

**DEMOGRAPHIC AND OTHER CHARACTERISTICS  
RELATED TO FIRE DEATHS OR INJURIES**

**Fire Analysis and Research Division**

**March 2010**



**National Fire Protection Association  
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## **Abstract**

The risk of fire death and injury varies by age group, race, region, and community size. Children under five and adults 65 or older face the highest risk of fire death, although they do not account for the majority of fire fatalities. The risk of non-fatal fire injury is highest for those between 20 and 49. Higher fire death rates are seen in states with larger percentages of people who possess one or more of the following characteristics: are black, poor, smoke, have less formal education, or who live in rural areas. In more affluent areas, race played less of a role. The South and Midwest had the highest fire death rates per million population in 2004-2008. The rate in the rural South was the highest by far.

## **Acknowledgements**

The National Fire Protection Association thanks all the fire departments and state fire authorities who participate in the National Fire Incident Reporting System (NFIRS) and the annual NFPA fire experience survey. These firefighters are the original sources of the detailed data that make this analysis possible. Their contributions allow us to estimate the size of the fire problem.

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

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National Fire Protection Association  
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## Demographic and Other Characteristics Related to Fire Deaths or Injuries

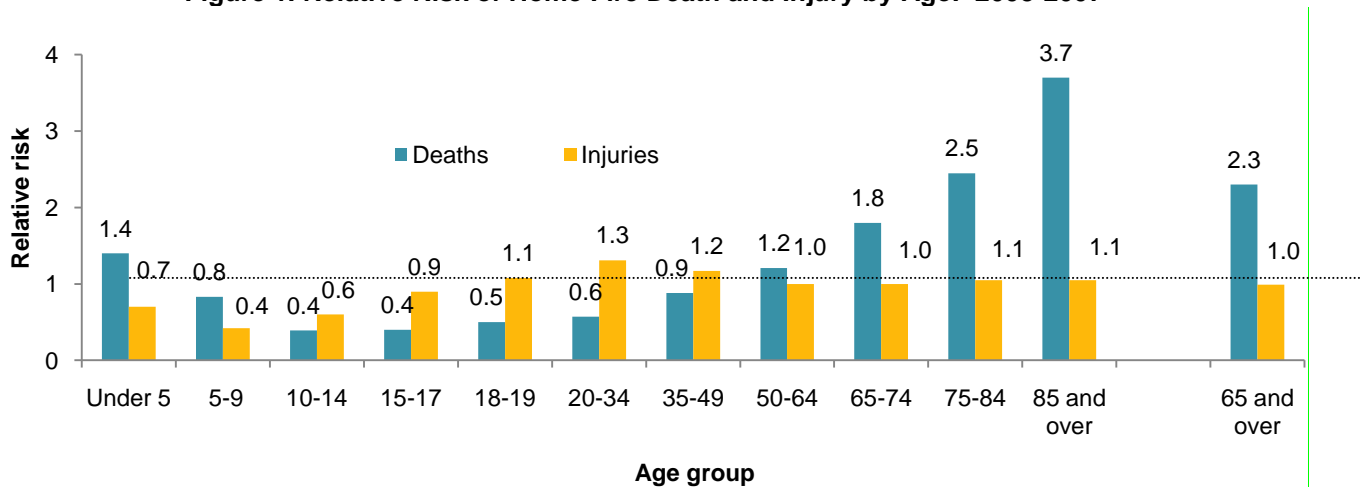
The risk of fire death and injury varies by age group, race, region, and community size. Certain socioeconomic factors are associated with greater or lesser risk of death in certain types of fires. The more we know about which groups are at greatest risk and under what circumstances, the more effective we can be at targeting resources and developing the means to mitigate these risks. Most of the statistics that follow were derived from previously published studies.

### Age and Risk of Fire Death and Injury

#### Very young children and older adults face the highest risk of fire death.

Jennifer Flynn examined age, gender and other victim patterns in her study on characteristics of home fire victims.<sup>1</sup> Only 7% of the U.S. population is under five years of age, but in 2003-2007, 10% of the home fire fatalities were under five. Figure 1 shows that these young children were almost 1.5 times as likely to die in fire as the general population. Children under 5 were at greatest risk of dying in home structure fires caused by playing with heat source (almost 8 times more likely than the general population), cooking equipment (more than twice as likely), and heating equipment (twice as likely).

**Figure 1. Relative Risk of Home Fire Death and Injury by Age: 2003-2007**



Source: Jennifer D. Flynn. NFPA, *Characteristics of Home Fire Victims*, 2010

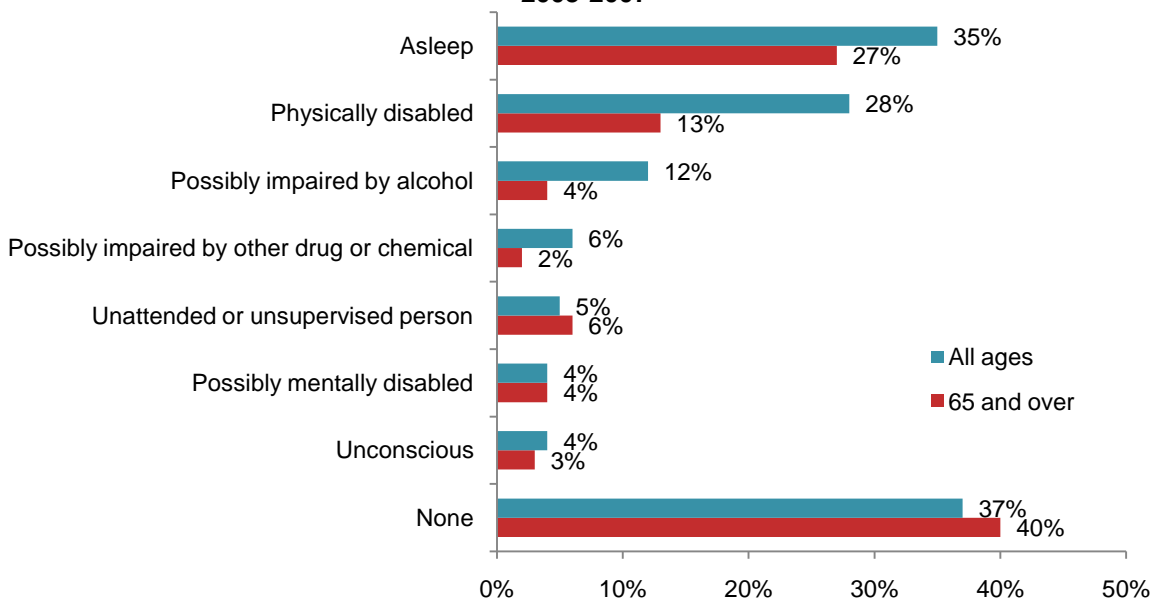
Adults over 65 have the highest risk of fire death. Risk increases with age. During 2003-2007, 28% of the people fatally injured in home fire were 65 or older, but only 12% of the population

<sup>1</sup> Jennifer D. Flynn. *Characteristics of Home Fire Victims*, Quincy, MA: National Fire Protection Association, 2010

was that old. They faced a risk more than twice that of the general population. For those 75 and over, the risk is 2.8 times as high. While only 2% of the population was 85 or older, 6% of the home fire deaths were in this age group, giving these elders a risk 3.7 times the general population. Adults 65 and older were at highest risk of dying in home structure fires caused by smoking materials (3 times more likely than the general public), electrical distribution and lighting equipment (almost 3 times as likely), and heating equipment (2.5 times as likely).

**High-risk groups do not account for the majority of fire deaths and injuries. Rather, their share of deaths and injuries exceeds their share of the general population.** Relative risk is calculated by dividing the percentage of deaths or injuries (or other measure) experienced by that group by their percentage of the general population. A relative risk of one means that the percentage of deaths or injuries experienced by a group equals the percentage of the population in that group.

**Figure 2. Home Fire Deaths by Human Factor Contributing to Injury 2003-2007**



Source: Jennifer D. Flynn. NFPA, *Characteristics of Home Fire Victims*, 2010.

**Older victims were more likely to have had a physical disability than other age groups.**

Flynn examined human factors in fire deaths and injuries. Figure 2 shows human factors contributing to injury for all home fatalities and those 65 or older.<sup>2</sup> Possible alcohol impairment was a factor in 12% of all fatalities, but only 4% of the older adult deaths. Alcohol was possibly involved in 20-27% of the fire deaths of adults ages 18-64. Data from special studies suggest that this is an underestimate.

<sup>2</sup> Jennifer D. Flynn. *Characteristics of Home Fire Victims*, Quincy, MA: National Fire Protection Association, 2010.

In a study on possible drug or alcohol impairment as a factor contributing to injury, Marty Ahrens found that 71%<sup>3</sup> of these fatal home structure fire victims in 2003-2006 were male. Ahrens also points out that in fire deaths in which alcohol or drug impairment was a possible factor, 45% of the deaths resulted from fires started by smoking materials (i.e., lighted tobacco products but not matches or lighters).

Physical disability was a contributing factor in 13% of all civilian fire fatalities had a physical disability. Physical disabilities rarely played a role in the younger age groups, but the percentage increased steadily from 4% of the victims in the 20-34 age group throughout the later years. Thirty-two percent of victims who were 85 or older had physical disability as a factor contributing to the fatal injury.

In a study on physical disability as a factor in home fire deaths, Marty Ahrens concluded that more than half of the victims with physical disabilities were involved in ignition and in the area of origin when the fire started. When physical disability contributed to the fatal injury, the victims were more likely to have been killed by a fire started by smoking materials, that originated in the bedroom, and that began with either a) mattresses or bedding, or b) clothing, than were home fire victims in general.<sup>4</sup>

#### **Risk of non-fatal fire injury is higher for those 20-49.**

Flynn also reported that 43% of the population is between 20 and 49, but 53% of the people who suffered non-fatal injuries in reported home fires were in this age group, resulting in a risk more than 1.2 times that of the general population.

Children under 9 are at higher risk of fire injury in home structure fires that were caused by playing with heat source, than any other cause.

#### **Higher fire death rates are seen in states with larger percentages of people who are black, poor, smokers, have less formal education, and who live in rural areas.**

In *U.S. Unintentional Fire Death Rates by State*, Hall noted that the Southeastern states (excluding Florida) typically have the highest fire death rates. Many factors associated with higher fire death rates are correlated with each other. They are *not* mutually exclusive. He found that

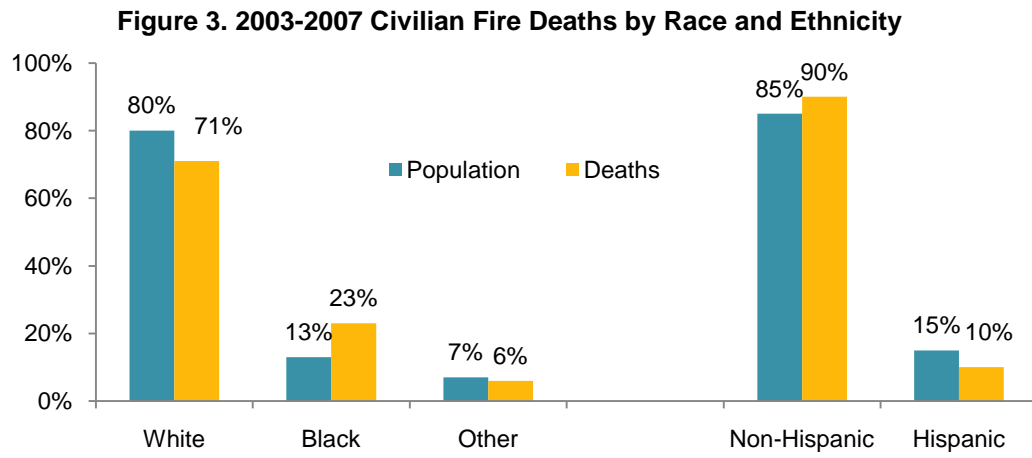
- 38% of the difference can be explained by the percent of people 25 or older who lacked 12 years of education,
- 33% of the difference in state death rates could be explained by the percentage of the population that was black,
- 28% by the percent of population who had smoked at least one cigarette in the previous month,
- 28% by the percentage of population living below the poverty line, and
- 15% of the difference could be explained by the percentage of the population living in rural areas.

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<sup>3</sup> Ahrens, M., *Possible Impairment by Alcohol or Drugs as a Contributing Factor in Home Fire Deaths*, November 2009.

<sup>4</sup> Ahrens, M., *Physical Disability as a Factor in Home Fire Deaths*, August 2009.

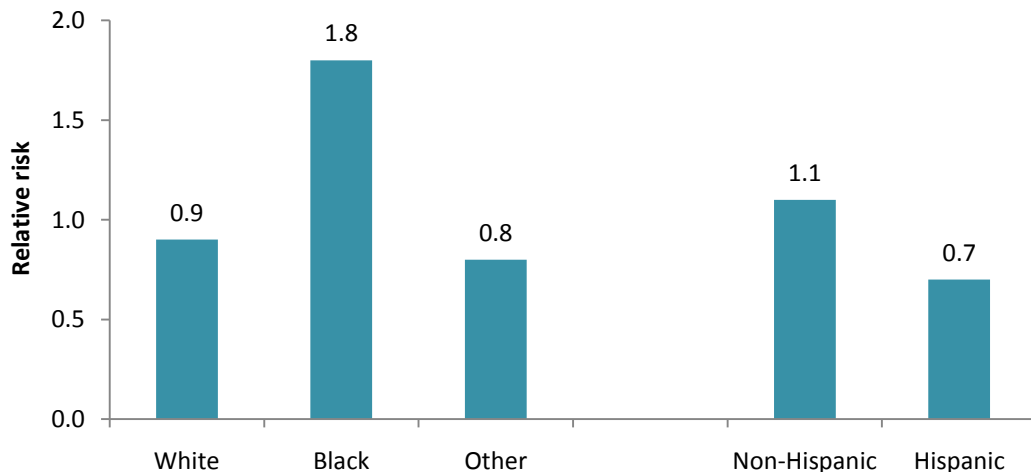
Seventy-one percent of people who died in reported home structure fires were white while 23% were black, yet black individuals faced a risk of fire death almost twice that of an individual of another race.<sup>5</sup>



Source: Jennifer D. Flynn. NFPA, *Characteristics of Home Fire Victims*, 2010.

Figure 4 portrays the relative risk of fire death by race. The black population faces a risk of fire death twice as high as that of whites.

**Figure 4. Relative Risk of Unintentional Fire Death by Race and Ethnicity in 2003-2007**



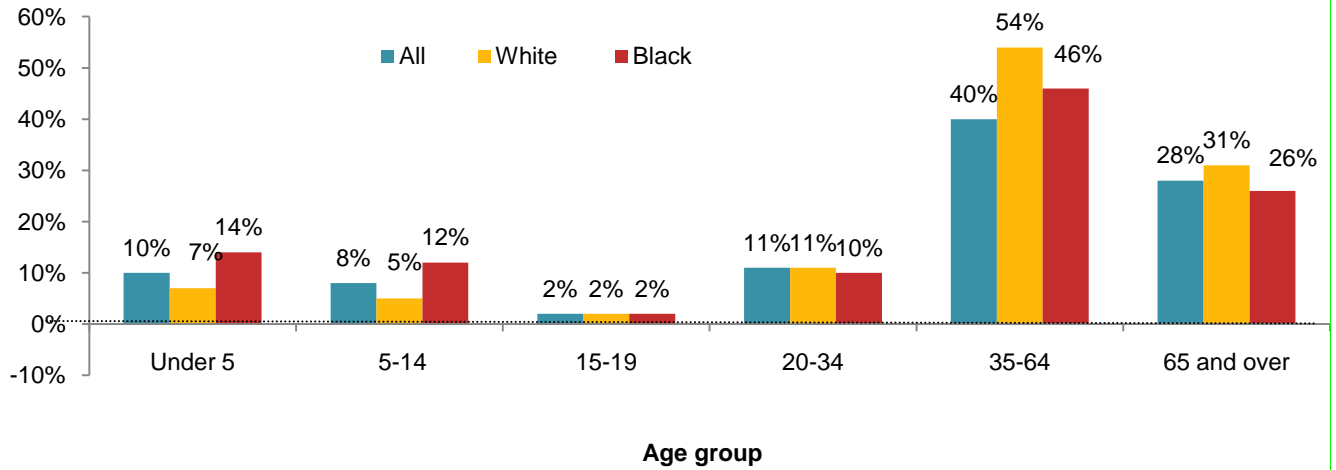
Source: Jennifer D. Flynn. NFPA, *Characteristics of Home Fire Victims*, 2010.

**Of the fatal victims that were children, twice as many were black compared to white.**

<sup>5</sup> Jennifer D. Flynn *Characteristics of Home Fire Victim*, 2010.

Fourteen percent of black fatal victims were under the age of five compared to 7% for white victims. Children 5-14 accounted for 12% of the black victims but 6% of the white victims. (See Figure 5.)

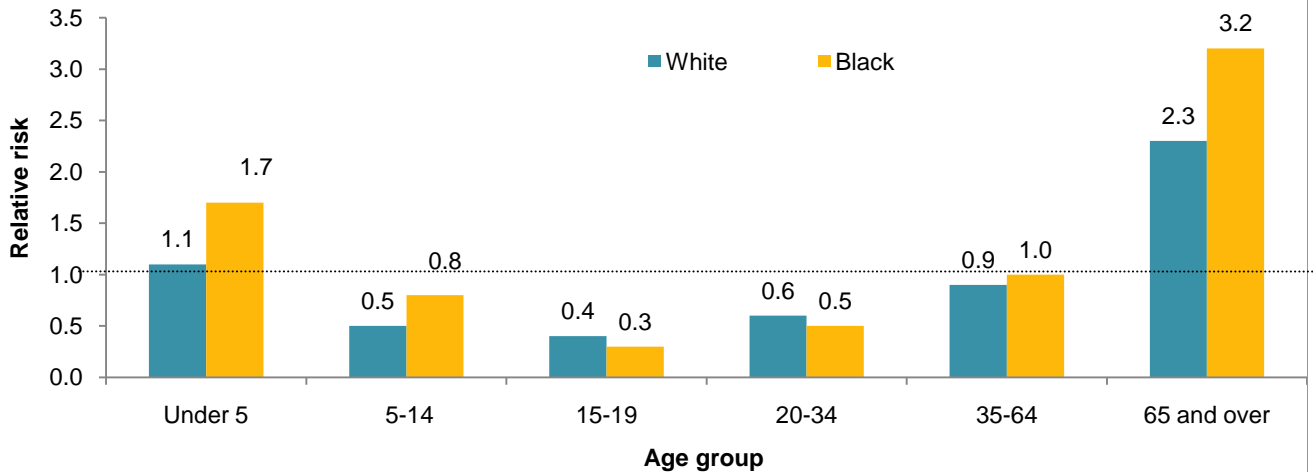
**Figure 5. U.S. Home Fire Deaths by Race and Age Group 2003-2007**



Source: Jennifer D. Flynn. NFPA, *Characteristics of Home Fire Victims*, 2010.

Figure 6 shows the relative risk of fire death and injury by race and age. Black children under 5 have a risk of fire death (1.7) that is almost one and half times as high as that of white children (1.1). In fact, the risk of fire death for white children is about the same level of risk for the general public.

**Figure 6. Relative Risk of Home Fire Death and Injury by Race in Different Age Groups 2003-2007**



Source: Jennifer D. Flynn. NFPA, *Characteristics of Home Fire Victims*, 2010.

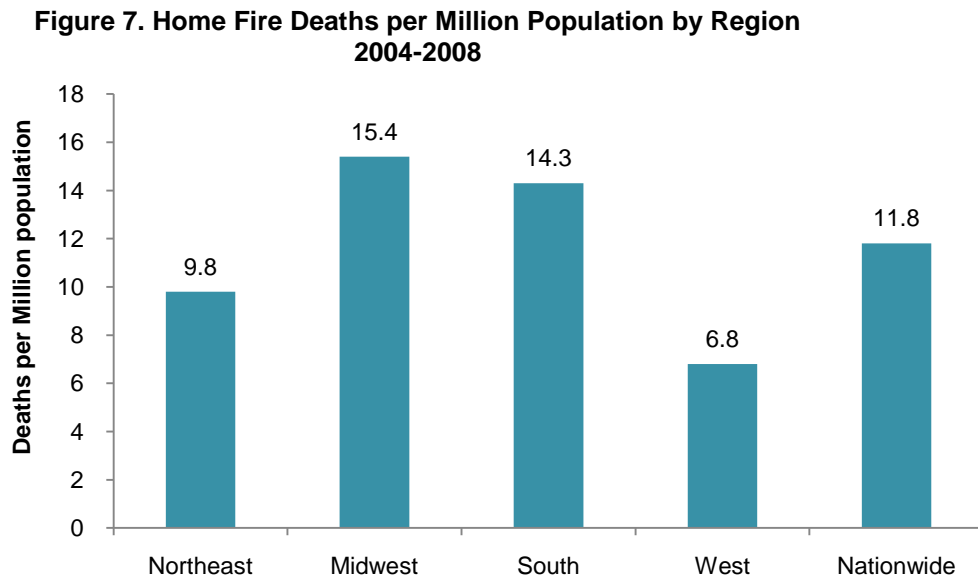
**In more affluent areas, race played less of a role.**

Hannon and Shai analyzed 1998-1992 fire death rates and socioeconomic data for U.S. metropolitan counties with populations of at least 250,000.<sup>6</sup> They found that areas in which median family income was low and a large part of the population was African American had extremely high fire death rates. In more affluent areas, the percentage of African Americans in the population had little influence on fire death rates.

**Fire Deaths by Region and Community Size**

**The Midwest and South had the highest fire death rates in 2004-2008.**

In his analysis of fire experience by region, Michael Karter found that the Midwest and South had the highest home fire death rates in the 2004-2008 period.<sup>7</sup> (See Figure 7.) He also found that western states had the lowest home fire death rate. The leading cause of home fire deaths in all regions is smoking materials.



Source: Michael J. Karter, NFPA, *U.S. Fire Experience by Region 2004-2008*, 2010  
Analysis is based on the census regions.

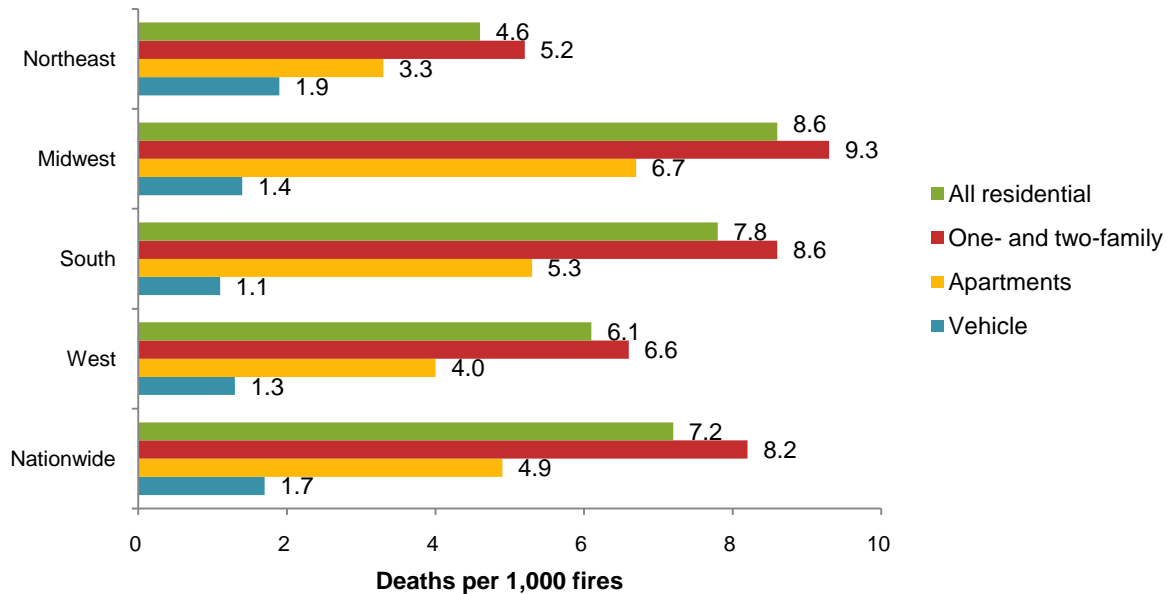
Karter also examined the rate of deaths per 1,000 reported fires by property use in each region. The rate was highest in one- and two-family homes in all regions. Figure 8 shows that compared to other regions, the Midwest had the highest death rates per 1,000 fires in all residential fires,

<sup>6</sup> Lance Hannon and Donna Shai. “The Truly Disadvantaged and the Structural Covariates of Fire Death Rates,” *The Social Science Journal* 40 (2003) 129-136.

<sup>7</sup> Michael J. Karter, Jr. *U.S. Experience by Region, 2004-2008*, Quincy, MA: National Fire Protection Association, 2010.

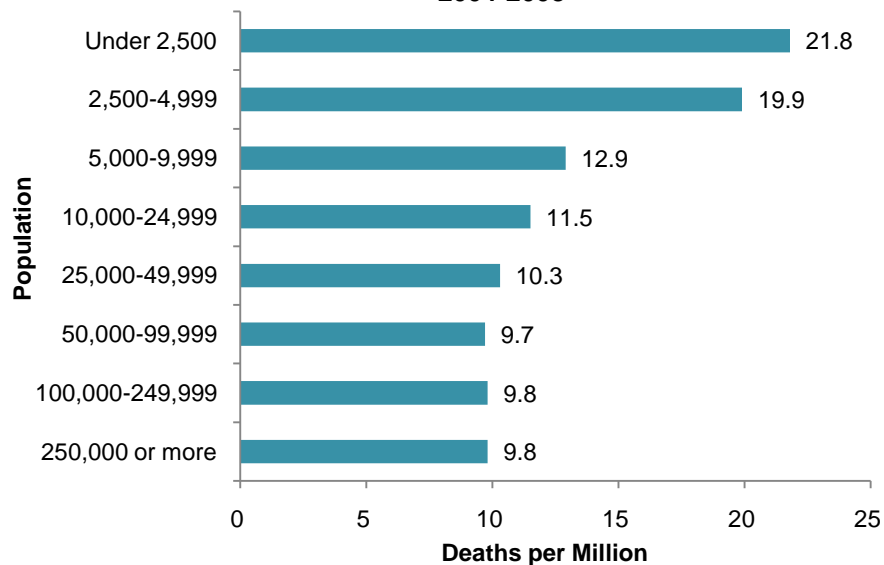
one- and two-family home fires and apartment fires. The Northeast had the highest rate of vehicle fire deaths per 1,000 fires.

**Figure 8. Civilian Fire Deaths per 1,000 Fires by Region and Type of Fire 2004-2008**



Source: Michael J. Karter, NFPA, *U.S. Fire Experience by Region 2004-2008*, 2010  
 Analysis is based on the census regions.

**Figure 9. Civilian Fire Deaths per Million Population by Community Size 2004-2008**



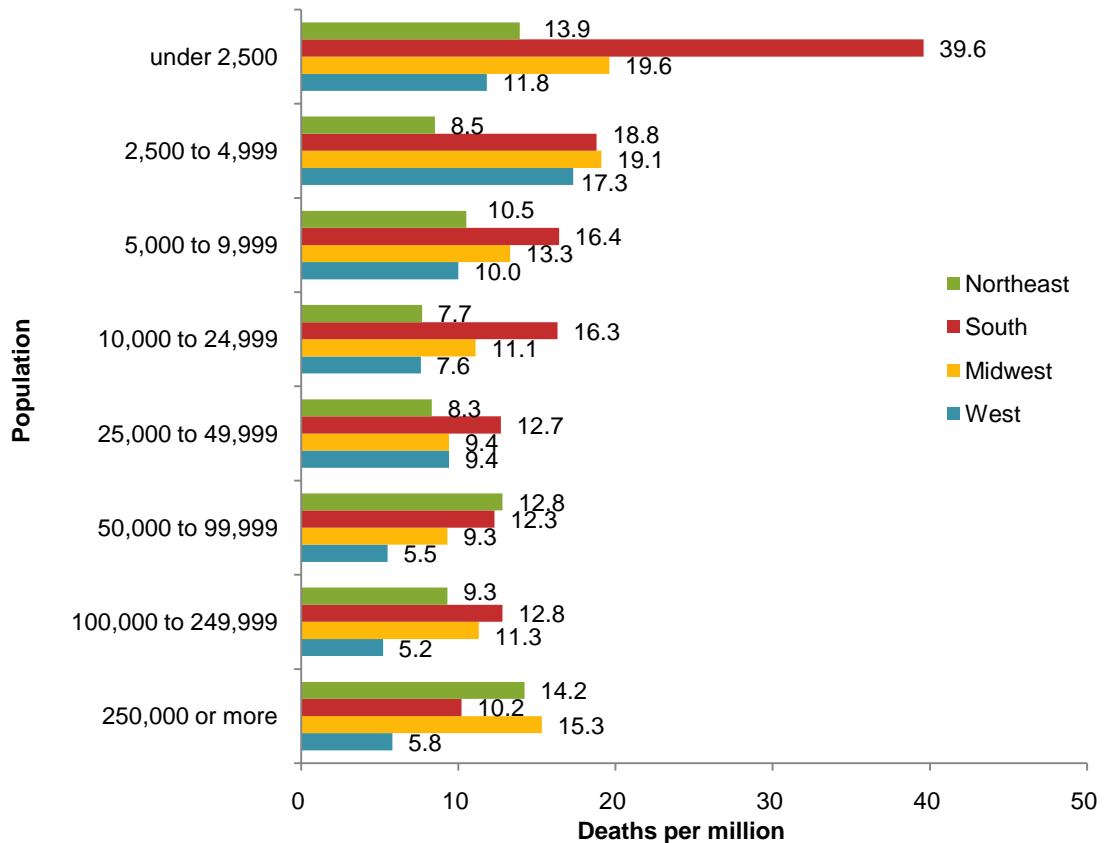
Source: Michael J. Karter, NFPA, *U.S. Fire Experience by Region 2004-2008*, 2010  
 Analysis is based on the census regions.

Figure 9 shows that the death rate per million population in communities with fewer than 2,500 people is almost twice that of communities with 10,000 or more. This is consistent with Hall’s finding of higher death rates in states with larger rural populations.

**Small towns in the rural South and big cities in the Midwest both have higher fire death rates than other communities the same size in other regions.**

Figure 10 shows that the fire death rate pattern by community size pattern varies greatly by region. The rural South has by far the highest fire death rate of communities under 2,500 population in any region. In cities of 100,000 or more, the Midwestern region has the highest fire death rate. The West had the lowest fire death rate in communities with fewer than 2,500 people.

**Figure 10. Civilian Fire Deaths per Million Population and Size of Community, 2004-2008**



Source: Michael J. Karter, NFPA, *U.S. Fire Experience by Region 2004-2008*, 2010  
 Analysis is based on the census regions.

## **Appendix A. How National Estimates Statistics Are Calculated**

The statistics in this analysis are estimates derived 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 survey of U.S. fire departments. NFIRS is a voluntary system by which participating fire departments report detailed factors about the fires to which they respond. Roughly two-thirds of U.S. fire departments participate, although not all of these departments provide data every year. Fires reported to federal or state fire departments or industrial fire brigades are not included in these estimates.

NFIRS provides the most detailed incident information of any national database not limited to large fires. NFIRS is the only database capable of addressing national patterns for fires of all sizes by specific property use and specific fire cause. NFIRS also captures information on the extent of flame spread, and automatic detection and suppression equipment. For more information about NFIRS visit <http://www.nfirs.fema.gov/>. Copies of the paper forms may be downloaded from [http://www.nfirs.fema.gov/documentation/design/NFIRS\\_Paper\\_Forms\\_2008.pdf](http://www.nfirs.fema.gov/documentation/design/NFIRS_Paper_Forms_2008.pdf).

NFIRS has a wide variety of data elements and code choices. The NFIRS database contains coded information. Many code choices describe several conditions. These cannot be broken down further. For example, area of origin code 83 captures fires starting in vehicle engine areas, running gear areas or wheel areas. It is impossible to tell the portion of each from the coded data.

### **Methodology may change slightly from year to year.**

NFPA is continually examining its methodology to provide the best possible answers to specific questions, methodological and definitional changes can occur. *Earlier editions of the same report may have used different methodologies to produce the same analysis, meaning that the estimates are not directly comparable from year to year.*

### **NFPA's fire department experience survey provides estimates of the big picture.**

Each year, NFPA conducts an annual survey of fire departments which enables us to capture a summary of fire department experience on a larger scale. Surveys are sent to all municipal departments protecting populations of 50,000 or more and a random sample, stratified by community size, of the smaller departments. Typically, a total of roughly 3,000 surveys are returned, representing about one of every ten U.S. municipal fire departments and about one third of the U.S. population.

The survey is stratified by size of population protected to reduce the uncertainty of the final estimate. Small rural communities have fewer people protected per department and are less likely to respond to the survey. A larger number must be surveyed to obtain an adequate sample of those departments. (NFPA also makes follow-up calls to a sample of the smaller fire departments that do not respond, to confirm that those that did respond are truly representative of fire departments their size.) On the other hand, large city departments are so few in number and protect such a large proportion of the total U.S.

population that it makes sense to survey all of them. Most respond, resulting in excellent precision for their part of the final estimate.

The survey includes the following information: (1) the total number of fire incidents, civilian deaths, and civilian injuries, and the total estimated property damage (in dollars), for each of the major property use classes defined in NFIRS; (2) the number of on-duty firefighter injuries, by type of duty and nature of illness; (3) the number and nature of non-fire incidents; and (4) information on the type of community protected (e.g., county versus township versus city) and the size of the population protected, which is used in the statistical formula for projecting national totals from sample results. The results of the survey are published in the annual report *Fire Loss in the United States*. To download a free copy of the report, visit <http://www.nfpa.org/assets/files/PDF/OS.fireloss.pdf>.

### **Projecting NFIRS to National Estimates**

As noted, NFIRS is a voluntary system. Different states and jurisdictions have different reporting requirements and practices. Participation rates in NFIRS are not necessarily uniform across regions and community sizes, both factors correlated with frequency and severity of fires. This means NFIRS may be susceptible to systematic biases. No one at present can quantify the size of these deviations from the ideal, representative sample, so no one can say with confidence that they are or are not serious problems. But there is enough reason for concern so that a second database -- the NFPA survey -- is needed to project NFIRS to national estimates and to project different parts of NFIRS separately. This multiple calibration approach makes use of the annual NFPA survey where its statistical design advantages are strongest.

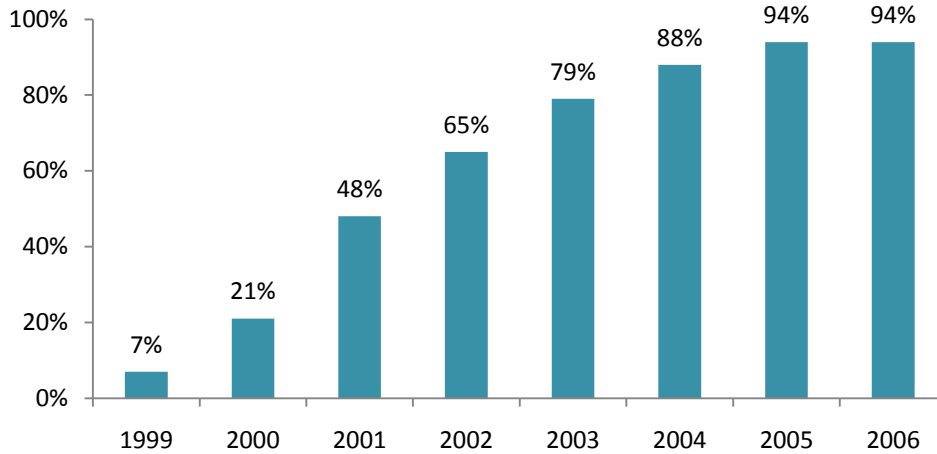
Scaling ratios are obtained by comparing NFPA's projected totals of residential structure fires, non-residential structure fires, vehicle fires, and outside and other fires, and associated civilian deaths, civilian injuries, and direct property damage with comparable totals in NFIRS. Estimates of specific fire problems and circumstances are obtained by multiplying the NFIRS data by the scaling ratios. Reports for incidents in which mutual aid was given are excluded NFPA's analyses.

Analysts at the NFPA, the USFA and the Consumer Product Safety Commission developed the specific basic analytical rules used for this procedure. "The National Estimates Approach to U.S. Fire Statistics," by John R. Hall, Jr. and Beatrice Harwood, provides a more detailed explanation of national estimates. A copy of the article is available online at <http://www.nfpa.org/osds> or through NFPA's One-Stop Data Shop.

Version 5.0 of NFIRS, first introduced in 1999, used a different coding structure for many data elements, added some property use codes, and dropped others. The essentials of the approach described by Hall and Harwood are still used, but some modifications have been necessary to accommodate the changes in NFIRS 5.0.

Figure 1 shows the percentage of fires originally collected in the NFIRS 5.0 system. Each year's release version of NFIRS data also includes data collected in older versions of NFIRS that were converted to NFIRS 5.0 codes.

**Figure 1. Fires Originally Collected in NFIRS 5.0 by Year**



For 2002 data on, analyses are based on scaling ratios using only data originally collected in NFIRS 5.0:

NFPA survey projections  
NFIRS totals (Version 5.0)

For 1999 to 2001, the same rules may be applied, but estimates for these years in this form will be less reliable due to the smaller amount of data originally collected in NFIRS 5.0; they should be viewed with extreme caution.

NFIRS 5.0 introduced six categories of confined structure fires, including:

- cooking fires confined to the cooking vessel,
- confined chimney or flue fires,
- confined incinerator fire,
- confined fuel burner or boiler fire or delayed ignition,
- confined commercial compactor fire, and
- trash or rubbish fires in a structure with no flame damage to the structure or its contents.

Although causal and other detailed information is typically not required for these incidents, it is provided in some cases (typically 10-20%). Some analyses, particularly those that examine cooking equipment, heating equipment, fires caused by smoking materials, and fires started by playing with fire, may examine the confined fires in greater detail. Because the confined fire incident types describe certain scenarios, the distribution of unknown data differs from that of all fires. Consequently, allocation of unknowns must be done separately.

Some analyses of structure fires show only non-confined fires. In these tables, percentages shown are of non-confined structure fires rather than all structure fires. This approach has the advantage of showing the frequency of specific factors in fire causes, but the disadvantage of possibly overstating the percentage of factors that are seldom seen in the confined fire incident types.

Other analyses include entries for confined fire incident types in the causal tables and show percentages based on total structure fires. In these cases, the confined fire incident type is treated as a general causal factor.

For most fields other than Property Use, NFPA allocates unknown data proportionally among known data. This approach assumes that if the missing data were known, it would be distributed in the same manner as the known data. NFPA makes additional adjustments to several fields. *Casualty and loss projections can be heavily influenced by the inclusion or exclusion of unusually serious fire.*

*In the formulas that follow, the term “all fires” refers to all fires in NFIRS on the dimension studied.*

**Factor Contributing to Ignition:** In this field, the code “none” is treated as an unknown and allocated proportionally. For Human Factor Contributing to Ignition, NFPA enters a code for “not reported” when no factors are recorded. “Not reported” is treated as an unknown, but the code “none” is treated as a known code and not allocated. Multiple entries are allowed in both of these fields. Percentages are calculated on the total number of fires, not entries, resulting in sums greater than 100%. Although Factor Contributing to Ignition is only required when the cause of ignition was coded as: 2) unintentional, 3) failure of equipment or heat source; or 4) act of nature, data is often present when not required. Consequently, any fire in which no factor contributing to ignition was entered was treated as unknown.

In some analyses, all entries in the category of electrical failure or malfunction (factor contributing to ignition 30-39) are combined and shown as “electrical failure or malfunction.” This category includes:

31. Water-caused short circuit arc;
32. Short-circuit arc from mechanical damage;
33. Short-circuit arc from defective or worn insulation;
34. Unspecified short circuit arc;
35. Arc from faulty contact or broken connector, including broken power lines and loose connections;
36. Arc or spark from operating equipment, switch, or electric fence;
37. Fluorescent light ballast; and
30. Electrical failure or malfunction, other.

**Type of Material First Ignited (TMI).** This field is required only if the Item First Ignited falls within the code range of 00-69. NFPA has created a new code “not required” for this field that is applied when Item First Ignited is in code 70-99 (organic materials, including cooking materials and vegetation, and general materials, such as electrical wire, cable insulation, transformers, tires, books, newspaper, dust, rubbish, etc..) and TMI is blank. The ratio for allocation of unknown data is:

(All fires – TMI Not required)

(All fires – TMI Not Required – Undetermined – Blank)

**Heat Source.** In NFIRS 5.0, one grouping of codes encompasses various types of open flames and smoking materials. In the past, these had been two separate groupings. A new code was added to NFIRS 5.0, which is code 60: “Heat from open flame or smoking material, other.” NFPA treats this code as a partial unknown and allocates it proportionally across the codes in the 61-69 range, shown below.

- 61. Cigarette;
- 62. Pipe or cigar;
- 63. Heat from undetermined smoking material;
- 64. Match;
- 65. Lighter: cigarette lighter, cigar lighter;
- 66. Candle;
- 67. Warning or road flare, fuse;
- 68. Backfire from internal combustion engine. Excludes flames and sparks from an exhaust system, (11); and
- 69. Flame/torch used for lighting. Includes gas light and gas-/liquid-fueled lantern.

In addition to the conventional allocation of missing and undetermined fires, NFPA multiplies fires with codes in the 61-69 range by

$$\frac{\text{All fires in range 60-69}}{\text{All fires in range 61-69}}$$

The downside of this approach is that heat sources that are truly a different type of open flame or smoking material are erroneously assigned to other categories. The grouping “smoking materials” includes codes 61-63 (cigarettes, pipes or cigars, and heat from undetermined smoking material, with a proportional share of the code 60s and true unknown data.

**Equipment Involved in Ignition (EII).** NFIRS 5.0 originally defined EII as the piece of equipment that provided the principal heat source to cause ignition if the equipment malfunctioned or was used improperly. In 2006, the definition was modified to “the piece of equipment that provided the principal heat source to cause ignition.” However, much of the data predates the change. Individuals who have already been trained with the older definition may not change their practices. To compensate, NFPA treats fires in which EII = NNN and heat source is not in the range of 40-99 as an additional unknown.

To allocate unknown data for EII, the known data is multiplied by

$$\frac{\text{All fires}}{\text{(All fires – blank – undetermined – [fires in which EII =NNN and heat source <>40-99])}}$$

In addition, the partially unclassified codes for broad equipment groupings (i.e., code 100, -

heating, ventilation, and air conditioning, other; code 200- electrical distribution, lighting and power transfer, other; etc.) were allocated proportionally across the individual code choices in their respective broad groupings (heating, ventilation, and air conditioning; electrical distribution, lighting and power transfer, other; etc.). Equipment that is totally unclassified is not allocated further. This approach has the same downside as the allocation of heat source 60 described above. Equipment that is truly different is erroneously assigned to other categories.

In some analyses, various types of equipment are grouped together. (Confined fire incident types are not discussed here)

<b>Code Grouping</b>	<b>EII Code</b>	<b>NFIRS definitions</b>
Central heat	132	Furnace or central heating unit
	133	Boiler (power, process or heating)
Fixed or portable space heater	131	Furnace, local heating unit, built-in
	123	Fireplace with insert or stove
	124	Heating stove
	141	Heater, excluding catalytic and oil-filled
	142	Catalytic heater
	143	Oil-filled heater
Fireplace or chimney	121	Fireplace, masonry
	122	Fireplace, factory-built
	125	Chimney connector or vent connector
	126	Chimney – brick, stone or masonry
	127	Chimney-metal, including stovepipe or flue
Wiring, switch or outlet	210	Unclassified electrical wiring
	211	Electrical power or utility line
	212	Electrical service supply wires from utility
	214	Wiring from meter box to circuit breaker
	216	Electrical branch circuit
	217	Outlet, receptacle
	218	Wall switch
Power switch gear or overcurrent protection device	215	Panel board, switch board, circuit breaker board
	219	Ground fault interrupter
	222	Overcurrent, disconnect equipment
	227	Surge protector
Lamp, bulb or lighting	230	Unclassified lamp or lighting
	231	Lamp-tabletop, floor or desk
	232	Lantern or flashlight
	233	Incandescent lighting fixture

	234	Fluorescent light fixture or ballast
	235	Halogen light fixture or lamp
	236	Sodium or mercury vapor light fixture or lamp
	237	Work or trouble light
	238	Light bulb
	241	Nightlight
	242	Decorative lights – line voltage
	243	Decorative or landscape lighting – low voltage
	244	Sign
Cord or plug	260	Unclassified cord or plug
	261	Power cord or plug, detachable from appliance
	262	Power cord or plug- permanently attached
	263	Extension cord
Torch, burner or soldering iron	331	Welding torch
	332	Cutting torch
	333	Burner, including Bunsen burners
	334	Soldering equipment
Portable cooking or warming equipment	631	Coffee maker or teapot
	632	Food warmer or hot plate
	633	Kettle
	634	Popcorn popper
	635	Pressure cooker or canner
	636	Slow cooker
	637	Toaster, toaster oven, counter-top broiler
	638	Waffle iron, griddle
	639	Wok, frying pan, skillet
	641	Breadmaking machine

**Item First Ignited.** In most analyses, mattress and pillows (item first ignited 31) and bedding, blankets, sheets, and comforters (item first ignited 32) are combined and shown as “mattresses and bedding.” In many analyses, wearing apparel not on a person (code 34) and wearing apparel on a person (code 35) are combined and shown as “clothing.” In some analyses, flammable and combustible liquids and gases, piping and filters (item first ignited 60-69) are combined and shown together

**Area of Origin.** Two areas of origin: bedroom for more than five people (code 21) and bedroom for less than five people (code 22) are combined and shown as simply “bedroom.”

**Rounding and percentages.** The data shown are estimates and generally rounded. An entry of

zero may be a true zero or it may mean that the value rounds to zero. Percentages are calculated from unrounded values. It is quite possible to have a percentage entry of up to 100%, even if the rounded number entry is zero. The same rounded value may account for a slightly different percentage share. Because percentages are expressed in integers and not carried out to several decimal places, percentages that appear identical may be associated with slightly different values.

**Inflation.** Property damage estimates are not adjusted for inflation unless so indicated.