

HOME STRUCTURE FIRES THAT BEGAN WITH MATTRESSES AND BEDDING

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Abstract

Based on data from the U.S. Fire Administration's (USFA's) National Fire Incident Reporting System (NFIRS) and the National Fire Protection Association's (NFPA's) annual fire department experience survey, NFPA estimates that during 2005-2009, a mattress or bedding was the item first ignited in an average of 10,260 reported home structure fires per year. These fires caused an estimated annual average of 371 civilian deaths, 1,340 civilian injuries, and \$382 million in direct property damage. One-fifth of these fires were started by smoking materials; another fifth were started by someone playing with fire. Mattresses and bedding ranked second among items first ignited in home fire deaths. Half (51%) of these deaths resulted from fires started by smoking materials.

Keywords: mattress; bedding small open flame; fires; home fires, fire causes, fire statistics; smoking materials, residential fires

Acknowledgements

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We are also grateful to the U.S. Fire Administration for its work in developing, coordinating, and maintaining NFIRS.

For more information about the National Fire Protection Association, visit www.nfpa.org or call 617-770-3000. To learn more about the One-Stop Data Shop go to www.nfpa.org/osds or call 617-984-7443.

Copies of this analysis are available from:

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Executive Summary

NFPA estimates that during 2005-2009, a mattress or bedding was the item first ignited in an average of 10,260 reported home structure fires per year. These fires caused an estimated annual average of 371 civilian deaths, 1,340 civilian injuries, and \$382 million in direct property damage. These fires accounted for 3% of all home structure fires, 14% of deaths, 10% of injuries and 5% of property damage.

In 2009, there were 85% fewer fires that started with mattress or bedding than there were in 1980, and deaths associated with these fires were 61% lower. Some of the decrease in reported fires may be due to changes in reporting in the late 1990s.

Most (78%) of these fires begin in the bedroom. Fires beginning in the bedroom were associated with 84% of civilian deaths, 83% of injuries, and 80% of property damage. The 5% of fires that started in a living room, family room, or den caused 12% of the associated deaths.

Smoking materials are the leading cause of mattress and bedding fires and deaths (20% of fires and 51% of deaths). Playing with heat source caused 18% of fires and 8% of deaths. Candles started 12% of fires, and heating equipment caused 8% of fires, but 21% of deaths. One-third (35%) of fires started with lighters, candles, or matches.

A heat source being too close to the mattress or bedding was a factor in 27% of mattress or bedding fires, and 34% of the civilian deaths. Abandoned or discarded materials, (often used to describe discarded cigarettes) contributed to 16% of fires and 38% of civilian deaths.

Existing and proposed flammability requirements for mattresses and bedding focus

on fires started by either smoking materials or small open flames, so those two categories are singled out for additional analysis. Mattress and bedding fires started by smoking materials fell 92% from 1980 to 2009, deaths fell 67%. Drops in fires and deaths caused by lighters, candles or matches were not as pronounced.

Fires started by lighters candles and matches were less common in the early morning hours (midnight to 9:00 a.m.), while fires caused by smoking materials were more common during this timeframe than all fires that started with mattress or bedding.

Age was more likely to be a factor in deaths and injuries caused by mattress and bedding fires where a lighter, candle or match was the heat source, while sleeping was more likely to be a factor in smoking material fire deaths and injuries. Unsurprisingly, younger people were more likely to be the victims of fires with a lighter, candle or match as the heat source. People aged 55 and older were more likely to be victims of fires started by smoking materials.

The NFPA provides safety tips to follow in order to lessen the risk of fires that start with mattress or bedding, some of these are:

- Never smoke in bed, as you can easily fall asleep with a burning cigarette, igniting the mattress or bedding.
- Teach your children at the earliest possible age that matches and lighters are tools for adults only, not toys. Store matches and lighters up high, out of the reach of children, preferably in a locked cabinet.
- Turn off portable heaters when you leave the room or go to sleep.

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Fact Sheet

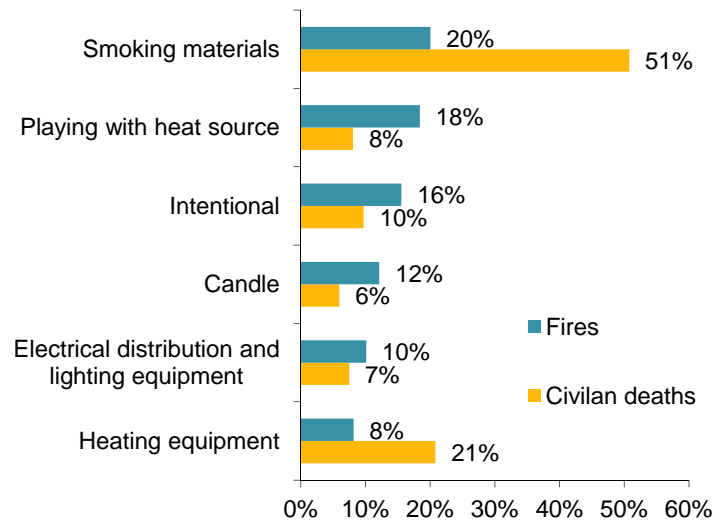
Home Structure Fires That Began With Mattresses and Bedding

Between 2005 and 2009, local fire departments responded to an average of 10,260 home structure fires per year that started with mattresses and bedding. These fires caused annual averages of:

- 371 civilian deaths
- 1,340 civilian injuries
- \$382 million in direct property damage
-

Major Causes of Home Structure Fires That Began With Mattresses And Bedding

- Smoking materials were the cause of 20% of these fires, and half (51%) of the associated civilian deaths
- Playing with a heat source and intentional accounted for 18% and 16% of fires respectively (though there is overlap between these two categories)
- Heating equipment caused 8% of fires but 21% of deaths

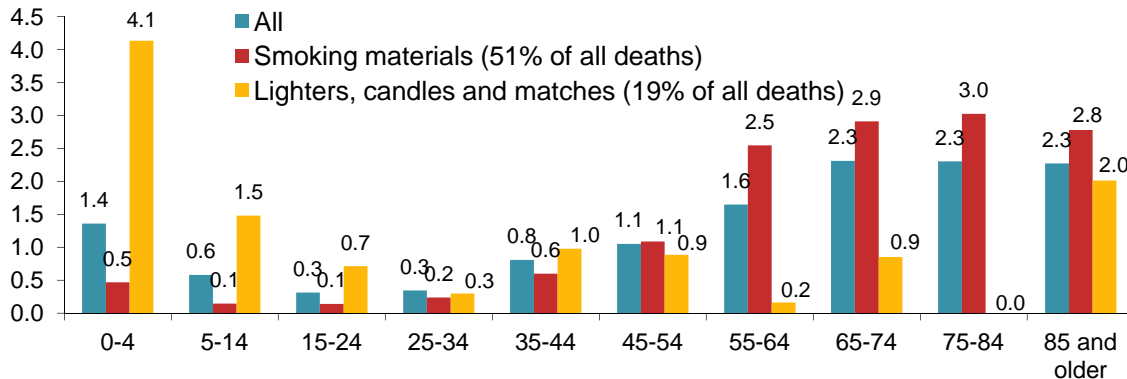


Relative Risk of Home Mattress and

Bedding Fire Death by Age Group

and Smoking Materials vs. Lighters, Candles, and Matches: 2005-2009

Children under 5 years old are at greater risk of fires started by lighters, candles and matches, while older adults are at greater risk from fires started by smoking materials



More information is available at www.nfpa.org

NFPA's Fire Safety Resources

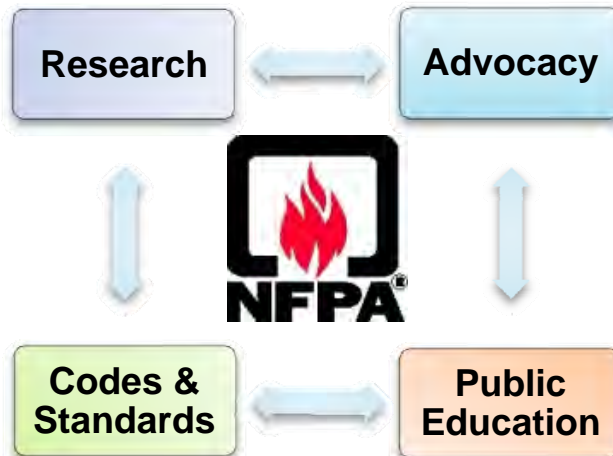
NFPA's wealth of fire-related research includes investigations of technically significant fire incidents, fire data analysis, and the Charles S. Morgan Technical Library, one of the most comprehensive fire literature collections in the world. In addition, NFPA's Fire Protection Research Foundation is a source of independent fire test data. Find out more at:

www.nfpa.org/research

Properly installed and maintained smoke alarms are necessary to provide a warning of any fire to all occupants. You can find out more information about smoke alarms here: [NFPA Smoke Alarm Information](#)

Home fire sprinkler systems provide even greater protection. These systems respond quickly to reduce the heat, flames, and smoke from a fire until help arrives. More information about home fire sprinklers may be found at www.firesprinklerinitiative.org

Simply put, smoke alarms and fire sprinklers save lives.



NFPA also develops, publishes, and disseminates more than 300 consensus codes and standards intended to minimize the possibility and effects of fire and other risks. Among these are:

[NFPA1: Fire Code:](#)

[NFPA 101: Life Safety Code®:](#)

[NFPA 267: Standard Method of Test for Fire Characteristics of Mattresses and Bedding Assemblies Exposed to Flaming Ignition Source:](#)

[For consumers:](#) NFPA has consumer safety information regarding causes, escape planning, fire & safety equipment, and many other topics.

[For Kids:](#) Sparky.org has important information for kids delivered via fun games, activities, and cartoons.

[For public educators:](#) Resources on fire safety education programs, educational messaging, grants & awards, and many other topics.