

ASSOCIATION PROMOTELEC

The only non-profit association committed to comfort and common sense in dwellings

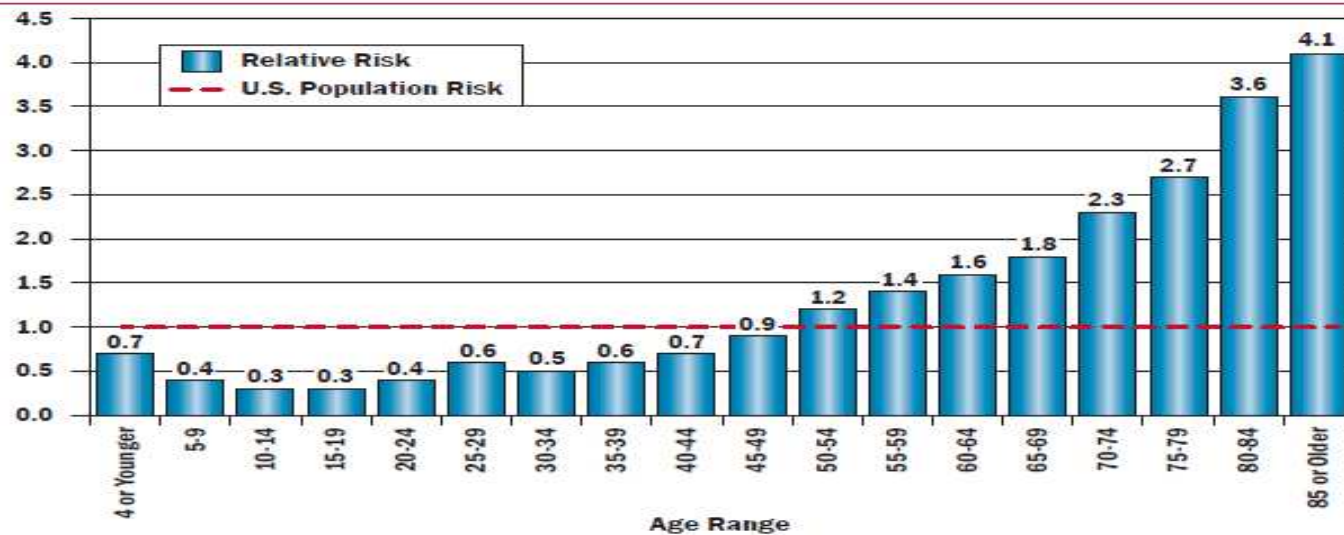
Fire risk in the USA in 2014

FIRE RISK IN THE USA IN 2014

- 75% of reported fire-related deaths and 78% of injuries occurred on residential properties (375,400)
- Causes of residential fires: Cooking (50%) / Heating (12.5%) / Electrical malfunction (6.3%)
- Fire fatalities have declined over the last 40 years:
 - In 1974, 12,000 estimated deaths
 - In 2014, 3,430 deaths and 15,775 injuries caused by fire
 - Smoke alarms now present in most homes (widely encouraged since the mid-1970s – Only missing in 3% of households)
 - Residential sprinklers gained support
 - Fire codes have been strengthened
 - Construction techniques and materials developed for fire prevention
 - Public education reinforced
- However the risk of death and injury is greater for some groups than for others. It varies with:
 - Demographics
 - Gender
 - Race
 - Geographic Location
 - Socioeconomics Factors

DEMOGRAPHIC FACTORS

Older adults and young children were more at risk to die or get injured in a fire



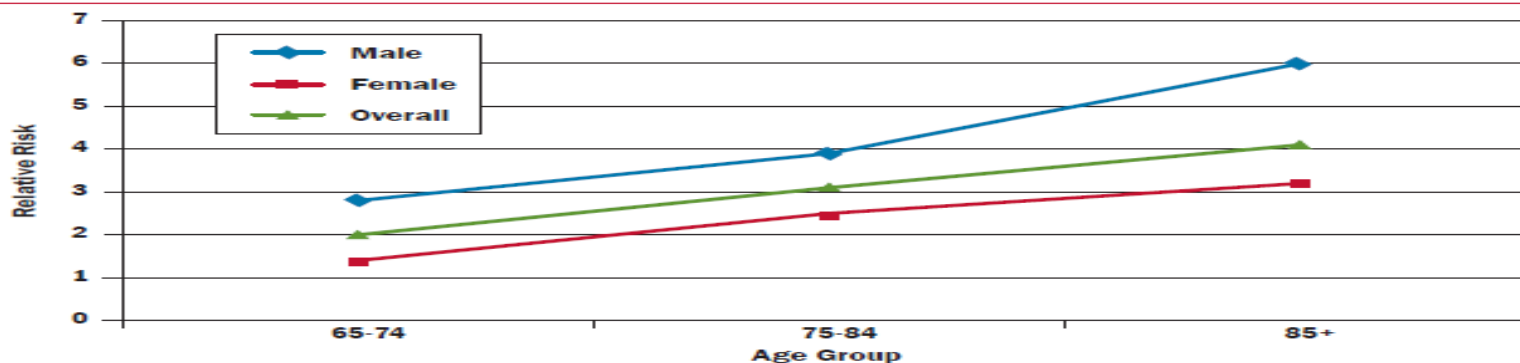
Source: 2014 NCHS Mortality Data File, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program, and U.S. Census Bureau population estimates.
 Note: Data have been adjusted to account for deaths with unknown age. Age was specified in 99.9 percent of fire deaths.

- 1,305 older adults aged 65 and older died as a result of fires (38% of all fire deaths)
- Risk of dying in a fire for older adults = 2.6 times higher than for the population as a whole
- Risk for people aged 85 and older = 4.1 times higher to die in a fire than general population / 1.4 times higher to get injured

DEMOGRAPHIC FACTORS: OLDER ADULTS

Males 88% more likely than females to be victims of fire in the 85 or older age group than the general population (50%)

Age, Gender and relative Risk of Fire fatality of Older Adults in 2014



Source: Derived from Table 6.

Various reasons :

- Limited physical and cognitive abilities (see, smell, and hear/Alzheimer, dementia...)
- Physical disabilities hinder mobility
- More inclined to accidentally start a fire
- Often close to the source of a fire (stove, cigarette...)
- Use of prescription drugs by 90% of people aged 65 and older (risk of drowsiness, affected judgement, bad combination with alcohol)
- Elevated fire risk with choice to stay at home as long as possible

DEMOGRAPHIC FACTORS: YOUNG CHILDREN

The very young (ages 4 or younger) remained inherently vulnerable

- o 52% of child fire deaths / 54% of child fire injuries
- o 0.9 times greater risk of injury than other children

Child fire Deaths and Injuries in 2014

	Overall (Ages 0 to 14)		Ages 0 to 4		Ages 5 to 9		Ages 10 to 14	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Deaths	285	100.0	148	51.9	78	27.4	59	20.7
Injuries	1,669	100.0	904	54.2	373	22.3	392	23.5

Sources: 2014 NCHS Mortality Data File, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program; 2014 NFIRS fire injury data; and 2014 NFPA fire injury estimates.

Various reasons:

- Escaping is more difficult:
 - o Lack of mental faculties to understand need to escape and how to do it
 - o Sleeping children don't respond appropriately to smoke alarms
- Young children susceptible to severe injury or death from fire
 - o Thin and delicate skin → quicker and deeper burns
 - o Smoke inhalation → 76% of all reported fire deaths / 77% of fire deaths
- 37% of children aged 9 or younger responsible for cause of fire "playing with a heat source" (match, lighters, stoves, and fireworks)
- Residential Buildings are a high-risk environment: 83% fatalities and 82% injuries to children under 15

→ Having a family fire and emergency exit plan is critical to saving lives in a fire

GENDER FACTORS

Males more likely to die in a fire-related incident than females for all age group (no obvious explanation)

Relative Risk of Fire Death by Gender in 2014, Overall Population

Gender	Population	Fire deaths	Death Rate (per Million Population)	Relative Risk
Male	156,955,337	2,108	13.4	1.2
Female	161,952,064	1,320	8.2	0.8
All Children (Ages 0 to 14)				
Total	61,079,313	285	4.7	0.4
Male	31,192,157	172	5.5	0.5
Female	29,887,156	113	3.8	0.4
All Older Adults (Ages 65 or Older)				
Total	46,201,730	1,305	28.2	2.6
Male	20,331,348	754	37.1	3.5
Female	25,870,382	551	21.3	2.0

- Males 50% more likely to die in a fire-related incident than females
- Males 1.5 times more likely to die and to suffer injuries than females
- Even for children, boys at a greater risk than girls

RACE FACTORS

African-Americans and American Indians/Alaska Natives had higher fire death rates per capita than the national average

Relative Risk of Fire Death by Race in 2014, Overall Population

Race	Population	Fire deaths	Death Rate (per Million Population)	Relative Risk
White	246,644,353	2,615	10.6	1.0
African-American	42,167,490	690	16.4	1.5
American Indian/Alaska Native	3,958,190	63	15.9	1.5
Asian/Pacific Islander	18,140,449	60	3.3	0.3

African-Americans:

- 20 % of fire deaths but 13% of total U.S. population
- 50% greater risk of dying in a fire than the general population
- 35% of fire deaths among children but only 15% of the population

American Indians/Alaska Natives:

50% greater risk too of dying in a fire than the general population

By contrast, Asian/Pacific Islander Americans much less likely to die in a fire than the overall population

GEOGRAPHIC FACTORS

Fire death rates higher in states with larger percentages of African-Americans, poor and smokers (rural areas) = Southeastern U.S.

Relative Risk of Fire Death by Geographic Area in 2014

Region	Population	Fire Deaths	Death Rate (per Million Population)	Relative Risk
Northeast	56,171,281	548	9.8	0.9
Midwest	67,762,069	829	12.2	1.1
South	119,795,010	1,554	13.0	1.2
West	75,179,041	497	6.6	0.6
U.S. overall	318,907,401	3,428	10.7	1.0

Sources: 1. 2014 NCHS Mortality Data File, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program.
 2. U.S. Census Bureau, Population Division. July 1, 2014, population estimates from Table 1. Annual Estimates of the Resident Population for the U.S., Regions, States and Puerto Rico: April 1, 2010 to July 1, 2015 (NST-EST2015-01). Release date: December 2015.
 Note: Relative risk may not compute due to rounding.

- People in the South and Midwest at a higher risk of death and injuries, as a result of climate (intermittent need for occasional heating with portable heating devices), poverty, education, demographics and other factors
- Much lower risk in the West (50% less in California), due to the role of heating or lack thereof

SOCIOECONOMIC FACTORS

- Inverse relationship between fire risk and income: Poorer population have the highest risk of fire injury or death / The wealthiest have the lowest
- Level of education closely tied to income:
 - Groups living in persistent poverty for a long time (below poverty line), scoring poorly in educational testing, having higher high-school dropout rates, having reduced employment opportunities
- Children in poorest homes exposed to the greatest risk (substandard housing, crowded conditions, more likely to be left alone in single-parent households...)
- Older people living alone and below poverty line (10% of older adults) in poorly-maintained housing (electrical system, portable space heaters, worn-out appliances...)

CONCLUSION

- Accumulating age, gender, race and socioeconomic factors put people at a higher risk of fire-related death and injuries
- The young and old continue to merit special attention to reduce their risk of injury and death from fire:
 - Youngest children (ages 4 and younger) face an elevated risk of injury and death in a fire compared to other children
 - Fire death and injuries assumed to increase in the older population by 2060 along with demographics:
 - 14% of people aged 65 and older in 2014
 - 24% in 2060

THANK YOU

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