



Sound the Alarm

Executive Summary

This case study summarizes a presentation at the National Symposium on Model Performance in Fire Prevention in May 2012.

During the spring of 2010, the International Code Council (ICC) received a Fire Prevention and Safety Grant from DHS/USFA to implement *Sound the Alarm* as a pilot program for community outreach and education designed to reduce rural community fire hazards and other potential dangers in residential homes. The National Volunteer Fire Council (NVFC) assisted with the implementation of this program, which was piloted in three states: Alabama, Pennsylvania, and Tennessee.

Program activities included home safety assessments (for fire and other hazards), installation of smoke alarms, the development of a web site, and the development and dissemination of education materials

Overview

Through *Sound the Alarm*, teams of fire department members, Fire Corps volunteers, and local building official volunteers conducted home safety checks, installed/replaced smoke alarms and completed follow up evaluations in rural communities in the pilot states. *Sound the Alarm* teams took measures to remedy unsafe situations with every inspection and provided individualized education to family members, leaving each household fully covered by smoke alarms and equipped with an escape plan, among other enhancements for the safety of each household visited.

One completely unique aspect of the program is the goal to initiate partnerships between the fire service volunteers and local building/code officials to deliver a comprehensive home safety and fire education program during each home visit. Basic safety requirements of the *International Residential Code (IRC)* and *International Property Maintenance Code (IPMC)* were incorporated into the home safety checklist and educational materials.

Formative Evaluation (qualitative or quantitative risk assessment)

Residents in rural areas, characterized by a separation of communities (and residents) from one another are at an increased risk of fire due to the following factors: a lack of fire department resources, obstacles in reaching households to disseminate information, and lack of fire prevention education and awareness. Across the country, smoke alarms were present and operational in only 27% of rural residential fires, with the majority of rural fires (58%) occurring in homes without smoke alarms. To compound this problem, 15% of rural fires occur in homes where smoke alarms are present but do not work. Combined, these statistics show that 73% of rural residential structure fires occur in homes without operational smoke alarms. (See *Mitigation of the Rural Fire Problem in the U.S.* by USFA/NFPA.)

Results from the home safety evaluations revealed the following:

- Fewer than 20 percent of the homes were adequately covered by functional smoke alarms
- 65% had smoke alarms that were over 10 years old (the useful life of a smoke alarm)
- 52% did not have a home escape plan
- Only 83% of homes had their correct address properly displayed

- 45% of households lacked an emergency supply kit
- Only 22% of homes had a fire extinguisher on every level of the home
- 27% of homes needed emergency numbers programmed into phone or posted nearby
- 86% needed carbon monoxide detectors
- 21% of decks were not securely fastened to the structure; 17% of decks did not have proper railings
- 44% of pools or other bodies of water were not securely blocked from children

Process Evaluation (analysis of the program's development and early implementation)

The states which participated in the pilot program (Alabama, Pennsylvania, and Tennessee) were chosen in part because of their high per capita fire death rates. Interested fire departments within these states completed a short survey to determine which communities would make the best fit for *Sound the Alarm*. The selection of pilot programs was conducted in cooperation with the state fire marshal.

Preference was given to communities with a population of 2,500 or less, and survey questions focused on how many fires and fire-related injuries and deaths the community experiences, the frequency of the department's fire education and smoke alarm programs and outreach, and whether fire inspections and smoke alarm replacement programs have been or are being conducted.

Teams were chosen, trained, equipped with smoke alarms, a tool-kit, home safety evaluation forms and a media kit to solicit homeowners to agree to a home visit and receive smoke alarms. Teams were given six months to complete their home visits. Teams installed/replaced smoke alarms in accordance with the latest code requirements for locations and installed address numbers (visible at the street) as necessary.

The *Sound the Alarm* web site launched in August 2010. The web site – www.soundthealarmtoday.org – is no longer available, but resources have been placed on the Fire Corps website (www.firecorps.org) This website contains a multitude of resources about fire and general home safety, as well as information about smoke alarms. The web site provides all the resources that would be needed in order to advertise, obtain homeowner consent, conduct home safety assessments, and provide additional information to leave behind with the homeowners.

First Alert provided a short video clip that offers guidance for installing smoke alarms in homes. The smoke alarm installation instructional video and other resources, such as the home safety checklist; flyers; public service announcements (PSAs); and safety tips for families, are available for participating teams as well as the general public. These resources will remain available indefinitely through the Fire Corps program web site, making this portion of the program sustainable, even without additional funding.

Impact Evaluation (identification of measurable changes that are cognitive gains or behavior changes that reduced risk)

Impact evaluation from *Sound the Alarm* included:

- Measured improvement in 100% of homes visited by properly placing new, long-life battery smoke alarms
- Measured improvement in address numbers properly displayed for emergency responders: The Sound the Alarm Teams did not record the number of homes without properly displayed address numbers, but did install address numbers to be visible from the street when needed.
- Measured improvement in 100% of homes visited by assisting families in developing a fire escape plan
- Improved awareness in 100% of homes visited of other home safety risks and information for correcting those risks

Outcome Evaluation (longer term documentation that supports reduction of injury, death or economic losses)

Two longer-term evaluation tools are also in place. First, each team will have forms available to track any fire or CO incident that occurs in a home that received a home visit and assessment. The collected data will explain how the escape plan, overall assessment, and smoke and/or CO alarms played a role in the outcome of the incident. Second, we will track fire death and injury rates of the communities targeted for this program and match them against comparable data gathered at the start of the program, which was initially used to determine the communities with the greatest need.

Recommendations for Others

Critical factors for success included a competent program manager; coordination with the state fire marshal's office, community fire chief and local head of government; strong initial support of *Sound the Alarm* Teams with training, media kits and smoke alarm installation tool-kits, along with simplicity in record keeping and data collection.

For More Information

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To see an expanded version of this case study that was presented at the 2012 National Symposium on Model Performance in Fire Prevention hosted by Vision 2020, click <http://strategicfire.org/page.cfm/go/2012-Model-Performance>.