

# **STRUCTURE FIRES IN MEDICAL, MENTAL HEALTH, AND SUBSTANCE ABUSE FACILITIES**

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## **Abstract**

During 2003-2006, municipal fire departments responded to an estimated 3,750 structure fires in medical, mental health, and substance abuse facilities, annually. These fires resulted in one civilian death, 57 civilian injuries, and \$26.9 million in direct property damage. Of all structure fires, 0.7% occurs in health care facilities. Since 1980, structure fires in health care facilities have fallen 71%. A breakdown of fires in health care facilities by occupancy type shows almost half of the structure fires occur in hospitals or hospice facilities. Approximately 43% of medical, mental health, and substance abuse facility structure fires occur in hospitals or hospice facilities. Another 39% of structure fires occur in mental health or substance abuse facilities and finally, 19% occur in clinics or doctor's offices. Seventy percent of the direct property damage in health care facilities occurs in clinics or doctor's offices. This report provides analysis of leading cause, area of origin, and item first ignited, by medical, mental health, and substance abuse facility occupancy type. National estimates come from the U.S. Fire Administration's National Fire Incident Reporting System and NFPA Annual Fire Department Survey.

Keywords: Medical, Hospital, Hospice, Mental Health, Substance Abuse, Clinic, Doctor's Office

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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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## Medical, Mental Health, and Substance Abuse Facility Structure Fires 2003-2006 Annual Averages

*Health care facilities include: hospitals, clinics, infirmaries, sanitariums, mental institutions, hospices, doctor's offices, mental health or developmental disability facilities, and alcohol or substance abuse recovery centers. Only fires reported to municipal fire departments are included in these statistics. A breakdown of health care facilities by occupancy type is included.*

*The statistics in this analysis are national estimates derived from data collected in Version 5.0 of the U.S. Fire Administration's (USFA) National Fire Incident Reporting System (NFIRS) and NFPA's annual fire department experience survey. Details on the methodology used may be found in the Appendix.*

**During 2003-2006, municipal fire departments responded to an estimated 3,750 structure fires annually.** These fires resulted in an average of one civilian death, 57 civilian injuries, and \$26.9 million in direct property damage. Of all structure fires, 0.7% occurs in health care facilities.

During the same time period, an estimated 2,140 outside and other fires were reported on these properties, annually. These outside and other fires caused an average of six civilian injuries and \$0.7 million in direct property damage per year. An estimated 470 vehicle fires reported on these properties, annually, caused an average of three civilian injuries and \$1.4 million in direct property damage per year. No civilian fire deaths were reported from any outside or vehicle fires reported on these properties.

**Almost half of the medical, mental health, and substance abuse facility structure fires occur in hospitals or hospice facilities.**

Approximately 43% of medical, mental health, and substance abuse facility structure fires occur in hospitals or hospice facilities. Another 39% of structure fires occur in mental health or substance abuse facilities and finally, 19% occur in clinics or doctor's offices. Seventy percent of the direct property damage in health care facilities occurs in clinics or doctor's offices.

### **Additional information sources**

NFPA members can download a number of investigation reports on health care fires at no cost from [www.nfpa.org/Research/](http://www.nfpa.org/Research/). Non-members may order these investigation reports through the NFPA library. The chapter on "Health Care Occupancies" by Daniel J. O'Connor, found in the 20th edition of the NFPA *Fire Protection Handbook*, describes some of the special fire safety concerns for these properties.

**Cooking equipment was the leading cause of reported fires in medical, mental health, and substance abuse facility structure fire in 2003-2006**

**The deadliest health care fire in U.S. history was the 1929 Cleveland Clinic fire in Cleveland, Ohio, that killed 125 people.**

Because health and mobility problems could make it difficult for many patients to independently escape a fire, facilities must work diligently to prevent fires, to train staff and to equip the property (e.g., active systems) for effective response should a fire occur.

**NFPA 99, 2005 edition is the standard for health care facilities.**

This standard establishes criteria to minimize the hazards of fire, explosion, and electricity in health care facilities providing service to human beings.

**Sprinklers both operated and were effective in 96% of incidents where the fire was large enough to activate sprinklers in medical, mental health, and substance abuse facilities.**

# Medical, Mental Health, and Substance Abuse Facility Structure Fires by Facility Type

*The following estimates are annual averages for 2003-2006*

## Hospital or Hospice Facility

- **1,600** structure fires
- **1** civilian death
- **29** civilian injuries
- **\$5.5** million direct property damage
- **Leading Causes**
  - Cooking equipment
  - Contained trash
  - Electrical distribution & lighting equipment
- **Area of Origin**
  - Kitchen or cooking area
  - Bedroom
- **Item 1st Ignited**
  - Cooking materials
- **2%** of fires in these properties extended beyond room of origin
- **Fires Peak:**
  - During week
  - 8 a.m.-1 p.m.

## Mental Health or Substance Abuse Facility

- **1,450** structure fires
- **1** civilian death
- **23** civilian injuries
- **\$2.7** million direct property damage
- **Leading Causes**
  - Cooking equip.
  - Contained trash
  - Clothes dryer/washer
- **Area of Origin**
  - Kitchen or cooking area
  - Bedroom
- **Item 1st Ignited**
  - Cooking materials
- **3%** of fires in these properties extended beyond room of origin
- **Fires Peak:**
  - Weekend
  - 2 p.m.-5 p.m.

## Clinic or Doctor's Office

- **700** structure fires
- **No** reported deaths
- **6** civilian injuries
- **\$18.7** million direct property damage
- **Leading Causes**
  - Cooking equipment
  - Heating equipment
  - Electrical distribution & lighting equipment
- **Area of Origin**
  - Kitchen or cooking area
  - Office
- **Item 1st Ignited**
  - Cooking materials
- **15%** of fires in these properties extended beyond room of fire origin
- **Fires Peak:**
  - During week
  - 8 a.m.-1 p.m.

*Estimates are derived from the U.S. Fire Administration's National Fire Incident Reporting System (NFIRS) Version 5.0 and NFPA's annual fire department experience survey. Estimates only include fires reported to municipal fire departments. Nursing homes are not included.*

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