



## **People with Profound Hearing Loss: Partnering in Community Risk Reduction**

### **Executive Summary**

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

### **Overview**

This is a three part project including:

- Continued installation of long-life battery-operated smoke alarms and slip-and-fall home safety assessments with Area Agency on Aging (AAA) volunteers, for seniors in older housing stock
- Installation of 650 alarms/notification devices for people with profound hearing loss
- A pilot demonstration with 50 people with profound hearing loss (averaging 90dB and above), to see which type of modality used (light, sound and movement) would awaken them best if there were a fire in their home.

Partners were identified: Area Agency on Aging, Delray Medical Center, Deaf Service Center, FL Association of the Deaf (FAD) and the local PBC Association of the Deaf , Florida Atlantic University, the Hearing Loss Association of America (Delray/Boca branch) and monthly meetings arranged.

### **Formative Evaluation (qualitative or quantitative risk assessment)**

Palm Beach County, FL is home to almost 400,000 seniors over the age of 60. The Florida Coordinating Council for the Deaf and Hard of Hearing reported that 155,540 seniors with some degree of hearing loss live in Palm Beach County. Of this group, 16,000 seniors are profoundly deaf (Department of Elder Affairs, 2010). Palm Beach County Fire Rescue (PBCFR) has been installing smoke alarms for over 12 years, but did not have the budget to purchase alarms for our citizens with profound hearing loss. This grant allowed us to purchase 650 alarms/notification devices for this population.

The development and testing of materials and methods was specifically relevant to the pilot demonstration of smoke alarms and notification devices for people with profound hearing loss. A literature review of relevant research in this area was completed, as well as conversations with others who had completed past research. The Executive Director of NFPA's Fire Protection Research Foundation provided documentation of a dearth of research for people with profound hearing loss and a request for research on this population came from NFPA 72 technical committee members.

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

Project 1 already had its own process with the PBCFR Volunteer Battalion installing smoke alarms. Partnering with AAA was added to this process.

Project 2 required Alarm Application forms to be devised, a way to select who would receive these alarms (which was based on annual income, level of hearing loss, age of the dwelling and number of people with disabilities in the home). Homes with children who had profound hearing loss were prioritized. Scripts for videos in American Sign Language were written and filmed with the president of the Florida Association of the Deaf. Training of teams in the bureau to install these alarms was completed. Geo mapping of all homes for installation was completed and each team was given addresses in their work area. The teams contacted the applicants, arranged a time to install and completed the installations using print forms as well as iPads and laptops with videos in ASL explaining the installation program for people whose first language was ASL. Kits for installations were provided to each team.

The program took a lot of time to put together because of all of the steps that needed to be accomplished. The feedback from our citizens with profound hearing loss has been very heartwarming.

Project 3 took the longest because of the MOUs, the dissemination of information to various groups within the deaf and hard of hearing communities, the distribution of flyers, the Western Institutional Review Board process with the Delray Medical Center and the preparation of the instruments to be used in the Pilot. There were three sets of pre-screening questions prior to the selection of candidates for this pilot; one involving audiology testing of each applicant and scheduling for the pilot demonstration facility. A request for an extension had been completed for this project.

The pilot demonstration (Part 3) of this project took much longer than anticipated due to the numbers of partnering agencies, the Memoranda of Understanding (MOUs) that needed to be drawn up and the four month timeframe to obtain approval through the Western Institutional Review Board for the pilot. The timeframe for the project was one year, from July 2011 through April 2012. We have requested an extension to complete the second and third projects involved in this grant.

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

In Project 1, the addition of the slips and falls educational program through AAA's RSVP home visitor program was a definite hit with our residents. The home assessments were well received as well as comments made from homeowners that this was new information they did not have previously. Educational material was left with all residents. Neighbors told other residents about the program and PBCFR received over 200 calls for the program in three days.

Non-working smoke alarms were replaced and residents were taught how to maintain them; thereby leaving them safer than before.

Project 2 had not been provided in the past and our population spanned young children through older adults with profound hearing loss. One 7 year-old child was sleeping in the same room as the parents because they were afraid he wouldn't awaken if there were a fire in their home. His bedroom was in another area of the home. A young man 18 was leaving foster care and had been deaf from age 3. He was living in a townhouse with 2 other roommates who were hearing. The organization requested an alarm for him, as well as training for their staff in other residential facilities.

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

Project 1 (the installation of long-life smoke alarms) paid off in the Cresthaven development in 2011 when one of our alarms alerted a family of a fire in their condominium home. They and all of their pets survived. The families in the other seven condos were all evacuated with no injury or loss of life. The building was built in the 1950s and there was no separation in the attics.

Long-term results have yet to be quantified for Projects 2 and 3.

Project 3 is not completed yet; however, once the modalities have been tested and their effectiveness quantified, we will have new and valid information on the different type of modalities and their effectiveness in awakening people with profound hearing loss in the event of a fire. This will help to bridge the gaps in the research regarding this population and hopefully will give some direction regarding what works or doesn't work for people with profound hearing loss.

## **Recommendations for Others**

Partnership was critical to the success of this project. It also came with challenges with regard to working with so many agencies and infrastructures; none of which shared a common operating procedure. Many MOUs had to be developed and a common infrastructure took a long time to create.

## **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>.