RESEARCH

U.S. Fire Death Rates by State

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Abstract

Fire or flame deaths identified through death certificate data through the Center for Disease Control and Prevention's Web-based Injury Statistics Query and Reporting System were used to identify death counts and fire death rates over time. The long-term trend in fire death rates per million population has been sloping substantially downward for nearly every state since 1981. In the five most recent years analyzed (2011-2015), Mississippi had the highest average fire death rate. Southern states accounted for eight of the ten highest rates.

States with the highest fire death rates tended to have larger percentages of adults without a high school diploma, people living in poverty, current adult smokers, people living in rural areas, African Americans, and Native Americans or Alaska Natives. Understanding the factors associated with higher rates of fire death is critical in developing effective prevention programs.

To compare specific states with each other or the U.S. as a whole, see http://www.nfpa.org/news-and-research/fire-statistics-and-reports/fire-statistics/fires-in-the-us/overall-fire-problem/fire-deaths-by-state

Keywords: fire statistics, fire fatalities, fire death rates, risk factors, state fire data, demographic

Acknowledgements

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

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U.S. Fire Death Rates by State

This report uses death certificate data collected by the National Center for Health Statistics (NCHS) and accessible at the Centers for Disease Control and Prevention's (CDC's) Web-based Injury Statistics Query and Reporting System (WISQARS™) Fatal Injury Reports to provide average fire or flame deaths and average fire or flame death rates per year for 1981-1985 through 2011-2015. Queries were done in February 2017. Contributing demographic factors are shown, along with state rankings for fire death rates and specific factors. Earlier reports in this series examined unintentional fire death rates only. In this analysis, deaths from fires of all intents are included.

Nearly every state shows a trend toward fewer fire deaths and a lower fire death rate. Table 1 shows the average number of fire deaths by state for 1981-1985, 2006-2010, and 2011-2015 using consecutive five-year averages. States are listed alphabetically. Only three states, Arizona, Nevada, and New Mexico, showed an increase in fire deaths from 1981-1985 to 2011-2015. The fire death rate per million population was lower in 2011-2015 than in 1981-1985 in all 50 states.

While 17 states showed an increase in fire deaths from 2006-2010 to 2011-2015, only 14 showed an increase in the fire death rate per million population. Some fluctuation is normal, particularly in states with smaller populations.

Appendix A provides statistics for 1986-1990, 1991-1995, 1996-1998, 1999-2000, and 2001-2005. In 1981-1998, death certificates were coded according to the ninth edition of the International Classification of Disease. From 1999 on, the tenth edition was used. Consequently, the interval from 1996-2000, was split into two: 1996-1998 and 1999-2000. Appendix B shows fire death rates for the same time periods.

Eight of the ten states with the highest fire death rates in 2011-2015 were in the South. The exceptions were South Dakota and Alaska. Tables 3 and 4 show the 50 states, ranked in order of their 2011-2015 annual average fire death rates per million population.

Higher fire death rates are statistically correlated with several socioeconomic or behavioral characteristics of the states, which are described as risk factors in this report. Table 3 lists racial and ethnic characteristics. The percentage of population belonging to several groupings defined by *racial or ethnic* characteristics in was obtained from the 2011-2015 five-year estimates of demographics and housing in the U.S. Census Bureau's American Community Survey (ACS) demographic and housing data.

Table 4 lists other potentially explanatory state characteristics and with state rankings from 1 to 50 on each measure. The sources for each measure are shown below.

* The percentage of a state's population with incomes below the *poverty* line was taken from the ACS poverty status in the past 12 months 2011-2015 five-year estimates;
* The percentage of adults 25 or older without a high school diploma or equivalent was obtained from the ACS educational attainment 2011-2015 five-year estimates;

* The percentage of adults who are current smokers was obtained from the CDC's Behavioral Risk Factor Surveillance System 2011-2015;
* The percentage of each state's population living in *rural* communities in 2010 was obtained from the U.S. Census Bureau's "Urban and rural population by state, 2010."

The analysis shows that differences in some of these variables are strongly associated with differences in state fire death rates. These characteristics are at most correlated with fire risk. None of these characteristics *cause* higher fire risk.

Race and ethnicity are correlates of other factors that may have a greater impact on risk. Table 3 lists the racial and ethnic composition of states, excluding those of mixed-race. African-Americans and Native Americans have been found in multiple studies to have higher fire death rates than all races and ethnicities combined. In this analysis, states with higher percentages of these populations tended to have higher fire death rates. In their analysis of 1988-1992 fire death rates from counties with populations of 250,000 or more, Hannon and Shai found that "…Areas with a high proportion of African Americans and a low median family income tend to have exceptionally high fire death rates, and racial composition appears unrelated to variation in the fire death rate among areas with very high levels of income."[1]

Asian-Americans have lower fire death rates. Studies of Hispanic or Latino Americans do not show a clear risk difference from all races and ethnicities combined. Total racial or ethnic composition is provided for context.

Poverty (defined as percentage of population below the poverty line), *lack of education* (defined as percentage of population age 25 or older without a high school diploma or the equivalent), *smoking* (defined as percentage of adults who are current smokers), and *rural* (defined as percentage of population living in communities of less than 2,500 population in 2010), all are correlated with fire death rates. All of these findings are consistent with findings in other studies of socioeconomic and demographic factors related to measures of fire loss.

All these risk factors are also correlated with each other, and so they tend to explain some of the same variations in state fire death rates. A state that ranks high in one or more of these risk factors could be expected to rank higher in state fire death rate, and a state that ranks low in risk factors could be expected to have a lower state fire death rate. For example, Mississippi, West Virginia, Arkansas, and Alabama are all among the highest ten states on at least three of the major risk factors and were in the top five highest average state fire death rates. Hawaii and Utah were in the lowest ten states on at least three of the major risk factors and had the lowest fire death rates.

Information and comparisons of specific states are available at http://www.nfpa.org/news-and-research/fire-statistics-and-reports/fire-statistics/fires-in-the-us/overall-fire-problem/fire-deaths-by-state.

[1] Lance Hannon and Donna Shai. "The Truly Disadvantaged and the Structural Covariates of Fire Death Rates," *The Social Science Journal*, 40 (2003) 134.

It should also be emphasized that fire death rates are not an inevitable consequence of any factors. Effective programs – such as universal public fire and life safety education, wider use of home fire protection systems, and strong consensus codes with strong enforcement – can reduce fire death rates over time in any state.

Data Sources, Methods and Definitions

This analysis is based on the national database of death certificates collected by the National Center for Health Statistics (NCHS). The Centers for Disease Control and Prevention's (CDC's) Web-based Injury Statistics Query and Reporting System (WISQARS™) Fatal Injury Reports provided counts of residents of each of the 50 states with fire or flame coded as an external cause of fatal injury. In a change from previous reports in this series, all intents (intentional, unintentional and unknown intent) were counted. Death certificates are coded by local medical authorities, using codes defined by the International Classification of Diseases (ICD), prepared by the World Health Organization. Death certificate data are then compiled by the states and finally by NCHS. WISQARS also provided population data from the U.S. Census and death rates per 100,000 population. From 1981 through 1999, the ninth-edition of the ICD codes were used. ICD-10 codes have been used for death certificates from 2000 on.

In WISQARS and this analysis, "state" is the state where the victim lived. Local fire departments and state fire authorities are likely to track victims who died as a result of fires in their state, even if they were not state residents. Through the annual fire experience survey, NFPA develops estimates of civilian fire deaths based on data from local fire departments.

CDC documentation shows that in ICD-9, fire or flame deaths were identified by external cause of injury codes E890-E899 (unintentional), E958.1 (suicide by fire or flame), E968.0 (homicide by fire or flame), and E988.1 (fire or flame of undetermined intent), while in ICD-10, these deaths were identified by external cause of injury codes X00-X09 (unintentional), X76 (suicide), X97 (homicide), and Y26 (undetermined intent).[2] WISQARS notes a separate code was added for terrorism. Consequently, the deaths caused by the events of September 11, 2001 were not considered fire deaths.

Vehicle fire deaths, particularly those resulting from post-crash fires, are generally captured under transport codes in the death certificate dataset, but are included in the fire deaths captured in NFPA's estimates.

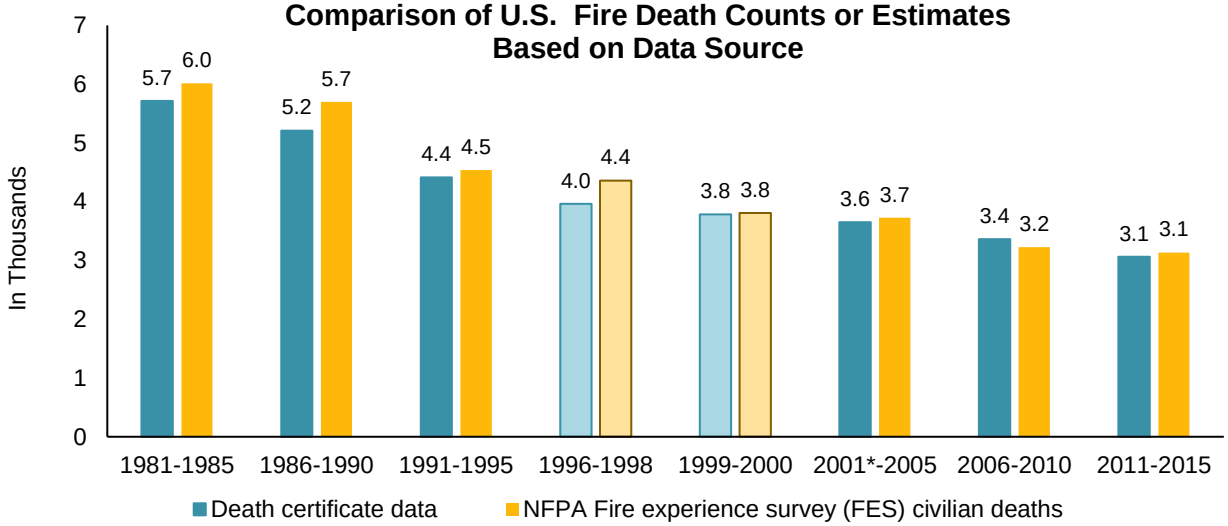
State fire agencies and NFPA national estimates of civilian fire deaths capture slightly different data than do death certificates. As mentioned earlier, state death tolls in this analysis are based on the victim's residence, not where the fire occurred. Fire departments may not be informed of a death that occurs after hospitalization. Deaths from a post collision fire are grouped with transportation in the ICD codes. NFPA's estimates are projections based on NFPA's fire experience survey of a subset of fire departments, not a complete census.

[2] G. Bergen, LH Chen, M Warner, and LA Fingerhut, *Injury in the United States: 2007 Chartbook*, (Hyattsville, MD: National Center for Health Statistics, 2008), 158. https://www.cdc.gov/nchs/data/misc/injury2007.pdf.

Firefighter fatalities were not included in these NFPA estimates. Note that many firefighter deaths were not caused by fire.

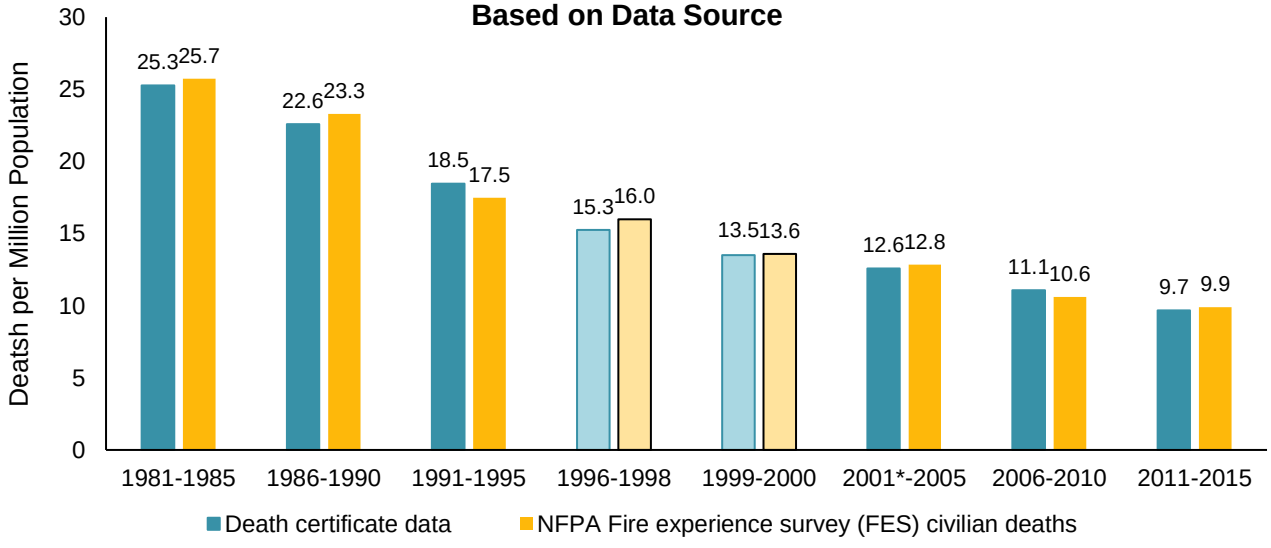
Figure 1 shows that the difference between national fire death counts from the death certificate data and NFPA's estimate of civilian fire deaths varied from a low of 1% to a high of 10%. Figure 2 shows that the difference in fire death rates between the two ranged from 1% to 5%. The transition years from ICD-9 to ICD-10 are shown in lighter shades.

Figure 1.
Comparison of U.S. Fire Death Counts or Estimates Based on Data Source



* Does not include the fatalities from the events of September 11, 2011.

Figure 2.
Comparison of U.S. Fire Death Rates Based on Data Source



* Does not include the fatalities from the events of September 11, 2011.

Table 1.
Fire Deaths by State, as Identified by National Center for Health Statistics Death Certificate Data
1981-1985, 2006-2010, and 2011-2015 Annual Averages

State	1981-1985 Deaths	Rank	2006-2010 Deaths	Rank	2011-2015 Deaths	Rank	Percent Reduction 1981-1985 to 2010-2015	Percent Reduction 2006-2010 to 2010-2015
Alabama	154	(14)	97	(13)	93	(12)	39%	4%
Alaska	20	(39)	15	(39)	15	(39)	25%	-1%
Arizona	43	(33)	45	(26)	49	(26)	-12%	-9%
Arkansas	86	(25)	64	(23)	63	(21)	27%	2%
California	384	(2)	216	(2)	186	(2)	52%	14%
Colorado	39	(34)	28	(33)	28	(33)	27%	-1%
Connecticut	48	(31)	27	(35)	26	(34)	45%	1%
Delaware	16	(44A)	10	(44B)	9	(45A)	47%	14%
Florida	222	(8)	148	(5)	124	(5)	44%	16%
Georgia	223	(7)	125	(10)	123	(6)	45%	1%
Hawaii	8	(49)	5	(50)	7	(47)	18%	-43%
Idaho	17	(41A)	16	(38)	12	(41B)	27%	22%
Illinois	296	(5)	131	(8)	120	(7)	60%	9%
Indiana	143	(17)	89	(16)	84	(14)	42%	6%
Iowa	49	(30)	32	(31)	36	(31A)	27%	-13%
Kansas	52	(29)	39	(28)	37	(30)	29%	6%
Kentucky	108	(22)	79	(19)	75	(18)	31%	5%
Louisiana	158	(13)	81	(18)	69	(19B)	56%	15%
Maine	34	(35)	11	(43)	18	(37A)	48%	-68%
Maryland	120	(20)	65	(22)	51	(25)	57%	21%
Massachusetts	119	(21)	34	(30)	36	(31B)	70%	-5%
Michigan	246	(6)	137	(7)	119	(8A)	52%	13%

Table 1.
Fire Deaths by State, as Identified by National Center for Health Statistics Death Certificate Data
1981-1985, 2006-2010, and 2011-2015 Annual Averages (Continued)

State	1981-1985	Rank	2006-2010 Deaths	2006-2010 Rank	2011-2015 Deaths	2011-2015 Rank	Percent Reduction 1981-1985 to 2010-2015 to	Percent Reduction 2006-2010 to 2010-2015
Minnesota	69	(27)	35	(29)	45	(27)	35%	-28%
Mississippi	138	(18)	86	(17)	75	(17)	46%	13%
Missouri	137	(19)	99	(12)	86	(13)	37%	13%
Montana	16	(44B)	10	(44A)	13	(40)	19%	-25%
Nebraska	27	(36)	18	(37)	18	(37B)	34%	3%
Nevada	16	(44C)	27	(34)	19	(36)	-24%	28%
New Hampshire	17	(41B)	12	(41)	12	(41C)	30%	2%
New Jersey	190	(11)	68	(21)	61	(22)	68%	10%
New Mexico	22	(37)	20	(36)	23	(35)	-5%	-14%
New York	436	(1)	178	(4)	157	(3)	64%	12%
North Carolina	210	(10)	127	(9)	118	(10)	44%	7%
North Dakota	15	(47A)	6	(47A)	6	(48A)	59%	-3%
Ohio	221	(9)	147	(6)	119	(8B)	46%	19%
Oklahoma	100	(23)	78	(20)	69	(19A)	31%	11%
Oregon	47	(32)	31	(32)	39	(29)	16%	-28%
Pennsylvania	297	(4)	179	(3)	154	(4)	48%	14%
Rhode Island	17	(41C)	8	(46)	9	(45B)	48%	-13%
South Carolina	153	(15)	90	(15)	82	(16)	46%	9%
South Dakota	15	(47B)	12	(42)	12	(41A)	16%	-7%
Tennessee	159	(12)	120	(11)	95	(11)	40%	21%
Texas	376	(3)	241	(1)	202	(1)	46%	16%
Utah	20	(38)	14	(40)	11	(44)	47%	25%
Vermont	18	(40)	6	(47C)	5	(50)	70%	4%

Table 1.
Fire Deaths by State, as Identified by National Center for Health Statistics Death Certificate Data
1981-1985, 2006-2010, and 2011-2015 Annual Averages (Continued)

State	1981-1985 Deaths	Rank	2006-2010 Deaths	Rank	2011-2015 Deaths	Rank	Percent Reduction 1981-1985 to 2010-2015	Percent Reduction 2006-2010 to 2010-2015
Virginia	149	(16)	91	(14)	83	(15)	44%	9%
Washington	75	(26)	52	(25)	59	(23)	22%	-14%
West Virginia	69	(28)	41	(27)	43	(28)	38%	-5%
Wisconsin	88	(24)	57	(24)	54	(24)	39%	5%
Wyoming	7	(50)	6	(47B)	6	(48B)	9%	-7%
Total	5,712		3,361		3,062		46%	9%

Note: Estimates are five-year annual averages. An average of 5 deaths per year represents a total of 23-27 deaths over the five-year period. Because of different definitions and practices, these averages may differ somewhat from those of state fire agencies. When the percent reduction is a negative number, it means that the average number of deaths increased. See Appendix A. for fire deaths by state for 1986-1990, 1991-1995, 1996-1998, 1999-2000, and 2001-2005. .

Source: NCHS death certificate data accessed through CDC's WISQARS™ in February 2017.

Table 2. Fire Death Rates per Million Population, by State
1981-1985, 2006-2010, and 2011-2015 Annual Averages

State	1981-1985 Rate	1981-1985 Rank	2006-2010 Rate	2006-2010 Rank	2011-2015 Rate	2011-2015 Rank	Percent Reduction 1981-1985 to 2010-2015	Percent Reduction 2006-2010 to 2010-2015
Alabama	39.0	(4)	20.7	(6)	19.3	(5)	50%	6%
Alaska	41.2	(3)	21.1	(5)	20.2	(4)	51%	5%
Arizona	14.5	(46)	7.1	(44)	7.3	(41A)	49%	-3%
Arkansas	37.4	(6)	22.4	(2)	21.3	(3)	43%	5%
California	15.2	(45)	5.9	(46)	4.8	(48)	68%	18%
Colorado	12.5	(49)	5.8	(47)	5.4	(46)	57%	7%
Connecticut	15.2	(44)	7.5	(42)	7.3	(41B)	52%	2%
Delaware	26.7	(18)	11.4	(22)	9.3	(29B)	65%	18%
Florida	20.6	(29)	8.0	(38A)	6.3	(45)	69%	21%
Georgia	38.7	(5)	13.2	(18)	12.3	(17)	68%	7%
Hawaii	7.9	(50)	3.5	(50)	4.7	(49)	41%	-36%
Idaho	16.9	(40)	10.2	(27B)	7.5	(40)	55%	26%
Illinois	26.0	(21)	10.3	(26)	9.3	(29A)	64%	9%
Indiana	26.2	(20)	13.9	(14A)	12.7	(14A)	51%	8%
Iowa	17.1	(39)	10.5	(24A)	11.6	(21)	32%	-10%
Kansas	21.4	(27)	13.9	(14B)	12.7	(14B)	41%	8%
Kentucky	29.4	(14)	18.4	(9A)	17.0	(8)	42%	8%
Louisiana	36.2	(7)	18.4	(9B)	15.0	(9)	59%	19%
Maine	29.8	(13)	8.0	(38B)	13.4	(13)	55%	-68%
Maryland	27.7	(15)	11.5	(21)	8.7	(32)	69%	24%
Massachusetts	20.4	(31)	5.3	(49)	5.3	(47)	74%	-1%
Michigan	27.1	(17)	13.7	(16A)	12.0	(18B)	56%	12%
Minnesota	16.7	(42)	6.8	(45)	8.3	(36)	50%	-23%

Table 2.
Fire Death Rates per Million Population by State
1981-1985, 2006-2010, and 2011-2015 Annual Averages (Continued)

State	1981-1985 Rate	1981-1985 Rank	2006-2010 Rate	2006-2010 Rank	2011-2015 Rate	2011-2015 Rank	Percent Reduction 1981-1985 to 2010-2015	Percent Reduction 2006-2010 to 2010-2015
Mississippi	53.8	(1)	29.3	(1)	25.1	(1)	53%	14%
Missouri	27.6	(16)	16.7	(11)	14.3	(12)	48%	15%
Montana	19.5	(32)	10.5	(24B)	12.6	(16)	35%	-20%
Nebraska	16.9	(41)	10.2	(27A)	9.5	(27)	44%	7%
Nevada	17.3	(37)	10.2	(27C)	6.9	(43A)	60%	32%
New Hampshire	17.2	(38)	9.0	(35A)	8.8	(31)	49%	2%
New Jersey	25.4	(22)	7.8	(41)	6.9	(43B)	73%	12%
New Mexico	15.8	(43)	10.0	(30A)	11.0	(22)	30%	-10%
New York	24.7	(24)	9.2	(33)	8.0	(38)	68%	14%
North Carolina	34.4	(10)	13.7	(16B)	12.0	(18C)	65%	12%
North Dakota	22.3	(26)	9.1	(34)	8.6	(33B)	61%	6%
Ohio	20.5	(30)	12.8	(19)	10.2	(24)	50%	20%
Oklahoma	31.0	(12)	21.2	(4)	18.0	(6)	42%	15%
Oregon	17.6	(34)	8.1	(37)	10.0	(25B)	43%	-22%
Pennsylvania	25.1	(23)	14.2	(13)	12.0	(18A)	52%	15%
Rhode Island	17.3	(36)	7.2	(43)	8.2	(37)	53%	-13%
South Carolina	47.3	(2)	20.0	(7)	17.2	(7)	64%	14%
South Dakota	21.3	(28)	14.5	(12)	14.7	(10)	31%	-1%
Tennessee	34.0	(11)	19.3	(8)	14.6	(11)	57%	24%
Texas	24.1	(25)	9.9	(32)	7.6	(39)	68%	23%
Utah	12.7	(48)	5.4	(48)	3.7	(50)	71%	31%
Vermont	34.8	(9)	9.0	(35B)	8.6	(33A)	75%	4%
Virginia	26.7	(19)	11.6	(20)	10.0	(25A)	62%	14%

Table 2.
Fire Death Rates per Million Population by State
1981-1985, 2006-2010, and 2011-2015 Annual Averages (Continued)

State	1981-1985 Rate	1981-1985 Rank	2006-2010 Rate	2006-2010 Rank	2011-2015 Rate	2011-2015 Rank	Percent Reduction 1981-1985 to 2010-2015	Percent Reduction 2006-2010 to 2010-2015
Washington	17.5	(35)	7.9	(40)	8.4	(35)	52%	-7%
West Virginia	35.4	(8)	22.2	(3)	23.1	(2)	35%	-4%
Wisconsin	18.5	(33)	10.0	(30B)	9.4	(28)	49%	7%
Wyoming	13.5	(47)	10.6	(23)	10.7	(23)	21%	-1%
United States	24.4		11.1		9.7		60%	12%

Note: Because of different definitions and practices, these rates may differ somewhat from those of state fire agencies. When the percent reduction is a negative number, it means that the average fire death rate increased. See appendix B for fire death rates by state for 1986-19990, 1991-1995, 1996-1998, 1999-2000, and 2001-2005.

Sources: NCHS death certificate data and U.S. Census population data accessed through CDC's WISQARS™ in February 2017.

Table 3.
Fire Death Rates per Million Population Compared to State Racial and Ethnic Composition: 2011-2015

State	Fire Deaths per Million Population Average	Rank	African American Percent	Rank	Native American or Alaska Native Percent	Rank	Asian, Native Hawaiian or Pacific Islander Percent	Rank	Hispanic or Latino Percent	Rank	White Non-Hispanic, Non-Latino Percent	Rank
Mississippi	25.1	(1)	37.2%	(1)	0.4%	(25A)	1.0%	(47A)	2.9%	(46B)	57.4%	(39)
West Virginia	23.1	(2)	3.3%	(36)	0.1%	(43G)	0.7%	(50)	1.4%	(50)	92.5%	(3)
Arkansas	21.3	(3)	15.4%	(12)	0.6%	(19A)	1.6%	(36A)	6.9%	(28)	73.6%	(26)
Alaska	20.2	(4)	3.2%	(37)	13.4%	(1)	7.0%	(7)	6.5%	(29)	62.4%	(37)
Alabama	19.3	(5)	26.3%	(6)	0.5%	(21B)	1.2%	(43C)	4.0%	(39)	66.3%	(31)
Oklahoma	18.0	(6)	7.1%	(25)	6.9%	(4)	2.0%	(31)	9.6%	(21A)	67.3%	(30)
South Carolina	17.2	(7)	27.3%	(5)	0.3%	(29A)	1.5%	(38)	5.3%	(34)	63.9%	(33)
Kentucky	17.0	(8)	7.8%	(24)	0.2%	(33I)	1.3%	(41B)	3.3%	(42A)	85.6%	(8)
Louisiana	15.0	(9)	31.9%	(2)	0.5%	(21A)	1.7%	(35)	4.7%	(37B)	59.5%	(38)
South Dakota	14.7	(10)	1.5%	(43)	8.3%	(3)	1.2%	(43A)	3.3%	(42B)	83.2%	(10)
Tennessee	14.6	(11)	16.7%	(10)	0.2%	(33D)	1.6%	(36B)	4.9%	(36)	74.7%	(23)
Missouri	14.3	(12)	11.4%	(19)	0.4%	(25B)	1.8%	(33A)	3.9%	(40)	80.2%	(17)
Maine	13.4	(13)	1.1%	(45A)	0.6%	(19B)	1.1%	(46)	1.5%	(49)	93.9%	(1)
Indiana	12.7	(14A)	9.0%	(22)	0.2%	(33H)	1.8%	(33B)	6.4%	(30B)	80.5%	(15)
Kansas	12.7	(14B)	5.7%	(28)	0.7%	(17A)	2.7%	(23A)	11.2%	(17)	77.0%	(21)
Montana	12.6	(16)	0.4%	(50)	6.3%	(5)	0.8%	(49)	3.3%	(42C)	87.0%	(6)
Georgia	12.3	(17)	30.5%	(3)	0.2%	(33A)	3.6%	(16B)	9.1%	(23)	54.6%	(44)

Table 3.
Fire Death Rates per Million Population Compared to State Racial and Ethnic Composition: 2011-2015
(Continued)

State	Fire Deaths per Million Population Average	Rank	African American Percent	Rank	Native American or Alaska Native Percent	Rank	Asian, Native Hawaiian or Pacific Islander Percent	Rank	Hispanic or Latino Percent	Rank	White Non-Hispanic, Non-Latino Percent	Rank
Pennsylvania	12.0	(18A)	10.5%	(20)	0.1%	(43D)	3.0%	(21)	6.4%	(30A)	78.1%	(19)
Michigan	12.0	(18B)	13.8%	(15)	0.5%	(21C)	2.7%	(23B)	4.7%	(37A)	75.9%	(22)
North Carolina	12.0	(18C)	21.2%	(7)	1.1%	(10A)	2.6%	(25)	8.8%	(25)	64.2%	(32)
Iowa	11.6	(21)	3.1%	(38)	0.3%	(29C)	2.1%	(29B)	5.4%	(33)	87.4%	(5)
New Mexico	11.0	(22)	1.8%	(40A)	8.5%	(2)	1.3%	(41A)	47.4%	(1)	39.2%	(48)
Wyoming	10.7	(23)	1.0%	(47A)	1.9%	(8)	1.0%	(47B)	9.6%	(21B)	84.5%	(9)
Ohio	10.2	(24)	12.0%	(17)	0.1%	(43C)	1.9%	(32)	3.4%	(41)	80.3%	(16)
Virginia	10.0	(25A)	18.9%	(9)	0.2%	(33C)	6.0%	(8B)	8.6%	(27)	63.4%	(35)
Oregon	10.0	(25B)	1.8%	(40B)	0.9%	(13B)	4.3%	(14)	12.3%	(14)	77.2%	(20)
Nebraska	9.5	(27)	4.6%	(32)	0.7%	(17B)	2.1%	(29A)	10.0%	(19)	80.8%	(14)
Wisconsin	9.4	(28)	6.2%	(27)	0.8%	(16)	2.5%	(26A)	6.3%	(32)	82.4%	(12)
Illinois	9.3	(29A)	14.1%	(14)	0.1%	(43A)	5.0%	(11)	16.5%	(10)	62.5%	(36)
Delaware	9.3	(29B)	21.1%	(8)	0.3%	(29B)	3.6%	(16A)	8.7%	(26)	63.9%	(34)
New Hampshire	8.8	(31)	1.2%	(44)	0.1%	(43H)	2.4%	(28)	3.2%	(45)	91.4%	(4)
Maryland	8.7	(32)	29.1%	(4)	0.2%	(33B)	6.0%	(8A)	9.0%	(24)	53.0%	(45)
Vermont	8.6	(33A)	1.1%	(45B)	0.3%	(29D)	1.4%	(39A)	1.7%	(48)	93.6%	(2)
North Dakota	8.6	(33B)	1.6%	(42)	5.2%	(6)	1.2%	(43B)	2.9%	(46A)	87.0%	(7)

Table 3.
Fire Death Rates per Million Population Compared to State Racial and Ethnic Composition: 2011-2015
(Continued)

State	Fire Deaths per Million Population		African American		Native American or Alaska Native		Asian, Native Hawaiian or Pacific Islander		Hispanic or Latino		White Non-Hispanic, Non-Latino	
	Average	Rank	Percent	Rank	Percent	Rank	Percent	Rank	Percent	Rank	Percent	Rank
Washington	8.4	(35)	3.5%	(35)	1.2%	(9)	8.2%	(4)	12.0%	(15)	70.8%	(27)
Minnesota	8.3	(36)	5.4%	(30)	1.0%	(12)	4.4%	(12)	5.0%	(35)	81.7%	(13)
Rhode Island	8.2	(37)	5.3%	(31)	0.4%	(25D)	3.2%	(18)	13.6%	(12)	74.5%	(24)
New York	8.0	(38)	14.4%	(13)	0.2%	(33F)	7.9%	(6)	18.4%	(9)	56.8%	(41)
Texas	7.6	(39)	11.6%	(18)	0.2%	(33G)	4.3%	(13)	38.4%	(2B)	43.8%	(47)
Idaho	7.5	(40)	0.6%	(49)	1.1%	(10B)	1.4%	(39B)	11.8%	(16)	83.1%	(11)
Arizona	7.3	(41A)	4.0%	(33)	4.0%	(7)	3.1%	(19A)	30.3%	(4)	56.5%	(42)
Connecticut	7.3	(41B)	9.6%	(21)	0.1%	(43E)	4.2%	(15)	14.7%	(11)	69.2%	(28)
Nevada	6.9	(43A)	8.1%	(23)	0.9%	(13A)	8.1%	(5)	27.5%	(5)	52.0%	(46)
New Jersey	6.9	(43B)	12.7%	(16)	0.1%	(43B)	9.0%	(3)	19.0%	(8)	57.2%	(40)
Florida	6.3	(45)	15.5%	(11)	0.2%	(33E)	2.5%	(26B)	23.7%	(6)	56.1%	(43)
Colorado	5.4	(46)	3.9%	(34)	0.5%	(21D)	2.9%	(22)	21.1%	(7)	69.1%	(29)
Massachusetts	5.3	(47)	6.5%	(26)	0.1%	(43F)	5.9%	(10)	10.6%	(18)	74.3%	(25)
California	4.8	(48)	5.6%	(29)	0.4%	(25C)	13.9%	(2)	38.4%	(2A)	38.7%	(49)
Hawaii	4.7	(49)	1.9%	(39)	0.2%	(33J)	45.9%	(1)	9.9%	(20)	22.9%	(50)
Utah	3.7	(50)	1.0%	(47B)	0.9%	(13C)	3.1%	(19B)	13.4%	(13)	79.5%	(18)
U.S.	9.7		12.3%		0.7%		5.30%		17.10%		62.30%	

Note: Numeric rank is from one to fifty, with one indicating the highest rate or percentage.

Sources: NCHS death certificate data accessed through CDC's WISQARS™ and ACS demographic and housing 2011-2015 five-year estimates. Both were accessed in February 2017.

Table 4.
Annual Average Fire Death Rates per Million Population in 2011-2015
Versus Potentially Related Characteristics Other Than Race, by State

State	Fire Deaths Per million Population 2011-2015 Average	Rank	Lack of Education 2011-2015 Percent	Rank	Current Adult Smokers 2011-2015 Percent	Rank	People below Poverty Line 2011-2015 Percent	Rank	Population Living in Rural Communities 2010 Percent	Rank
Mississippi	25.1	(1)	17.7%	(3)	24.1%	(4)	22.5%	(1)	50.7%	(4)
West Virginia	23.1	(2)	15.0%	(9)	27.3%	(1)	18.0%	(9)	51.3%	(3)
Arkansas	21.3	(3)	15.2%	(8)	25.5%	(3)	19.3%	(4)	43.8%	(6)
Alaska	20.2	(4)	7.9%	(46)	21.0%	(14)	10.2%	(48)	34.0%	(14)
Alabama	19.3	(5)	15.7%	(7)	22.4%	(11)	18.8%	(6)	41.0%	(9)
Oklahoma	18.0	(6)	13.1%	(18B)	23.3%	(7)	16.7%	(1)5	33.8%	(16)
South Carolina	17.2	(7)	14.4%	(13B)	21.8%	(13)	17.9%	(10)	33.7%	(17)
Kentucky	17.0	(8)	15.8%	(5A)	27.2%	(2)	18.9%	(5)	41.6%	(8)
Louisiana	15.0	(9)	16.6%	(4)	24.0%	(5)	19.8%	(3)	26.8%	(24)
South Dakota	14.7	(10)	9.1%	(38)	20.7%	(16)	14.1%	(28)	43.4%	(7)
Tennessee	14.6	(11)	14.5%	(12)	23.7%	(6)	17.6%	(11)	33.6%	(18)
Missouri	14.3	(12)	11.6%	(23B)	22.8%	(10)	15.6%	(21)	29.6%	(20)
Maine	13.4	(13)	8.4%	(43)	20.4%	(19)	13.9%	(29)	61.3%	(1)
Indiana	12.7	(14A)	12.2%	(20)	23.0%	(8)	15.4%	(24)	27.6%	(22)
Kansas	12.7	(14B)	9.8%	(34)	19.4%	(23)	13.6%	(30)	25.8%	(26)
Montana	12.6	(16)	7.2%	(50)	19.9%	(21)	15.2%	(25)	44.1%	(5)
Georgia	12.3	(17)	14.6%	(11)	19.1%	(25)	18.4%	(7)	24.9%	(28)
Pennsylvania	12.0	(18A)	10.8%	(27)	20.6%	(17)B	13.5%	(31)	21.3%	(32)
Michigan	12.0	(18B)	10.4%	(30)	22.0%	(12)	16.7%	(14)	25.4%	(27)
North Carolina	12.0	(18C)	14.2%	(15)	20.2%	(20)	17.4%	(12)	33.9%	(15)
Iowa	11.6	(21)	8.5%	(42)	18.9%	(28B)	12.5%	(36)	36.0%	(12)

Table 4.
Annual Average Fire Death Rates per Million Population in 2011-2015
Versus Potentially Related Characteristics Other Than Race, by State (Continued)

State	Fire Deaths Per million Population 2011-2015 Average	Rank	Lack of Education 2011-2015 Percent	Rank	Current Adult Smokers 2011-2015 Percent	Rank	People below Poverty Line 2011-2015 Percent	Rank	Population Living in Rural Communities 2010 Percent	Rank
New Mexico	11.0	(22)	15.8%	(5B)	19.3%	(24)	21.0%	(2)	22.6%	(29B)
Wyoming	10.7	(23)	7.7%	(47B)	20.8%	(15)	11.5%	(42B)	35.2%	(13)
Ohio	10.2	(24)	10.9%	(26)	22.9%	(9)	15.8%	(19)	22.1%	(31)
Virginia	10.0	(25A)	11.7%	(22)	19.0%	(26B)	11.5%	(42A)	24.6%	(29A)
Oregon	10.0	(25B)	10.2%	(31B)	17.8%	(32)	16.5%	(16B)	19.0%	(33)
Nebraska	9.5	(27)	9.3%	(36B)	18.5%	(30)	12.7%	(34B)	26.9%	(23)
Wisconsin	9.4	(28)	9.0%	(39B)	18.9%	(28A)	13.0%	(33)	29.9%	(19)
Illinois	9.3	(29A)	12.1%	(21)	17.8%	(31)	14.3%	(26)	11.5%	(41)
Delaware	9.3	(29B)	11.6%	(23A)	19.7%	(22)	12.0%	(38)	16.7%	(34)
New Hampshire	8.8	(31)	7.7%	(47A)	17.2%	(36)	8.9%	(50)	39.7%	(11)
Maryland	8.7	(32)	10.6%	(28)	16.3%	(41)	10.0%	(49)	12.8%	(38)
Vermont	8.6	(33A)	8.2%	(45)	16.9%	(38)	11.5%	(40B)	61.1%	(2)
North Dakota	8.6	(33B)	8.3%	(44)	20.6%	(17A)	11.5%	(40A)	40.1%	(10)
Washington	8.4	(35)	9.6%	(35)	16.2%	(42)	13.3%	(32)	16.0%	(35)
Minnesota	8.3	(36)	7.6%	(49)	17.7%	(33)	11.3%	(44)	26.7%	(25)
Rhode Island	8.2	(37)	13.8%	(17)	17.3%	(35)	14.2%	(27)	9.3%	(44)
New York	8.0	(38)	14.4%	(13A)	16.1%	(43B)	15.7%	(20)	12.1%	(39)
Texas	7.6	(39)	18.1%	(2)	16.6%	(39B)	17.3%	(13)	15.3%	(36)
Idaho	7.5	(40)	10.5%	(29)	16.1%	(43A)	15.5%	(22A)	29.4%	(21)
Arizona	7.3	(41A)	14.0%	(16)	16.6%	(39A)	18.2%	(8)	10.2%	(42)
Connecticut	7.3	(41B)	10.1%	(33)	15.5%	(47)	10.5%	(47)	12.0%	(40)

Table 4.
Annual Average Fire Death Rates per Million Population in 2011-2015
Versus Potentially Related Characteristics Other Than Race, by State (Continued)

State	Fire Deaths per Million Population 2011-2015		Lack of Education 2011-2015		Current Adult Smokers 2011-2015		People Below Poverty Line 2011-2015		Population Living in Rural Communities 2010	
	Average	Rank	Percent	Rank	Percent	Rank	Percent	Rank	Percent	Rank
Nevada	6.9	(43A)	14.9%	(10)	19.0%	(26A)	15.5%	(22B)	5.8%	(48)
New Jersey	6.9	(43B)	11.4%	(25)	15.7%	(46)	10.8%	(46)	5.3%	(49)
Florida	6.3	(45)	13.1%	(18A)	17.4%	(34)	16.5%	(16A)	8.8%	(45)
Colorado	5.4	(46)	9.3%	(36A)	17.0%	(37)	12.7%	(34A)	13.9%	(37)
Massachusetts	5.3	(47)	10.2%	(31A)	16.0%	(45)	11.6%	(39)	8.0%	(47)
California	4.8	(48)	18.2%	(1)	12.7%	(49)	16.3%	(18)	5.1%	(50)
Hawaii	4.7	(49)	9.0%	(39A)	14.6%	(48)	11.2%	(45)	8.1%	(46)
Utah	3.7	(50)	8.8%	(41)	10.3%	(50)	12.3%	(37)	9.4%	(43)
U.S.	9.7		13.3%		19.1%		15.5%		19.3%	

Note: Numeric rank is from one to fifty, with one indicating the highest rate or percentage.

Sources: NCHS death certificate data accessed through CDC's WISQARS,™ and ACS poverty status in the past 12 months and ACS educational attainment 2011-2015 five-year estimates, adults who are current smokers from the CDC's Behavioral Risk Factor Surveillance System 2011-2015 and U.S. Census Bureau's "Urban and rural population by state, 2010. All were accessed in February 2017.

Appendix A
Fire Deaths by State in 1986-1990, 1991-1995, 1996-1998, 1999-2000 and 2001-2005
as Identified by National Center for Health Statistics Death Certificate Data
Annual Averages

State	1986-1990	1991-1995	1996-1998	1999-2000	2001-2005
Alabama	163	133	111	126	109
Alaska	14	21	19	14	11
Arizona	46	49	44	49	55
Arkansas	85	71	73	60	75
California	335	305	280	244	240
Colorado	28	27	25	25	23
Connecticut	38	38	37	32	34
Delaware	14	12	10	12	12
Florida	221	181	164	153	159
Georgia	205	168	151	137	145
Hawaii	7	5	13	4	6
Idaho	16	14	14	11	14
Illinois	268	239	182	181	154
Indiana	121	106	100	100	102
Iowa	43	44	37	48	34
Kansas	50	46	39	40	38
Kentucky	104	94	80	80	83
Louisiana	134	115	101	98	105
Maine	30	20	16	22	13
Maryland	94	89	59	67	66
Massachusetts	84	66	61	59	58
Michigan	211	202	170	190	148
Minnesota	62	56	40	44	39
Mississippi	129	121	112	96	93
Missouri	128	110	111	101	92
Montana	13	14	14	11	10
Nebraska	21	18	19	17	20
Nevada	15	18	19	19	18
New Hampshire	21	10	10	12	13
New Jersey	150	115	100	84	79
New Mexico	24	23	26	16	28
New York	413	300	243	222	207
North Carolina	205	171	145	148	132
North Dakota	10	14	8	7	9
Ohio	205	154	141	164	142
Oklahoma	84	74	75	60	77
Oregon	38	45	41	37	36
Pennsylvania	275	245	222	187	177
Rhode Island	13	13	7	11	20
South Carolina	166	118	99	99	92
South Dakota	17	14	8	9	13
Tennessee	156	131	137	145	131
Texas	338	277	273	259	254
Utah	16	16	11	9	13
Vermont	12	9	9	14	6

Appendix A (Continued)
Fire Deaths by State in 1986-1990, 1991-1995, 1996-1998, 1999-2000 and 2001-2005
as Identified by National Center for Health Statistics Death Certificate Data
Annual Averages

State	1986-1990	1991-1995	1996-1998	1999-2000	2001-2005
Virginia	145	109	109	107	96
Washington	72	62	56	60	59
West Virginia	52	45	50	41	40
Wisconsin	87	71	71	53	57
Wyoming	9	3	5	4	4
U.S.	5,209	4,415	3,963	3,784	3,649

Source: NCHS death certificate data accessed through CDC's WISQARS™ in February 2017.

Appendix B.
Fire Death Rates per Million Population by State in 1986-1990, 1991-1995, 1996-1998, 1999-2000 and 2001-2005 as Identified by National Center for Health Statistics Death Certificate Data

State	1986-1990	1991-1995	1996-1998	1999-2000	2001-2005
Alabama	40.6	31.6	25.3	28.4	24.1
Alaska	25.7	35.4	30.4	21.6	17.5
Arizona	13.1	11.9	9.4	9.6	9.9
Arkansas	36.4	29.0	28.0	22.5	27.5
California	11.7	9.8	8.6	7.2	6.8
Colorado	8.6	7.6	6.3	5.7	5.1
Connecticut	11.8	11.5	11.1	9.3	9.9
Delaware	21.6	17.6	13.7	15.4	15.1
Florida	17.9	13.0	10.8	9.6	9.3
Georgia	32.6	24.0	19.7	16.9	16.8
Hawaii	6.8	4.6	11.0	2.9	4.8
Idaho	15.9	12.4	11.4	8.2	10.1
Illinois	23.5	20.3	14.9	14.6	12.3
Indiana	22.0	18.5	16.8	16.4	16.5
Iowa	15.5	15.6	12.8	16.3	11.4
Kansas	20.3	17.9	14.8	14.7	14.0
Kentucky	28.2	24.7	20.3	19.7	20.1
Louisiana	31.1	26.5	22.9	21.8	23.2
Maine	25.1	16.0	13.0	16.9	10.0
Maryland	20.2	17.8	11.5	12.7	12.0
Massachusetts	14.1	10.9	9.9	9.3	9.1
Michigan	22.9	21.2	17.3	19.1	14.8
Minnesota	14.4	12.4	8.4	8.9	7.8
Mississippi	49.9	45.4	40.2	33.7	32.2
Missouri	25.3	20.9	20.2	18.0	16.1
Montana	15.7	16.1	16.1	11.7	10.6
Nebraska	13.1	10.8	11.3	9.7	11.4
Nevada	13.6	12.9	10.8	9.7	8.1
New Hampshire	19.5	8.5	8.7	9.8	10.3
New Jersey	19.5	14.5	12.1	10.0	9.2
New Mexico	16.0	14.2	14.7	8.5	14.7
New York	23.1	16.3	13.0	11.7	10.8
North Carolina	31.6	24.2	19.0	18.4	15.6

Appendix B. (Continued)
Fire Death Rates per Million Population by State in 1986-1990, 1991-1995, 1996-1998, 1999-2000 and 2001-2005 as Identified by National Center for Health Statistics Death Certificate Data

State	1986-1990	1991-1995	1996-1998	1999-2000	2001-2005
North Dakota	15.9	22.4	12.3	10.9	14.7
Ohio	19.0	13.9	12.5	14.4	12.4
Oklahoma	26.4	22.8	22.3	17.3	22.1
Oregon	13.7	14.8	12.4	10.9	10.1
Pennsylvania	23.2	20.3	18.1	15.2	14.3
Rhode Island	13.5	13.0	7.1	10.1	19.1
South Carolina	48.6	32.2	25.7	24.8	22.0
South Dakota	24.4	19.4	10.3	11.3	16.7
Tennessee	32.3	25.4	25.0	25.6	22.4
Texas	20.2	15.2	13.8	12.5	11.5
Utah	9.7	8.4	5.0	3.8	5.5
Vermont	21.5	15.2	15.6	23.1	9.4
Virginia	24.0	16.7	16.0	15.2	13.0
Washington	15.4	11.8	9.9	10.2	9.6
West Virginia	28.6	25.0	27.7	22.4	22.1
Wisconsin	18.1	14.0	13.4	9.8	10.3
Wyoming	18.3	5.9	9.5	8.1	7.5
U.S.	21.3	17.0	14.5	13.5	12.6

Sources: NCHS death certificate data and U.S. Census population data accessed through CDC's WISQARS™ in February 2017.