



Effective Community Risk Reduction through Marketing and Leveraging Community Resources

Executive Summary

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

The Merrimac (MA) Fire Department instituted school-based and media-based safety education programs aimed at improving home evacuation behavior and preventing drowning in the nearby Merrimack River. The education programs included a written quiz for school students and a web-based quiz for the community-at-large.

Overview

The program's objectives were to:

- Leverage community resources in order to sustain year-round community risk reduction programs
- Form a task force with the local media
- Deliver year round fire and life safety programs to the students within the Merrimac (MA) schools
- Increase fire and life safety knowledge to the students and their parents or caregivers
- Reduce deaths and injuries to the citizens within the town of Merrimac

Formative Evaluation (qualitative or quantitative risk assessment)

The Merrimac Fire Department conducted a quantitative risk assessment based on Massachusetts Fire Incident Reporting System (MFIRS) data from 1995 - 2000. The assessment revealed that children between the ages of 4 and 14 years of age were not evacuating their home and assembling at their predetermined meeting place when the smoke alarm activated. In 2003, five teenagers died after falling through the ice on the Merrimack River in a neighboring community. It was determined that other injury prevention programs and messages needed to be developed and delivered to the children and parents residing in the town of Merrimac throughout the year, focusing on the consequences of risk-taking behavior.

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

- 95% of elementary children ages 4–14 successfully attended fire and life safety education courses in the schools from 2002-2010.
- Media outreach expanded to include web-based fire safety educational quizzes
- The public education officer met with school faculty quarterly to obtain input and make changes to the program as necessary

- In 2010, the community at-large completed the online BeFireSmart.com 10 question fire/injury prevention quiz
- The Merrimac Fire Department won a \$10,000 grant from Liberty Mutual, after obtaining the most votes of any fire department in the United States: 3,051 votes and 50% of the community voting. The Merrimac Fire Department and the town of Merrimac participated in the Liberty Mutual nationwide contest Be Fire Smart, to measure fire safety knowledge. Each resident was offered the opportunity to complete an online 10-question quiz to establish a baseline of fire safety knowledge and provide correct answers to all participants.
- 93% of the 1,016 students in Merrimac's two elementary schools were reached by fire and life safety education during 2010-2011.

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

School aged-children completed a 20-question age-appropriate quiz after the fire safety lesson was delivered in the classroom, with a 93% average correct score, compared to average pre-test scores of 45% average.

In 2010, 3,051 adults (50% of the population of Merrimac) completed the online quiz and answered 95% of questions correctly.

93% of Merrimac residents who participated in an online fire/injury prevention quiz stated:

- They extinguished candles when they left the room
- Kept space heaters at least 3-feet from combustibles
- Secured lighters and matches from young children

These actions occurred as a result of public awareness campaign on Cable Access TV and radio.

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

In 2004, a 14-year-old male student correctly evacuated his home and led his family outside, during a building fire, and reassembled at the driveway awaiting the fire department arrival.

In 2004, a 7-year-old male student called 911 when his mother was having an allergic reaction to a hornet sting.

In 2007, an 8-year-old girl quickly took her 4-year-old brother and herself outside during a stove fire to the tree in the front yard.

In 2007, a 4-year-old boy led his family outside, crawling under smoke, going to the family meeting place (tree in the front yard).

Recommendations for Others

- Build rapport with the community leaders and communicate the needs
- Collaborate with the community to leverage and sustain community resources and alternative funding

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>.