

HOME VISITS – NUMBERS OF SMOKE ALARMS WORKING VS. NEEDED

Summary of Presentation for Smoke Alarm Summit, March 31 2015

By Philip Schaeenman and Maria Argabright, TriData Division, SPC

Basis: During 2008-2014, 29 communities were given AFG sub-grants to purchase smoke alarms and test procedures for making home safety visits as part of community risk reduction (CRR.) During the visits, they tested existing smoke alarms, installed alarms as needed, and gave the household fire safety information. Visits were made by 2-3 firefighters, prevention personnel, volunteers from community organizations, and a few from other city departments. They filled out standard forms to record what they found on arrival and what actions they took.

Homes Visited: High risk homes were given priority. They were selected based high fire incidence, type of occupancy (e.g. mobile homes), and demographics (e.g. areas with high elderly populations). Most departments also went to some homes that requested safety visits. Visits were attempted to 20,530 homes, of which 13,644 were entered. The main reason for non-entry was no one home. (Some departments scheduled visits and had almost 100% success in entry, while others canvased high risk areas and had less entry success.) In the event, two-thirds of the homes entered had high risk demographics (elderly, very young, person with disability, smokers). Almost all needed several smoke alarms to meet code. A variety of program approaches worked.

Smoke Alarm Situation Found: All alarms in the visited homes were tested except those in private alarm systems. Over one-third (35%) of the homes visited had no working smoke alarm present. (Some had alarms that were not working; some had no alarms at all. In either case, there was no protection. Where alarms were present, 26% of them were not working. 39% of households admitted to not having an escape plan, and that is probably an underestimate.

Actions Taken: 35,000 smoke alarms were installed, an average of 2.6 per home, to replace alarms not working or old, or needed to meet code. Some homes were given as many as 12 alarms. In a small fraction of homes, batteries were replaced to restore alarms to working condition when they seemed sound otherwise. 88% of the homes were given safety instructions, often tailored to their demographics (e.g. young children or elderly.) 67% were given written safety materials.

Outcomes: 96% of the homes had working smoke alarms at the end of the visits. The homes had an average of 3.8 working alarms (including ones that were working upon arrival.) 87% of the homes met code at the end of the visit. Where they did not, it usually was because the home owner did not want them all, or wanted a shorter visit. Sometimes the visiting team did not have enough alarms for complete coverage of the larger homes. Three cities conducted follow-up visits of 20 or so homes, several months after the initial visits. Lexington, KY and Wilmington, NC found all but one alarm still in place and working. Philadelphia found that about a third were not working or gone. In some cases the occupants took the alarms with them when they moved, which may be a positive result in a way. That the alarms were to stay with the home was not explicitly mentioned—a mistaken presumption...

Conclusions and Data Needs: Once a fire starts, smoke alarms reduce the likelihood of dying by at least 50%, so most of the homes visited had their safety significantly improved. It would be desirable to evaluate their actual fire experience over the next several years (addresses were recorded to do this.) A key question for CRR is whether a community should provide all the alarms needed to meet code in every home visited, or to install one per level in a larger number of homes, and leave it to the occupant to provide the rest, as is done in Ontario. To our knowledge, no data exists on casualty rates in homes with single vs. multiple alarms per level.