

Pilot Study of a Novel Partnership for Installing Smoke Alarms

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Aims

- 1) Demonstrate the feasibility and impact of having local fire service personnel partner with home visiting nurses; and to increase the number of high-risk homes protected by working smoke alarms and carbon monoxide alarms
- 2) Solicit feedback on the strengths and weaknesses of the program, the barriers and facilitators to achieving the project objectives, and recommendations for improvements and dissemination

Partners

Nurse-Family Partnership (NFP)

- Offer Smoke Alarm referral to client and enroll client in study
- Distribute baseline and follow up surveys
- Send contact and schedule information to PFD

Phoenix Fire Department (PFD)

- Respond to smoke alarm request
- Install smoke alarms and carbon monoxide alarm
- Provide fire safety education

Appy & Associates

- Subject matter expert
- Liaison with fire service

Johns Hopkins Center for Injury Research and Policy

- Evaluate referral program

Methods

During a regularly scheduled home visit, NFP nurses informed their clients about an opportunity to have smoke alarms installed in their home for free. For interested families, nurses sent a referral to PFD, scheduled an appointment, and accompanied the PFD volunteers during the installation. During the appointment, PFD personnel along with volunteers installed alarms and provided safety education. Three months following the FD home visit, clients completed a follow up survey to measure knowledge and test the smoke alarms.

We conducted 10 in-depth phone interviews with willing nurses (n=6) and PFD representatives (n=4). Interviews were recorded and transcribed, and transcripts were coded using a codebook developed from the interviews.

Results

Fire department home visits

- N=58 clients were enrolled into the pilot study; n=52 completed the fire department home visit and n=35 completed follow up.

In-depth interviews

- Members from both organizations were enthusiastic about, and supportive of the project. They highlighted the consistency of the project with their organizations' mission statements.
- NFP nurses appreciated the skill and kindness of the fire fighters who installed alarms and conducted fire safety education.
- PFD noted that the nurses' relationships with clients made it easier for them to gain access to these "hard-to-reach" families.
- NFP and PFD continue working together even after the end of the pilot project.



Table 2. Change in knowledge between baseline and follow up (N=35)

	Baseline	Follow up	Difference
1. What is the most common cause of home fires? (Cooking)	34%	51%	17%
2. When do most fatal fires happen in homes? (Between midnight and 6am)	43%	66%	23%*
3. Do you have a home fire escape plan? (Yes, with a meeting place outside)	17%	35%	18%
4. True or false: Some smoke alarm batteries last for 10 years. (True)	49%	94%	45%*
5. Carbon Monoxide is: (A gas that cannot be seen)	66%	89%	23%*
6. What should you do FIRST if your CO alarm goes off? (Get everyone out of the house and dial 911)	66%	89%	23%*
7. How often should you change the battery in your CO alarm? (Twice a year OR Every 10 years)	17%	69%	52%*
8. True or False: You can smell carbon monoxide. (False)	46%	83%	37%*
Total Knowledge Score (Mean Score)	3.4 (43%)	5.7 (71%)	1.3 * (28%)

* Statistically significantly different from baseline via paired t-test

Conclusion

Partnering home visiting nurses and local fire departments can be a successful partnership to increase the number of homes with working smoke alarms.

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Table 1. Number of homes by number of working smoke alarms before, during, and after home visit

# Working Alarms	BEFORE home visit	DURING home visit installation	AFTER home visit
0 alarms	27 (55%)	3 (6%)	0 (0%)
1 alarm	11 (22%)	27 (56%)	14 (29%)
2 alarms	1 (2%)	16 (33%)	16 (33%)
3 or more alarms	10 (21%)	2 (5%)	18 (38%)
TOTAL	49 (100%)	48 (100%)	48 (100%)

