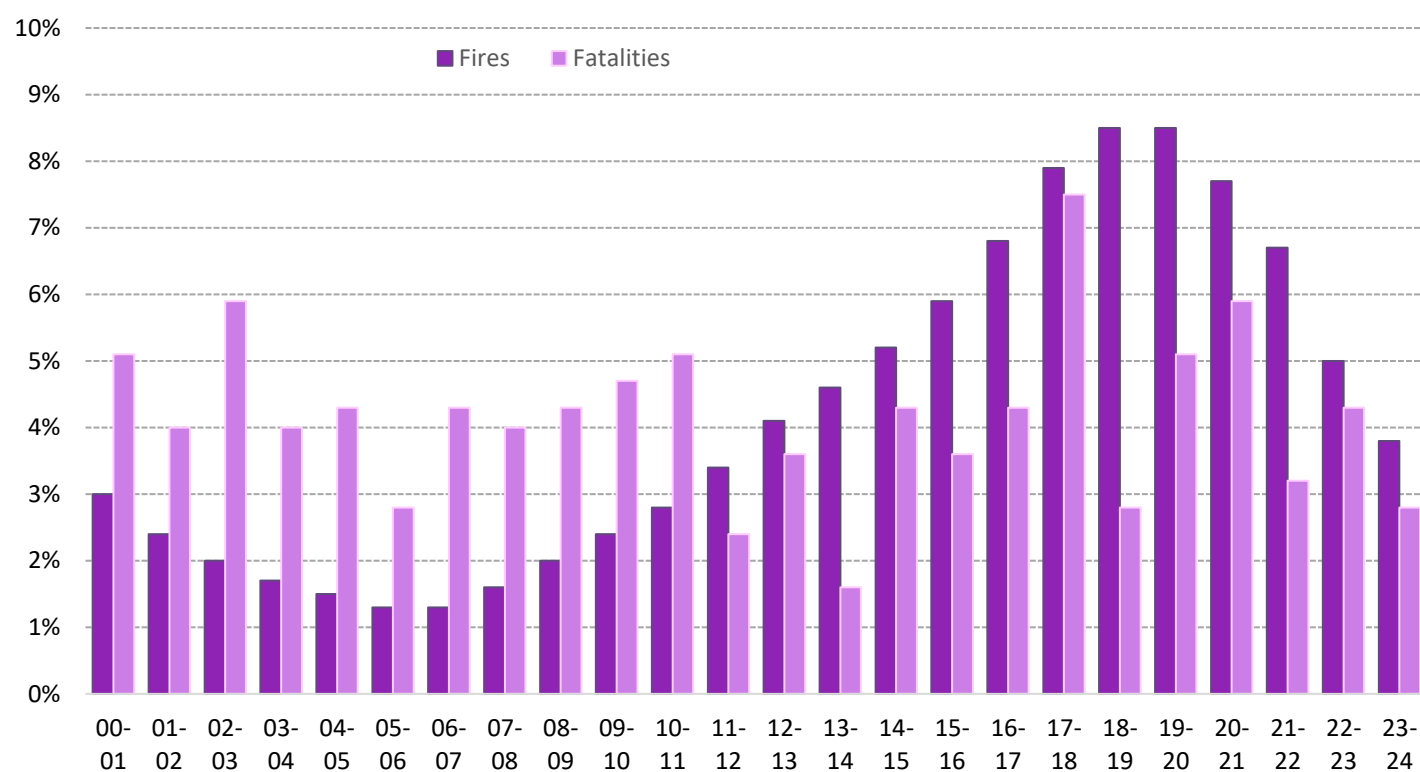
- In 2018/19, the number of fires showed a strong daily pattern, with **46 per cent of all fires occurring where the time of call was between 16:00 and 22:00**.
- The hourly number of fire-related fatalities does not show a daily pattern, with the **number of fire-related fatalities roughly equal between day and night hours**.
- **July experienced the most fires per day** attended by FRSs in 2018/19 (an average of 1,039), whilst **December had the fewest** (297 fires per day on average). This is a different pattern to 2017/18 when April experienced the most fires per day (684 fires) and January the fewest (317 fires).
- The high rate of fires in July 2018 was driven by fires in 'grassland, woodland and crops', which had a **daily rate more than two and a half times as high** as the peak for that type of fire in the previous year (446 fires per day compared with 167 fires per day in April 2017), and was linked to the hot, dry summer of 2018.

Fires and fire-related fatalities are affected by both seasonality and time of day. Similar to previous years, there were generally fewer fires where the time of call was between midnight and 11am, but the number of fire-related fatalities remained relatively high despite lower incidence of fires and with no strong temporal pattern. This difference is also found for accidental dwelling fires.

### Temporal fire analyses

- **Forty-six per cent** of all fires in 2018/19 occurred where the time of call was between **16:00 and 22:00** (Chart 9). These were the six individual hours with the highest proportion of fires (by time of call), which is unchanged since 2017/18. The peak hours were between 18:00 and 20:00 and accounted for 8.5 per cent of fires each in 2018/19, similar to previous years. (Source: [FIRE0801](#))
- In contrast to the number of fires, the hourly number of fire-related fatalities showed less of a pattern across the day in 2018/19, as in previous years. **Fire-related fatalities were roughly equal between day and night hours**. The peak hours were 17:00-18:00 (7.5%), 02:00-03:00 (5.9%), 20:00-21:00 (5.9%), 00:00-01:00 (5.1%), 10:00-11:00 (5.1%) and 19:00-20:00 (5.1%). While the six individual hours with the highest proportion of fires were contiguous and accounted for 46 per cent of incidents (above), these six highest for fatalities are spread throughout the day and accounted for just 35 per cent (Chart 9).

**Chart 9: Percentage of fires and fire-related fatalities by hour of the day, England; 2018/19**



Source: Home Office, [FIRE0801](#)

### Seasonal fire analyses

Very little seasonality was evident in dwelling, other building and road vehicle fires, however outdoor fires and chimney fires showed much stronger seasonal effects. There tends to be more grassland, refuse and other outdoor fires in the summer months and these seem to reflect weather patterns. This was particularly so for the exceptionally hot and dry July 2018, which had the highest daily rate of fires for any month of any year recorded in the IRS from 2010/11 to 2018/19 (see [FIRE0802](#)). Conversely, chimney fires are more numerous in the winter months. These seasonal effects are broadly similar each year but are affected by changes in weather patterns specific to that year, e.g. in 2017/18 the values were skewed towards spring/early summer with a peak in April while in 2018/19 they were highest in June and July.

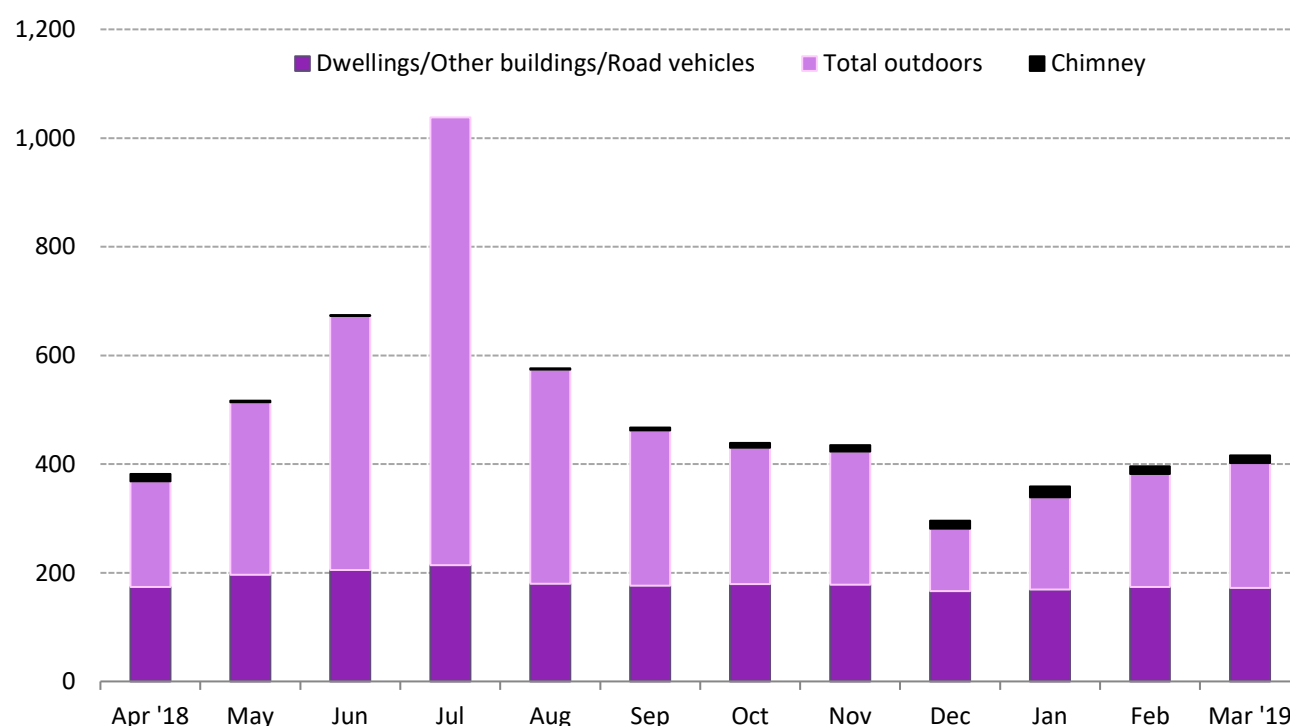
Specifically:

- **July experienced the most fires per day** attended by FRSs in 2018/19 (an average of 1,039), whilst **December had the fewest** (297 fires per day on average). This is a different pattern to 2017/18 when April experienced the most fires per day (684 fires) and January the fewest (317 fires). (Source: [FIRE0802](#)).
- The high rate of fires in July 2018 was driven by fires in ‘grassland, woodland and crops’, which had a daily rate more than two and a half times as high as the peak for that type of fire in the previous year (446 fires per day compared with 167 fires per day in April 2017).

- The daily rate of all fires for 2018/19 was **501 fires per day**. Sixty-two per cent (310) of these were all types of outdoor fires.
- Fires in dwellings, other buildings and road vehicles showed relatively little seasonality, with a slight increase in May, June and July, and the daily rate of these fires attended varying between **166 and 214 per month** in 2018/19.

Chart 10 shows the average daily number of dwelling/other building/road vehicle, outdoor, and chimney fires in 2018/19 across the year. It shows how stable dwelling/other building/road vehicle fires are across months, compared with seasonal outdoor fires and, to a lesser extent, chimney fires.

**Chart 10: Average daily fire incidents by month and location, England; 2018/19**



Source: Home Office, [FIRE0802](#)

## 8 Further information

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This release contains statistics about incidents attended by fire and rescue services (FRSs) in England. The statistics are sourced from the [Home Office's online Incident Recording System \(IRS\)](#). This system allows FRSs to complete an incident form for every incident attended, be it a fire, a false alarm or a non-fire incident (also known as a Special Service). The online IRS was introduced in April 2009. Previously, paper forms were submitted by FRSs and an element of sampling was involved in the data compilation process.

Fire and Rescue Incident Statistics and other Home Office statistical releases are available from the [Statistics at Home Office](#) pages on the GOV.UK website.

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 below 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 is available on the fire statistics collection page, found here: <https://www.gov.uk/government/statistical-data-sets/fire-statistics-guidance>.

The information published in this release is kept under review, taking into account the needs of users and burdens on suppliers and producers, in line with the [Code of Practice for Statistics](#). If you have any comments, suggestions or enquiries, please contact the team via email using [firestatistics@homeoffice.gov.uk](mailto:firestatistics@homeoffice.gov.uk) or via the user feedback form on the fire statistics collection page.

### Revisions

The IRS is a continually updated database, with FRSs adding incidents daily. The figures in this release refer to records of incidents that occurred up to and including 31 March 2019. This includes incident records that were submitted to the IRS by 16 June 2019, when a snapshot of the database was taken for the purpose of analysis. As a snapshot of the dataset was taken on 16 June 2019, the statistics published may not match those held locally by FRSs and revisions may occur in the future. This is particularly the case for statistics with relatively small numbers, such as fire-related fatalities. For instance, this can occur because coroner's reports may mean the initial view taken by the FRS will need to be revised; this can take many months, even years, to do so.

### Other related publications

[Home Office](#) publish five other statistical releases covering fire and rescue services:

- [Fire and rescue incident statistics, England](#): provides statistics on trends in fires, casualties, false alarms and non-fire incidents attended by fire and rescue services in England, updated quarterly.
- [Detailed analysis of non-fire incidents attended by fire and rescue services, England](#): focuses on non-fire incidents attended by fire and rescue services across England,



including analysis on overall trends, fatalities and non-fatal casualties in non-fire incidents, and further detailed analysis of different categories of non-fire incidents.

- [Fire and rescue workforce and pensions statistics](#): focuses on total workforce numbers, workforce diversity and information regarding leavers and joiners; covers both pension fund income and expenditure and firefighters' pension schemes membership; and includes information on incidents involving attacks on firefighters.
- [Fire prevention and protection statistics, England](#): focuses on trends in smoke alarm ownership, fire prevention and protection activities by fire and rescue services.
- [Response times to fires attended by fire and rescue services, England](#): covers statistics on trends in average response times to fires attended by fire and rescue services.

The [Ministry of Housing, Communities & Local Government](#) publish one statistical release on fire:

- [English housing survey: fire and fire safety report](#): focuses on the extent to which the existence of fire and fire safety features vary by household and dwelling type.

Fire statistics are published by the other UK nations:

Statistics for [Scotland](#) and [Wales](#) are published based on the IRS. [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.

## Annex: Rates of fires, fire-related fatalities and casualties requiring hospital treatment in different building types

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As part of the Government's 'Building A Safer Future' consultation<sup>14</sup> and call for evidence on the regulatory reform (Fire Safety) Order 2005<sup>15</sup> the Home Office undertook analysis to understand the relative fire risk in different building types (high-level findings were included as an Annex in both documents). This Annex provides further context to that analysis.

### Methodology

In order to understand the relative risk of different building types this analysis explored the volume and rates of fires and fires involving a fatality or casualty requiring hospital treatment. To calculate these, the following data from the incident recording system (IRS) and Ordnance Survey<sup>®</sup> (OS<sup>®</sup>) were used:

- Property types and definitions used in the IRS<sup>16</sup> were matched against classification codes used in AddressBase<sup>®17</sup> and clustered into four groups and 24 distinct property types (see Table 1);
- Numbers of fire, fatality and hospital casualty incidents were taken from the IRS for these property types;
- Topographic Identifiers (TOID<sup>®18</sup>) from AddressBase<sup>®</sup> Premium were linked with Building Heights Attribute and AddressBase<sup>®</sup> Premium classifications to calculate the number of buildings for these property types there have been per year in England.

At the time of analysis in Spring 2019, the data for the year ending September 2012 to the year ending September 2018 were the only complete years with sufficient detail for analysis in all datasets available. Average rates per 1,000 buildings per year were calculated for each property type by combining the rates for each year to account for year on year fluctuations especially where numbers were low.

While this analysis is based on the best available data, the following should be noted:

- The IRS records 'number of floors above ground' not height. A four storey building is estimated to be around 11m, six storeys as 18m, and 10 storeys as 30m. Quality assurance conducted on this field for purpose-built flats found a 20 per cent error rate that is assumed to be consistent across all property types;
- The analysis did not look at where in the building the fire started as the aim was to understand the whole building risk;
- Around 10 percent of buildings are likely to be misrepresented in the OS<sup>®</sup> data due to outdated classifications or complex building structures requiring multiple TOID<sup>®</sup> references;
- Some buildings may be counted in multiple categories due to mixed commercial and domestic use properties, for example a newsagent on the ground floor of an

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<sup>14</sup> <https://www.gov.uk/government/consultations/building-a-safer-future-proposals-for-reform-of-the-building-safety-regulatory-system>

<sup>15</sup> <https://www.gov.uk/government/consultations/the-regulatory-reform-fire-safety-order-2005-call-for-evidence>

<sup>16</sup> Available here: <https://www.gov.uk/government/statistical-data-sets/fire-statistics-guidance#guidance-on-incident-recording-system-for-fire-and-rescue-authorities>

<sup>17</sup> Available here: <https://www.ordnancesurvey.co.uk/business-and-government/help-and-support/products/addressbase-premium.html>

<sup>18</sup> Topographic Identifier used by Ordnance Survey<sup>®</sup> to reference all mappable features.

- apartment block, so it is not possible to sum the categories;
- Vehicles, outdoor structures (such as statues), and 'unknown' categories in the IRS and AddressBase® have been excluded for the purposes of this analysis;
  - The original analysis for the rates of fires involving fatality or casualty requiring hospital treatment was calculated by summing the rates of these fires for each year whereas the rate of fires was calculated by averaging the rates of fires for each year. To make it easier to compare the different rates both have been presented as averages of the combined years in this report. This does not affect which building types have higher rates of fire or fires involving a fatality or casualty requiring hospital treatment.

## Building numbers

Table 1 and Table 2 show the average numbers of buildings in the combined years ending September 2012 to September 2018.

**Table 1: Average number of buildings where people sleep for the combined years ending September 2012 to September 2018**

Property type (Examples)	Any height	0 to 11m	≥11 to <18m	≥18 to <30m	≥30m
<b>Apartment/flats</b>					
<b>Apartment/ flat</b> Includes unregistered HMOs, retirement villages, independent living etc	1,159,399	1,065,324	84,473	7,441	2,162
<b>Single Dwellings</b>					
<b>Single dwelling</b> House (detached, semi-detached, terraced), caravan, house boat	17,539,328	17,506,130	31,697	1,021	480
<b>Other buildings where people sleep</b>					
<b>Care home</b> For any group (i.e. age or disability)	18,272	17,974	293	4	1
<b>Education (R)</b> Boarding school accommodation, student hall of residence	4,859	3,850	798	172	39
<b>HMO</b> Registered houses of multiple occupancy <sup>19</sup>	48,744	46,282	2,208	184	71
<b>Holiday let</b> Holiday let, accommodation, short-term let (that is not hotel)	34,730	33,879	713	107	31
<b>Hospitals</b> By building not whole complex, includes onsite accommodation for nurses/doctors	2,156	1,945	164	40	7
<b>Hotel</b> Hotel, B&B, hostel, guest house	13,325	11,268	1,513	440	104
<b>Prison</b> Prison, detention centre, secure residential accommodation	173	157	15	1	-
<b>Religious (R)</b> Monastery/convent	53	50	5	-	-
<b>Sheltered/supported housing</b> Includes homeless shelters	18,627	18,186	395	30	16

Table footnotes:

- - indicates there were no buildings within this height category
- R indicates residential, NR indicates non-residential
- Note that in order to calculate the rates of fire and fires involving a fatality or casualty requiring hospital treatment building numbers for individual years were used.

<sup>19</sup> A house of multiple occupancy is defined as having more than one household (unrelated residents) however different Local Authorities have different registration requirements depending on the number of households

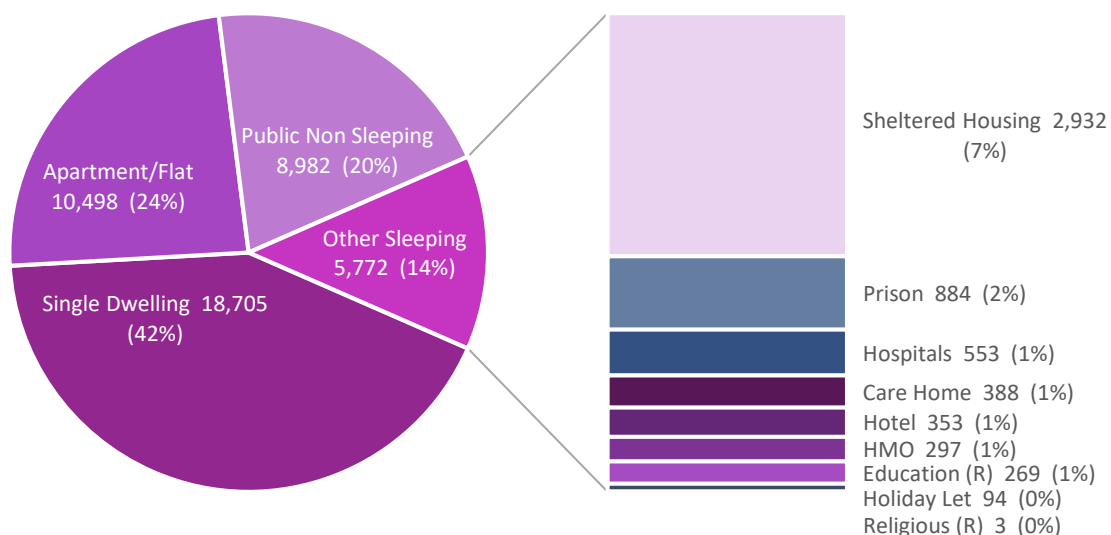
**Table 2: Average number of public non-sleeping buildings for the combined years ending September 2012 to September 2018**

Property type (Examples)	Any height	0 to 11m	≥11 to <18m	≥18 to <30m	≥30m
<b>Non-sleeping buildings</b>					
<b>Agricultural buildings</b> Non-residential and permanent agricultural buildings such as barns	17,755	17,711	40	3	1
<b>Animal care</b> Vets, shelters, kennels, stables	11,340	11,287	50	1	1
<b>Car park</b> Covered only	4,127	2,242	1,006	659	220
<b>Education</b> Schools and universities	37,829	35,741	1,746	291	51
<b>Emergency services</b> Lifeboat services, coastguard, mountain rescue, lighthouse, police / transport police, fire and rescue services, ambulance, air sea rescue	3,357	3,184	146	22	5
<b>Entertainment, culture and sport</b> Cinema, club, theme park, museum, gallery, community centre, sporting venues	61,595	58,716	2,178	522	179
<b>Food and Drink</b> Restaurant, take-away, pub, cafe	87,058	79,208	6,183	1,369	296
<b>Industrial buildings</b> Industrial processing, manufacturing, warehouses and bulk storage - all materials, mines and quarries – buildings above ground, public utilities, laboratory/research establishment	307,901	297,140	7,865	2,055	842
<b>Office and public buildings</b> Law court, office, studio, embassy, local government service, broadcasting (tv / radio)	129,120	110,260	14,373	3,687	800
<b>Other medical</b> Doctor surgery, dentist etc	20,934	19,745	978	178	34
<b>Religious (NR)</b> Chapel of rest, crematorium, mortuary, place of worship (all)	32,268	31,434	792	39	3
<b>Retail</b> Shop, bank, markets (indoor / outdoor), petrol station	336,910	312,900	20,174	3,305	531
<b>Transport buildings</b> Train station, airport, docks, ferry terminal, bus/coach station	6,239	5,826	277	100	37

## Number and rates of building fires by property type

The total number of building fires included in the analysis was 307,697 (an average of 43,957 per year).<sup>20</sup> The highest number of fires were in single dwellings which had an average of 18,705 fires on average per year (see [Chart 1](#)). Other buildings where people sleep (such as supported/sheltered housing and hospitals) had 5,772 fires on average per year and public non-sleeping buildings 8,982.

**Chart 1: Average number of fires by property type for the combined years ending September 2012 to September 2018**



Looking only at the number of fires suggests that single dwellings are more likely to experience a fire than other property types. However, when the number of each property type is taken into account the picture changes (see [Table 3](#)). In the combined years ending September 2012 to September 2018 the average rate of fire in single dwellings of any height was 1 per 1000 buildings per year, the lowest of any of the property types included in the analysis. The highest rates of fire per 1,000 buildings per year were seen in;

- prisons with 5,021,
- hospitals with 263, and
- supported/sheltered housing with 158.

The differences in the rates is largely explained by the very high numbers of single dwellings compared with any other property type and those property types with the highest rates having a relatively high number of fires in smaller numbers of buildings.

When the height of the buildings is taken into consideration, buildings over 30m generally appear to have higher rates of fires compared with other buildings in the same property type group. For example, apartment buildings between 11 and 18 metres had 22 fires per 1000 buildings compared with 43 for those between 18 and 30m and 366 for apartment buildings over 30m. This is not consistent for all property types for example in supported/sheltered the highest rate of fire was in those buildings between 11 and 18m.

<sup>20</sup> A total of 214,753 fires from published figures were excluded as 'Vehicles, outdoor structures (such as statues), or unknown'

**Table 3: Average rates of fire per 1,000 buildings for the combined years ending September 2012 to September 2018**

Property type	Any height	0 to 11m	≥11 to <18m	≥18 to <30m	≥30m
<b>Agricultural buildings</b>	32	32	29	0	714
<b>Animal care</b>	5	5	6	0	0
<b>Apartment/flat</b>	9	7	22	43	366
<b>Car park</b>	18	19	22	9	14
<b>Care home</b>	22	21	69	0	0
<b>Education (NR)</b>	19	18	34	20	60
<b>Education (R)</b>	56	32	130	158	501
<b>Emergency services</b>	23	21	49	43	57
<b>Entertainment, culture and sport</b>	10	10	18	11	10
<b>Food and drink</b>	20	20	23	6	20
<b>HMO</b>	6	6	13	12	65
<b>Holiday let</b>	3	3	2	0	0
<b>Hospitals</b>	263	205	783	574	2,258
<b>Hotel</b>	27	20	63	55	157
<b>Industrial buildings</b>	8	7	11	11	6
<b>Office and public buildings</b>	6	5	11	10	41
<b>Other medical</b>	8	7	11	4	5
<b>Prison</b>	5,021	4,736	8,435	571	-
<b>Religious (NR)</b>	4	4	3	4	0
<b>Religious (R)</b>	59	40	64	-	-
<b>Retail</b>	6	6	7	2	7
<b>Supported/sheltered housing</b>	158	147	602	375	491
<b>Single dwelling</b>	1	1	3	1	5
<b>Transport</b>	22	21	43	10	11

Table footnotes:

- indicates there are no buildings within this height category, zero indicates no fires

## Number and rates of building fires involving fatalities or casualties requiring hospital treatment

In addition to calculating rates of fires the analysis also explored whether the number and rates of the fires which resulted in the most physical harm to an individual differed between property types. A relatively small number of fires result in a fatality (1,423 or 0.4% of the 307,697 fire incidents included in the analysis) and, of these, the majority (1,353 or 95% of the 1,423) resulted in a single fatality (see Table 4), so to increase numbers available for analysis fires involving a casualty requiring hospital treatment were included.

**Table 4: Number of fires by number of fatalities, or casualties requiring hospital treatment in the years ending September 2012 to September 2018**

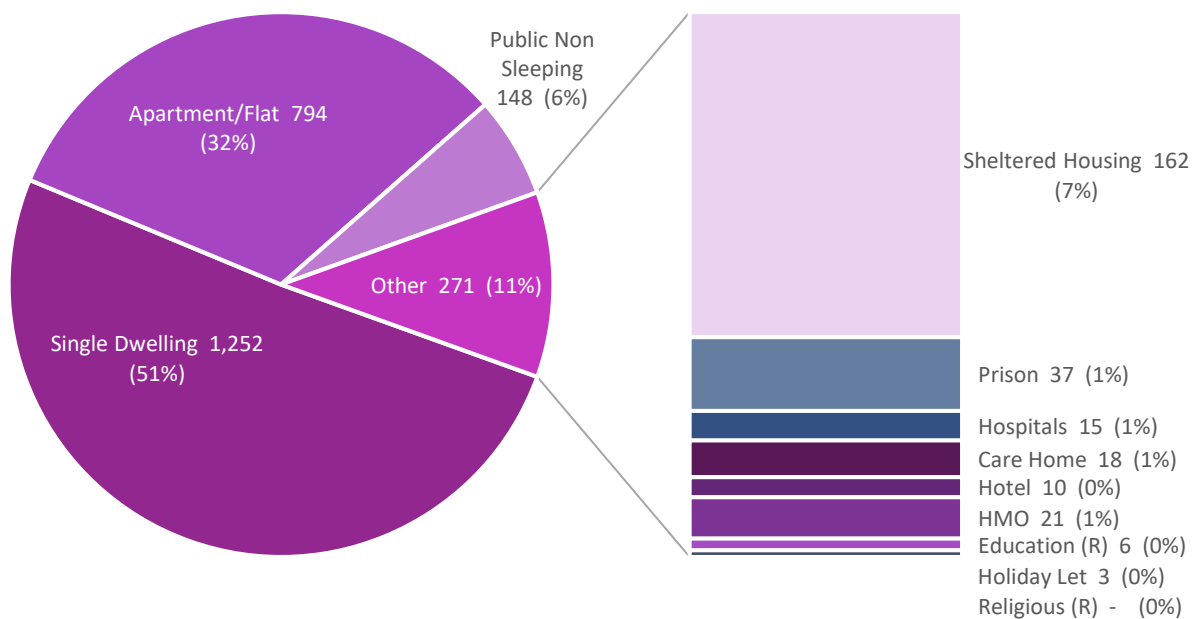
No. of fatalities	No. of fires	No. of hospital casualties	No. of fires	No. of hospital casualties or fatalities	No. of fires
0	306,274	0	292,976	0	291,718
1	1,353	1	12,126	1	13,229
2	50	2	1,765	2	1,870
3	10	3	491	3	508
4	5	4	200	4	221
5	2	5	77	5	80
6	2	6	27	6	30
71	1	7	17	7	22
<b>Total</b>	<b>307,697</b>	8	8	8	8
		9	4	9	5
		10	1	10	1
		12	1	12	1
		17	2	17	2
		19	1	19	1
		77	1	148	1
		<b>Total</b>	<b>307,697</b>	<b>Total</b>	<b>307,697</b>

As with all fire incidents, the highest number of fires involving a fatality or casualty requiring hospital treatment in the combined years ending September 2012 to 2018 occurred in single dwellings (1,252 or 51% see Chart 2). However, when considering the number of each property type, the average rate of fire involving a fatality or casualty requiring hospital treatment in single dwellings was 0.07 per 1,000 buildings per year in comparison to apartments where it was 0.69 (see Table 5). The highest rates of fire involving a fatality or casualty requiring hospital treatment per 1,000 buildings per year were seen in;

- Prisons with 210.44,
- Hospitals with 6.98, and
- Supported/sheltered housing with 8.71.



**Chart 2: Fires involving a fatality or casualty requiring hospital treatment by property type for the combined years ending September 2012 to September 2018**



Analysing the height of the buildings, taller buildings generally have the highest rates of fires involving a fatality or casualty requiring hospital treatment in comparison to shorter buildings of the same property type, for example apartment buildings between 11 and 18m had on average 1.54 fires involving a fatality or casualty requiring hospital treatment per 1,000 buildings per year compared with 2.67 fires involving a fatality or casualty requiring hospital treatment per 1,000 apartment buildings between 18 and 30m and 24.34 per 1,000 apartment buildings 30m and over. Exceptions to this include prisons and supported/sheltered housing where the highest rates are in buildings 11 to 18m (possibly due to the very low number of buildings of these property types above 18m).

**Table 5: Average rates of fires involving a fatality or casualty requiring hospital treatment per 1,000 buildings for the combined years ending September 2012 to September 2018**

Property type	Any height	0 to 11m	≥11 to <18m	≥18 to <30m	≥30m
<b>Agricultural buildings</b>	0.33	0.34	0	0	0
<b>Animal care</b>	0.06	0.06	0	0	0
<b>Apartment/flat</b>	0.69	0.56	1.54	2.67	24.34
<b>Car park</b>	0.20	0.29	0.12	0	0.55
<b>Care home</b>	1.02	0.96	4.65	0	0
<b>Education (NR)</b>	0.17	0.15	0.40	1.51	0
<b>Education (R)</b>	1.23	0.72	2.79	3.88	8.24
<b>Emergency services</b>	0.13	0.04	2.07	0	0
<b>Entertainment, culture and sport</b>	0.11	0.10	0.31	0	0
<b>Food and drink</b>	0.46	0.45	0.72	0.28	0.38
<b>HMO</b>	0.42	0.38	1.10	0.84	6.07
<b>Holiday let</b>	0.10	0.10	0.22	0	0
<b>Hospitals</b>	6.98	5.83	16.94	3.40	99.49
<b>Hotel</b>	0.77	0.62	1.77	1.10	1.15
<b>Industrial buildings</b>	0.17	0.17	0.24	0.17	0.17
<b>Office and public buildings</b>	0.05	0.03	0.12	0.19	1.10
<b>Other medical</b>	0.11	0.10	0.27	0	0
<b>Prison</b>	210.44	195.86	383.84	0	-
<b>Religious (NR)</b>	0.05	0.05	0.17	0	0
<b>Religious (R)</b>	0	0	0	-	-
<b>Retail</b>	0.08	0.08	0.11	0	0
<b>Supported/Sheltered housing</b>	8.71	8.04	37.74	19.39	35.71
<b>Single dwelling</b>	0.07	0.07	0.25	0	0
<b>Transport</b>	0.24	0.26	0	0	0

Table footnotes:

- indicates there are no buildings within this height category, zero indicates no fires involving a fatality or casualty requiring hospital treatment

## National Statistics

These statistics have been assessed by the UK Statistics Authority to ensure that they continue to meet the standards required to be designated as National Statistics. This statistical bulletin is produced to the highest professional standards and is free from political interference. It has been produced by statisticians working in accordance with the Home Office's Statement of compliance with the Code of Practice for Official Statistics, which covers Home Office policy on revisions and other matters. The Chief Statistician, as Head of Profession, reports to the National Statistician with respect to all professional statistical matters and oversees all Home Office National Statistics products with respect to the Code, being responsible for their timing, content and methodology. This means that these statistics meet the highest standards of trustworthiness, impartiality, quality and public value, and are fully compliant with the [Code of Practice for Statistics](#).

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