



Iowa State-Wide Smoke Alarm Installation Program

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I. Formative Evaluation – Planning

Goals: What started as a 100 year anniversary awareness program turned into an effort to be the first state to install smoke alarms state-wide. Starting in 2010, the State Fire Marshal office started an effort to install smoke alarms in every child's home. After a series of high profile fire fatalities involving children, the efforts of some cities to install smoke alarms in homes was expanded to a state-wide effort.

The process involved surveying children's parents K-6th grade during parent teacher conferences of participating school/fire districts. Once surveyed, participating fire departments notified the State Fire Marshal office with the numbers affected.

Student data numbers were provided by the Department of Education showing 365,000 children were enrolled in Iowa schools K-6th Grade. Burn data from the University of Iowa showed an increase in burn patient admissions through the last several years.

Next, data was gathered from NFIRS fire data for the state of Iowa. The 20 highest population centers, 20 highest areas of residential fires, 20 highest number of fires/per capita, and 20 most common Red Cross responses led us to identify the top 5 counties of fire risk based on having all of the above listed factors.

II. Process Evaluation – Implementation

Once survey numbers were collected, partners were garnered to raise private partner funds as well as public sector grants. Initially nearly 30 Iowa corporations provided donations to the Iowa Firefighter Association foundation account. The 2011 Fire Prevention and Safety grant in the amount of \$245,000 was significant in allowing us to purchase 13,000 dual sensor smoke alarms. Once funds were collected, smoke alarms were purchased and distributed to over 300 fire departments. Departments installed dual sensor smoke alarms throughout the homes identified in surveys. We also were able to have electricians donate time and resources to install over 500 deaf and hard of hearing strobe alarms.

The program expanded to "Operation Safe Senior" battery installation program. Fire departments carried smoke alarms and batteries in their first fire engine that we provided to them. Calls to battery companies yielded 26,000 9 volt batteries. Once responding to public assistance calls, firefighters would install batteries and assist in checking smoke alarms for elderly populations.

In partnership with the Red Cross, several blitz smoke alarm installation programs were carried out. Addressing risks in a community using several hundred volunteers seems the most effective mechanism for wide-spread smoke alarm installations. The entire project has shifted to use data and identify risk communities and build resilience in those most at risk. Some of the Blitz installations have occurred in Lake City, Centerville, Ottumwa, and most recently Des Moines.

III. Impact Evaluation – Short Term Results

Nearly 3000 installations in a single day were made in the high risk neighborhood Highland Park. Data shows fire damage was \$26 M less in homes where a smoke alarm activated. Awareness projects changed behaviors but did identify wide-spread issues with smoke alarm maintenance. In fact very few homes of the 20,000 checked had all smoke alarms working properly. Smoke alarm projects had positive public support for the short term.

IV. Outcome Evaluation – Long Term Results

Fire deaths between 2012 and 2013 were cut from 42 deaths to 25 deaths (the 2nd lowest fire fatality rate in 100 years of data collection). Over 674 lives were saved from smoke alarms since April 2010, over 50,563 smoke alarms were installed by over 340 fire departments in Iowa. Children fire fatalities declined from 7 per year on average to 3 in 2013.

Recommendations for others:

Fighting the traditional norm of fire suppression is treacherous water. It is important to avoid political land mines and provide motivation for prevention activities. Getting the support from your leadership to be the voice for the program is important. There will be many nay-sayers that are afraid to invest in a big project. It takes one installation at a time to make a difference. Smoke alarm maintenance remains a critical failure in saving lives. Smoke alarm strategies need to focus on taking the human intervention out of smoke alarms. As long as people are required to change batteries, we will never get ahead of smoke alarm maintenance issues. Funding smoke alarms for fire departments takes time and effort but one life saved makes those efforts worthwhile. Lastly, it takes motivation to make a difference and not give up. EVERY fire department that has taken part in this program reported their firefighters return to the station a little more proud of their work. The ability to see their customers and see how vulnerable their citizens were (and to address that vulnerability) were two rewarding factors reported back to fire command staff.

Conclusions:

Many people thought we were crazy when we set a goal to install smoke alarms in every child's home. 50,000 smoke alarms later we are seeing a number of lives saved by fire department installed smoke alarms. Those people saved have common stories. If not for a working smoke alarm, I predict our fire death rate would have been much higher in our state. I have always maintained if you put smoke alarms in just three homes where children live, you will be hooked on the idea of not stopping your efforts until your entire community is protected with smoke alarms.