



Fire and Burn
Prevention

Smoke Alarm Installation Programs

**Michigan
Statistics**

In 2012, unintentional fire/burn was the 4th leading cause of injury death for children aged 5 to 9 in MI, and the 3rd leading cause in the U.S.²



The fire/burn fatality rate for non-Hispanic black males and females, all ages, was over two times the fire/burn fatality rate for non-Hispanic white males and females, all ages. (Rates: 2.15 vs. 0.98)²



The MI fire/burn fatality rate for all races, ages, and sexes was 1.18 per 100,000 compared to the U.S. fire/burn fatality rate of 0.93 per 100,000.²

Data Sources:

1. National Fire Protection Association, Fire Analysis and Research Division.
2. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Web-based Injury Statistics Query and Reporting System.

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What Is the Problem?

United States Statistics: (2013)

- Every 85 seconds, one home fire was reported.¹
- 76% of all structural fires occurred in homes.¹
- Home fires caused 85% of all fire-related deaths and caused 12,200 injuries.¹
- Home fires cost \$6.8 billion in property loss.¹
- From 2007 to 2011, three of every five home fire deaths occurred in a household with no smoke alarm present or without an operating alarm.²
- When smoke alarms fail to operate, it is most often due to missing, expired, or disconnected

What Is One Solution?

Smoke alarm installation programs are an effective, multi-level, behavioral intervention that can reduce and prevent injury and mortality from residential fires.^a Conducting home visits to install smoke alarms is an immediate approach to efficiently intervene in high-risk communities. Visits provide the opportunity to identify and fix nonfunctioning alarms, properly install new alarms in locations and quantities based on national recommendations, and provide personalized feedback and education based on household risk factors (e.g., fire escape plan).^b Additionally, research indicates that installation programs, when compared to a distribution/voucher program, significantly increase the prevalence of smoke alarm use and functionality in high-risk homes at follow-up.^c

Evaluation

In 1997, the Centers for Disease Control and Prevention conducted a randomized controlled trial to determine the comparative effectiveness of two behavioral interventions aimed to increase the prevalence of functional smoke alarms in high-risk homes: a smoke alarm installation program and a voucher for free smoke alarms program. Within each of the five U.S. states that participated, counties and geographic areas were randomly assigned to an installation or voucher program. Follow-up occurred 6 to 12 months after the initial visit to assess presence and the working condition of smoke alarms.^c

Evidence of Effectiveness

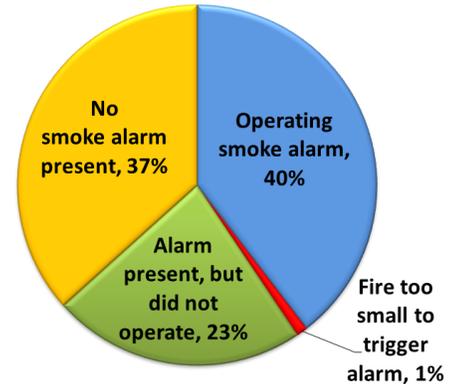
Overall, findings show that:

- Almost half (47%) of homes enrolled in the voucher program had not redeemed their voucher for a free smoke alarm.^c
- 90% of homes in the installation program had functional smoke alarms, as compared to only 65% of homes in the voucher program.^c
- Direct installation of smoke alarms significantly increased the prevalence of functional alarms in high-risk homes.^c

References

- a. Warda LJ, Ballesteros MF. Interventions to prevent residential fire injury. In: *Handbook of injury and violence prevention*. Springer; 2008:97-115.
- b. Taylor RE. *The smoke alarm problem*. Vision 20/20; 2014.
- c. Harvey PA, Aitken M, Ryan GW, et al. Strategies to increase smoke alarm use in high-risk households. *J Community Health*. 2004;29(5):375-385.

Home Fire Deaths by Smoke Alarm Status, 2007-2011



Source: NFPA Fire Analysis and Research¹