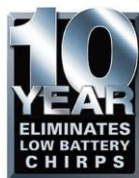




S.A.F.E. FAMILY SMOKE ALARM FOR EVERY FAMILY INSTALLATION PROGRAM



A smoke alarm installation program implemented throughout Manitoba can make a difference by reducing injuries and/or deaths in a fire. Smoke alarms are the life-saving success story of the past 30 years. According to NFPA statistics, each year, three out of five home fire deaths result from fires in homes with either no smoke alarms or no working smoke alarms.

The Manitoba Office of the Fire Commissioner, Red River Mutual, Manitoba Firefighters Burn Fund and the Manitoba Association of Fire Chiefs are partnering to implement a province-wide smoke alarm installation program. The program is identified as S.A.F.E. Family (Smoke Alarms For Every Family).

The approach to an installation program is simple. Fire department personnel and recruited volunteers across Manitoba will team up to install smoke alarms. By installing smoke alarms in homes, residents and communities will be safer.

Some smoke alarm facts:

- The risk of dying in a reported home fire is reduced by 50% in homes with working smoke alarms.
- Smoke alarms fail, most of the time, because of missing, disconnected or dead batteries.

Planning for Success

Here are some components of good program development:

1. Establish Goals and Outcomes:

Goals: the goal of the program should simply state ‘the long term result of the S.A.F.E. Family program will be that every home in the community will be protected by working smoke alarms in accordance with the Fire Code requirements.’

Outcomes: program outcomes should be established to track progress toward the goal. These projected outcomes will provide a measure by which the success of the program can be gauged. The important thing to remember about outcomes is that they must be realistic, specific and measurable. Outcomes should be reviewed each year and revised, as necessary.

Examples of Program Outcomes:



- 33% increase in the number of homes in compliance with smoke alarm requirements.
- 50% increase in the number of residents receiving information about smoke alarms and home escape planning.

2. Select appropriate activities:

The activities that will form the core of the smoke alarm program should be established in accordance with the needs and circumstances of the community. Determining what those needs and circumstances are involves an examination and analysis of local demographics, building accumulation/standard and past residential fire experience.

Some things to consider:

- Establish appropriate dates and times: Many home owners/occupants are not available during working hours from Monday through Friday. Therefore, consider conducting the program during evening hours and weekends. Try to avoid holidays and other special events that may be scheduled in the community.
 - Identify the priority areas: the simplified risk assessment will assist in selecting target areas to begin the program by identifying, for example, the area with the highest incidence of fires or with the greatest potential of injuries or deaths resulting from fires. Another option is to select an area of the community with older homes that may be less likely to be equipped with the requisite number of working smoke alarms. Other target areas might include those with high concentrations of seniors. Efforts should always be made to contact all occupants in each of the dwellings you have targeted.
 - Promote the program: use local media to inform the community about the smoke alarm program. It is important to make residents aware of how the program works, including their responsibilities for providing and maintaining some alarms. Try to avoid surprise visits to homes. Make every attempt to inform the residents in the target areas of the approximate dates and times during which the program will be conducted.
3. Obtain materials and resources: obtain your S.A.F.E. Family kit and review the print material included in the kit. If you require additional information please make certain that you have enough copies for all kit recipients. You want to make sure you are consistent with your messaging throughout your target area.
 4. Train the Program Team: It is important that all fire department and community volunteers involved in the delivery of the smoke alarm program receive adequate



and consistent training before its initial implementation. The following is a suggested outline of topics that should be covered in a training session:

- Review the smoke alarm requirements of the Manitoba Fire Code
 - Review the Fire Department's policy and/or Standard Operating Guidelines
 - Review the program's goals and outcomes
 - Discuss actions to take on discovery of non-compliance (for homeowners, landlords and tenants)
 - Discuss actions to take if denied entry into a dwelling
 - Review the various types and features of smoke alarms
 - Demonstrate and practice alarm installation and testing procedures
 - Discuss how to effectively interact with home owners/occupants
 - Review educational materials to be distributed during home visits
 - Review waiver form, and demonstrate its use
 - Review Data Collection Form and demonstrate its use.
5. **Develop a Standard Operating Guideline:** as with other fire department activities, a Standard Operating Guideline (SOG) should be developed and implemented for the S.A.F.E. Family program. Fire Departments should ensure that their smoke alarm program is reflected in the fire department's establishing and regulating by-law and any council approved fire prevention policies that set the expected level of service.
6. **Monitor and evaluate:** ongoing evaluation is an essential component that will help to ensure the program is meeting its intended outcomes and continues to be effective and relevant. The outcomes established during the planning phase will provide the measures against which the program's effectiveness can be gauged. In order to evaluate the program, appropriate data must be collected and analyzed. Sample forms are included.
- **Data Collection Form:** this form should be completed for every residence at which the fire department conducts a smoke alarm check
 - **Data Summary Form:** information gathered on the data collection forms will be tallied up and entered onto this form to get a quick and accurate picture of the results of the home smoke alarm checks.



Ongoing monitoring and evaluation will highlight areas of the program that need revision and indicate where efforts need to be focused. It will also help ascertain costs associated with the program to allow for future planning by the funding partners. The data collection will also facilitate further sponsorship of the program by the financial supporters (Red River, OFC, Manitoba Firefighters Burn Fund and MAFC).



Smoke Alarms: The Basics

Since the introduction of smoke alarms to the residential market in 1971, many advances have been made to the technology, features and effectiveness of these devices. The array of choices now available to consumers can be somewhat confusing and may cause them to turn to their fire department for answers. The following are some of the most commonly asked questions about smoke alarm operation and features.

Where should I install smoke alarms?

The Manitoba Fire Code requires that smoke alarms be installed on every level of the home and outside of all sleeping areas. Because smoke rises, smoke alarms should be installed on the ceiling, according to the manufacturer's instructions. Avoid placing alarms near bathrooms, heating appliances, windows or close to ceiling fans.

What does it mean when my smoke alarm "chirps"?

It's time to install a new battery. Underwriters Laboratories of Canada (ULC) requires that all smoke alarms have a low battery warning device that emits an intermittent signal (often a "chirp") when the battery power is low. The warning signal itself will eventually stop after a few days, so smoke alarms should be tested when occupants return from an extended absence. It should also be noted that many smoke alarms with a pause feature chirp intermittently when in pause mode. The chirping will stop after a few minutes, when the alarm resets itself.

How often should I replace the battery?

Conventional smoke alarm batteries should be replaced annually, and when the low-battery indicator sounds. When replacing batteries, ensure the replacements are compatible with the manufacturer's recommendations.

Smoke alarms are also available with long-life batteries that last up to ten years. When the battery wears out, simply replace the entire smoke alarm unit with a new one.

How do I know if I installed the battery correctly?

Standard 9V batteries used in many smoke alarms require snapping the battery's terminals into tight-fitting connectors. This can sometimes be awkward or difficult. Alarms with spring-metal terminal contacts provide much easier battery installation, but increase the possibility of installing the battery backward. Individuals installing batteries in smoke alarms must ensure the positive and negative terminals are correctly connected. Correct installation can be confirmed by pressing the test button until the alarm sounds.



How often should I test my smoke alarms?

It is recommended that smoke alarms be tested every month. Pressing and holding the test button located on the face of the unit until the alarm sounds will test the alarm feature of most smoke alarms.

Do smoke alarms need to be cleaned?

The inside of the battery-operated smoke alarms should be cleaned at least once each year by using the soft brush attachment of the vacuum cleaner. Test the unit when finished. For electrically-connected smoke alarms, shut off the power to the unit and vacuum the outside vents only. Restore the power and test the unit when finished. Do not paint any part of a smoke alarm.

What does the pause feature on smoke alarms do?

Pause or 'hush' buttons allow occupants to silence nuisance alarms, such as those caused by burning toast or opening smoky ovens, and not affect the operation of the alarm. Without this feature, many occupants will inappropriately disable the alarm by disconnecting or removing batteries.

Smoke alarms with the pause feature can be temporarily silenced in the event of a nuisance alarm. The pause will last for approximately eight minutes, after which time the alarm will automatically return to normal operation. Smoke alarms with this feature discourage the dangerous practice of removing batteries or otherwise disabling the units. Whenever possible, fire departments should recommend that residents purchase smoke alarms with pause features, especially if they will be installed near kitchens or bathrooms. It should be noted that many alarms with a pause feature chirp intermittently while in pause mode. The chirping will stop once the alarm resets itself.

How do I know whether to buy photoelectric or ionization alarms?

Smoke alarms commonly use one of two different types of technology in detecting smoke: ionization or photoelectric.

Ionization-type smoke alarms have a small amount of radioactive material that ionizes the air between two electrically charged plates, causing a measurable current to flow between the plates. When smoke enters the chamber, it disrupts the flow of current, which activates the alarm.

Photoelectric-type smoke alarms aim a light source into a sensing chamber at an angle away from the sensor. Smoke entering the chamber reflects light onto the sensor, which triggers the alarm.

Ionization vs. photoelectric: Both ionization and photoelectric alarms are tested to the same product standard (CAN/ULC – S531). Photoelectric alarms respond slightly faster to



smouldering type fires; ionization alarms respond slightly faster to flaming type fires. Some manufacturers offer smoke alarms that use both sensor systems, for optimal protection.

It is often recommended that alarms installed near kitchens be photoelectric to minimize the incidence of nuisance alarms.

How can I find out about alarms for the hearing impaired?

Smoke alarms that employ high-decibel alarms and strobe lights are available for the deaf, deafened or the hard-of-hearing. Visit the Canadian Hearing Society's website at www.chs.ca for information about these smoke alarms.

Does my smoke alarm ever need to be replaced?

Like other appliances, smoke alarms wear out and become less effective over time. In addition, new technology and features are continually being integrated. It is recommended all smoke alarms be replaced after ten years to ensure continued protection from fire and to benefit from the latest technology available.

Does my smoke alarm detect carbon monoxide?

Smoke alarms should not be confused with carbon monoxide alarms. Carbon monoxide alarms are designed to detect dangerous levels of carbon monoxide resulting from incomplete combustions from fuel burning appliances, such as gas or oil-fired furnaces or wood burning stoves, or from carbon monoxide gas that may enter a home from an attached garage. Some manufacturers do offer alarms that detect both smoke and carbon monoxide.



Managing Nuisance Alarms

Virtually everyone with a smoke alarm in their home has experienced a *nuisance alarm*, which is the accidental activation of the smoke alarm, generally due to cooking activities or steam from the shower. In some homes – depending upon the smoke alarm’s proximity to the bathroom or kitchen and the cooking practices of the occupants – nuisance alarms can be more than an occasional annoyance.

Unfortunately, the occupants’ response to nuisance alarms is often to remove the battery from the alarm, or shut off the circuit breaker. Disabling a smoke alarm is a dangerous practice that leaves the occupants extremely vulnerable to fire.

There are alternatives to managing nuisance alarms that do not diminish the fire protection level in the home. Fire departments can increase the number of working smoke alarms in the homes in their communities by including information about the causes and solutions to nuisance alarms in their smoke alarm programs. A handout addressing nuisance alarms is included in the Resources section.

Solutions to Nuisance Alarms

The most common cause of nuisance alarms is cooking in the oven, stove or toaster. The first step is to minimize the problem at the source by keeping ovens and burners clean, and by turning down the timer setting on toasters. Residents should use the fan on the range hood when cooking can also help to remove combustion particles from the air. If this fails to produce the desired results, there are other solutions to consider.

Install smoke alarms with a pause feature:

For anyone experiencing nuisance alarms, a smoke alarm with a “pause” or “hush” feature is a must. These alarms have a button which, when pressed, silences the unit for several minutes. The alarm will then reset itself automatically.

Move the smoke alarm:

Frequent nuisance alarms can sometimes be avoided by moving the alarm to a different location. If at all possible, residents should avoid having a smoke alarm in the cooking area. Moving an alarm from the kitchen to the hallway could solve the problem of nuisance alarms.

Another solution that can reduce the incidence of nuisance alarms is to move the smoke alarm from the ceiling to the wall. The alarms should be no less than 10 cm and no more than 30cm from the ceiling, and should not be installed near a corner. Refer to the manufacturer’s instructions for more information about the correct placement of smoke alarms.



Try alternative technology:

Smoke alarms commonly use one of two different types of technology to detect smoke: ionization or photoelectric.

Ionization-type smoke alarms have a small amount of radioactive material that ionizes the air between two electrically charged plates, causing a measurable current to flow between the plates. When smoke enters the chamber, it disrupts the flow of current, which activates the alarm. Ionization alarms respond slightly faster to flaming-type fires.

Photoelectric-type smoke alarms aim a light source into a sensing chamber at an angle away from the sensor. Smoke entering the chamber reflects light onto the sensor, which triggers the alarm. Photoelectric alarms respond slightly faster to smoldering-type fires.

For smoke alarms located near the kitchen, replacing existing ionization units with photoelectric ones may help to reduce nuisance alarms.



Public Awareness

A crucial component of any smoke alarm program is ensuring the public is aware of their responsibilities regarding smoke alarm requirements, installation and maintenance. Conducting door-to-door checks and installations is a tried and true method. Door-to-door programs should be conducted during specific times of the year. One of the precepts of education and behaviour modification is continual reinforcement – ensuring the message is heard repeatedly and in different ways. In order to reach as many people in as short a time as possible, some of the following activities should become integral components of the program.

Use the Media

Local or regional media are definitely an effective way to publicize the events and activities associated with your smoke alarm program. The media can quickly reach vast numbers of people with very little effort or resources required on the part of the fire department.

Local or regional newspapers, radio, television and cable companies are usually willing to help the fire department promote programs and provide information to the public. Local media often welcome the opportunity to cooperatively develop events or contests that will enhance their programming as well as educate the public. Some methods of using the media to promote S.A.F.E. Family program activities include:

Public Service Announcements (PSAs): Smoke alarm PSAs for television, radio and print media can be downloaded from www.firecomm.gov.mb.ca or at <http://www.nfpa.org/press-room/public-service-announcements/video-psas/sparky-and-smoke-alarm-squad>. Local media will usually be responsive to a request from their fire department to use the PSAs whenever possible. PSAs can be used all year long, with special consideration being given during Fire Prevention Week, the high-risk holiday season and during the S.A.F.E. Family campaign in your community.

Issue news releases or articles about incidents related to smoke alarms. Be prepared to issue news releases immediately following any major incidents. It may not be possible to release details about that particular fire, but public education messages about smoke alarms and other fire safety matters will have greater impact when linked to a specific event.

Inform the community about the S.A.F.E. Family program. When crews will be going door-to-door to conduct smoke alarm checks and install alarms, make sure residents in those areas are notified in advance. Be sure to let them know what they can expect when they open the door, so there are no surprises.

Publicize program results: statistics obtained through the program can be provided to local media to reinforce smoke alarm awareness. For example, it could be noted



that it is very alarming that there was a high percentage of home without working smoke alarms among the properties visited.

Distribute Information Materials

Brochures, information cards and fact sheets can be distributed or made available to residents of the community all year long:

- During door-to-door smoke alarm checks;
- In local and regional utility and tax bills;
- In local newspapers, community calendars and other community publications;
- At fire halls, libraries, arenas, mall displays, public information boards;
- Through community and social agencies, clubs or other interest groups;
- Boy scouts/girl guides groups, meals on wheels drivers;
- At participating retail establishments.

Deliver Fire Safety Presentation

Most fire departments are requested to deliver fire safety presentations by various groups in the community. Whether addressing older adults, adults or children, it is always appropriate to include smoke alarm and home escape planning information. A PowerPoint presentation and accompanying speaker's notes are included on the www.firecomm.gov.mb.ca website. Be sure to also have appropriate handouts available, targeted to the specific group.

Seek the Support of the Schools

Children can be great safety advocates and often have considerable influence over their parents and families. Included in the *resources* section is a smoke alarm information sheet – that can be send home from schools with the kids. Teachers will greatly appreciate the fire department providing enough copies for the entire class. To add fun and incentive, consider offering a prize to the classroom that returns the most forms.

Include Home Fire Escape Planning

Every smoke alarm program should include information about home fire escape planning. Early warning is only effective if the occupants know what to do when the alarm sounds. Information about home escape planning is included in the *resources* section.



Consider Carbon Monoxide Awareness

Fire departments may choose to incorporate carbon monoxide awareness into their program. An information sheet about carbon monoxide safety is included in the *resources* section.

