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NEWS RELEASE

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Change Your Clock, Change Your Smoke Alarm Batteries:

As the Spring time change approaches, The Humboldt County Fire Prevention Officers wants to remind residents to make another change, one that could save their lives—changing the batteries in their smoke alarms.

This year the day to set your clocks forward and change batteries in your smoke alarm is Sunday, March 9th.

Nationwide approximately two thirds of civilian fire deaths occurred in residences without working smoke alarms.

The most common reasons home smoke alarms do not function properly are:

- Missing or disconnected battery.
- Dead Battery
- Batteries are removed due to a "chirping sound," which actually indicates the battery needs to be replaced!
- Alarms are not cleaned regularly.
- Alarm is aged and possibly contains outdated parts or technology. Smoke alarm replacement is recommended every ten years.
- Improper installation or placement.

Each of these reasons is easily remedied by either simply replacing the battery or the device itself.

Most fire fatalities happen while families are asleep. The peak time for home fire fatalities is between 10 p.m. and 6 a.m. when most families are sleeping. Smoke by itself doesn't provide a wake-up call, but a working smoke alarm surely does.

Take time for home fire safety; change your smoke alarm batteries. This is also a great time to review your family's home fire escape plan; know two ways out of each room, and designate a family meeting place.

For more information contact your local fire department.

One-Stop Data Shop
Fire Analysis and Research Division
One Batterymarch Park, Quincy, MA 02169
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Smoke Alarms in Reported U.S. Home Fires

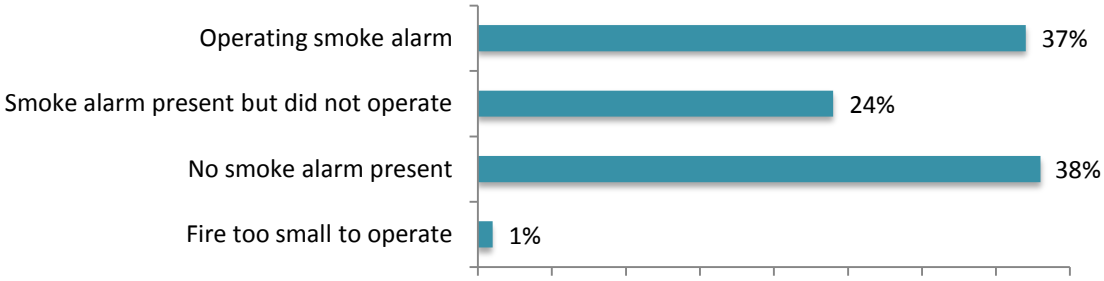
Ninety-six percent of all homes have at least one smoke alarm, according to a 2010 telephone survey. Overall, three-quarters of all U.S. homes have at least one *working* smoke alarm.

Smoke Alarm Presence and Performance

In 2005-2009, smoke alarms sounded in half of the home fires reported to U.S. fire departments.

- Almost two-thirds of home fire deaths resulted from fires in homes with no smoke alarms or no working smoke alarms.
  - No smoke alarms were present in more than one-third (38%) of the home fire deaths.
  - In one-quarter (24%) of the home fire deaths, smoke alarms were present but did not sound.

Home Structure Fire Deaths by Smoke Alarm Performance 2005-2009



Interconnected smoke alarms increase safety

in a Consumer Product Safety Commission (CPSC) survey of households with any fires, including fires in which the fire department was not called, interconnected smoke alarms were more likely to operate and alert occupants to a fire.[1] People may learn about or be alerted to a fire without hearing a smoke alarm.

- When smoke alarms (interconnected or not) were on all floors, they sounded in 37% of fires and alerted occupants in 15%.
- When smoke alarms were not on all floors, they sounded in only 4% of the fires and alerted occupants in only 2%.
- In homes that had interconnected smoke alarms, the alarms sounded in half (53%) of the fires and alerted people in one-quarter (26%) of the fires.

Michael A. Greene and Craig Andres. *2004-2005 National Sample Survey of Unreported Residential Fires.* U.S. Consumer Product Safety Commission, July 2009.

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Homes include one- and two-family dwellings, manufactured homes, apartments, townhouses, roughhouses, and condominiums.

Home Fires with Smoke Alarms

In reported home fires with smoke alarms:

- Half the alarms were powered by battery only.
- Two-thirds of the fatal fire injuries were caused by fires in homes with smoke alarms powered by battery only.

In fires considered large enough to activate the alarm,

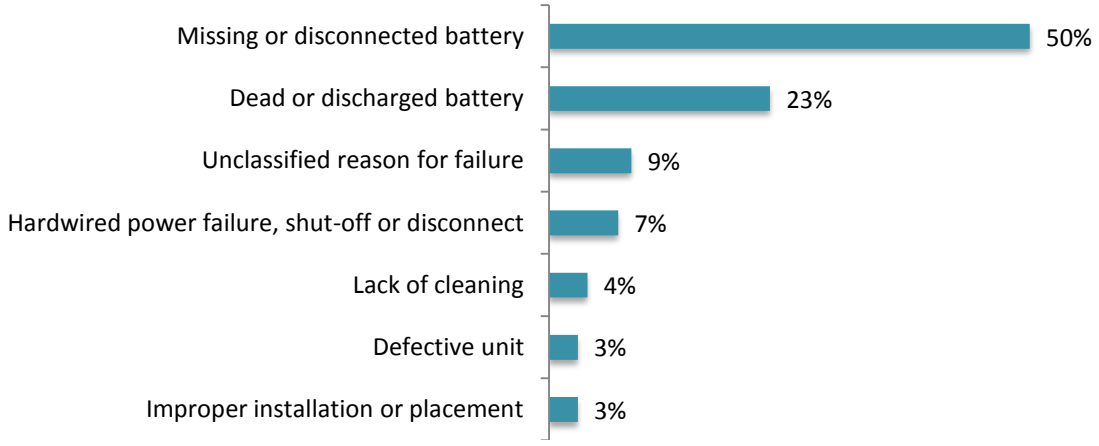
- Hardwired smoke alarms operated 92% of the time.
- Battery-powered smoke alarms operated in three-quarters (77%) of the fires.

Reasons that Smoke Alarms Did Not Operate

In reported home fires[1] in which the smoke alarms were present but did not operate,

- Half of the smoke alarms had missing or disconnected batteries. Nuisance alarms were the leading reason for disconnected smoke alarms.
- Almost one-quarter (23%) of the smoke alarm failures was due to dead batteries.
- Only 7% of the failures were due to hardwired power source problems, including disconnected smoke alarms, power outages, and power shut-offs.

Reason Smoke Alarm Failed to Operate in Home Structure Fires 2005-2009



Little causal detail is required about certain categories of minor fires, identified by incident type and collectively called confined fires by the U.S. Fire Administration's National Fire Incident Reporting System (NFIRS). Confined fires were omitted from calculations of the reasons for smoke alarm failure.

Source: *Smoke Alarms in U.S. Home Fires*, Marty Ahrens, NFPA Fire Analysis and Research, Quincy, MA, September 2011

What you should know about SMOKE ALARMS

Smoke Alarms Save Lives

The most important things you need to know are smoke alarms save lives and they should be in every home. Follow these important smoke alarm safety measures:

- **Make sure your smoke alarms are working.** This means testing smoke alarms monthly, replacing batteries once a year or when a low-battery alarm chirps and performing other maintenance as NFPA and your smoke alarm manufacturers recommend. And of course, a smoke alarm disabled because of nuisance alarms provides no protection at all.

- **It is important to have not just one smoke alarm but smoke alarms in every location required by NFPA standards.** (On each level of your home, outside each sleeping area and inside each bedroom.) Tens of millions of U.S. homes are estimated to have smoke alarms but not enough smoke alarms to meet the standards and protect their homes.

- **Interconnect your smoke alarms so that a fire detected by any smoke alarm will sound an alarm at every location where a smoke alarm is installed.** Interconnection can be done using hard-wiring or wireless broadcast technology. Interconnected smoke alarms provide early warning of fires that are still far away or are located on the other side of a door or wall that may block sound.

- **Develop and practice an escape plan so that everyone in the home knows what to do if the smoke alarm sounds.** That includes planning a second way out from every room in your home. Every household that develops and practices an escape plan with two ways out from every location improves its time to escape in every type of fire.

There Are Different Types of Smoke Alarm Technologies—Ionization and Photoelectric

The two most commonly recognized smoke detection technologies are ionization smoke detection and photoelectric smoke detection. Ionization smoke detection is generally more responsive to flaming fires and photoelectric smoke detection is generally more responsive to fires that begin with a long period of smoldering (called "smoldering fires"). For each type of smoke alarm, the advantage it provides may be critical to life safety in some fire situations.

Home fatal fires, day or night, include a large number of smoldering fires and a large number of flaming fires. You can not predict the type of fire you may have in your home or when it will occur. Any smoke alarm technology, to be acceptable, must perform acceptably for both types of fires in order to provide early warning of fire at all times of the day or night and whether you are asleep or awake.

The best evidence has always indicated that either type of smoke alarm will provide sufficient time for escape for most people for most fires of either smoldering or flaming type. However, research is ongoing, and standards are living documents. If at any time, research points to a different conclusion, then that will lead to proposals for changes in the NFPA standard or the closely related Underwriters Laboratories standard for testing and approving smoke alarms. Both organizations currently have task groups looking at smoke alarm performance in the current home environment.

For Best Protection Use Both Types of Smoke Alarm Technologies

For best protection, it is recommended both (ionization and photoelectric) technologies be in homes. In addition to individual ionization and photoelectric alarms, combination alarms that include both technologies in a single device are available.

Nuisance Alarms Can Be Minimized

Ionization type smoke alarms are more susceptible to nuisance alarms due to cooking, the leading cause of nuisance alarms, but both types have some susceptibility to nuisance alarms from cooking fumes, and both have susceptibility to nuisance alarms from the steam from a hot shower.

In the past decade or so, a number of steps have been taken to reduce the likelihood of nuisance alarms, including hush features and refinements to installation rules that include guidance on safe distances from nuisance sources.

TV Demonstrations of Smoke Alarm Performance Can Be Misleading

Informal demonstrations, such as ones done for TV news shows, of smoke alarm performance can seriously mislead the viewer and do not provide a sound basis to assess performance. These demonstration tests are not performed in a controlled or scientific way that compares the time of smoke alarm operation to the time when occupants would be incapacitated. The selected fire scenarios may not be representative of real fatal home fires. Passing or failing a "test" of this sort may have nothing to do with performing well or badly in the wide range of real fires. A valid engineering analysis must select fires that are realistic and analyze them accordingly.

In an informal demonstration, the eye reacts to conditions that look dangerous, mostly visible smoke and visible flame. However, most people are killed by invisible gases, which do not necessarily spread at the same rate as smoke or flame. A valid engineering analysis must measure conditions caused by fires and assess them according to their real danger.

For more information go to www.nfpa.org/smokealarms

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