



# An Overview of the U.S. Fire Problem

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In 2008, U.S. fire departments responded to an estimated 1,451,500 fires. These fires caused 3,320 civilian deaths and 16,705 civilian injuries.<sup>1</sup> In the same year, 103 firefighters were fatally injured while on duty.<sup>2</sup> There were 80,100 firefighter injuries in 2007.<sup>3</sup>

The 2008 fire statistics (except for firefighter fatalities) are projections derived from NFPA's annual fire department survey. The 2,846 departments that did respond to the sample survey protect 117,784,200 people, or 39% of the total U.S. population.

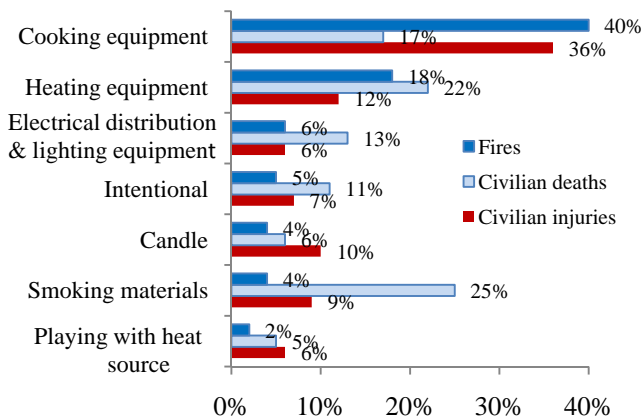


In 2008, home structure fires caused 83% of the civilian fire deaths and 79% of the civilian fire injuries. Homes include one-and two-family dwellings, apartments, townhouses, row houses, and manufactured homes.

The U.S. Fire Administration's National Fire Incident Reporting System (NFIRS) provides the details that, together with NFPA's survey, are used to estimate the size of specific fire problems.

The graph below shows how the leading causes vary depending on whether the interest is in fires, deaths or injuries.<sup>4</sup>

**Major Causes of Home Structure Fires 2003-2006**



## Cooking is the leading cause of home fires and home fire injuries.

Unattended cooking is the leading factor contributing to these fires.

Frying is the leading type of activity associated with cooking fires.

*More than half of all cooking fire injuries occurred when people tried to fight the fire themselves.<sup>5</sup>*

## Smoking has been the leading cause of home fire deaths for decades.

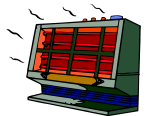
Seventy percent of the home smoking material fire fatalities resulted from fires originating with a) upholstered furniture, or b) mattresses or bedding.<sup>6</sup> Flammability standards and decreases in smoking have helped reduce these deaths, but the "fire-safe" cigarette could help prevent many more. Canada and three out of four states in the U.S. have passed legislation requiring cigarettes to be "fire-safe."



*Seven percent of home smoking fire fatalities whose smoking materials started the fire were using medical oxygen.<sup>7</sup>*

## Heating equipment caused 22% of home fire deaths.

Heating equipment ranked second in reported home fires and home fire injuries. Portable and fixed space heaters, including wood stoves, are involved in more fires than central heat and are also more likely than central heating fires to result in death.<sup>8</sup>



## Electrical distribution or lighting equipment was the third leading cause of home fires.

A study by the Consumer Product Safety Commission (CPSC) found that homes with older wiring face an increased risk of electrical wiring fire.<sup>9</sup>

## Intentional fires are the fourth leading cause of home fire deaths.

According to FBI statistics, roughly half of the people arrested for arson in recent years were under 18.<sup>10</sup>





**Candles were the third leading cause of home fire injuries.** These fires tripled from 1990 to 2001 with

the increase in candle sales but declined somewhat since then. Candles used for light in the absence of electrical power caused 1/3 of fatal candle fires.<sup>11</sup>

**Children under 5 are more than 8 times as likely to die in fire caused by playing with heat source than are people of all ages.**



Most child-play home structure fires start by lighters or matches. Almost half of all child-play home structure fires begin in the bedroom.<sup>12</sup>



**Almost all U.S. homes have at least one smoke alarm, but 63% of home fire deaths resulted from fires in homes without working smoke alarms.**

People who are under the influence of alcohol, drugs or medications, have disabilities, or are very close to where the fire started, may not be able to act on a smoke alarm's warning.<sup>13</sup>

Nuisance alarms are the leading reason for disabling smoke alarms.<sup>14</sup>

**Sprinklers decrease the fire death rate per 1,000 reported residential fires by 77% and the average loss per residential fire by 63%.**<sup>15</sup>

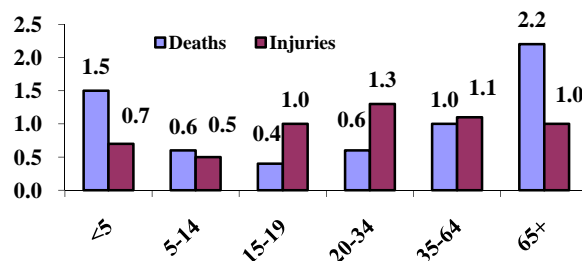
NFPA's Fire Sprinkler Initiative: Bringing Safety Home is a nationwide effort to encourage the use of home fire sprinklers and the adoption of fire sprinkler requirements for new construction.

See [www.firesprinklerinitiative.org](http://www.firesprinklerinitiative.org).

**Children under 5 and older adults face the highest risk of home fire death, but young adults face a higher risk of home fire injury.**<sup>16</sup>



**Relative Risk of U.S. Home Fire Deaths and Injuries by Age Group: 2002-2005**



States with the highest fire death rates tend to have higher percentages of

- Adults who did not finish high school,
- Black or Native American residents,
- Smokers,
- Households living in poverty, and
- People living in rural areas.<sup>17</sup>

**Road vehicle fires caused 11% of the civilian fire deaths.**

In 2007, the 365 deaths caused by car, truck and related vehicle fires was more than three times the 105 deaths resulting from non-residential structure fires.<sup>18</sup>



Three of every five road vehicle fire deaths resulted from fires caused by collisions or overturns.<sup>19</sup>



**Half of all reported fires were outside or unclassified types of fires.**<sup>20</sup>

**On average, a fire department responded to**

- A fire every 20 seconds,
- An outside fire every 41 seconds,
- A structure fire every 59 seconds,
- And a vehicle fire every 122 seconds.



Fire claimed nine lives every day.



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### References for “An Overview of the U.S. Fire Problem”

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- <sup>2</sup> Fire Analysis and Research Division, NFPA, Quincy, MA.
- <sup>3</sup> Michael J Karter Jr., and Joseph Molis, *Firefighter Injuries During 2007*, NFPA, Quincy, MA, November, 2008.
- <sup>4</sup> Marty Ahrens, *Home Structure Fires*, NFPA, Quincy, MA, January 2009.
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- <sup>6</sup> John R. Hall Jr., *The Smoking-Material Fire Problem*, NFPA, Quincy, MA, November 2008.
- <sup>7</sup> John R. Hall Jr., Marty Ahrens, Kimberly D. Rohr, Sharon Gamache, and Judy Comoletti, *Behavioral Mitigation of Smoking Fires Through Strategies Based on Statistical Analysis*, EME-2002-CA-0310, 2006. available from the U.S. Fire Administration at <http://www.usfa.dhs.gov/downloads/pdf/publications/fa-302-508.pdf>
- <sup>8</sup> John R. Hall Jr., *Home Fires Involving Heating Equipment*, NFPA, Quincy, MA, January 2009.
- <sup>9</sup> Linda E. Smith, and Dennis McCoskrie, “What Causes Wiring Fires in Residences?” *Fire Journal*, v. 84 (1), pp. 18-22+, January/February 1990.
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- <sup>13</sup> Marty Ahrens, *U.S. Experience with Smoke Alarms and Other Fire Detection/Alarm Equipment*, NFPA, Quincy, MA, February 2009.
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- <sup>20</sup> Michael J Karter, Jr., *Fire Loss in the U.S. During 2007*, NFPA, Quincy, MA, August 2008.