Best Practices in Community Risk Reduction

BPCRR-Student Manual

1st Edition, 2nd Printing-October 2016

FEMA

FEMA/USFA/NFA
BPCRR-SM
October 2016
1st Edition, 2nd Printing

Best Practices in Community Risk Reduction

Best Practices in Community Risk Reduction

BPCRR-Student Manual

1st Edition, 2nd Printing-October 2016

TABLE OF CONTENTS

This page intentionally left blank.

ACKNOWLEDGMENTS

The development of any National Fire Academy (NFA) course is a complex process aimed at providing students with the best possible learning opportunity we can deliver.

There are many players in course development, each of whom plays an equally important part in its success. We want to acknowledge their participation and contribution to this effort and extend our heartfelt thanks for making this quality product.

The following people participated in the creation of this course:

Mary Marchone
Training Specialist, Fire Prevention Management Curriculum
U.S. Fire Administration, National Fire Academy
Emmitsburg, Maryland

Stacey Harmon
Instructional Systems Specialist, Contracting Officer's Representative
U.S. Fire Administration, National Fire Academy
Emmitsburg, Maryland

Sandy Facinoli, Chief of Prevention and Information Branch — National Fire Programs
U.S. Fire Administration
Emmitsburg, Maryland

Teresa Neal, Fire Program Specialist — National Fire Programs
U.S. Fire Administration
Emmitsburg, Maryland

Mike Weller
Instructional Systems Project Manager
Advanced Technical and Educational Consultants
Emmitsburg, Maryland

Ed Kensler
Subject Matter Expert
Luray, Virginia

Peg Carson
Subject Matter Expert
Warrenton, Virginia

This page intentionally left blank.

COURSE GOAL

Students will be able to describe the components of an effective and efficient community risk-reduction program.

AUDIENCE, SCOPE AND COURSE PURPOSE

The target audience for this course may include, but not be limited to, the following:

- Fire and emergency services personnel who help design and deliver community risk-reduction programs.
- Fire and emergency services staff with an interest in advancing risk-reduction efforts in their community.
- Emergency managers.
- Allied health and community service personnel who help design and deliver risk-reduction programs.

"Best Practices in Community Risk Reduction" (BPCRR) is a two-day course that empowers students with an understanding of nationally recognized principles that, when used appropriately, can lead to the development of effective and efficient community risk-reduction programs.

NFA students are looking for the "how to" of performing community risk reduction. This includes:

- Performing risk assessments to discover what risks and populations to target.
- Developing programs that employ a combination of risk-reduction strategies.
- Creating programs that are measurable and deliver intended results.
- Exploring how support for programs can be built and sustained over the long term.

As part of the BPCRR course, students will explore programs from communities across the U.S. that have been showcased at Vision 20/20 symposiums. Students will reflect on the current NFA risk-reduction model and what nationally recognized organizations identify as examples of "best practices" in community risk reduction.

GRADING METHODOLOGY

The course will be assessed by a 25-question examination.

This page intentionally left blank.

SCHEDULE

TIME	DAY 1	TIME	DAY 2
8:00 - 9:25	Introduction, Welcome and Administrative	8:00 - 9:00	Unit 3: Developing Intervention Strategies (cont'd) Activity 3.1: Programs That Demonstrate a Strategic Approach to Risk Reduction
9:25 - 9:35	*Break*	9:00 - 9:10	*Break*
9:35 - 10:40	Unit 1: Describing Strategic Community Risk Reduction Activity 1.1: Risk-Reduction Program — Home Community	9:10 - 10:20	Unit 3: Developing Intervention Strategies (cont'd) Activity 3.2: Strategic Risk Reduction on a Limited Budget
10:40 - 10:50	*Break*	10:20 - 10:30	*Break*
10:50 - 11:55	Unit 1: Describing Strategic Community Risk Reduction (cont'd) Activity 1.2: Rating Your Programs From Home Unit 2: Assessing Community Risk Activity 2.1: Data-Driven Community Risk Assessment	10:30 - 12:00	Unit 3: Developing Intervention Strategies (cont'd) Unit 4: Resources
11:55 - 12:55	*Lunch*	12:00 - 1:00	*Lunch*
12:55 - 2:15	Unit 2: Assessing Community Risk (cont'd) Activity 2.2: Programs That Facilitate Action	1:00 - 2:15	Unit 4: Resources (cont'd) Activity 4.1: Exploring the Components of a Successful Assistance to Firefighters Grant Application
2:15 - 2:30	*Break*	2:15 - 2:30	*Break*
2:30 - 5:00	Unit 2: Assessing Community Risk (cont'd) Unit 3: Developing Intervention Strategies	2:30 - 5:00	Activity 4.2: Securing and Sustaining Program Resources Unit 4: Resources (cont'd) Final Exam

Day 1 Homework:
Read Activities 3.2, 4.1 and 4.2

This page intentionally left blank.

FIREFIGHTER CODE OF ETHICS

Background

The Fire Service is a noble calling, one which is founded on mutual respect and trust between firefighters and the citizens they serve. To ensure the continuing integrity of the Fire Service, the highest standards of ethical conduct must be maintained at all times.

Developed in response to the publication of the Fire Service Reputation Management White Paper, the purpose of this National Firefighter Code of Ethics is to establish criteria that encourages fire service personnel to promote a culture of ethical integrity and high standards of professionalism in our field. The broad scope of this recommended Code of Ethics is intended to mitigate and negate situations that may result in embarrassment and waning of public support for what has historically been a highly respected profession.

Ethics comes from the Greek word ethos, meaning character. Character is not necessarily defined by how a person behaves when conditions are optimal and life is good. It is easy to take the high road when the path is paved and obstacles are few or non-existent. Character is also defined by decisions made under pressure, when no one is looking, when the road contains land mines, and the way is obscured. As members of the Fire Service, we share a responsibility to project an ethical character of professionalism, integrity, compassion, loyalty and honesty in all that we do, all of the time.

We need to accept this ethics challenge and be truly willing to maintain a culture that is consistent with the expectations outlined in this document. By doing so, we can create a legacy that validates and sustains the distinguished Fire Service institution, and at the same time ensure that we leave the Fire Service in better condition than when we arrived.

FIREFIGHTER CODE OF ETHICS

I understand that I have the responsibility to conduct myself in a manner that reflects proper ethical behavior and integrity. In so doing, I will help foster a continuing positive public perception of the fire service. Therefore, I pledge the following…

- Always conduct myself, on and off duty, in a manner that reflects positively on myself, my department and the fire service in general.
- Accept responsibility for my actions and for the consequences of my actions.
- Support the concept of fairness and the value of diverse thoughts and opinions.
- Avoid situations that would adversely affect the credibility or public perception of the fire service profession.
- Be truthful and honest at all times and report instances of cheating or other dishonest acts that compromise the integrity of the fire service.
- Conduct my personal affairs in a manner that does not improperly influence the performance of my duties, or bring discredit to my organization.
- Be respectful and conscious of each member's safety and welfare.
- Recognize that I serve in a position of public trust that requires stewardship in the honest and efficient use of publicly owned resources, including uniforms, facilities, vehicles and equipment and that these are protected from misuse and theft.
- Exercise professionalism, competence, respect and loyalty in the performance of my duties and use information, confidential or otherwise, gained by virtue of my position, only to benefit those I am entrusted to serve.
- Avoid financial investments, outside employment, outside business interests or activities that conflict with or are enhanced by my official position or have the potential to create the perception of impropriety.
- Never propose or accept personal rewards, special privileges, benefits, advancement, honors or gifts that may create a conflict of interest, or the appearance thereof.
- Never engage in activities involving alcohol or other substance use or abuse that can impair my mental state or the performance of my duties and compromise safety.
- Never discriminate on the basis of race, religion, color, creed, age, marital status, national origin, ancestry, gender, sexual preference, medical condition or handicap.
- Never harass, intimidate or threaten fellow members of the service or the public and stop or report the actions of other firefighters who engage in such behaviors.
- Responsibly use social networking, electronic communications, or other media technology opportunities in a manner that does not discredit, dishonor or embarrass my organization, the fire service and the public. I also understand that failure to resolve or report inappropriate use of this media equates to condoning this behavior.

Developed by the National Society of Executive Fire Officers

A Student Guide to End-of-course Evaluations

Say What You Mean ...

Ten Things You Can Do to Improve the National Fire Academy

The National Fire Academy takes its course evaluations very seriously. Your comments and suggestions enable us to improve your learning experience.

Unfortunately, we often get end-of-course comments like these that are vague and, therefore, not actionable. We know you are trying to keep your answers short, but the more specific you can be, the better we can respond.

Actual quotes from student evaluations:	Examples of specific, actionable comments that would help us improve the course:
1 "Update the materials."	• The (ABC) fire video is out-of-date because of the dangerous tactics it demonstrates. The available (XYZ) video shows current practices. • The student manual references building codes that are 12 years old.
2 "We want an advanced class in (fill in the blank)."	• We would like a class that enables us to calculate energy transfer rates resulting from exposure fires. • We would like a class that provides one-on-one workplace harassment counseling practice exercises.
3 "More activities."	• An activity where students can physically measure the area of sprinkler coverage would improve understanding of the concept. • Not all students were able to fill all ICS positions in the exercises. Add more exercises so all students can participate.
4 "A longer course."	• The class should be increased by one hour per day to enable all students to participate in exercises. • The class should be increased by two days so that all group presentations can be peer evaluated and have written abstracts.
5 "Readable plans."	• The plans should be enlarged to 11 by 17 and provided with an accurate scale. • My plan set was blurry, which caused the dotted lines to be interpreted as solid lines.
6 "Better student guide organization," "manual did not coincide with slides."	• The slide sequence in Unit 4 did not align with the content in the student manual from slides 4-16 through 4-21. • The instructor added slides in Unit 4 that were not in my student manual.
7 "Dry in spots."	• The instructor/activity should have used student group activities rather than lecture to explain Maslow's Hierarchy. • Create a pre-course reading on symbiotic personal relationships rather than trying to lecture on them in class.
8 "More visual aids."	• The text description of V-patterns did not provide three-dimensional views. More photographs or drawings would help me imagine the pattern. • There was a video clip on NBC News (date) that summarized the topic very well.
9 "Re-evaluate pre-course assignments."	• The pre-course assignments were not discussed or referenced in class. Either connect them to the course content or delete them. • The pre-course assignments on ICS could be reduced to a one-page job aid rather than a 25-page reading.
10 "A better understanding of NIMS."	• The instructor did not explain the connection between NIMS and ICS. • The student manual needs an illustrated guide to NIMS.

This page intentionally left blank.

UNIT 1:
DESCRIBING STRATEGIC COMMUNITY RISK REDUCTION

TERMINAL OBJECTIVE

The students will be able to:

1.1 Describe strategic community risk reduction.

ENABLING OBJECTIVES

The students will be able to:

1.1 Explain the general steps in the community risk-reduction process.

1.2 Summarize best practices for community risk-reduction programs.

1.3 Explain how to integrate community risk-reduction best practices into all types of programs.

This page intentionally left blank.

UNIT 1:
DESCRIBING STRATEGIC COMMUNITY RISK REDUCTION

Slide 1-1

ENABLING OBJECTIVES

- Explain the general steps in the community risk-reduction process.
- Summarize best practices for community risk-reduction programs.
- Explain how to integrate community risk-reduction best practices into all types of programs.

Slide 1-2

I. THE COMMUNITY RISK-REDUCTION PROCESS

THE COMMUNITY RISK-REDUCTION PROCESS

- Community risk reduction is the identification and prioritization of risk followed by the coordinated application of resources to minimize occurrence of unwanted events.

Slide 1-3

A. Community risk reduction is the identification and prioritization of risk followed by the coordinated application of resources to minimize occurrence of unwanted events.

B. Community risk reduction will look a little different at every fire department, depending on the risks present in that community and the resources that are available to address them.

C. While there is no "official" blueprint for how community risk reduction must be performed, there are some basic steps that have proven to be successful.

THE COMMUNITY RISK-REDUCTION PROCESS (cont'd)

- Includes six basic steps.
  - Identify local risks that currently, or potentially, have the probability to impact the community.
  - Prioritize.

Slide 1-4

D. The most effective community risk-reduction efforts will follow a process that includes **six basic steps.**

1. Step 1: Identify local risks that currently, or potentially, have the probability to impact the community.

2. Step 2: Prioritize the risk(s) to be addressed.

THE COMMUNITY RISK-REDUCTION PROCESS (cont'd)

- Develop integrated strategies to address the prioritized risk(s).
  - Education.
  - Engineering.
  - Enforcement.
  - Economic incentives.
  - Emergency response.

Slide 1-5

3. Step 3: Develop strategies to prevent and/or mitigate the prioritized risk(s).

   Strategies should be integrated and include use of:

   a. Education.

   b. Engineering.

   c. Enforcement.

   d. Economic incentives.

   e. Emergency response.

THE COMMUNITY RISK-REDUCTION PROCESS (cont'd)

- Prepare a community risk-reduction plan.
- Implement the plan as directed.
- Evaluate and (as needed) modify the plan.

Slide 1-6

4. Step 4: Prepare a community risk-reduction plan.

5. Step 5: Implement the plan as directed.

6. Step 6: Evaluate and (as needed) modify the plan.

E. Failure to follow the process by choosing only to focus on the steps that are easier to accomplish will often result in failed or less than stellar risk-reduction efforts.

This page intentionally left blank.

ACTIVITY 1.1

Risk-Reduction Program — Home Community

Purpose

To discuss a community risk-reduction program you are delivering in your home community.

Directions

1. Please identify a risk-reduction program your organization offers and respond to the following questions:

   a. What is the program?

   ____

   ____

   ____

   b. Why is the organization doing the program?

   ____

   ____

   ____

   c. Is it addressing a confirmed local risk?

   ____

   ____

   ____

   d. What is the goal of the program?

   ____

   ____

   ____

e. How was it developed?

____

____

____

f. What populations does it target?

____

____

____

g. How is it evaluated?

____

____

____

h. What impact is it making?

____

____

____

i. Is it cost effective?

____

____

____

j. How is it being sustained (short- and long-term)?

____

____

____

2. Team members should share information about the program they are highlighting **and** respond to the questions that are listed above.

3. A person from the group should post the title of each program on an easel pad.

4. You will have 30 minutes allotted for the actions listed above.

5. Instructor will debrief the activity by asking for a volunteer from each table to summarize the programs being delivered by your peers.

This page intentionally left blank.

II. BEST PRACTICES IN COMMUNITY RISK REDUCTION

BEST PRACTICES IN COMMUNITY RISK REDUCTION

- Concept of risk.
  - Vulnerability for harm or damage to life, property or community.
  - Potential that an action or event (including inaction) will lead to an undesirable outcome or loss.

Slide 1-8

A. To better understand how to create a stellar community risk-reduction effort, it's important to understand the concept of risk.

In your opinion, what is the definition of risk?

Slide 1-9

1. The National Fire Academy (NFA) defines risk as "vulnerability for harm or damage to life, property or community."

2. Risk can also be defined as the potential that an action or event (including inaction) will lead to an undesirable outcome or loss.

   a. Life contains elements of risk.

   b. While all structure fires caused by electricity could be eliminated if we stopped using electricity in buildings, our quality of life would suffer.

c. All vehicle crashes would cease if we discontinued using automobiles.

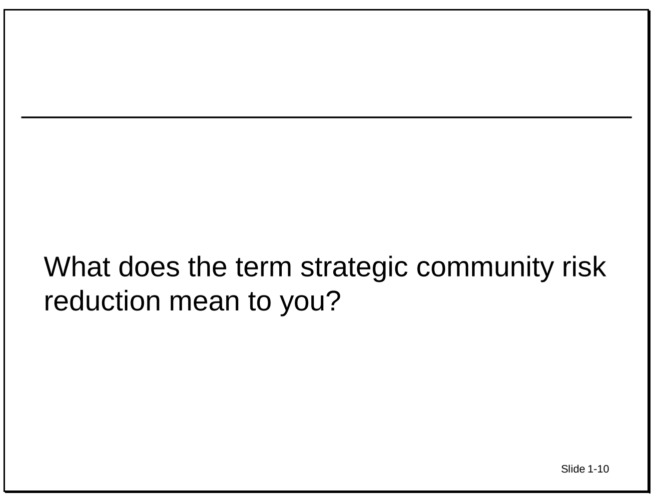
d. Living in a world with amenities such as electricity, homes, vehicles and heating sources requires us to accept a certain element of risk.

e. “Acceptable” levels of risk are determined by individuals, families and communities.

f. In reality, social, cultural and economic influences impact “acceptable levels of risk.”

g. These combined complexities provide even more rationale for use of strategic community risk reduction.

B. In a post-recession and resource-challenged environment, our industry must use available resources wisely to operate in the most effective and efficient manner.



BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Strategic approach would call for:
  - Objective decision on what risk to address.
  - Use of multiple intervention strategies.
  - Plan would be deliberate, thoughtful and cost effective.
  - Include funding strategy, evaluation and method for sustainment.

Slide 1-11

C. When addressing community risk, a strategic approach would call for:

1. An objective decision to be made on what risk(s) to address.

2. Creation and execution of a plan that applies multiple intervention strategies focusing on the root causes of the risk and its impact on the community.

3. The plan would be deliberate, thoughtful, cost-effective, and include a funding strategy, a mechanism for evaluating how the program is performing, and a method for sustainment.

What does the term "best practices" mean to you?

Slide 1-12

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- To determine what constitutes best practices, an organization would:
  - Examine effectiveness of service levels.
  - Look at similar programs that others are doing with success.
  - Compare the condition to what industry standards consider to be best practices.

Slide 1-13

D. To determine what constitutes best practices, an organization would:

1. Examine the effectiveness of their past and current service levels.

2. Determine the elements of similar programs that others are doing with success.

3. Compare the condition to what industry standards consider to be best practices.

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Consider enhancements to meet or exceed the industry's standards.
- Improve the efficiency and effectiveness of the service(s) being delivered.

Slide 1-14

4. Consider what enhancements can be made so future service levels meet or exceed the industry's standards.

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Model performance criterion for strategic community risk reduction.
  - Objective risk assessment.
  - Explore the community's overall vulnerability to risk(s).

Slide 1-15

E. The model performance criterion for performing strategic community risk reduction includes:

   1. Begin by conducting an objective risk assessment.

   2. An objective risk assessment will explore the community's overall vulnerability to risk(s).

      a. Vulnerability is the susceptibility to suffer harm or loss from an event.

      b. Vulnerability may vary based on numerous factors such as preparedness, the capability of emergency services, etc.

      c. Vulnerability also may vary for the same hazard from area to area in the same community.

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Five areas of vulnerability in a community:
  - Human vulnerability.
  - Economic vulnerability.
  - Social vulnerability.
  - Political vulnerability.
  - Environmental vulnerability.

Slide 1-16

3. There are five areas of vulnerability in a community:

   a. Human vulnerability:

      - This includes the cost in personal injury and death due to an event.

      - It could also include displacement of residents from the community and human suffering.

   b. Economic vulnerability:

      The category includes:

      - Cost to provide emergency services.

      - Cost to replace or repair damaged property.

      - The availability and cost of insurance.

      - Lost tax revenues.

      - Lost wages.

      - The cost of business interruption.

      - Medical costs — in both short- and long-term.

   c. Social vulnerability:

      - This includes the potential for an event to have a negative effect on the social fabric of a community.

      - For example, frequent crimes against people or property can cause people in certain areas of the community to feel unsafe.

      - Arson is an example of a crime that can have a serious effect on the social stability of neighborhoods.

      - Also, large scale events such as natural disasters can have a serious long-term impact on the social systems in communities.

- Likewise, an event like the Columbine school shootings can result in the long-term need for additional mental health and social services.

d. Political vulnerability:

- This includes the cost of passing (or not passing) legislation that impacts the health and safety of the community.

- Unfortunately, as history has evidenced, large losses of life may have to occur before changes in public policy take place.

- One of the most tragic examples of this was the fire in 1911 at the Triangle Shirtwaist Factory in New York City that killed 146 people, mostly young women. This fire resulted in some of the most sweeping changes to government's regulation of business in our country's history.

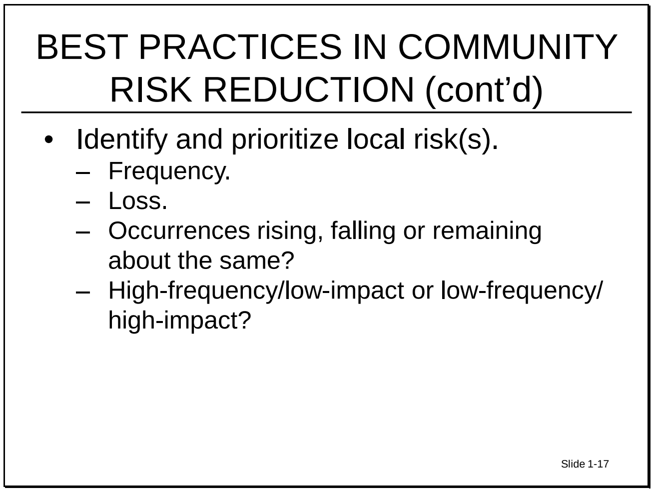
- More recently, the Station Night Club fire resulted in sweeping changes in fire and building codes, not only in Rhode Island, but in a number of other states as well.

e. Environmental vulnerability:

- This is the potential for an event to cause temporary or permanent damage to the environment within a community.

- Examples include severe droughts or hailstorms, which can destroy crops and/or livestock; tornadoes, floods and mudslides can permanently alter the terrain; or a wildland fire can destroy an entire forest.

4. Be sure the assessment uses data obtained from reliable sources, so that real local issues are identified.



5. Use results from the risk assessment to identify and prioritize local risk(s).

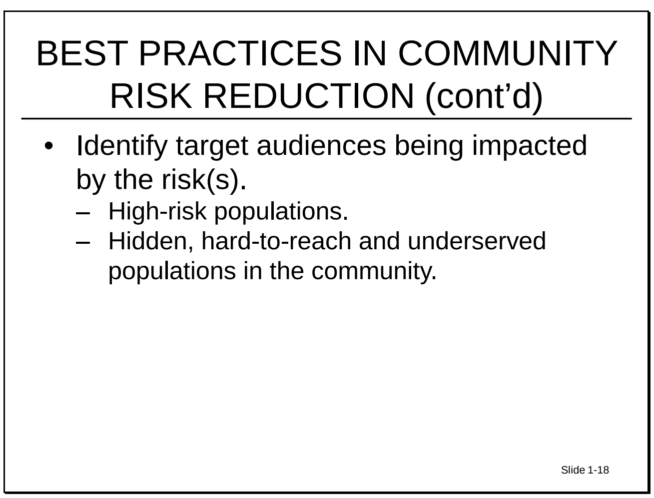
   The process of prioritizing local risks includes examination of the following:

   a. Frequency the risk occurs.

   b. Loss caused by the risk in terms of life, injury, property damage and reduction of community vitality.

   c. Are occurrences of the risk rising, falling or remaining about the same?

   d. Is the risk high-frequency/low-impact or low-frequency/high-impact?



6. Identify target audiences being impacted by the risk(s).

a. Consider the risk's impact on known high-risk populations such as:

- Young children under age five.

- Older adults (age 65 and over).

- People challenged by any type of disability to include physical, hearing, vision, cognitive or mental.

- People challenged by poverty.

b. Be mindful of the hidden, hard-to-reach and underserved populations in the community.

What are some examples of potentially hidden, hard-to-reach and underserved populations that may exist in a community?

Slide 1-19

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Describe the risk(s) through a well-defined problem statement.
  - The statement should begin with the verbiage: "The problem is…"

Slide 1-20

7. Describe the risk(s) through a well-defined problem statement.

The statement should begin with the verbiage: "The problem is …"

What is meant by the statement, "A well-defined problem is a problem half-solved"?

Slide 1-21

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Identify appropriate stakeholders.
  - Performing actions that contribute to the problem.
  - Are affected by the problem.
  - Logical candidates to help solve the problem.

Slide 1-22

8. Identify appropriate stakeholders.

   Stakeholders are those who are:

   a. Performing actions that are contributing to the problem.

   b. Affected by the problem.

   c. Logical individuals and agencies to help solve the problem.

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Create a sense of urgency.
  - Why action needs to be taken?
  - What may happen if nothing is done?
  - Windows of opportunity.

Slide 1-23

9. Create a sense of urgency for stakeholders to get involved and take action.

   a. Stakeholders must understand why action needs to be taken.

   b. They must also realize what may happen if nothing is done about the problem.

   c. Be mindful of windows of opportunity for engaging stakeholders to take action.

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Include stakeholders.
  - Planning, piloting, implementation, delivery and evaluation.

Slide 1-24

10. Include stakeholders in the planning, piloting, implementation, delivery and evaluation phases of the program.

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Create a risk-reduction program plan that incorporates multiple intervention strategies.
  - Education.
  - Engineering.
  - Enforcement.
  - Economic incentives.
  - Emergency response.

Slide 1-25

11. Create a risk-reduction program plan that incorporates multiple intervention strategies.

    a. Once risks have been identified and prioritized, explore a combination of strategies that could be used to reduce them.

    b. The strategies to reducing risk can be broken down into one of five categories.

       - Education — designed to raise awareness and knowledge of the risk and steps designed to help reduce that risk.

       - Engineering — methods used to modify the product or the environment as a way to prevent and/or reduce the effect of the risk.

       - Enforcement — reducing the risk through enactment of public policy and its enforcement.

       - Economic incentives — money, goods or services offered to people in exchange for their cooperation in reducing the risk. Also, fines or other penalties for lack of compliance with policies.

       - Emergency response — increasing or improving the effectiveness of the department's ability to handle the risk.

    c. Collectively, the categories are referred to as the five E's.

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Ensure that the program plan's objectives are clear and measurable (SMART).
  - **S**pecific.
  - **M**easurable.
  - **A**chievable.
  - **R**ealistic (Relevant).
  - **T**ime framed (Time bound).

Slide 1-26

12. Ensure that the program plan's objectives are clear and measurable.

    a. Objectives should be written in a SMART format.

    b. The SMART acronym stands for objectives that are:

       - **S**pecific.
       - **M**easurable.
       - **A**chievable.
       - **R**ealistic (Relevant).
       - **T**ime framed (Time bound).

    c. Here is an example:

       - By **month, year,** the risk-reduction committee will have recruited a group of stakeholders to serve on a planning team to address youth firesetting in Anywhere, USA.

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Use the four stages of evaluation.
  - Formative stage.
  - Process stage.
  - Impact stage.
  - Outcome stage.

Slide 1-27

13. Use the four stages of evaluation to track the development, delivery, impact and outcome of the program.

    a. Formative stage — evaluation of the program's planning process to ensure the program has the potential to reach the target audience and meet program objectives.

    b. Process stage — monitoring the program's implementation, its outreach and overall operation.

    c. Impact stage — measuring to what extent the program is facilitating knowledge, behavioral, environmental and lifestyle changes among the target population. Impact evaluation also measures the adoption of public policy.

    d. Outcome stage — determining if the program is decreasing the targeted risk over the long term.

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Create a program that is cost-effective.
  - Cost of creating the program compared to the beneficial outcomes.
  - Cost-benefit analysis.

Slide 1-28

14. Create a program that is cost-effective.

    a. Consider the cost of creating the program compared to the beneficial outcomes of the program.

    b. Perform a simple cost-benefit analysis.

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Determine how to sustain the program.
  - What resources will be required to operate the program?
  - How will you secure the resources?

Slide 1-29

15. Determine how to sustain the program from the beginning and over the long term.

    a. What resources will be required to operate the program?

       - Staffing.
       - Funding.
       - Equipment.
       - Materials.

    b. How will you secure the resources?

       - Your organization's budget.
       - Grants.
       - Foundations.
       - Corporate support.
       - In-kind services.

BEST PRACTICES IN COMMUNITY RISK REDUCTION (cont'd)

- Create a program that will show (through evaluation) demonstrable proof of outreach, impact and outcome over a defined time period.

Slide 1-30

16. Ultimately create a program that will show (through evaluation) demonstrable proof of outreach, impact and outcome over a defined time period.

ACTIVITY 1.2

Rating Your Programs From Home

Purpose

Reflecting upon community risk-reduction programs you perform in your home community, rate how well you are performing risk reduction in a strategic manner.

Directions

1. You will reflect upon the risk-reduction programs you offer as a whole in your community.

2. You will be asked to rate on a scale of 1 to 3 how strategic your approach to risk reduction is in your home community.

1 Not Strategic	2 Somewhat Strategic	3 Very Strategic

3. If the programs are strategic, you should justify why. If the programs need improvement, what needs to be done?

4. You will have 20 minutes allotted for the above tasks.

This page intentionally left blank.

III. SUMMARY

SUMMARY

- Throughout history, progress made to advance community risk reduction in the United States.
- Most effective community risk-reduction efforts will follow a strategic process.

Slide 1-32

What is your takeaway from this unit?

Slide 1-33

SUMMARY (cont’d)

- Best practices are identified by comparing the performance of your organization’s services to those considered to be best practices among the industry.
- Can be applied to any type of community risk-reduction effort.

Slide 1-34

This page intentionally left blank.

REFERENCES

National Center for Injury Prevention and Control. (n.d.) Fire Safety Program Toolkit: A Comprehensive Resource for Fire Safety Educators.

National Commission on Fire Prevention and Control. (1973.) America Burning. Retrieved from http://www.usfa.fema.gov/downloads/pdf/publications/fa-264.pdf.

U.S. Fire Administration. (1987.) America Burning Revisited. Retrieved from http://www.usfa.fema.gov/downloads/pdf/publications/5-0133-508.pdf.

U.S. Fire Administration. (2002.) America At-Risk — America Burning Recommissioned. Retrieved from http://www.usfa.fema.gov/downloads/pdf/publications/fa-223-508.pdf.

This page intentionally left blank.

APPENDIX

JOB AID

This page intentionally left blank.

Job Aid

Best Practices in Community Risk Reduction

Use data to create a rationale for the program.	
	Perform a community risk assessment to analyze problem- and people-related data. (SM 2-4 to 2-13)
	Prioritize a risk issue. (SM 2-5 and SM 2-35)
	Identify the root causes of the risk. Perform causal chain analysis. (SM 2-37 to 2-39)
	Identify populations contributing to and affected by the risk. (SM 2-4 to 2-13 and SM 2-45 to 2-47)
	Identify potential target populations. (SM 2-4 to 2-13 and SM 2-45 to 2-47)
Seek community buy-in.	
	Develop a problem statement. (SM 2-40 to 2-44)
	Use the problem statement and risk assessment data to create a sense of urgency. (SM 2-40 to 2-44)
	Identify, recruit and engage stakeholders in the risk-reduction process. (SM 2-45 to 2-47)
Create an action/evaluation plan.	
	Develop a strategy that uses a combination of interventions (Five E’s). (SM 3-4 to 3-15)
	Perform a cost-benefit analysis to assess if the program will be cost effective. (SM 3-45 to 3-47)
	Create a strategy for sustaining the program over time. (SM 4-3 to 4-8 and SM 4-14 to 4-19)
	Integrate the four stages of evaluation into the plan so actions can be measured. (SM 3-15 to 3-24)

UNIT 2:
ASSESSING COMMUNITY RISK

TERMINAL OBJECTIVE

The students will be able to:

2.1 Summarize how to assess risks within the community.

ENABLING OBJECTIVES

The students will be able to:

2.1 Describe the components of a community risk assessment.

2.2 Explain the rationale for creating data-driven risk-reduction programs.

2.3 Describe how to estimate the costs associated with a prioritized risk.

2.4 Discuss how to perform causal chain analysis on a priority risk.

2.5 Articulate how to write a problem statement that adequately describes the risk issue.

2.6 Give examples of how to identify and engage stakeholders.

2.7 Illustrate how to create a sense of urgency among stakeholders to act on a prioritized risk.

This page intentionally left blank.

UNIT 2: ASSESSING COMMUNITY RISK

Slide 2-1

ENABLING OBJECTIVES

- Describe the components of a community risk assessment.
- Explain the rationale for creating data-driven risk-reduction programs.
- Describe how to estimate the costs associated with a prioritized risk.
- Discuss how to perform causal chain analysis on a priority risk.

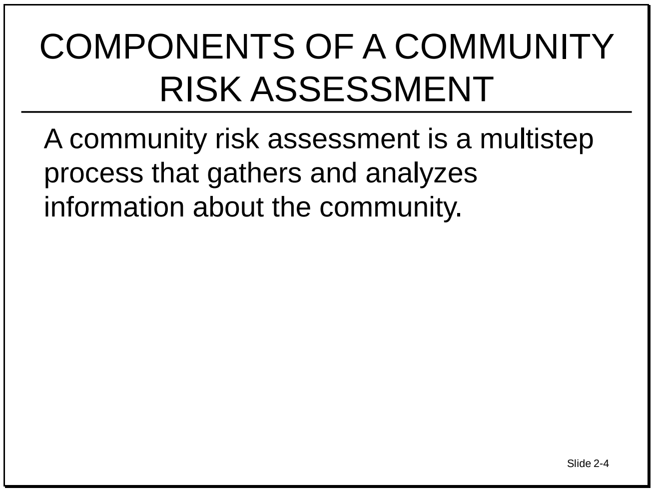
Slide 2-2

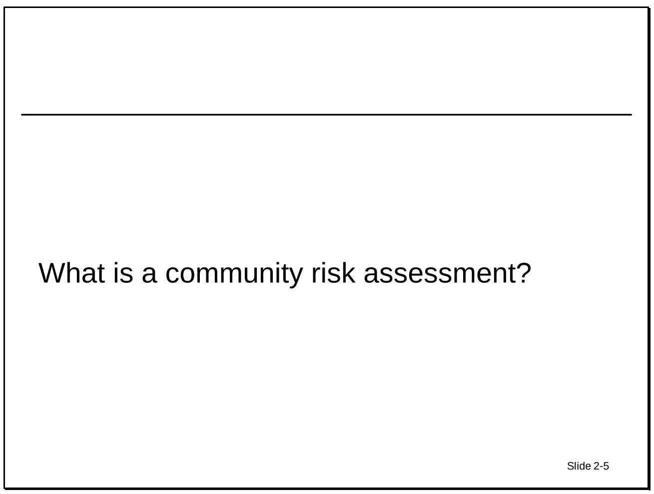
ENABLING OBJECTIVES (cont'd)

- Articulate how to write a problem statement that adequately describes the risk issue.
- Give examples of how to identify and engage stakeholders.
- Illustrate how to create a sense of urgency among stakeholders to act on a prioritized risk.

Slide 2-3

I. COMPONENTS OF A COMMUNITY RISK ASSESSMENT





A. Definition of a community risk assessment.

1. A community risk assessment is a multistep process that gathers and analyzes information about the community.

Why is a community risk assessment one of the first (and most important) components of performing strategic community risk reduction?

Slide 2-6

What objectives might be accomplished by conducting a good community risk assessment?

Slide 2-7

2. A good community risk assessment will accomplish the following objectives:

   a. Identify risks and their causal factors — including the risk's frequency and severity.

   b. Analyze the community — including who is contributing to the risk, and who is impacted by it.

   c. Analyze community vulnerability — including the ability of the community (both people and infrastructure) to resist the impact of the risk.

   d. Create a medium to establish risk-reduction priorities — ultimately including the identification of the community's acceptable level of risk.

e. Create a foundation for developing risk-reduction objectives that seek a desired outcome to prevent and/or mitigate targeted risks.

COMPONENTS OF A COMMUNITY RISK ASSESSMENT (cont'd)

- Examines problem- and people-related data.
  - Problem-related data explores:
    - Frequency.
    - Severity.
    - Duration.
    - Capacity.

Slide 2-8

B. A community risk assessment examines both problem- and people-related data.

C. Problem-related data explores risk through four variables:

1. What is the **frequency** with which the risk is occurring?

2. What is the **severity** of the risk in terms of loss?

3. What is the estimated **duration** of the risk when it occurs?

4. What is the **capacity** of the community to respond and manage the impact of the risk?

What are some examples of problem-related data?

Slide 2-9

COMPONENTS OF A COMMUNITY RISK ASSESSMENT (cont'd)

- People-related data builds a demographic profile.
  - Community and the people who live and work there.

Slide 2-10

D. People-related data builds a demographic profile of a community and the people who live and work there.

What is the value of the people-related element of a community risk assessment?

Slide 2-11

What are some examples of people-related data?

Slide 2-12

II. DATA-DRIVEN RISK-REDUCTION PROGRAMS

DATA-DRIVEN RISK-REDUCTION PROGRAMS

- Sources of problem-related data.
  - Incident reports.
  - Burn reports.
  - Hospital and Public Health Department reports.
  - Crime reports.
- Objective data helps identify real versus perceived risk issues.

Slide 2-13

A. Performing data-driven community risk reduction is considered a best practice.

Why should risk reduction be data- driven?

Slide 2-14

- In your opinion, are most organizations creating data-driven risk- reduction programs?
- Why or why not?

Slide 2-15

What are sources for problem-related data that you have found to be helpful?

Slide 2-16

B. Sources of problem-related data may include, but are not limited to:

1. Incident reports can be used to explore the frequency, severity, average duration of specific risks and the community's capacity to handle the incidents.

2. Burn reports may help determine the full impact of fire-related risks.

3. Hospital and Public Health Department reports may help determine the full impact of preventable injuries in the community.

4. Crime reports may be used as a predictor of future trends.

C. Gathering and analyzing objective, problem-related data helps an organization identify real versus perceived risk issues.

What are sources for people-related data that you have found to be helpful?

Slide 2-17

DATA-DRIVEN RISK-REDUCTION PROGRAMS (cont'd)

- Sources of people-related data.
  - Census information.
  - Local studies.
  - Economic reports.
  - Department of Education.
  - Focus groups.
  - Local community leaders.
  - Chamber of commerce.

Slide 2-18

D. Sources of people-related data may include, but are not limited to:

1. Census information provides vital demographic information about where and how people live.

2. Local studies can help identify both problem and/or people-related data as it pertains to the identified risks.

3. Economic reports can be used to analyze and forecast the financial trends within the community. This may have a big impact on the community's determination of acceptable risk.

4. Department of Education can help identify the number of families who have children that qualify for free (or reduced-cost) lunches. This may help identify families challenged by poverty.

5. Focus groups can help analyze and forecast the community's knowledge and acceptance of the risk(s) being targeted.

6. Local community leaders can help facilitate partnerships and prioritize community risks.

7. Chamber of commerce can help identify people-related data. Also may help identify stakeholders and can assist with facilitating partnerships.

DATA-DRIVEN RISK-REDUCTION PROGRAMS (cont'd)

- Sources of people-related data.
  - Neighborhood groups.
  - Local nonprofits.
  - Universities.
  - News stories.

Slide 2-19

8. Neighborhood groups can help identify stakeholders and develop partnerships.

9. Local nonprofits can be used to identify stakeholders and develop partnerships.

10. Universities may be enlisted to help gather and analyze raw data.

11. News stories can be used to generate awareness of the targeted risk.

E. When seeking problem- or people-related data, it is a best practice to ensure the data is reliable and pertains to the local community.

With respect to data, what is meant by the phrase "Garbage In – Garbage Out"?

Slide 2-20

F. The lack of accurate data or mismanagement of data, (both problem- and people-related) is a primary contributor to substandard risk reduction.

G. Organizations that are entering data into any type of incident database (including the National Fire Incident Reporting System (NFIRS)) must have a clear protocol for recording the root cause of the event.

1. The following represents an example of the choices one may encounter when assigning an incident code to a typical unattended cooking fire where there was no fire spread beyond the pot on the stove:

    a. Structure fire.

    b. Smoke scare.

    c. Unattended food.

    d. Odor.

    e. Other.

2. The point of this example is to clarify that the quality of data (especially problem-related) is very dependent on those who enter it into a database.

H. Examination of people-related data can have its challenges as well.

1. For example, people with limited experience working with website databases may initially struggle when attempting to locate demographic data pertinent to their community.

2. This is where partnerships with other agencies become invaluable.

3. Local agencies such as the Office of Community Development, libraries and universities use people-related data tools and are often willing to help the emergency services.

DATA-DRIVEN RISK-REDUCTION PROGRAMS (cont'd)

- Substandard (or wrong) data can result in the development of programs that may target the wrong risk issue or populations.

Slide 2-21

I. Collecting and using substandard (or wrong) data can result in the development of programs that may target the wrong risk issue or populations.

J. In addition, “Garbage Data” will reduce the credibility, trustworthiness and professionalism of the organization using it.

K. Here is a best practice to follow:

When uncertain if data is accurate, or it appears suspicious based upon the knowledge you possess about your community and its risk experience, seek help.

This page intentionally left blank.

ACTIVITY 2.1

Data-Driven Community Risk Assessment

Purpose

Given an existing community risk reduction, you will explain how data was used to drive the creation of the program.

Directions

1. Work in your table group to process this activity.

2. Each group will be assigned a case study to evaluate:

   a. Group 1 — Case Study 1: The Adventures of Reminder Man.

   b. Group 2 — Case Study 2: Reframing the Fourth of July.

   c. Group 3 — Case Study 3: Streamlined Residential Permitting.

   d. Group 4 — Case Study 4: Empower Schools With Tools.

3. After reading your case study, perform the following actions:

   a. Determine how data was used to drive the creation of the program.

   b. Offer an opinion if additional types and sources of data could have been used to help drive the program's creation.

4. There are 20 minutes allotted for these tasks.

5. Provide a brief description of your assigned program and responses to the two questions.

6. There are 15 minutes total allotted for the four groups to present their findings.

This page intentionally left blank.

ACTIVITY 2.1 (cont'd)

Case Study 1: The Adventures of Reminder Man and Other Ways to Battle the Evil Forces of Fire

Executive Summary

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

The main goal for a new program in Layton City, Utah, was to bring about a change in firesetting behavior among the elementary age children throughout the city and reduce the number of youth firesetting intervention referrals from both schools and parents. The Adventures of Reminder Man program was developed and delivered by members of the High School Fire Corps, under the supervision of the Layton City Fire Department. Outcome evaluation ultimately identified that requests for youth firesetting intervention services decreased by 71 percent since the program's inception.

The Problem

A growing population in Layton, Utah, quickly outpaced the Layton Fire Department's ability to keep up with the need for fire safety education in the city's 16 elementary schools. While the department had traditionally used line firefighters to conduct educational events at schools, when an emergency call was received, they would be deployed, often in the middle of a presentation. Layton Fire Marshal Dean Hunt stopped the practice of using firefighters as educators in the schools because it became too disruptive and ineffective for students, administrators and fire department personnel.

After Layton had gone four years without the school education program, Fire Marshal Hunt and his staff began to notice they were getting an increasing number of calls from schools requesting youth firesetting intervention. Especially revealing was the trend toward more requests from middle schools. Data identified a 71 percent increase in intervention requests over the four-year period where no elementary school fire safety education was being provided.

Planning for Success

With no additional budget available and unable to reinstitute a city-wide elementary school fire safety program led by the department, Fire Marshal Hunt and his staff realized they needed partners to help out. They teamed up with their local Fire Corps and established a program with volunteer students from two high schools. Working together, the fire department and high school students created a program for high school students to make fire safety presentations to the elementary schools. While the fire department personnel would still help with the program, the Fire Corps student teams would be the main program presenters and, at the same time, earn school credits for their donated time.

While the program's primary goal was the reduction of youth firesetting referrals, the Layton City Fire Department also wanted to include both fire and injury prevention. The Adventures of Reminder Man's program objectives included:

1. Revive safety-related education in the schools.

2. Reduce the number of youth firesetting intervention requests while also working to:

   a. Create a program that captures and maintains student interest.

   b. Facilitate learning in a fun interactive environment.

   c. Integrate both fire and life safety content.

   d. Develop a program that includes instructional methodologies to match the intellectual capabilities of students as they ascend through five years of elementary school.

   e. Create an educational experience that builds upon each previous year's program.

   f. Provide students with a take-home Activity Book developed by the fire department and High School Fire Corps that includes extension activities that challenge (and are pertinent to) the family in their home environment.

   g. Partner with U.S. Forest Service (which participated in some presentations), local businesses (which donated props for presentations), and the local newspaper (which printed the activity books at reduced cost).

The Layton City Fire Department recruited Fire Corps members from the two high schools. With help from the fire prevention specialist, students wrote a script around characters they developed (Reminder Man — the hero; and Phoebe Fire — the villain). They also developed props for the presentations. The scripts were evaluated by professional teachers to ensure that the material was age appropriate. Dress rehearsals were attended by fire department members to ensure topics were in accordance with NFPA message standards and current fire and life safety practices.

Program Delivery

The next step entailed contacting schools and asking for permission to schedule assemblies. Fifteen of the 16 local elementary schools agreed to participate and subsequently received presentations. Fire department engine crews were scheduled to be present for the last 10-15 minutes to reinforce messages taught by the Fire Corps students. Of interest, the lone school that did not participate the first year subsequently requested the program the following year due to peer pressure from the other principals who supported the program.

Evaluating the Program's First Year

After each presentation, evaluation surveys using Survey Monkey were emailed to each teacher asking them to evaluate the program. Teacher response to the program was very favorable and produced some unexpected findings that proved very beneficial:

- After delivering the program during the first year, it was discovered that sixth graders were a little too old for this type of program.
- Program planners learned that it was difficult to reach the kindergarten classes due to their schedule not matching the Fire Corps students' schedule.
- Based on the information listed above, a Junior Fire Corps program was developed and piloted in 2012. It was taught by sixth graders to kindergarten, Head Start and preschool students. This program is still evolving.
- Program planners received approximately 20 phone calls from parents commenting on the original program and how effective the home, family-oriented extension activities were.

Longer-Term Evaluation

There has been a 72 percent decrease in the number of youth firesetting intervention referrals over the past four years.

The number of fire incidents in the city has decreased 18.5 percent since beginning The Adventures of Reminder Man program.

It is hard to pinpoint exactly whether the school-based program was the reason for the 18.5 percent decrease in fire incidents, but it is also hard to argue that it wasn't. Response statistics showed a slow incline in the number of fires occurring each year prior to beginning the program. Once the program was operational, the occurrences of fire began a slow decline.

The impact on Layton residents wasn't limited to students. Looking at fire incidents over those eight years, fires overall dropped 18.5 percent (excluding vehicle fires) following reinstatement of the fire safety program. Therefore, the whole community benefited. Fire Marshal Hunt attributes part of this to the take-home materials that are provided as part of the program. "The first year we did this, I had parents calling me saying how impressed they were with the program, and I've never had that happen before. Now the kids' parents expect it!"

Recommendations for Others

It is critically important to identify committed participants and to secure the support of school administrators.

The success of this program is due in part to its being a “Full Service Prevention Program.” It takes a combination of code enforcement, plans reviews, fire investigations, youth firesetting interventions, and public education programs to succeed and affect changes in fire and life safety behaviors.

For more information contact:

Dean Hunt, Fire Marshal
Layton City Fire Department
530 N 2200 W
Layton, Utah 84041
801-336-3940, dhunt@laytoncity.org

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 20/20, click http://strategicfire.org/page.cfm/go/2012-Model-Performance.

ACTIVITY 2.1 (cont'd)

Case Study 2: Reframing the Fourth of July: Spokane's Fireworks Ban

Executive Summary

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

The City of Spokane and surrounding areas partnered to communicate to the public the damaging losses in terms of fireworks-related fires and injuries, to legislate a ban on the **sale** and **use** of common fireworks, and to enforce the ban in unison. Collaborative efforts resulted in a fireworks ban and better communications and relations among partner groups; as a result, fireworks-related fires, injuries and nuisance calls affecting the overall quality of life for Spokane's residents, visitors and pets have been **substantially** reduced.

The Problem

The City of Spokane, Washington, like many areas throughout the United States, had a high incidence of fires and injuries related to or caused by consumer use of common fireworks. Spokane Fire Department's raw data on the number of fireworks-caused fires indicated a 10-year (1983-1992) preban average of 104 fires per year, occurring between June 28 and July 6.

Fireworks-caused injuries averaged 29 annually with patients treated at six regional hospitals. Volume/capacity indicators from 911 dispatch demonstrated the need to "stack" incoming 911 calls during peak hours of fireworks activity, which essentially meant that emergency calls for service were being put on hold as complaints about fireworks use overwhelmed the 911 emergency call center.

Information useful in identifying the problem was the number of fireworks-related fires and injuries and the number of 911 reports/calls that occurred around the Fourth of July holiday. Time parameters used were June 28 through July 6, over a 10-year period. The local climate, topography, vegetation, wildland fire risk, and fire incident patterns were also evaluated. Evaluation of response identified the occurrence of multiple residential and field/wildland fires that resulted in an estimated minimum cost of $500 per call. The fire department envisioned creating a plan to reduce fireworks-related incidents, thus creating significant savings of precious time, people power, response resources and money.

Developing a Plan

We began by identifying potential target audiences. They included:

1. People who engaged in the purchase, sale and use of common fireworks.

2. Legislators (City Council, Mayor).

3. The media.

We evaluated the target geographical areas by evaluating 10 years of fires and fireworks incidents. We gathered area hospital statistics on fireworks-related injuries over the same 10-year period. We also looked at how best to reach the target audience based on past successes.

Based on fire incidents and fireworks-related reports, June 28 through July 6 was determined to be the “window” of concentrated fireworks use. Also, national data suggested a predictable number of Fourth of July fireworks-caused fires and injuries. Many of these fires and the injuries were preventable if consumer fireworks were removed from local markets and residents were educated on the **actual community cost** of “safe-and-sane” fireworks.

The overall goals for our initiative became twofold:

1. Enhance quality of life for all (residents, visitors, and animals) during the Fourth of July holiday by:

    a. Reducing risk (fear and actual loss/damage/injury).

    b. Reducing fireworks-related noise.

    c. Reducing debris in the air and on the ground.

2. Change patterned behavior about fireworks use.

Our objectives were to: (numbers)

1. Significantly **reduce**, if not eliminate, fireworks-caused injuries.

2. Significantly **reduce**, if not eliminate, fireworks-caused fires.

3. Eliminate the need to stack fire/emergency 911 calls.

4. Reframe: Suggest alternatives.

5. Coordinate a regional, united effort.

6. Educate by telling and showing the truth about fireworks.

7. Legislate: introduce and pass fireworks ban.

8. Support change by enforcing the ban and reporting results.

To complete the goals and objectives, we needed to coordinate local efforts and resources among city and county representatives and others concerned, educate politicians and decision-makers, propose and pass the fireworks ban, educate the public on hazards associated with use of common fireworks, and encourage as an alternative the attendance of outdoor public fireworks displays put on by the professionals. Enforcement teams also had to be organized and procedures established for handling fireworks infractions, which took an initial investment.

Evaluation Proves Short-Term Impact and Long-Term Outcome

Our plan entailed assessing fireworks-related fires and injuries after implementing the ban. We would also measure call statistics to see if there was a noticeable reduction in 911 calls for fireworks use.

These analyses compelled us to institute a ban on consumer use of common fireworks, to reduce the incidence of fireworks related fires and injuries, and to reduce the instance of “stacking” 911 calls to free up emergency dispatch centers for actual emergency calls.

In sum, all goals and objectives outlined in the overview were achieved. For example:

- The number of fire runs between June 28 and July 6 was reduced for each year.
- The number of fireworks related trauma treated by local emergency rooms was reduced.
- Noise and nuisance/trash in neighborhoods were reduced.
- Awareness of hidden cost of fireworks use was increased.
- Partnerships with collaborating agencies were strengthened.

There are still individuals in the community who believe it is their patriotic right to light fireworks, build sparkler bombs, and create disturbances throughout their neighborhood, as evidenced by calls received by Crime Check.

In 2011, Crime Check processed 578 fireworks calls with 335 of those from the City of Spokane. However, there are **far fewer** fires, injuries and nuisance calls. Our 911 system no longer has to “stack” medical calls because fire and other personnel enforcement efforts of the fireworks ban have dramatically reduced the incidents.

Recommendations for Others

It was **critical** to gain support from community and department leadership and to coordinate with other agencies/jurisdictions to make full use of combined resources. Good visual representations and compelling facts give meaning and emphasis to the real “hidden” costs of fireworks use. Know and communicate the **facts**. Work/partner with others. Make a **difference**.

For more information contact:

Lisa Jones, Fire Marshal
Spokane Fire Department
44 W. Riverside
Spokane, WA 99201
509-625-7000, ljones@spokanefire.org

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 20/20, click http://strategicfire.org/page.cfm/go/2012-Model-Performance.

ACTIVITY 2.1 (cont'd)

Case Study 3: Streamlined Residential Permitting Review Program

Executive Summary

The streamlined residential permitting program put in place by Kitsap County's Department of Community Development has helped customers have an overall better experience in the oftentimes complex residential permitting process. The department took the lead in developing, testing, implementing, and evaluating a program for improvement. To do this, they gained approvals from elected officials and enlisted extensive involvement from all disciplines of their staff, including intake, building, engineering, and environmental personnel, in addition to personnel they regularly communicate with from neighboring jurisdictions.

As a result of this endeavor, customers can now rely on shorter and more predictable permit turn-around times. In addition, the streamlined program enhances cost effectiveness by reducing the amount of rework by staff and eliminating unnecessary steps, including re-review of documents previously submitted. Customers also have self-service access to more educational materials providing them with a better understanding of the overall process. Finally, the program has measurable results that prove the success of providing improved services to their customers.

The Problem

With the collapse of the housing market in 2008, the Kitsap County's Department of Community Development saw permitting staff significantly reduced, and the staff that remained reduced to less than full-time employment. Customer access to staff was limited, and the hours that the department was open to the public were drastically reduced. Staffing levels and traditional work processes limited the department's ability to adjust to minor permit activity fluctuations.

By early 2012, an increase in permit activity combined with an outdated permit approval processes created a situation where the time to gain residential permits approval became excessive. The increase in permit activity did not, however, translate into an increase in permit revenue as the increase was mainly in lesser revenue generating permit types (i.e., more remodels rather than new construction). As a result, the department was unable to hire additional staff to meet service demands, necessitating the need for a robust process change.

Additionally, the customer service center, where permits are processed and issued, was perceived as being anything but customer service oriented. A "Take a Number" machine was prominently displayed, and visitors were required to take a number and wait in line regardless of what they were there for. Customers with quick drop-offs often had to wait and follow customers with lengthy permit submittals or discussions. Customers and applicants were addressed by number, and during busy times, could be seen trading numbers based on their own needs. Maps lining the walls were outdated, and the most needed forms were often unavailable. Informational opportunities were limited to stale brochures which often did not provide pertinent information the customer needed. The waiting area created a fishbowl-like working environment for staff, while the hours open to the public, and the permit center staffing, did not meet the customers' needs.

Staff morale was low and getting worse because they felt that, no matter how hard they worked, they could not satisfy the customers' demands. Backlogs at individual workstations were frequent, indicating severe bottlenecks in the process; yet they didn't know how to eliminate them. Customers were not satisfied with the permit review times or the predictability as to when a project would be approved. The customers' perception of the department matched the reality — their residential permit processing was broken.

A Plan for the Future

Kitsap County's Department of Community Development realized they could not meet their customers' objectives by doing what they had always done. Instead, they chose to focus on improving the system. They acknowledged that, as great as their staff members could be, they could only be as effective as their systems and processes.

In early 2012, Kitsap County's Department of Community Development embarked on a mission to improve the single-family residence permitting process. Facing a 15 percent increase in overall permit submittals and a financial inability to hire new staff, the department implemented Lean Methodologies to improve the overall customer experience and reduce residential permitting review times despite the economic challenges.

The process began with the department's leadership gaining approval from elected officials to seek outside assistance in applying Lean management techniques to the permitting process. A process team was established that included a cross-functional selection of staff, including those who accepted and processed permits at the permit center regularly. It also included those who were actually involved in the day-to-day permit review from the building, planning, engineering and environmental disciplines. Team leaders and a champion from the department's management team were identified and tasked with learning the fundamentals of Lean process controls.

With the assistance of outside consultants, this team, under the direction of senior management, developed a project "Charter" identifying the principal issues:

- It took too long to gain approval for a single-family building permit.
- Customers were dissatisfied with the service they received from the department.

Finally, stakeholders from the local building and development community were included on the project team, as well as leadership from nearby jurisdictions who had frequent contact with the department.

The initial phase of the project included a one week "Lean Event" anticipated to reinvent the department's permitting process. The Event plan established that the project team would spend one week doing an in-depth analysis of the single-family residence permitting process and by week's end, design a new process that would decrease lead times for permits and improve customer satisfaction. The team was divided into two groups for the detailed examination — the first group examining the steps and mechanics of the review process, and the second examining the mechanics of permit intake and issuance together with the customer service center. Team members switched teams when appropriate to collaborate and provide additional information. Daily report-outs were provided so that both groups understood what the other group was doing.

During the second phase of the project, significant changes were made to the initial process including:

- Assignment of management responsibility and process oversight.
- Development of a workstation Pod which contained all of the reviewers necessary to complete a review in one place and was located near the intake center.
- Assignment of lead responsibilities for individual permits to assure that applications moved through the process.
- Sequestering staff in the Pod, without interruption, for three hours every day to accomplish reviews.
- Daily “Standup” meetings where the daily work is identified, “work in process issues” are communicated, and metrics are reviewed.
- Reassigning an office assistant position to the front lobby to greet and coordinate customers.
- Initiating a policy so that customers now check in with a live person, and the staff members call them by name. Staff members also have a brief description of why the customer is there so they can prepare.
- Tracking how much traffic comes into the department by times, days and reasons for visiting.
- Organizing the information wall to include current submittal document packets and brochures.
- Posting a large poster that includes a complete submittal checklist to stress the importance of a complete submittal, which contributes to a successful first pass yield.
- A TV was installed and informational presentations about the permitting process were displayed for customers to view while they wait.
- The lobby was reconfigured to face the TV and information wall rather than facing the Permit Technician staff.
- Key metrics were identified and data collection responsibilities were assigned.
- Control measures were developed to monitor performance indicators so that stability, effectiveness, and efficiencies can be consistently measured.

- A continuous process improvement plan was developed to coordinate future improvements of this process with consistently low performance measures.

Evaluating the Changes

A redesigned customer service center now provides face-to-face and personal contact, electronic payment options, free wireless Internet, and increased amounts of self-service information, including application materials and other options. The improved permitting process provides customers with shorter, more predictable permit turnaround times, benefitting construction planning. This reduces client holding costs and adds certainty and reliability when considering development projects that, in turn, leads to local job growth which improves overall economic development throughout the community.

Since the implementation of the new streamlined residential permitting review program, the department has clearly seen improvements through measured results, as well as customer accolades for the new streamlined process and overall efficiency of the redesigned lobby. As an outcome of this Lean Event, the overall service delivery for residential permits improved dramatically. In the first three months following implementation, the average lead time for residential permit approval decreased by almost 70 percent from 26 days to eight days. In addition, the first pass yield (permits approved on the first submittal) increased from 4 percent pre-Lean to the current 51 percent. The dramatic increase in plan review statistics are outlined in the table on the next page.

Stat	Old	New	% of Reduction	Details
Process Steps	65	21	68	On a first pass approval — could easily double for additional reviews.
Value Added Steps	10	4	60	Steps important to the customer that change the status of their application.
Decision Points	16	4	75	Points in the process where important decisions are made.
Loop Backs	16	4	75	Activities that cause rework in the review process.
Hand Offs	12	4	67	The application moves from one person to another.
Travel Distance	1,832 ft.	90 ft.	95	Distance that permit documents traveled (staff carried the documents around) in 2011 was 69 miles just for new SFRs.
Lead Time	26 days	8 days	69	Initially accomplished in six days.
First Pass Yield	4%	51%	78	The percentage of permits that are approved on their initial submittal.
Staffing	Permits submittals increased more than 15 percent while staffing levels increased by only 5 percent.			

This page intentionally left blank.

ACTIVITY 2.1 (cont'd)

Case Study 4: Empower Schools With Tools

Executive Summary

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

A risk assessment demonstrated the need for training of school personnel to respond to fire and non-fire emergencies, including school violence. As a result, train-the-trainer training was provided to School Incident Response Teams (SIRTs) throughout the school district. Ten administrative, support, custodial, counseling, and teaching staff members comprise each SIRT as the designated "first-line-of-defense" in emergencies within schools.

School personnel are now empowered with fire prevention and safety knowledge and tools. They are working to change old, complacent habits. School personnel model safety awareness at school, home, and the wider community. The school district emergency manager states: "SIRT members advise that the regional fire safety training was an eye opener. They now create more detailed fire safety plans at their homes and places of work. They no longer assume fire safety is taken care of by other staff. They now take an active role in school fire safety and other community safety committees."

The Problem

The greater Sparks, Reno, North Lake Tahoe, and Sierra area is prone to earthquakes, wildland fires, drought and flooding. It is also at risk of terrorism/WMD and hazardous materials incidents. Yet risk assessment identified the biggest vulnerabilities cited for the school district were lack of emergency training for school personnel and what to do about increased violence within schools.

Specific problems included:

- State reports cited problems with all school district emergency plans.
- There was no record of comprehensive fire safety training for staff.
- School personnel did not know how to prevent fire-related casualties.
- Fourteen percent of teachers surveyed "strongly disagreed" when asked if they feel safe at school.
- Only 2 percent of principals felt staff were "highly knowledgeable" on conducting emergency drills.

Seventy-eight percent said they **did not** know how to request, or had not conducted, emergency training.

- Incident data reflected high increases in crimes.
- There was a 100 percent increase in bomb threats.
- There was an 811 percent increase in gang incidents.
- There was a 20 percent increase in unlawful disturbances at school (including malicious intent fire alarms).
- The Washoe County Youth Firesetting Intervention Program and local law enforcement agencies reported ever-increasing firesetting activities.

A Plan for Action

Our proposed solution was to train SIRT members so they could (1) teach other school staff how to prevent and respond to emergency situations, and (2) create strategies to reduce the occurrence of crime-related issues.

Our objectives were to provide the SIRT members with:

1. Train the Trainer: fire safety awareness and resources.
    - General prevention and awareness (for both school and home).
    - School exit drill procedures and requirements.
    - Youth firesetting: how and when to refer youth for intervention.
2. Training for SIRT members only (not as Train the Trainer).
    - When and how to use a portable fire extinguisher.
    - Recognizing and correcting basic safety concerns using a Fire Life Safety Checklist.
    - Empower teachers with knowledge to teach a fire safety and prevention curriculum in their classrooms.
    - For third grade and under, SIRT members would use a CD with PowerPoint given to all elementary schools in 2008.

- For fourth grade and older, SIRT members would use PowerPoint for "General Fire Safety Education" with this program.

The curriculum development process involved:

- Convening a regional planning team with decision makers of fire departments and the school district.

- Production of 1,250 training booklets and DVDs with material segmented to fit time, evaluative measures, and resources and references.

- Purchase of electronic system and instructional DVD for portable fire extinguishers.

Training sessions for the 123 schools in the district were scheduled and initiated. Resources purchased included a digital extinguisher training simulator, training binders with dividers, printed material, an instructional DVD, CDs with all training resources, magnetic escape plans, and "Respect Fire with Smart Choices" wristbands.

Program Evaluation

Conducting process stage evaluation of the program provided important information. While initial evaluations expressed the need for all curriculum components, more time was needed to cover the curriculum versus the 60 to 90 minutes each school could allot. To streamline training yet retain the entire curriculum, two SIRT representatives from each school were invited to one of five train the trainer classes taught through December 2011. Each representative is now responsible for sharing the material with other SIRT and school staff members.

Impact evaluation was accomplished through use of pre and post-tests to assess knowledge gained. These evaluative components were also provided to SIRT members for their use while teaching the material. The regional fire team will review the impact studies every six months for five years beginning June of 2012.

To demonstrate long-term outcomes of the program, evaluators will collect data over time to track school-safety checklists and retain a record of problems noted and corrected. Records will be maintained to identify trends that include the cause of fires and the effect training had on preventing losses. Beginning in May 2012, responses to annual school surveys will be benchmarked against answers to the 2005-2008 surveys cited in the risk assessment above.

Standardization of fire safety procedures and training through this program has eliminated confusion and opened the lines of communication among the schools and the five fire departments that respond within the county school district. This proactive solution is expected to decrease time required to handle fire safety deficiencies and crises and enable the school district to better prioritize and budget. As the educational messages spread throughout the community, we project that behavioral changes will be reflected by a reduction in fire incidents, fewer deaths and injuries, and reduced property damage.

Recommendations for Others

Open communication and flexibility are crucial to this program. Coordination of a regional partnership necessitates patience and time in order to schedule around multiple obligations, time conflicts and staff shortages. Top-down commitment is essential. Ensure buy-in of superintendent, and ensure supervisors will attend and mandate attendance.

For more information contact:

Fire Marshal Robert King Sparks Fire Department
1605 Victorian Avenue
Sparks, NV 89431
775-353-4040, bking@cityofsparks.us

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 20/20, click http://strategicfire.org/page.cfm/go/2012-Model-Performance.

WORKBOOK
PERFORM PART 1

Slide 2-23

III. COSTS ASSOCIATED WITH A PRIORITIZED RISK

COSTS ASSOCIATED WITH A PRIORITIZED RISK

- Human costs.
- Economic costs.
- Social costs.
- Political costs.
- Environmental costs.

Slide 2-24

What are some of the costs associated with an emergency response in your service area?

Slide 2-25

A. Human costs.

1. Medical costs associated with injuries and deaths.

2. Physiological issues.

3. Psychological issues.

B. Economic costs.

1. Property damage.

2. Cost of delivering municipal services such as fire, EMS and police protection.

3. Decreased property values and tax revenue.

C. Social costs.

1. Public nuisances.

2. Health issues.

3. Community displacement.

D. Political costs.

1. Failure to propose needed legislation that would enhance risk-reduction measures.

2. Poor or no involvement in risk reduction.

3. Lack of community leader and/or public confidence in the organization.

E. Environmental costs.

1. A preventable incident causes irreparable damage to the local environment.

2. An incident is mismanaged by the organization.

WORKBOOK
PERFORM PART 2

Slide 2-26

IV. CAUSAL CHAIN ANALYSIS

CAUSAL CHAIN ANALYSIS

- Root cause(s) be clearly understood.
  - Explores the factors that directly contribute to the cause of the risk.
  - Sequence of events that lead to the incident.
  - Identifies how incidents occur and who is responsible.
  - Helps identify where to use interventions.

Slide 2-27

A. Effectively designing a strategy to reduce a community risk requires that its root cause(s) be clearly understood.

B. Causal chain analysis is considered a best practice of risk reduction because it explores the factors that directly contribute to the cause of the risk.

C. Causal chain analysis is a key component of exploring the root factors contributing to an incident.

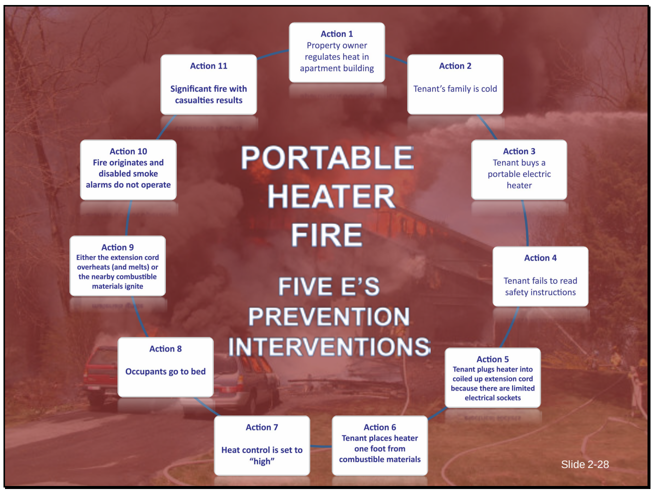
   1. Causal chain analysis examines the sequence of events that lead to the occurrence of a risk incident.

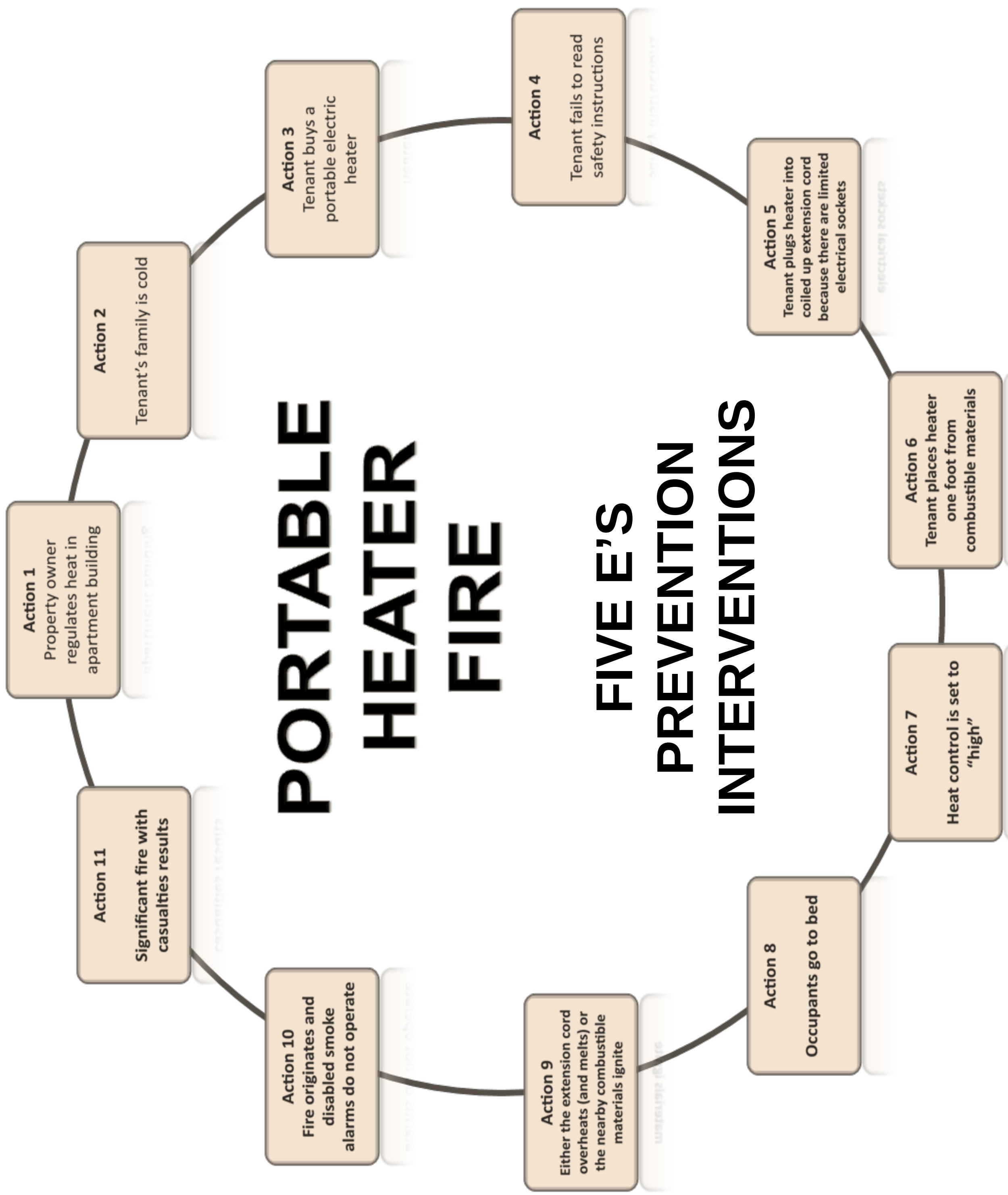
   2. This strategy helps identify how incidents occur and who is responsible for the occurrences.

3. Done well, causal chain analysis can help identify where, in a chain of events, interventions (five E's) can be used to prevent and/or mitigate the incident.

4. The more complex the incident, the more steps there will be in the chain.

5. A good causal chain analysis can also help identify populations that are responsible for causing the incident(s) being evaluated.




PORTABLE HEATER FIRE
FIVE E'S PREVENTION INTERVENTIONS
Action 1 Property owner regulates heat in apartment building
Action 2 Tenant's family is cold
Action 3 Tenant buys a portable electric heater
Action 4 Tenant fails to read safety instructions
Action 5 Tenant plugs heater into coiled up extension cord because there are limited electrical sockets
Action 6 Tenant places heater one foot from combustible materials
Action 7 Heat control is set to "high"
Action 8 Occupants go to bed
Action 9 Either the extension cord overheats (and melts) or the nearby combustible materials ignite
Action 10 Fire originates and disabled smoke alarms do not operate
Action 11 Significant fire with casualties results

WORKBOOK
PERFORM PART 3

Slide 2-29

V. WRITING A PROBLEM STATEMENT

WRITING A PROBLEM STATEMENT

- Prior to writing the statement, consider:
  - Who is affected by the risk?
  - What is the risk?
  - When is the risk occurring?
  - Where is the risk occurring?
  - Why is it important to eliminate or mitigate the risk?

Slide 2-30

A. Recall from Unit 1: Describing Strategic Community Risk Reduction the statement “A well-defined problem is a problem half-solved.”

B. The results of a good community risk assessment will create a foundation for writing a problem statement.

C. Prior to writing the statement, one should consider:

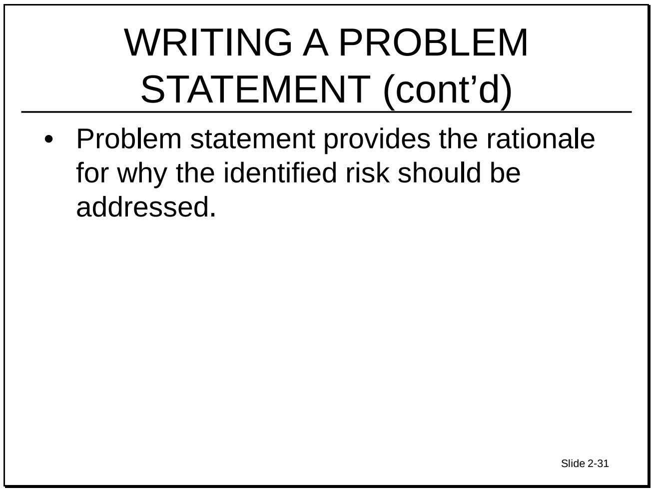
1. Who is affected by the risk?

2. What is the risk?

3. When is the risk occurring?

4. Where is the risk occurring?

5. Why is it important to eliminate or mitigate the risk?



D. A clear and concise problem statement provides the rationale for why the identified risk should be addressed.

E. It also promotes ownership of the risk which can be used to create a sense of urgency to take action.

F. A problem statement is usually no more than one or two sentences.

G. Guideline for creating a problem statement:

1. Should identify one risk only.

2. Should not assign blame for the risk.

3. Should not assign a cause for the risk.

4. Should not offer a solution for prevention or mitigation of the risk.

H. Examples of problem statements:

WRITING A PROBLEM STATEMENT (cont'd)

- The problem is that the Richmond Heights Fire Department responds to a disproportionate number of false fire alarms each year. False alarms account for 20 percent of the fire calls in Richmond Heights as compared to the national average of 10 percent, according to the National Fire Incident Reporting System (NFIRS).

Slide 2-32

1. The problem is that the Richmond Heights Fire Department responds to a disproportionate number of false fire alarms each year. False alarms account for 20 percent of the fire calls in Richmond Heights as compared to the national average of 10 percent, according to NFIRS.

WRITING A PROBLEM STATEMENT (cont'd)

- The problem is that the North Charleston Fire Department annually averages 20 civilian fire fatalities and over ten million dollars in property losses due to structure fires.

Slide 2-33

2. The problem is that the North Charleston Fire Department annually averages 20 civilian fire fatalities and over ten million dollars in property losses due to structure fires.

WRITING A PROBLEM STATEMENT (cont'd)

- The problem is that cooking fires are the number one cause of residential fires and injuries in the city of Watertown.

Slide 2-34

3. The problem is that cooking fires are the number one cause of residential fires and injuries in the city of Watertown.

WRITING A PROBLEM STATEMENT (cont'd)

- The problem is that the residents of Marion County are experiencing a high number of sudden cardiac arrests.

Slide 2-35

4. The problem is that the residents of Marion County are experiencing a high number of sudden cardiac arrests.

WRITING A PROBLEM STATEMENT (cont'd)

- The problem is that the city of Rockford has a significant problem directly correlated to abandoned buildings that has increased the number of arson fires, breaking and entering, trespassing, and other criminal-related issues.

Slide 2-36

5. The problem is that the city of Rockford has a significant problem directly correlated to abandoned buildings that has increased the number of arson fires, breaking and entering, trespassing, and other criminal-related issues.

WORKBOOK PERFORM PART 4

Slide 2-37

VI. IDENTIFYING AND ENGAGING STAKEHOLDERS

IDENTIFYING AND ENGAGING STAKEHOLDERS

- Engaging stakeholders.
  - Program's success is often based on the "buy-in" and active involvement of stakeholders.
  - "What's in it for me (or my organization) if I (or we) agree to get involved?"

Slide 2-38

What are stakeholders?

Slide 2-39

A. Stakeholders are people or groups that may have an interest in a risk-reduction program.

B. Recall from Unit 1 that stakeholders are those who:

1. Exhibit behaviors that contribute to the problem.

2. Are affected by the problem.

3. Are logical candidates to help solve the problem.

C. Stakeholders have varying interests depending on their relationship with the risk and/or effort to address it.

D. Those leading a risk-reduction process must recognize the level of interest stakeholders may have.

E. Engaging stakeholders.

1. A risk-reduction program's success is often based on the "buy-in" and active involvement of stakeholders.

2. A critical question that will be asked by stakeholders is, "What's in it for me (or my organization) if I (or we) agree to get involved?"

IDENTIFYING AND ENGAGING STAKEHOLDERS (cont'd)

- Once stakeholders are engaged, they can become:
  - Advocates.
  - Political support.
  - Ambassadors.
  - Facilitators.

Slide 2-40

3. Once stakeholders are engaged in the risk-reduction process, they can become:

   a. Advocates for risk reduction.

   b. Sources for political support.

   c. Ambassadors that can engage target groups.

   d. Facilitators who secure specific resources needed for the program.

4. Use of a good problem statement can serve as the foundation for discussing the benefits of stakeholder involvement.

5. It can also help create a sense of urgency for stakeholders to take action.

   a. Baseline data can be used to help predict how the issue could be reduced.

   b. The data can also be used to articulate how conditions could worsen through inaction.

   c. An important statement to avoid is, "If this program saves one life, it is worth it."

d. Use data wisely to predict how the community can benefit as a whole by getting involved.

e. Work to transfer the problem from the organization to the community.

6. An important first step in the process is identifying who or what group would be a logical stakeholder.

WORKBOOK
PERFORM PART 5

Slide 2-41

This page intentionally left blank.

ACTIVITY 2.2

Programs That Facilitate Action

Purpose

To evaluate how an organization successfully facilitated stakeholder involvement in a risk-reduction program.

Directions

1. Work in your table group to process this activity.

2. The case studies will be assigned as follows:

   a. Groups 1 and 2 — Case Study 1: Implementing a Health and Safety Intervention Program Through Community Environmental Health Workers.

   b. Groups 3 and 4 — Case Study 2: Nuisance Alarm Reduction on Campus: Safe-T-Sensor.

3. After reading your case study, develop responses that explain how:

   a. Risk assessment was used to identify and prioritize a risk issue.

   b. A target population(s) was identified.

   c. The root causes of the risk issue were identified.

   d. Stakeholders were identified and engaged.

   e. The risk issue became the community's problem and not just "the fire department's problem."

4. There are 20 minutes allotted for these tasks.

5. Provide a brief description of your assigned program and responses to the directives.

6. There are 15 minutes total allotted for the four groups to present their findings.

This page intentionally left blank.

ACTIVITY 2.2 (cont'd)

Case Study 1: Implementing a Health and Safety Intervention Program Through Community Environment Health Workers

Executive Summary

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

Sonora Environmental Research Institute, Inc. (SERI), with assistance from a Fire Prevention and Safety (FP&S) FEMA grant, worked with the Department of Housing and Urban Development (HUD) on a program implemented by SERI **promotoras** (community environmental health workers). The project addressed the lack of smoke alarms and knowledge of fire prevention and safety through visiting homes, conducting risk assessments and installing over 5,000 alarms in southern Arizona.

Overview

SERI is a community-based, non-profit organization that has been extensively involved with environmental, health and safety issues in southern Arizona for over 16 years. We partner with neighborhoods that are under economic, environmental and health stress. Our goal is to help determine the risks to which the residents are exposed, and take a collaborative interagency action approach to reduce those risks. We fulfill this mission by conducting risk assessments and healthy homes interventions. We also provide technical assistance and training, conduct community participatory research and partner with organizations to offer integrated solutions to risk issues.

We take a comprehensive approach to addressing multiple environmental, health and safety issues in the home by focusing on hazards in a coordinated fashion, rather than addressing a single hazard at a time. We have adopted the healthy homes concept as our risk-reduction strategy. Our FP&S grant funded fire prevention program works in conjunction with our HUD healthy homes production grant, where we use the HUD Healthy Homes Rating System (HHRS) to assess 29 hazards, including fire. The Tucson Fire Department is a primary partner.

Assessing the Problem and Identifying Target Group(s)

The project featured as a model program targeted a geographic area that encompassed four ZIP code regions in southern metropolitan Tucson, Arizona. Approximately 180,000 people reside in this area. The area has a variety of socio-economic and environmental risk factors, including high poverty rates, high concentration of minority (Hispanic) families, high concentration of sensitive (i.e., high risk) populations (including children and elderly), and a large number of the population lacking high school diplomas.

The oldest and most crowded housing units in the county are located in the target area. Of particular interest, not only are the families in the target area more at risk than residents in the metropolitan area in general, they also have fewer resources and opportunities to reduce risk.

This specific vulnerability of the target population was determined by an in-house review of statistics collected during our past home visit and smoke alarm installation programs. During the home visits, we completed surveys that recorded the number of working and non-working smoke alarms in the home prior to the visits and the number of alarms installed during the visit. Household demographics were collected, as well as data on the families' knowledge and use of emergency escape plans.

In the target area studied, our staff had previously installed 2,500 smoke alarms in 555 homes.

Of the 555 homes, 22 percent had a working smoke alarm; Only 28 percent had any alarm at all.

Twenty-one percent of the families with children under the age five had a working alarm.

Twenty-five percent of the families with members over 65 had working alarms.

Thirty-three percent of the families with members who were disabled had a working smoke alarm.

Fifteen percent of families with smokers present had alarms that worked.

To our amazement, only four families of the 555 had the recommended number of alarms. Whether the alarm worked or not, most families only had one smoke alarm present.

Only three percent of families had a fire escape plan. Most said they had not practiced the plan in the past year.

Clearly, our analysis created a sense of urgency for continued and expanded fire safety interventions.

Program Goals

Upon completion of the risk assessment SERI developed several key objectives:

- Install a minimum of 5,100 smoke alarms in the target area. Install at least 75 alarms designed for deaf/hard of hearing individuals.

- Develop a standard smoke alarm installation/maintenance and fire safety segment in Spanish to be included in SERI's community health worker training course. All staff and volunteers take specialized training before conducting home visits.

- Train at least 10 new SERI staff or volunteers with the new segment.

- Develop a new bilingual home inspection checklist that includes fire prevention and safety.
- Inspect a minimum of 1,200 homes.
- Conduct a minimum of 25 community outreach and educational events.

Working to Transfer Responsibility to the At-Risk Community

As part of the action plan SERI expanded the program to include healthy homes principles. This action demonstrated that trained community workers can effectively and efficiently implement fire prevention and safety programs. This strategy of building healthy homes community capacity promotes long-term sustainability through mainstreaming the healthy homes approach, developing a trained workforce, generating community support, promoting ownership of responsibility, and leveraging community resources to continue the program after grant funding has ended.

Creating Impact Through Partnerships

The program impact has been significant as demonstrated by the results below:

On the initial visit, most homes in the targeted area did not have working smoke alarms or lacked an adequate number of alarms. All of these homes received the recommended number of alarms during the home visit.

Additional healthy homes interventions were completed in 750 homes with the HHRS including interventions against falls, excess heat, electrical hazards, mold and moisture, food safety, entry by intruders, structural collapse and carbon monoxide.

One hundred twenty grab bars were installed in homes with older or disabled residents. Over 800 CO alarms were installed. Sixty-four homes received construction interventions, such as replacing or repairing evaporative coolers, roofs, cabinets and/or leaking plumbing.

Working With the Long Term in Mind

The project has substantial potential for long-term benefits. The outreach campaign focuses not only on smoke alarm installation, but also on long-term community risk-reduction by changing the target population’s perceptions and behavior.

The new training course for staff and volunteers elevated their expertise and understanding of fire prevention and safety. The educational events for community members empower them with the ability to make safety improvements to their places of residence. In addition, the Community Advisory Board has an active board with more than 30 participating organizations and individuals that support local fire prevention and safety infrastructure through education, collaboration and fundraising.

Category	Goal	Actual (4/18/12)
Homes inspected	1,200	1,016
Alarms installed	5,100	4,640
Alarms deaf/hard of hearing	75	15
Staff/Volunteers trained	10	31
Community outreach/Education events	25	44
Home risk assessment	N/A	750

Recommendations for Others

This project has demonstrated that community members can be effective in conducting smoke alarm installation programs. The key element to success is community members who are respected, well-trained, and devoted to their community's environmental health and safety.

Many of the women participating in the **promotora** program had never been involved in community activities primarily because of a lack of knowledge of the system, fear of the unknown and/or lack of English skills. Through the project, the women moved from students, to interns, to volunteer **promotoras**, to staff, and to community leaders. For many participants and their families, this is a life-changing experience. Without this type of community infrastructure development, community members often do not participate in the decision-making process.

Adding to the success of the project is SERI's active Community Advisory Board, which includes the key stakeholders in the target area. With the assistance of the Advisory Board, the project mobilizes local resources and uses voluntary programs to carry out risk-reduction activities. It creates a positive environment that encourages all members of the community to join a collaborative partnership to promote community wellness.

For more information contact:

Ann Marie Wolf
Sonora Environmental Research Institute, Inc.
3202 E. Grant Rd.
Tucson, AZ 85716
520-321-9488, aawolf@seriaz.org

ACTIVITY 2.2 (cont'd)

Case Study 2: Nuisance Alarm Reduction on Campus: Safe-T-Sensor

Executive Summary

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

This project was developed because of an ongoing issue with on-campus nuisance alarm runs to Ohio University by the local Athens (Ohio) Fire Department. These nuisance alarm responses (mostly generated by smoke or fires in microwave ovens) created an unsafe environment for our students and local first responders. There was also a fiscal impact on the City of Athens. The nuisance alarm reduction project was simply to determine the most prevalent cause of the nuisance alarms, and then to determine the best way to address that cause.

The result of the Safe-T-Sensor installations and the corresponding cooking fire safety education was a 92 percent reduction in same type runs to campus compared to 2010. Safe-T-Sensors are aftermarket devices installed on a microwave that shut down the unit's power at the first sign of smoke or fire.

Overview

The project's goal was to reduce nuisance alarms on campus to protect our students and reduce costs.

The project's objectives were to:

- Find solutions to reduce nuisance alarms.
- Partner with the local fire department to determine the nature of the problem.
- Identify an engineering solution to address the root cause of the problem.
- Obtain funding through a Fire Prevention and Safety grant.
- Develop a comprehensive Safe-T-Sensor installation program.
- Develop and execute a comprehensive school and student-based education program.

Identifying the Problem

A study completed by Ohio University's Environmental Health and Safety (EHS) and the Athens Fire Department found that the majority of the fire department's nuisance alarms on-campus were caused by burnt food in microwave ovens. It was estimated that there was a direct cost of more than $2,000 for each run AFD made to campus. Since 2007, the fire department experienced well over 100 nuisance runs to the campus per year.

Action Plan

In August 2010, Ohio University determined that an engineering solution would reduce the nuisance alarm incidents (regardless of the student's actions) would be a good approach. The university (through a FEMA Fire Prevention Grant) purchased 4,630 Safe-T-Sensors to be installed in residence halls to help reduce the occurrence of nuisance fire alarms and the associated runs by the AFD to university housing facilities. The University hoped that the Safe-T-Sensors would reduce the AFD's nuisance runs to residence halls by 75 percent.

Ohio University installed the first 3,593 sensors in December 2010 during the school's winter break. After normal classes resumed, educational presentations were given to residential staff and materials were presented to all students receiving the sensors. Program planners envisioned this strategy would help transfer the problem to the university and its students.

It was determined by Ohio University that if the Safe-T-Sensors could eliminate about 100 runs over a three-year period, the resulting savings in time and money would be significant for everyone involved.

Evaluating the Program

In the first 14 weeks of 2010, the AFD responded to the University 38 times. Of those 38 runs, 10 were burnt food in microwave ovens that activated the building's fire system resulting in an evacuation. During the same 14 weeks of 2011, in the same residential halls with Safe-T-Sensors installed, the AFD responded to campus 28 times, with only one being related to burnt food in a microwave oven. The result of the Safe-T-Sensor installations and the corresponding cooking fire safety education was a 92 percent reduction in same type runs to campus compared to 2010.

Long-Term Evaluation

Ohio University believes that the education provided at the time of installation not only helped reduce the number of burnt microwave food alarms, but resulted in a greater awareness of fire safety, as reflected by the reduction of total runs for the first quarter of 2011. The University has now installed 4,479 sensors and expects this trend to continue. This is proving to be a win/win partnership between the university, students and the fire department.

Results now available over the past year (37 fewer burnt food runs versus the previous 4 year average) mean that we are exceeding our target of reducing the number of nuisance runs over the next three years.

The Ohio University staff of Environmental Health and Safety plans to continue its efforts and ongoing education to new students each year to stress the importance of these devices and of the awareness of fire safety.

Recommendations for Others

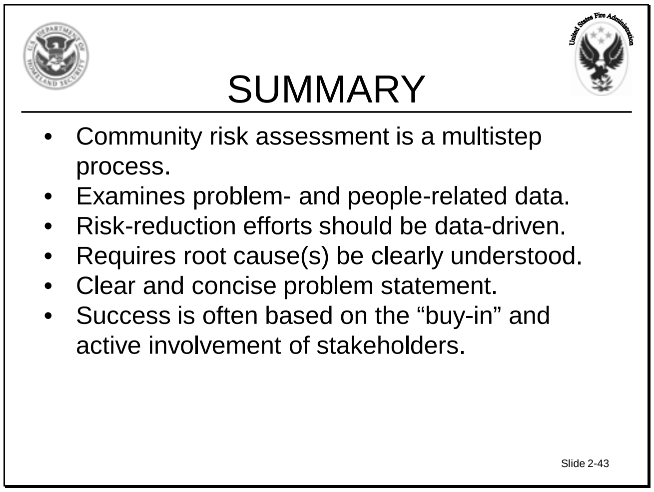
The process went smoothly. Education is a key factor so students understand the reason for use of technology and its application. In a college dormitory setting, because of the small space and potential for bumping into things, we did experience some incidents of damage occurring to the sensor covers. Pioneering on or recommendations are re-engineering the cover to be a little tougher. In a related issue we also discovered that the sensors were occasionally being bumped, and because they are attached magnetically, they were being moved around on the microwave. This was easily resolved by attaching a sensor to the unit with two-sided adhesive tape. This prevents movement of the smoke sensor.

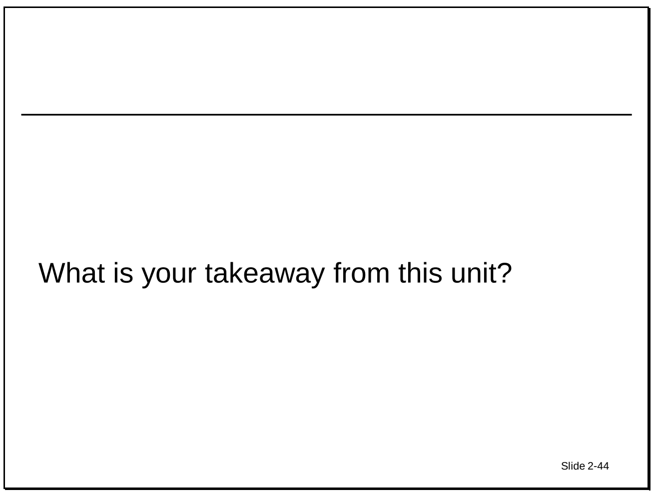
For more information contact:

Brent Auker
Environmental Health and Safety, Ohio University
175 University Service Center
49 Factory St.
Athens, OH 45701
740-597-1748, auker@ohio.edu

This page intentionally left blank.

VII. SUMMARY


SUMMARY
• Community risk assessment is a multistep process.
• Examines problem- and people-related data.
• Risk-reduction efforts should be data-driven.
• Requires root cause(s) be clearly understood.
• Clear and concise problem statement.
• Success is often based on the “buy-in” and active involvement of stakeholders.
Slide 2-43


What is your takeaway from this unit?
Slide 2-44

This page intentionally left blank.

APPENDIX

COMMUNITY RISK-REDUCTION PROGRAM WORKBOOK

This page intentionally left blank.

Community Risk-Reduction Program Workbook

This risk-reduction workbook is designed to help you propose a community risk-reduction program that incorporates strategies as outlined in the "Best Practices in Community Risk Reduction" (BPCRR) course. While there is no grade assigned to this activity, we hope you will use this as an important "takeaway" from the course. You will be completing parts of the risk-reduction workbook as the course progresses over the next two days. The instructor will direct you when to use the risk-reduction workbook and what section to complete.

Part 1

1. Reflect on the risks you identified during your pre-course assignment as being worthy of addressing in your community. Identify **one risk that you wish to focus on for the rest of the course** and list it here:

   ____

   ____

   ____

   ____

   ____

   ____

2. Describe the types of local data from your community that may help justify why the risk is worthy of addressing.

   ____

   ____

   ____

   ____

   ____

   ____

Part 2

Estimate what the risk you are focusing on may be costing your community in terms of human, economic and social costs on an annual basis.

Human Costs (injuries, deaths, medical costs, emotional trauma):

Economic Costs (personal property loss, cost of delivery of fire, police and EMS service, loss of jobs, loss of tax revenues and community vitality):

Social Costs (public nuisances, health issues, community displacement):

Part 3

List the causal chain that typically contributes to the risk you have selected.

Action 1

___

Action 2

___

Action 3

___

Action 4

___

Action 5

___

Action 6

___

Action 7

___

Action 8

___

Action 9

___

Part 4

Write a problem statement that describes the risk you are focusing on.

The problem is:

Part 5

Identifying three stakeholders for the risk you are focusing on. Explain how you would create a sense of urgency that may persuade each person's (or group's) assistance.

Stakeholder 1

Stakeholder 2

Stakeholder 3

Part 6

Develop a goal statement for the risk you want to address. This needs to be a broad general statement of a desired overall outcome.

Part 7

Review the causal chain analysis of your local risk. Develop a plan on how you could use a combination of public education, engineering strategies and public policy/enforcement to attack the risk you want to address.

How could you use public education?

How could you use engineering and/or technology?

How could you use public policy/enforcement?

Justify why your proposal may be a cost-effective investment of resources.

What actions would you propose to evaluate your program?

Part 8

1. Summarize how you will gain community buy-in for your program.

2. How do you propose securing resources for program start-up?

3. How will you sustain your program over a longer term?

UNIT 3: DEVELOPING INTERVENTION STRATEGIES

TERMINAL OBJECTIVE

The students will be able to:

3.1 Propose intervention strategies to include in a program that addresses a specific risk issue.

ENABLING OBJECTIVES

The students will be able to:

3.1 Describe intervention strategies for risk issues.

3.2 Describe how to combine intervention strategies to prevent and/or mitigate a risk issue.

3.3 Summarize how to develop an action plan.

3.4 Describe how to perform a cost-benefit analysis to support a proposed risk-reduction program.

This page intentionally left blank.

UNIT 3: DEVELOPING INTERVENTION STRATEGIES

Slide 3-1

ENABLING OBJECTIVES

- Describe intervention strategies for risk issues.
- Describe how to combine intervention strategies to prevent and/or mitigate a risk issue.
- Summarize how to develop an action plan.

Slide 3-2

ENABLING OBJECTIVES (cont'd)

- Describe how to perform a cost-benefit analysis to support a proposed risk-reduction program.

Slide 3-3

I. INTERVENTION STRATEGIES

A. Once a risk has been prioritized, target populations identified and stakeholders engaged, the next step in strategic risk reduction is to determine intervention strategies.

B. Recall from Unit 1: Describing Strategic Community Risk Reduction that it is an industry best practice to integrate multiple strategies (interventions) into a prevention program.

What is the goal of public education as a risk-reduction strategy?

Slide 3-6

INTERVENTION STRATEGIES (cont'd)

- Goal of public education:
  - Provide information.
  - Increase knowledge.
  - Create changes in awareness and attitudes.
  - Influence/Change behavior.
- To proclaim an activity as public education, it must be measurable.

Slide 3-7

C. Goal of using public education as a risk-reduction strategy is to accomplish the following:

1. Provide information.

2. Increase knowledge.

3. Create changes in awareness and attitudes.

4. Influence/Change behavior.

D. To proclaim an activity as public education, it must be measurable.

With respect to risk reduction, what is the difference between public education and promotion or marketing?

Slide 3-8

How can you measure if true public education has occurred?

Slide 3-9

INTERVENTION STRATEGIES (cont'd)

- Public education builds the foundation.
  - People must be aware of a condition to take action.
  - Used as a stand-alone intervention, can prove to be a weak strategy.

Slide 3-10

E. Recall from Unit 1 that public education builds the foundation of a risk-reduction strategy.

1. People must be aware of a condition to take action.

2. Caution — if used as a stand-alone intervention, public education can prove to be a weak strategy.

INTERVENTION STRATEGIES (cont'd)

- Table group assignment: (five minutes).
  - Discuss if and how your public education activities have been measured.
  - Be honest.
  - How could they be improved?

Slide 3-11

INTERVENTION STRATEGIES (cont'd)

- Engineering as a risk-reduction intervention.
  - Modify an environment to remove a factor that contributes to a specific risk.
  - Use technology to enhance risk prevention and mitigation.

Slide 3-12

F. Engineering can be used as a risk-reduction intervention to accomplish the following:

1. Modify an environment to remove a factor that contributes to a specific risk.

   Examples of modifying an environment include:

   a. Using child-resistant locks on cabinets and drawers.

   b. Installing grab bars and stair rails in the home of an older adult.

   c. Reducing fire load in a high-risk home where multiple smokers are present.

d. Creating defensible space around a home located in a wildland urban interface (WUI).

2. Use technology to enhance risk prevention and mitigation.

Examples of technology include:

a. Smoke alarms and fire sprinklers.

b. Child safety seats.

c. Child-resistant lighters.

d. Automobile air bags.

e. Ground Fault Circuit Interrupter (GFCI) outlets.

INTERVENTION STRATEGIES (cont'd)

- Table group assignment: (five minutes).
  - What engineering strategies have you used as part of your risk-reduction activities?
  - Be honest.
  - How could they be improved?

Slide 3-13

INTERVENTION STRATEGIES (cont'd)

- Enactment and enforcement of public policy.
  - Can be a very powerful strategy.
  - Requires certain actions or behaviors to occur.
  - Mechanism for enforcing the policy.

Slide 3-14

G. The enactment and enforcement of public policy that directs specific actions pertinent to risk reduction can be a very powerful strategy.

Enforcement can only be used if the following mechanisms are in place:

1. An adopted public policy such as a law, code or ordinance that requires certain actions or behaviors to occur.

2. A mechanism for enforcing the policy, such as performing inspections or citing for violations that occur in plain view of officials.

3. Examples of public policies that employ enforcement include:

    a. Fire codes and ordinances.

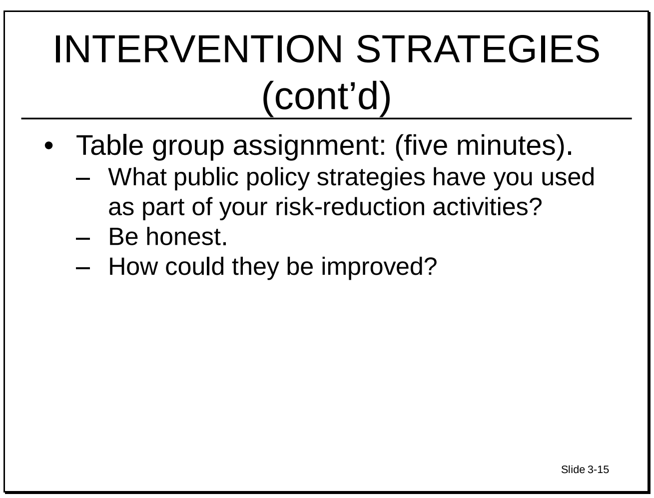
    b. Smoke alarm and sprinkler requirements.

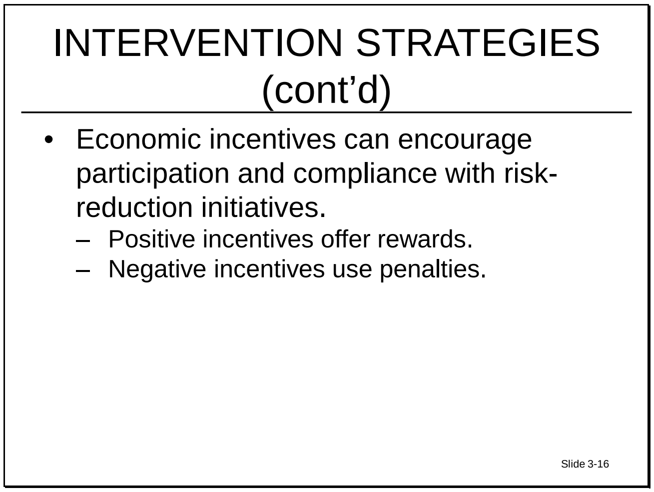
    c. Speed limits.

    d. Child safety seat requirements.

    e. Require that all lighters sold in a jurisdiction must be child-resistive.

    f. Cellular phone and texting laws.





H. Economic incentives can encourage the public to comply with, or participate in, risk-reduction initiatives.

1. Incentives can be either positive or negative.

2. Positive incentives offer rewards for complying with a policy or taking advantage of an initiative.

   Examples of positive incentives include:

   a. Free smoke alarms and installations.

   b. Tax credits for voluntarily installing a sprinkler system.

   c. Construction or water supply trade-offs for installation of fire sprinklers.

3. Negative incentives use sanctions or penalties for not complying with an adopted policy.

   Examples of negative examples include:

   a. Fines.

   b. Restitution for damages.

INTERVENTION STRATEGIES (cont'd)

- Table group assignment: (five minutes).
  - What economic incentives have you used as part of your risk-reduction activities?
  - Be honest.
  - How could they be improved?

Slide 3-17

INTERVENTION STRATEGIES (cont'd)

- An adequately staffed, equipped and trained cadre of responders must exist to provide emergency services when the other levels of prevention fail.

Slide 3-18

I. An adequately staffed, equipped and trained cadre of responders must exist to provide emergency services when the other levels of prevention fail.

II. COMBINING INTERVENTION STRATEGIES TO PREVENT AND/OR MITIGATE A RISK

COMBINING INTERVENTION STRATEGIES TO PREVENT AND/OR MITIGATE A RISK

- When considering the strategic integration of interventions, ask these questions:
  - Where should public education be used?
  - Who should it be directed toward?
  - Are there engineering/technology solutions?
  - Is stronger enforcement required?

Slide 3-19

A. A confirmed best practice is using interventions in tandem to address risk.

   Not every identified risk will require use of all five E's.

B. When considering the strategic integration of interventions, ask these questions:

   1. Where should public education be used, and who should it be directed toward?

   2. Are there engineering/technology solutions that could help?

   3. Is stronger enforcement required?

COMBINING INTERVENTION STRATEGIES TO PREVENT AND/OR MITIGATE A RISK (cont'd)

- Could economic incentives improve compliance and/or raise awareness?
- Would changes in emergency response protocols help?

Slide 3-20

   4. Could economic incentives improve compliance and/or raise awareness?

5. Would changes in emergency response protocols help?

What are some intervention strategies that could be used to reduce the risk of fires caused by inappropriate use or disposal of smoking materials?

Slide 3-21

What are some intervention strategies that could be used to reduce false alarms that generate high and unnecessary call volumes for emergency responders?

Slide 3-22

What are some intervention strategies that could be used to reduce falls among older adults?

Slide 3-23

COMBINING INTERVENTION STRATEGIES TO PREVENT AND/OR MITIGATE A RISK (cont'd)

- Major factor why community risk reduction may not achieve its fullest potential.
- Relying solely on public education and emergency response.

Slide 3-24

C. One of the major factors in why community risk reduction may not achieve its fullest potential is because an organization may rely solely on public education and emergency response as their prevention and mitigation strategy.

1. While public education is the root of prevention, when used as a stand-alone intervention, it can prove to be a weak strategy.

2. Every organization must have an adequately staffed, equipped and trained group of first responders to act when prevention fails.

COMBINING INTERVENTION STRATEGIES TO PREVENT AND/OR MITIGATE A RISK (cont'd)

- Throughout history, leaders have expressed the need for a comprehensive approach to fire prevention.
  - National Fire Protection Association (NFPA) has prepared a collective report, Fire Safety Legacy Documents.

Slide 3-25

D. Throughout history, America's political and fire service leaders have expressed the need for a comprehensive approach to fire prevention that involves use of multiple interventions.

E. The combined use of education, engineering and enforcement as prevention interventions was recommended as early as the first National Fire Prevention Convention held in Philadelphia in 1913.

F. A similar call has been made during each subsequent convention that has focused on reducing fire loss in our nation.

G. The National Fire Protection Association (NFPA) has prepared a collective report, Fire Safety Legacy Documents, of recommendations that date to the 1913 convention.

What may be some of the challenges that can deter an organization from pursuing use of all five E's?

Slide 3-26

III. DEVELOPING AN ACTION/EVALUATION PLAN

DEVELOPING AN ACTION/ EVALUATION PLAN

- Incorporates evaluation to describe, in measurable terms:
  - Program planning, implementation and delivery.
  - Role stakeholders will play.
  - Outreach, impact and outcomes expected.
  - Those responsible for specific tasks.
  - Deadlines.

Slide 3-27

A. An action plan incorporates evaluation to describe, in measurable terms, the following strategic components of a risk-reduction program:

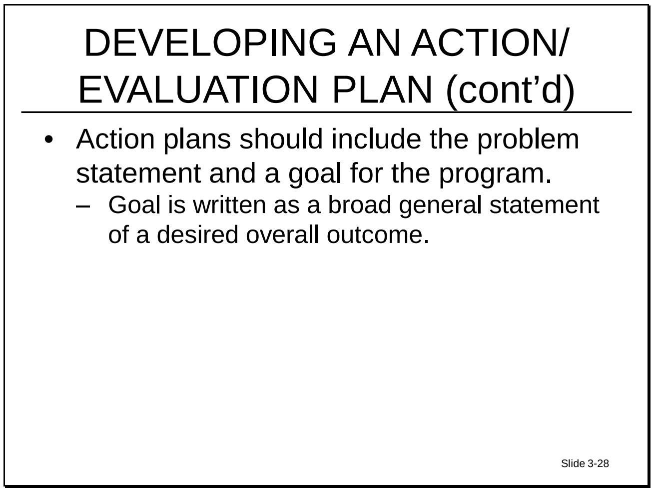
1. How the program will be planned, implemented and delivered.

2. The role stakeholders will play in the program planning, implementation and delivery.

3. The outreach, impact and outcomes expected from the program.

4. Those who are responsible for accomplishing specific tasks.

5. Deadlines for specific actions to occur.



B. Action/Evaluation plans should include the problem statement and a goal for the program.

C. A program goal is written as a broad general statement of a desired overall outcome.

1. The problem is that the Richmond Heights Fire Department responds to a disproportionate number of false fire alarms each year. False alarms account for 20 percent of the fire calls in Richmond Heights as compared to the national average of 10 percent, according to the National Fire Incident Reporting System (NFIRS).

   Goal: to reduce the occurrence of false alarms in the community of Richmond Heights.

2. The problem is that the North Charleston Fire Department annually averages 20 civilian fire fatalities and over 10 million dollars in property losses due to structure fires.

   Goal: to reduce fire-related fatalities and property loss from structure fires in the community of North Charleston.

3. The problem is cooking fires are the number one cause of residential fires and injuries in the city of Watertown.

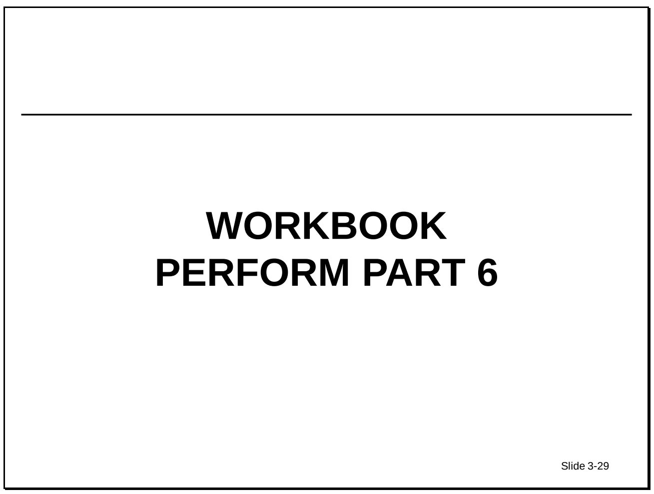
   Goal: to reduce the occurrence of cooking fires in the city of Watertown.

4. The problem is the residents of Marion County are experiencing a high number of sudden cardiac arrests.

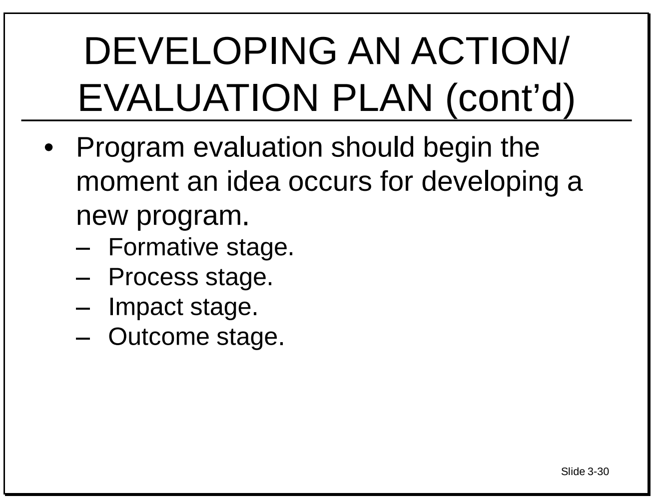
   Goal: to reduce the number of sudden cardiac arrests that occur in Marion County.

5. The problem is the city of Rockford has a significant problem directly correlated to abandoned buildings that has increased the number of arson fires, breaking and entering, trespassing and other criminal-related issues.

   Goal: to reduce problems directly correlated to abandoned buildings in the city of Rockford.



D. Recall from Unit 1 that there are four stages of program evaluation.



E. Program evaluation should begin the moment an idea occurs for developing a new program.

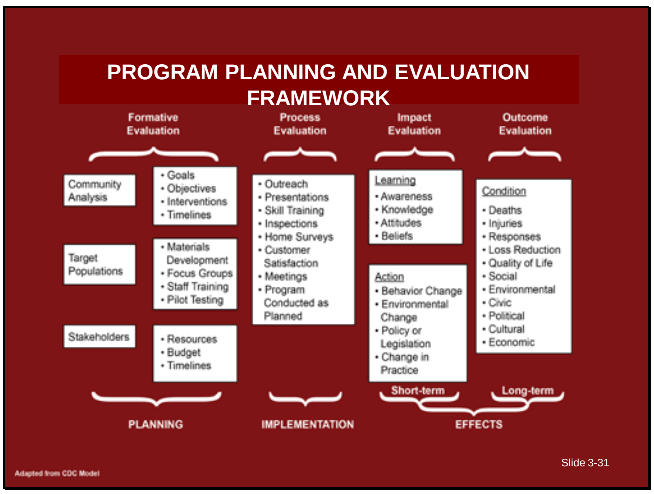
F. Use the four stages of evaluation to track the development, delivery, impact and outcome of the program.

1. Formative stage — evaluation of the program's planning process (and planned interventions) to ensure the program has the potential to reach the target audience and meet program objectives.

2. Process stage — monitoring the program's implementation, its outreach and overall operation.

3. Impact stage — measuring to what extent the program is facilitating behavioral, environmental and lifestyle changes among the target population.

4. Outcome stage — determining if the program is making a demonstrable impact on the targeted risk over the long term.



DEVELOPING AN ACTION/ EVALUATION PLAN (cont'd)

- Action plan is comprised of a vision, problem statement, goal and objectives.
- SMART acronym:
  - **S**pecific.
  - **M**easurable.
  - **A**chievable.
  - **R**ealistic (Relevant).
  - **T**ime framed (Time bound).

Slide 3-32

G. An action/evaluation plan is comprised of a vision, problem statement, goal and clear data-driven objectives that are written in a format that uses the SMART acronym.

1. **S**pecific: What precisely is going to be done, with or for whom?

2. **M**easurable: Is it quantifiable, and can it be measured?

3. **A**chievable: Can we get it done in the proposed climate/for this amount of money/with resources and support available?

4. **R**ealistic (Relevant): Will this objective have an effect on the desired goal or strategy?

5. **T**ime framed (Time bound): When will the objective be achieved?

ACTION/EVALUATION PLAN

Equipping Emergency Apparatus with Self-Contained Breathing Apparatus

Vision: The Lakeshore Fire Department (LFD) will be an organization that complies with national standards to help equip and protect its firefighters.

Problem Statement: The problem is the LFD lacks the presence of SCBA for all riding positions on its five engines and two ladder trucks.

Goal: To ensure all firefighters responding on a LFD unit are equipped with an SCBA.

Outcome Objective

By August 2014, the LFD will have improved the safety and quality of life for its firefighters by having an SCBA for all riding positions on its five engines and two ladder trucks. Evaluation method: record of equipment installed.

Impact Objectives

By June 2014, all active firefighters will have the knowledge, skill and ability (KSA) to use the new SCBAs. Evaluation methods: pretests and post-tests on knowledge, skill demonstration by firefighters.

By July 2014, all engine and truck companies of the LFD will be equipped with an SCBA for each firefighter responding on a unit. Evaluation method: SCBAs placed on the apparatus.

By July 2014, the LFD will have adopted a policy that requires use of SCBA by all firefighters who are working in a hazardous environment. Evaluation method: record of policy.

Process Objectives

By September 2013, the planning team will have distributed three news releases and three articles to local media to raise awareness about the need for SCBAs. Evaluation methods: counting number of outlets using news releases and articles and estimating percent of public receiving news releases and articles.

By October 2013, each member of the planning team will have made at least three presentations to a community group about the need for additional SCBAs. Evaluation method: program presentation records.

By February 2014, LFD will have received commitment from at least three sources that will help fund the purchase of the requested number of SCBAs. Evaluation method: commitment from community partners or other sources.

By March 2014, the LFD will have selected a vendor and ordered the SCBAs. Evaluation method: record of order being placed.

By May 2014, the LFD will have received the SCBAs. Evaluation method: receipt of the product.

Formative Objectives

By March 2013, key staff from the LFD will have identified and recruited primary stakeholders in the community who could help the fire department secure additional SCBAs. Evaluation method: commitment of stakeholders.

By May 2013, the planning team, comprised of fire department staff and key stakeholders, will have identified how many (and type) of SCBAs that should be purchased. Evaluation method: records from meetings.

By July 2013, the planning team will have developed a plan on how the SCBAs will be secured (i.e., grant proposals, direct community solicitation, special fund drive, presentation to local government leaders). Evaluation method: development of the action plan.

By August 2013, the action plan will be executed. Evaluation method: monitoring who is responsible for doing what, when and how.

ACTION/EVALUATION PLAN

Cleveland Park Youth Firesetting Prevention and Intervention Program

Vision: Cleveland Park will be a community that prevents and intervenes in youth firesetting.

Problem Statement: The problem is that the Cleveland Park Fire/Rescue Service responds to a disproportionately higher rate of firesetting incidents involving youth between the ages of 12 and 17 as compared to communities of similar size and demographics.

Goal: To decrease youth firesetting incidents involving youth (ages 12-17) in Cleveland Park.

Outcome Objective

As compared to baseline data, the following changes will have occurred:

By December 2016, there will be a 50 percent reduction in the number of firesetting incidents involving youth ages 12-17. Evaluation methods: fire and police reports.

By December 2016, there will be a 40 percent reduction in fire loss attributed to firesetting incidents involving youth ages 12-17. Evaluation methods: fire reports.

Impact Objectives

As compared to baseline data, the following changes will have occurred:

By October 2013, Memorandums of Understanding (MOUs) will be adopted among agencies handling youth involved in firesetting. Evaluation method: adoption of MOUs.

By January 2015, the city council will have adopted an ordinance prohibiting the sale of novelty lighters in Cleveland Park. Evaluation method: passage of ordinance.

By June 2015, there will be a 25 percent increase in youth ages 12-17 who can name at least three ways an arson arrest can affect them and their families. Evaluation methods: self-report surveys, pretests and post-tests.

By June 2015, there will be a 25 percent increase in youth ages 12-17 who can identify the age juveniles can be arrested in their state. Evaluation methods: self-report surveys, pretests and post-tests.

By June 2015, there will be a 25 percent increase in youth ages 12-17 who can name at least two of the state's arson laws. Evaluation methods: self-report surveys, pretests and post-tests.

By December 2015, there will be a 25 percent increase in the number of parents/caregivers that attended the Youth Firesetting Prevention and Intervention (YFPI) program who can name three ways they can prevent acts of youth firesetting. Evaluation methods: pretests and post-tests.

By December 2015, there will be a 95 percent increase in the number of working smoke alarms located in the homes of families that have attended the YFPI program. Evaluation methods: observational surveys and self-report surveys.

Process Objectives

By October 2013, the program manager will have distributed three news releases and three articles to local media to raise awareness about youth involved in firesetting. Evaluation methods: counting number of outlets using news releases and articles and estimating percent of public receiving news releases and articles.

By December 2013, the program manager will begin offering the educational component of the youth firesetting intervention program to youth and their families who are referred to the program as often as needed to meet demand. Evaluation method: program presentation records.

By October 2013, each member of the task force will have made at least three presentations to a community group about the problem (and solutions to) youth firesetting in the community. Evaluation method: program presentation records.

By December 2014, the program manager will have evaluated the performance of the school-based educational program and all instructors who present it. Evaluation method: performance evaluation checklist.

By June 2015, there will have been 200 school-based educational programs on state arson laws presented at secondary schools in Cleveland Park. Evaluation method: program presentation records.

Formative Objectives

By March 2013, key staff from the Cleveland Park Fire Department will have identified and recruited primary stakeholders in the Cleveland Park District to join the YFPI task force. Evaluation method: commitment of stakeholders.

By May 2013, the task force will start program planning based on the escalation of youth set fires identified through the community risk assessment of Cleveland Park. Evaluation method: records from meetings.

By July 2013, the task force will develop goals, interventions and objectives for the YFPI program. Evaluation method: development of program.

By August 2013, the program manager, with assistance from the task force and a focus group representing the target population, will design the educational component for youth and their families who are referred to the YFPI program. Evaluation method: development of educational component.

By September 2013, MOUs will be developed by the task force on how youth will be handled by various agencies. Evaluation method: development of MOUs.

By September 2013, the task force will have drafted standard operating procedures (SOPs) for the fire department (and partner agencies) on how youth who set fires are handled. Evaluation method: SOPs.

By December 2013, all partner agencies (including the Fire Department) will have trained key staff on how to make referrals to the YFPI program. Evaluation method: training records.

By March 2014, the program manager, with the help of the task force, will have developed a lesson plan on state arson laws for use in the secondary schools in Cleveland Park. Evaluation method: development of lesson plan.

By May 2014, the program manager will have received permission from the school board of Cleveland Park to instruct teachers in secondary schools about the lesson plans pertaining to arson laws and how they pertain to youth ages 12-17 years. Evaluation method: letter of agreement and adoption of curriculum.

By July 2014, the program manager will have trained teachers in the pilot school to use the lesson plans about arson laws in the state. Evaluation method: record of training.

ACTIVITY 3.1

Programs That Demonstrate a Strategic Approach to Risk Reduction

Purpose

To evaluate how an organization followed a strategic approach to developing, implementing, delivering and evaluating a risk-reduction program.

Directions

1. You will work in your table group to process this activity.
2. The case studies will be assigned as follows:
   a. Group 1 — Case Study 1: Drowning Prevention Coalition of Arizona.
   b. Group 2 — Case Study 2: CARES Safety Center: Driving Home Safety.
   c. Group 3 — Case Study 3: Mississippi Smoke Alarm Installation Program.
   d. Group 4 — Case Study 4: Temperature Limiting Technology.
3. After reading your case study, develop responses that explain how:
   a. Integrated intervention strategies (the five E's) were used to address a risk issue.
   b. An action plan was used to strategically guide the program.
   c. Program outreach, impacts and outcomes were evaluated.
4. The programs being studied are from larger communities that were fortunate to have significant resources.
5. You will have 20 minutes allotted for these tasks.
6. Your group will provide a brief description of your assigned program and responses to the directives.
7. There will be 15 minutes total time allotted for the groups to present their findings.

This page intentionally left blank.

ACTIVITY 3.1 (cont'd)

Case Study 1: Drowning Prevention Coalition of Arizona

Executive Summary

In Maricopa County, Arizona, a broad coalition formed to work a specific drowning-related problem — pool safety. Because water safety involves many disciplines, such as Emergency Medical Services (EMS) and trauma care, code enforcement, public works, parks and recreation, and building safety, a collaborative approach to solving the problem was found to be most effective.

The original coalition grew statewide to become the **Drowning Prevention Coalition of Arizona (DPCA)**, a community-based organization comprised of parents, health and safety professionals, business leaders and concerned citizens. Its goal being to provide a forum to prevent drowning, near drowning and water-related incidents, through the promotion of education, legislative action, awareness and enhanced product safety.

As a community-based organization, the coalition attracts members from many different areas. It is this diverse representation that provides the Drowning Prevention Coalition with a great strength in representing the issues surrounding drowning prevention. The coalition brings together individuals from different cities, industries and backgrounds to work toward a common cause that significantly benefits the entire community.

Overview

In the mid-1980s, the drowning death rate of Arizona's preschoolers ranked first in the nation [6]. Warm weather, long summers, and the presence of more than 300,000 residential swimming pools make Arizona prone to water-related incidents.

The rate of death by drowning in pools per 100,000 children was 18.9 in 1986.

Drowning is a leading cause of death among Arizona children ages 1-4. It is also a serious issue among adults. More than half of the water-related incidents involving individuals teenage and older end in fatality.

Children and adults nationwide have experienced life-threatening injuries or have been killed simply because drain covers were not designed properly. Many parents, and pool and spa owners, are not aware of the risk, and only 15 percent have installed the antivortex drain covers.

The American Academy of Pediatrics (AAP) suggests "new evidence shows that children ages 1 to 4 may be less likely to drown if they have had formal swimming instruction." While the studies are small and do not define what type of lessons work best, it has been suggested that parents decide whether to enroll a child in swim lessons based on a number of factors.

The Arizona Department of Health Services has been collecting water-related incident stats for Maricopa County since 1990.

The dependency on fire personnel to submit the drowning report form has allowed discrepancies in how and when to report. Additionally, software issues allow for miscoding of certain details, which forces additional research on the backend to ensure accuracy of the data.

Open water poses special dangers. Poor outcomes are more common when drowning occurs in open water settings because of the many factors involved. In the past 20 years, more attention has been given to the drowning issue involving children. However, it has been recognized that as the numbers of water-related incidents for youth have gone down, the number of fatal water events involving adults has remained steady.

Creating an Action Plan

The DPCA was formed in 1989. It includes municipal fire departments, hospitals, the state and county health departments, community organizations, pool builders, suppliers of pool safety equipment, parents of drowning victims, corporations and others. In 2010, DPCA adopted the following objectives and strategic interventions.

Objective 1: Reduce Water-Related Incidents

The efforts of reducing water-related incidents focus on using the three E's of change: engineering, education and enforcement. In addition, there is a focus on Block, Watch, Learn, barriers, supervision, CPR and swim lessons.

These activities require community partnerships to develop and support comprehensive education programs and statewide informational campaigns, in addition to strengthening codes and ordinances for barriers and safety measures.

Strategic Intervention 1.1: Increase public awareness about water safety in Arizona.

Strategic Intervention 1.2: Increase awareness and enforcement of the Virginia Graeme Baker Pool and Spa Safety Act requirements. (The Virginia Graeme Baker Pool and Spa Safety Act was passed to reduce the number of injuries and deaths attributed to unsafe drain covers.)

Strategic Intervention 1.3: Address the role of swimming lessons as a layer of protection.

Strategic Intervention 1.4: Increase public awareness that standard CPR is still required for children age 8 and younger and victims of water-related incidents. (When a person has a cardiac arrest, the heart stops beating, which then affects respiration and oxygen getting to the brain. When a person is in a drowning scenario, the initial issue is a respiration problem that then affects the heart and the brain. These differences are the critical reason why traditional CPR is performed in water-related incidents, rather than the “new” hands-only CPR, which is used in cases of cardiac arrest.)

Strategic Intervention 1.5: Emphasize the importance of pool barriers as a layer of protection.

(“Layers of protection” means that multiple strategies or devices are used constantly and simultaneously. For residential pools and spas, the first line of physical defense is to restrict unauthorized access to the pool or spa area in its entirety. The barrier must be maintained and used properly 100 percent of the time.)

Objective 2: Expand the Drowning Surveillance System

(Collecting data in water-related incidents helps agencies identify trends. The research provides the evidence needed to establish educational campaigns and program development throughout the state and could highlight needs for better enforcement or engineering.)

Strategic Intervention 2.1: Expand statistical reporting throughout the state.

(Accurate statewide reporting will allow Arizona to provide a more detailed picture of the drowning issue rather than only a simple snapshot of hotspots.)

Strategic Intervention 2.2: Standardize the collection of water-related incident stats.

Strategic Intervention 2.3: Address the surveillance system for reporting incidents at rivers and lakes in Arizona. (Tracking these incidents is critical. Identifying the appropriate jurisdiction and communicating across boundaries will aid in more accurate reporting.)

Strategic Intervention 2.4: Define parameters in reporting adult water-related incidents.

Program Progress

In 1989, representatives from the Arizona Department of Health Services (ADHS), Consumer Product Safety Commission (CPSC), fire departments and hospital personnel met and formed what is now known as the **DPCA**. The spirit of the group is to provide a forum for drowning prevention advocates to exchange information and to work together to prevent these tragedies.

In 1990, the coalition applied for and received 501(C) 3 status.

In 1991, the coalition worked with the state of Arizona to mandate statewide, four-sided barriers for swimming pools. They have played a vital role in speaking before city councils and presenting information and personal testimony.

In 1991, Phoenix 11, a cable TV station, produced a 23-minute video called Enough Is Enough. In one segment a mother tells the story of how her son died in the family pool.

In 1992, the coalition took over responsibility for directing and managing April Pools Day on an ongoing basis. April Pools Day events are now conducted and managed by virtually every city in Maricopa County.

In 1994, the coalition joined forces with local Girl Scout representatives to expand the scope of April Pools Day by including troops throughout Maricopa County. Together with the Girl Scouts, safety literature was distributed door-to-door as a part of April Pools Day efforts.

In 1999, the coalition welcomed Water Watchers, an advocacy group. This enabled them to participate in Water Safety Day, which teaches water safety to thousands of school-aged children each year. Leveraging the support of that union, that event is used as a kick-off for April Pools Day events, which increases awareness of the issue throughout the Valley.

In 2002, the coalition employed Gauger-Santy to join them in developing a consistent, united drowning prevention campaign. The partnership allowed the coalition to obtain expert advice in the fields of public relations, media and marketing.

In 2003, a consortium was held with several business and nonprofit stakeholders to look at the drowning problem in Arizona. After reviewing research, it was determined that more was needed in the prevention message of “Watch Your Kids Around Water.” Parents simply believe that they watch their kids. The elements of barriers (fencing, locks) and the importance of CPR were added to the messaging. The three-pronged approach became Prevent Drowning: Block, Watch, Learn.

KTAR radio station produced three public service announcements. You can see all three parts of this video at the coalition’s website.

In 2004, the coalition assisted in the establishment of the first national group dedicated to childhood drowning events. This group is the National Drowning Prevention Alliance (NDPA).

Since 2004, the coalition has provided technical assistance to community-based organizations such as Safe Kids Worldwide, the NFA, the Arizona Fire and Burn Educators Association.

In 2007, the coalition sponsored NDPA’s two-day symposium. The NDPA Symposium showcases the best-of-the-best in drowning prevention programs, strategies, and products so that individuals and organizations from across the nation can work together to maximize their efforts in drowning prevention.

In 2008, the coalition launched a redesigned website, www.preventdrownings.org, that features safety tips, barrier information, and a calendar of events that highlights drowning and other injury prevention events across the state.

In 2011, after writing a five-year plan, the coalition embarked on an effort to not only support member’s programs, but coordinate and brand DPCA programs. Water SMART Babies, which originally started in Florida, was adopted to encourage water safety classes for children under 5.

A community sign project was also developed to address water safety concerns at apartment and condo community pools.

Since 2012, the coalition has been working on campaigns and efforts to address concerns regarding lifejacket usage, dangers of easy access to canals, and adult drowning issues.

The preventdrownings.org website underwent an overhaul in 2013. The new site launched at the end of the year with the intent to make it easier for the user to find information, highlight the direction of the DPCA, and update the technology behind the site.

Use of Integrated Interventions

Drowning continues to be a primary focus area for many fire and aquatics departments around the city. The business sector, including the two children's hospitals, has supported many of the prevention activities conducted around the state in the forms of financial assistance, in-kind services and participation in planning and coordinating events. The following activities have evolved from this statewide focus on drowning prevention and water safety efforts.

Education

Water Safety Days — Initially hosted by Mesa Community College, annual water safety days have been conducted in the Phoenix metro area since 2000. The event, created in the memory of Weston Letter who drowned in 1999, has been presented at various locations throughout the Valley to accommodate a variety of school districts. Combined with a lesson specific to water safety, these on-going events create and heighten awareness of the issue with young children. Because of the success of the event, similar events have been adopted in Arizona, and even nationally. In 13 years, at least 20,000 elementary students have experienced the event across Arizona.

Drowning Impact Awareness Month — In 2005, Phoenix Children's Hospital established August as Drowning Impact Awareness Month. This is accompanied by a purple ribbon campaign to serve as visual reminders that drowning events can still occur in August. It was established in memory of a young boy who drowned in Mesa, and purple was his favorite color. With many schools starting during the month of August, parents can be distracted with back-to-school shopping and activities. All families and caregivers need to be reminded that water safety is a year-round practice, not just during the summer months. This campaign now extends to many cities statewide, and more than a million ribbons have been distributed.

Walk for Water Safety events — The initial introduction of the Walk for Water Safety featured volunteers going door-to-door and hanging bags that contained valuable water safety information (CPR information, how to call 911, and emphasizing supervision at all times around pools). The walks serve as a grass roots campaign as volunteers go to where people live and where most drowning incidents occur, in backyard pools. Fire departments schedule these events. Cardon Children's Medical Center serves as the coordinating agency and is considering how to extend the efforts to a year-round campaign rather than focusing on one specific day. Since its inception, more than 450,000 bags have been shared with Arizona families.

Ninos Seguros, Seguros Que Si! — In 2005, collaboration between the Phoenix Fire Department, Food City grocery stores, and Arvizu Advertising, Inc., created a drowning prevention campaign specifically designed for the Spanish-speaking population. The campaign includes high-quality public safety announcements, posters, brochures and a variety of collateral material. Most public education campaigns are simply translated into other languages. The unique quality about the Ninos Seguros program is centered on cultural relevance. Creating a campaign that considers the culture, values, and belief systems of a population has an increased value in reaching that population. It is still available from Arvizu Advertising. It is estimated that the campaign reached at least 300,000.

"Signs of Life" Community Pool Safety Campaign — The Drowning Prevention Coalition of Arizona, in collaboration with Salt River Project and the Arizona Multihousing Association, created the "Signs of Life" project, based on a project initiated by Safe Kids Tucson. Durable metal signs with water safety messages and graphics were designed and produced by DPCA and SRP with the agreement that large, multiunit housing complexes throughout the Phoenix Metro area would post them on fences surrounding community pools. This campaign was created to reduce drowning incidents in apartment pools. More than 1,000 signs have been hung so far in Maricopa, Pinal and Pima county community pools.

Water Safety Curriculum — Each year, schools across the Valley use water safety curriculum. The first grade "Water Safety is For You" program, which has been recognized by the National Water Safety Congress, teaches children water safety while addressing existing classroom priorities. Curriculum for Kindergarten, second and third grade has been completed and will roll out in the next two years. Additionally, fire departments and water safety advocates are in elementary schools each Spring teaching water safety. It is estimated that at least 50,000 students have received direct water safety education in the classroom in the past 10 years.

Swim lessons for low-income families — City Aquatics centers partner with private companies to provide free or reduced swim lessons. As an example, Cigna Healthcare continues its support of Itsy Bitsy Beach Parties, which includes free swim lessons for low-income children. Cigna also funds the Junior Lifeguard and Lifeguard training programs for the city. Salt River Project has initiated funding for free swim times at city pools and also funds swim lessons for low-income children. Water safety information is always included during the lessons. The DPCA has supported $15,000 in swim lesson grants since 2012.

Wear It — Arizona Game and Fish Department staff, working with the National Safe Boating Council and others, promote life jacket wear and conduct community, shore-side and on-the-water outreach to help boaters and other open-water recreationalists understand the value of life jackets, the differences between them, choosing the right type of life jacket for the activity they're engaged in, and how they should be worn.

Engineering

Adopt-A-Pool-Fence Program — Valley of the Sun United Way and the United Phoenix Fire Fighters Local 493 Charities have joined forces to provide pool fencing for low-income families. Specific criteria must be met for a family to receive a pool fence. Pool safety and drowning prevention educational materials are provided and discussed with each family. Since the program's inception in 2005, more than 700 fences have been installed, protecting more than 1,000 young children.

Enforcement

Virginia Graeme Baker Pool and Spa Safety Act — This legislation affects all pools, including commercial and residential. The Drowning Prevention Coalition has represented water safety issues at industry trade shows and meetings and has promoted information about the legislative requirements of the law. Municipalities are working to ensure that all public pools within their jurisdictions are compliant.

Prosecutions/Convictions — A number of cases involving children drowning while under their parents' supervision have resulted in convictions, with extreme negligence as the primary charge. Cases have been heard in Tucson and Phoenix. Sentences or fines are not known at this time, since each case can appeal the decisions. Still, cases like these reflect a growing intolerance within society of neglectful parenting in extreme cases of pediatric drowning events. Twenty years ago, there was no thought of prosecuting parents who practiced this extreme behavior. The fact of losing a child was considered "enough punishment." Convictions of these kinds reflect an increased awareness of the issue and lend an additional perspective to drowning prevention efforts.

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

In 2008, almost 20 years after forming the coalition, the rates of incidents and deaths in pools in Maricopa County were among the lowest on record.

The rate of death by drowning in pools for children under 5 dropped from 18.9 per 100,000 children in 1986, to 3.5 in 2008.

Water-related pool incident rates for children less than 5 years of age declined from 31.5 per 100,000 children in 1992 to 10.1 in 2010.

During the period 1992-2010, 29.0 percent of pool-related incidents among children less than 5 years of age were reported as having no barrier at all, compared to 28.1 percent in 2010. An average of 3.5 percent of pool-related incidents for this age group found fencing inadequate in the years 1992-2010, and 0 percent inadequate in 2010.

For more information contact:

Lori Schmidt, President
c/o Scottsdale Fire Department
8401 E. Indian School Rd.
Scottsdale, AZ 85251
lschmidt@scottsdaleaz.gov

ACTIVITY 3.1 (cont'd)

Case Study 2: CARES Safety Center: Driving Home Safety

Executive Summary

The CARES Safety Center is an effective way to reach communities with life-saving injury prevention education and affordable safety products. Much of CARES' success can be credited to the effective partnership between an academic research center and a municipal fire department, working alongside a number of other community partners to create, implement, evaluate and sustain this safety resource center. A replication guide developed by the Johns Hopkins CARES Safety Center can aid fire service and other community agencies in creating a mobile safety center tailored to and appropriate for the resources in their community.

Overview

The Johns Hopkins CARES (Children ARE Safe) Safety Center is a 40-foot "house on wheels" developed and run through a partnership of the Johns Hopkins Bloomberg School of Public Health Center for Injury Research and Policy and the Baltimore City Fire Department (BCFD). The CARES Safety Center was based on the existing BCFD fire safety trailer, but was expanded to other injury areas, such as poison control and fall prevention. The main objective of CARES is to promote the safety of children and families by delivering interactive and life-saving injury prevention education and affordable safety products to the community. Safety educators from both the Johns Hopkins Bloomberg School of Public Health and the BCFD use 22 exhibits on-board to teach parents and caregivers how to prevent injuries in their home. From its inception, the CARES Safety Center recognized that all communities can benefit from enhanced access to safety information, products and services, but low-income, urban communities are a special focus for our outreach.

The Planning Stage

Research conducted by the Johns Hopkins Center for Injury Research and Policy (CIRP) indicate that children living in low-income neighborhoods in Baltimore suffer injuries at a rate that is twice the national average, with death due to fire being four times that of the national average. Motor vehicles and fire/burn injuries account for 40 percent of death injuries. Many of these injuries, including burns from house fires and hot water, poisonings, drowning, falls, and traffic-related injuries, are preventable. However, many parents do not have access to and cannot afford the life-saving safety products and information needed to protect their children.

The concept of combining personalized education with direct access to low-cost safety products grew out of our earlier research that demonstrated the effectiveness of a clinic based safety center, the Johns Hopkins Children's Safety Center. This research indicated that injury prevention counseling coupled with access to reduced-cost products appears to be an effective strategy for promoting children's home safety. However, in comparing those who did and did not visit the Children's Safety Center, we found that visitors were more likely to be better educated, have higher incomes, and have fewer people in the home. It was evident that the more disadvantaged families in Baltimore City were experiencing other barriers that made access to the Safety Center difficult.

Thus, BCFD and Johns Hopkins CIRP teamed up to develop the CARES Safety Center. The CARES Safety Center was targeted towards low-income parents and was established to address access barriers by developing a 'one-stop shop' for safety that could be brought to families in their community.

In planning and developing the CARES Safety Center, a community partnership was created that included the BCFD, stakeholders with an interest in children's safety in Baltimore City, experts in childhood injury prevention, organizations that had skills relevant to the development of the CARES Safety Center (e.g. educational exhibit design, graphic arts) and a group of parents from the community to provide input and feedback on the development of the Center. Considerable attention was paid to formalizing the partnership by developing a partner agreement, determining levels of authority and decision-making, and identifying specific roles and responsibilities consistent with the partner's area of expertise, interest and resources. Early funding partners for the CARES Safety Center were: BP, Federal Emergency Management Agency (FEMA), Annie E Casey Foundation and the Weinberg Foundation. The Mobile Safety Center Partnership included the Maryland Institute College of Art, the Maryland Science Center, the Baltimore City Fire Department, Johns Hopkins Medical Institutions and Johns Hopkins Children's Safety Center, Johns Hopkins Center for Injury Research and Policy, and CARES Parent Advisory Board.

Early Evaluation

A variety of process indicators have been collected on the CARES safety center from its very beginning. These process measures are critical to our ability to know who is requesting us (and conversely who is not), how many events we attend per month, and the areas of the city we have served. We also routinely capture information from individuals who actually visit the safety center. From adults, we get their age, gender and race, their household composition and the ages of any children. We also track products distributed, services provided, and sales generated (or products provided free of charge). Together, these process measures help us understand who we are reaching and what services we are providing. They also contribute to our ability to make a case for additional support to continue our work with potential funders.

In the beginning, the CARES Safety Center simultaneously operated as both a formal research project as well as a community service. This unique opportunity allowed us to formally study the impact of the safety center as it visited a community medical practice on a routine basis over a year and to compare that to the safety center impact when responding to requests from various community organizations and groups. During this time, under the auspices of the research project, CARES visited the medical practice 197 times, attracted 1,756 visitors (56 percent adults), distributed 426 safety products and provided 4,319 services, including 283 car seat installs/checks. At the same time, CARES responded to invitations to 76 community events where they attracted 4,330 visitors (24 percent adults), distributed 131 safety products, and provided 3,663 services, including 500 bike helmet fittings.

Regardless of whether it is operating as part of a research project, as a community service, or both, the mission of the CARES Safety Center is to make children safer by providing fun, interactive education and affordable safety products to the Baltimore community. The Center responds to requests for injury prevention education from schools, health fairs, medical clinics, hospitals, churches, community events, etc. throughout Baltimore City. The BCFD and Johns Hopkins CIRP coordinate the staffing and scheduling of the Center and work together to develop partnerships with community agencies who serve our priority audiences and to educate visitors on the CARES Safety Center.

Implementation and Sustainability

At the conclusion of the research project, CARES continued solely as a community service. In order to cover our operating costs, we respond to various funding opportunities which may require that we either frame our mission in a novel way or build in new initiatives. Examples of new initiatives include assessing the injury prevention needs of Hispanic families and exploring how CARES can be used to reach out to older adults to address their injury prevention needs. Both of these funding opportunities also provide support for our general operating expenses while allowing us to grow and extend our impact.

Program Shows Impact

The CARES Safety Center has been in operation since 2004. In the last five-year period (2008-2012), we have participated in 484 events attended by more than 26,000 visitors who received free, personalized home and child passenger safety education. In fact, almost 33,000 educational materials (in both English and Spanish) have been distributed to our visitors to reinforce the safety education they received. More than 1,300 safety products have been either sold at reduced cost or donated to families. We have referred 1,332 participants to the BCFD Smoke Alarm Program and 835 participants to the Children's Safety Center. We have conducted 345 car seat installations and inspections and 520 bike helmet fittings. These numbers are the result of daily tracking sheets completed by staff during each event attended by CARES.

We are also committed to educating other public health, health care and safety experts about our experiences. To date, at least three manuscripts have been published about the work of the CARES Safety Center and numerous presentations have been made to diverse groups of professionals ranging from public health to fire service to day care providers to legislators and policymakers. Lastly, we are in the final stages of completing a replication guide that will allow other safety advocates and community groups around the country to learn from our experience and develop a safety center design to address their community's injury problems.

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

We have never been funded sufficiently to conduct an outcome evaluation. We rely on previously conducted studies that document the known effectiveness of various safety products that we distribute through the safety center and use that as a proxy indicator of our impact.

Recommendations for Others

Partner, partner, partner! Remain flexible and open-minded to take advantage of new partnerships, new opportunities and new funding.

Stay abreast of injury prevention research, best practices, media, recalls, etc. Stay connected to your priority populations. An efficient way to do this is to ensure representation from your priority audiences in the planning, development, implementation and evaluation of your work.

Do not underestimate the importance of vehicle maintenance and have a back-up plan should the vehicle need to be serviced.

For more information contact:

CARES Mobile Safety Center
Johns Hopkins Bloomberg School of Public Health and Baltimore City Fire Department
cares@jhsph.edu
410-955-4121

ACTIVITY 3.1 (cont'd)

Case Study 3: Mississippi Smoke Alarm Installation Program

I. Formative Evaluation — Planning

Mississippi (MS) has long had one of the highest fire death rates in the nation. As a result, the MS State Fire Marshal's Office (SFMO) created the Fire Safety Education Division (FSED) in 2004. This division is tasked with developing and implementing programs based on national standards to reduce the fire death rate. One fire safety educator was hired in 2007 with an additional employee in 2010.

Since the hiring of the first employee, the FSED has been tracking fire death data. This data showed that 51 percent of fire deaths had no smoke alarm in the home at the time of the fire. An additional 16 percent had smoke alarms that were not working at the time of the fire.

II. Process Evaluation — Implementation

The SFMO applied for and received a 2007 Fire Prevention and Safety Grant (FP&S). Our goal was to install working, sealed, long-life battery smoke alarms in the homes of high-risk residents. The high-risk groups were chosen based on national statistics that tell us the young, old, low-income, and disabled are at highest risk of dying in a fire. The award of this grant allowed us to purchase 32,800 sealed, long-life battery, ionization smoke alarms and educational brochures. Additionally, we provided a $10 per house fuel stipend to volunteer installers. We chose to only install smoke alarms on each level and outside the sleeping areas to reach the maximum number of homes. Installers educated residents on proper smoke alarm testing and maintenance, home escape planning, and cooking fire safety. Additionally residents were given brochures to remind them of this information as well as a fire safety check list. We provided training to the county fire coordinators who were to train the firefighters within their counties. This training included installation of the smoke alarms, education of the residents, and completion of the data collection forms.

We applied for a 2008 FP&S grant that was denied. We feel this was largely due to a lack of data from the first year of the program since the application period opened shortly after installations began.

We applied for and received a 2009 FP&S grant to continue the program. An additional 55,566 sealed, long-life battery smoke alarms were purchased, and we continued to provide the fuel stipend. We trained the firefighters regionally rather than attempting the train-the-trainer approach used in the first year. With fewer than expected requests for installation, we asked installers to put smoke alarms inside the sleeping rooms as well as in the previously required locations. There were not as many installations as we had anticipated in the grant application. We submitted a grant amendment to purchase hearing-impaired alert devices with the remaining funds.

We applied for and received a 2010 FP&S grant to purchase hearing-impaired alert devices. We purchased approximately 3,100 bed-shaker alarms and 1,000 strobe alarms. We chose not to continue providing the fuel stipend to installers. We trained installers in each fire department rather than regionally.

III. Impact Evaluation — Short-Term Results

To date, volunteers have installed 52,572 smoke alarms and 252 hearing-impaired alert devices in 26,478 homes.

Installers found that 46 percent of the homes had no smoke alarm. Another 31 percent had at least one smoke alarm that did not work, and 36 percent had alarms that were more than 10 years old.

We have documented 22 lives saved in seven fires. Five of those fires were fully involved home fires while the families were sleeping. The other two were elderly couples that were alerted to an unattended cooking fire in the morning hours.

IV. Outcome Evaluation — Long-Term Results

We saw the lowest number of annual fire deaths in recorded history in 2012 with 62 deaths. That was followed by 65 in 2013. This is down from an average of 81 deaths over the previous five years.

Follow-up calls were made in 2012 to residents who received smoke alarms in 2009 and early 2010. We spoke with residents in 992 homes and found that the smoke alarms remained in 97 percent of the homes with 90 percent of those recently tested and 97 percent of the residents having made a behavior change since the installation. In 96 percent of the homes, the family had developed a family fire escape plan; however, only 9 percent of those had actually practiced the plan. In 7 percent of the homes, the smoke alarm had activated primarily from smoke or steam. There was only one fire reported.

Recommendations for Others

- When applying for grant funding, be realistic about the number of installations you can perform in the performance period. Having a commitment from the installer organizations before submitting the application will help you to determine this. We didn’t know how many organizations would be installing and assumed they would be able to install as many alarms as could be purchased with our funding.

- Consider partners outside the fire service. We found that churches can reach a segment of the population that the fire departments could not. We have also used law enforcement agencies. Additionally, we partnered with other state agencies that were doing other projects in their clients’ homes to do installations while they were there.

- We found that training each fire department/organization individually was more effective training three counties at a time, which was more effective than doing a train-the-trainer with the county fire coordinators.

- Consider incentives for installers, such as a fuel stipend or tools. Many of the installers didn’t care about the stipend, but we lost a lot of installers once it was no longer available. Many installers felt that tools should have been provided.

- Allow the fire departments/organizations to make the program their own. We provided guidelines of installation and proper document, but allowed them to publicize as they felt best suited their community.

- Pay attention to supply and demand! We ran out of smoke alarms and still have fire departments begging for them.

- Set deadlines. This will give more encouragement to install the alarms right away rather than procrastinating.

Conclusions

This has been a very rewarding project. Not only have we improved the safety of our residents, but we have fire departments going into the community that never would have done so before. Some of the fire departments are now working to start fire prevention programs in their communities where none existed. Fire departments are more aware of resources available to them within the state as well as nationally. We are also encouraging the fire departments to apply for grant funding to support the smoke alarm program locally.

This page intentionally left blank.

ACTIVITY 3.1 (cont'd)

Case Study 4: Green Bay, Wisconsin, Temperature Limiting Technology

I. Formative Evaluation — Planning

The analysis and focus on the targeted risk audience was pulled locally and supported by national studies and data developed by NFPA, U.S. Fire Administration (USFA), and the CPSC as documented in the recent Cooktop Report developed by the fire and life safety section of the International Association of Fire Chiefs (IAFC). Cooking is the number one cause of household fires and fire injuries. At last report they constitute: 156,300 reported cooking related fires, 44 percent of reported home fires, 39 percent of reported home fire injuries, 19 percent of home fire deaths (now the 2nd leading cause). In addition, CPSC estimates that only 1 in 30 cooking fires are reported, resulting in 4.7 million additional cooking fires annually, over 100,000 injuries and $7 billion in indirect cost. The report goes on to state that by far the leading platform for these fires is the electric coil stove. Local data identified one building where there was a significant problem with these incidents. The demographics for that building were low-income and seniors. This demographic also falls in line with the national data. The data was tracked by the housing providers. Run data from the Green Bay Fire Department was also used to focus on this property.

The specific target was a building serving low-income/senior multifamily residents. The program objective is to educate and motivate the housing providers by partially installing temperature limiting technology to permanently reduce kitchen fires related to the stovetop of electric coil ranges. The ultimate goal was to educate and motivate the housing authority to expand the program to ultimately include it within all its at-risk housing.

II. Process Evaluation — Implementation

The program grant was originally designed to install a product best described as a small tin can of dry powder extinguishing agent that is hung above the stove and opens to extinguish a fire at a set temperature. FEMA representatives said that they would not allow this to qualify for the grant but would still like to give funds to prevent fires in the building. This was due to an incident involving an electric range at one of the tax supported buildings as a resident was badly burned due to a cooking fire. Representatives from FEMA drove from Chicago to see a demo of the temperature limiting devices put on by the Green Bay Fire Department. They approved use of the funds for the device. After looking at the building and local records, it was determined to do a pilot program for the building in question. The strategy was to buy as many temperature limiting devices as remaining funds allowed (24) for a partial program and track what impact it would have on the incidents themselves, and educate and motivate the building manager to see the value of the technology and expand the program.

The product was already extensively tested, so we did no further testing on the technology itself. We asked the managers of the apartment building to identify their most at-risk tenants and keep track of any fire or incidents related to cooking in their occupancies after the installation of the product for a before and after side-by-side comparison. The overall goal was to show a marked improvement in incident rate thus motivating the building to do a full retro-fit.

III. Impact Evaluation — Short-Term Results

Documented two saves due to the technology. Data on building records on incidents before installation and after show $20,000 estimated savings to the housing authority. Data on related fire service runs before show an average of 2.4 responses (per year average from 2007-2012) for cooking-related fires to the 154-unit building. Since the building was retrofitted in 2012, we have had one oven incident and another on the stovetop that was found during a medical call (this was the second save).

IV. Outcome Evaluation — Long-Term Results

There are two specific measurements of long-term goals. One — these reductions will be permanent because of the permanent nature of the temperature limiting control technology. Product longevity testing has the units at a less than 20 percent failure rate after 12 plus years. If failure does occur at that point, they fail safe. Two — because of the success of the 24-unit pilot, the apartment owner decided, at his or her own expense, to retro-fit the entire building with the temperature limiting control product. This will provide solid long-term data to continue to expand the use of this technology in the city of Green Bay.

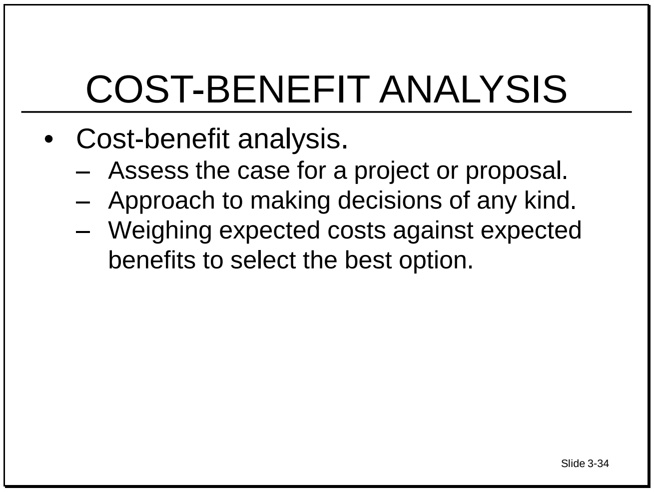
Recommendations for Others

Use the existing data and case studies to approach your low-income housing providers and city decision-makers with this technology. Show both the life safety and economic advantages to this solution. Identify specific properties that are having issues with kitchen fires. Set up a partnership between the fire service, local housing providers and decision-makers to develop a plan or program that will best provide and use this technology.

Conclusions

Temperature limiting technology, as it relates to stovetop fires, works without a doubt. It has worked in our community, and it can work in yours.

IV. COST-BENEFIT ANALYSIS



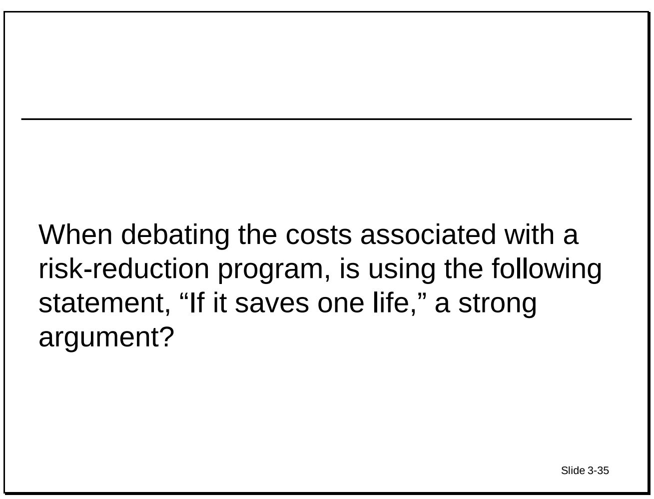
A. Cost-benefit analysis is a term that refers to:

1. A formal discipline used to help assess the case for a project or proposal.

2. An informal approach to making decisions of any kind.

B. The process entails weighing the total expected costs against the total expected benefits of one or more actions to ultimately select the best option.

C. Since resources, such as money and time, are often limited, an organization usually cannot undertake every program or project.



COST-BENEFIT ANALYSIS (cont'd)

- Decision-makers weigh benefits of the program against the cost.
  - Project is approved when its benefits exceed its costs.
  - Some benefits are monetary.
  - In-kind resources should also be considered.

Slide 3-36

D. Decision-makers decide whether to undertake a program by weighing the benefits of the program against the cost of the resources required to facilitate it.

1. Generally, a program or project is approved when its benefits exceed its costs.

2. Cost-benefit analysis provides the structure and support for making such decisions.

3. Some benefits are monetary. Examples include the dollar amount of cash inflows from additional sales of product or the saving in cash outflows that a project enables.

4. In-kind resources such as the donation of time, people, services and materials should also be considered.

COST-BENEFIT ANALYSIS (cont'd)

- Used to evaluate the desirability of a given intervention.
  - Cost and benefits are evaluated in terms of public's willingness to pay for them.

Slide 3-37

E. Cost-benefit analysis is typically used by governments to evaluate the desirability of a given intervention.

1. The aim is to gauge the efficiency of the intervention relative to maintaining the status quo.

2. The costs and benefits of the impacts of an intervention are evaluated in terms of the public's willingness to pay for them (benefits) or willingness to pay to avoid them (costs).

3. Inputs typically are measured in terms of opportunity costs — the value in their best alternative use.

4. The guiding principle is to list all of the parties affected by an intervention, and place a monetary value of the effect it has on their welfare as it would be valued by them.

This page intentionally left blank.

ACTIVITY 3.2

Strategic Risk Reduction on a Limited Budget

Purpose

To describe best practice examples of how a fire department in a small community facilitated a successful risk-reduction program.

Directions

1. This is a small group activity that will culminate with discussion by the class at large.

2. The activity involves the case study for the Harmony Fire Department that was assigned as evening reading on Day 1.

3. Group assignments are as follows:

   a. Group 1: Explain how integrated intervention strategies (the five E's) were used to address the risk issue targeted by the program.

   ____

   ____

   ____

   ____

   ____

   b. Group 2: Explain how an action plan was used to strategically guide the program.

   ____

   ____

   ____

   ____

   ____

c. Group 3: Identify the community partners and how they were engaged and used to attain critical program resources.

d. Group 4: Explain how program planning, implementation, outreach and impacts were evaluated.

4. You will have 20 minutes allotted for review of the case study and small group discussion. The groups will then have up to five minutes to describe their findings.

5. The entire activity must be completed in 45 minutes.

ACTIVITY 3.2 (cont'd)

Community Risk Reduction in Harmony

The Harmony Volunteer Fire Company is primarily an all-volunteer organization located in Greene County. The department serves a 40 square mile area which is home to approximately 23,000 people. Three thousand people reside in the unincorporated 1 square mile village of Harmony. The other 20,000 residents live in the predominantly rural area that surrounds Harmony proper.

The Harmony Volunteer Fire Company has 120 members, 40 of which are actively involved in emergency response. The organization also has an active explorer group that includes 20 teenagers between the ages of 14 and 16.

Harmony Volunteer Fire Company receives modest financial support from Greene County to fund two staff positions, a paid fire unit driver and a paramedic, to ensure apparatus response during daytime hours throughout the week. Harmony Volunteer Fire Company's annual emergency call volume is approximately 1,000 emergency medical and 800 fire responses. The department operates two engines (one equipped with vehicle extrication tools), a water tanker, two brush units, two utility vehicles and a duty officer unit.

The operating budget for the organization is funded through a combination of support from Greene County, an annual subscription-type fund drive, and multiple on-going fundraising efforts held by the department. Of special interest, the Harmony Volunteer Fire Company has two auxiliaries that orchestrate substantial financial support for the organization: the Ladies for Harmony Fire and the Second Alarm Club. Both teams are a combination of spouses/parents of active responders and people from the community who want to help the fire company in ways other than serving as front-line responders.

Many of Harmony's 3,000 residents affectionately refer to it as a "village" and are proud of its small town friendly atmosphere. There are 1,200 residential properties in Harmony. The Harmony Volunteer Fire Company, an elementary school, two churches and local Ruritan club are important components of the Harmony community social structure.

A significant portion of Harmony's residential housing stock was constructed in the early 1940s to support a military aircraft manufacturing plant. The plant closed in the early 1970s. Harmony enjoyed a boom in housing construction in the early 1980s as many duplex type homes and two 12-unit multifamily apartment buildings were built. Eighty-five percent of Harmony's residential properties are owner-occupied.

Harmony's population profile is very diverse. Nearly half of the residential properties are occupied by families with children. Thirty percent of households are inhabited by citizens over the age of 65, and 20 percent are occupied by either lone occupants under age 65 or couples who have no children residing with them.

The following businesses and industries are located within the 1 square mile perimeter of Harmony:

- Audrey's Beauty Salon.
- Brown's Tractor Sales and Service.
- Clear Vision Optical Services.
- Denton's Saab Automotive.
- Family Time Creamery.
- G & H Small Box Store — "A Home Town Hardware Store with More."
- Harmony Area Elementary School.
- Horst Grocery and Meat Processing.
- Jacobs Family Eatery.
- Maxi-Mart (a regionally based convenience store).
- Potomac Valley Pharmacy Center.
- Randall Insurance Agency.
- S & W Propane Gas Services.
- Taylor Electrical Supply Company.
- Thompson Lumber Yard.
- Walton Feed Mill.

Community service is a hallmark that the people who reside in Harmony are very proud of. The Harmony Ruritan Club has two very successful teams that work hard to give back to the community: The Professional Development Club and 65 Alive. The Professional Development Club is a group primarily comprised of working-age people who organize and conduct community service projects or fundraising events that benefit the greater Harmony area. 65 Alive performs the same actions but is made up of seniors who focus on helping those who are aging in place within the Harmony area.

The Harmony Volunteer Fire Company's mission corresponds with the service-oriented culture of Harmony. The department is well-equipped and staffed by members who meet or, in most cases, exceed the required training standards for Greene County first responders. The Harmony Volunteer Fire Company's service in not limited to emergency response. In addition to the firehouse being a popular social spot where events such as bingo, family gatherings, dances and fund raisers are held, the Harmony Volunteer Fire Company hosts an extremely popular open house held during fire prevention week in October. The event always features a mix of demonstrations, public education and fun activities for children. While it's a great "once a year single evening" event, the Harmony Volunteer Fire Company leadership had a vision to do more.

Three years ago, the fire chief asked Harmony Volunteer Fire Company's risk-reduction committee to meet with the department's line officers about the explorer group. The chief and his officers wanted to create more opportunities for the explorers to maintain a high level of interest in the department and, at the same time, serve the community in a proactive manner. The chief asked the committee to consider enhancing the annual open house whereby some sort of follow-up could be done with those who attend so better community outreach was performed. It just so happened that two of the risk-reduction committee members had recently attended a state-sponsored NFA class on community risk reduction.

The following represents components of a simple action plan that describes how the Harmony Volunteer Fire Company enhanced their annual open house, created a community outreach program and evaluated it. The timeline of events represents one year of activity. The evaluation benchmarks were created, tracked and recorded by members of the risk-reduction committee.

This page intentionally left blank.

ACTIVITY 3.2 (cont'd)

Community Risk Reduction in Harmony

January		Using five years of response data, the risk-reduction committee performed a risk assessment on the types, causes, frequency and loss associated with residential fires that occurred in the Harmony Volunteer Fire Company response area. Evaluated by: results of the risk assessment.
Early February		The committee provided a training class for Harmony Volunteer Fire Company members on what they had learned about how to conduct risk reduction in a strategic manner. Included was the summary of the risk assessment that had been performed. Interestingly, the most significant fires over the past decade had occurred in the "village" of Harmony. While no fatalities had occurred, several fire-related injuries had. All were attributed to occupants failing to be promptly alerted to a fire in progress and ultimately suffering smoke inhalation while escaping. The culprit in the late warning seemed to be old or dysfunctional smoke alarms. The committee could see that Harmony Volunteer Fire Company members were concerned, and a "sense of urgency to take action" had been spawned. The committee asked the membership to consider participating in an effort to expand the annual open house and use it as a marketing tool whereby attendees would allow Harmony Volunteer Fire Company members to schedule a home safety visitation to evaluate smoke alarms and discuss fire safety measures. Evaluated by: minutes from the meeting.
Mid-February		The risk-reduction committee received a commitment from the Harmony Volunteer Fire Company line officers, member's at-large (included auxiliaries) and explorers that they would help the committee create a strategic process for enhancing the open house and offer home safety visits in Harmony. A representative from each subgroup volunteered to work with the risk-reduction committee to develop the action plan. Evaluated by: handshake agreement and minutes from the meeting.

Mid-February to late March		The group met several times and developed the following plan of action: Step 1: Collaborate with the local school, businesses and service groups to create a marketing strategy that would draw more people to the annual open house. The ultimate aim would be to secure an invitation to visit people’s homes, discuss home safety, evaluate smoke alarm operability, and provide free alarms if needed. Step 2: Create structure for the open house whereby it was expanded to a two evening and culminating Saturday afternoon event with more activities being offered. The strategy had two goals: (1) Open the market to more people, and (2) gain trust through credibility so the Harmony Volunteer Fire Company would be invited into people’s homes. Step 3: Gain support from key groups so resources in the form of smoke alarms (with extended-life batteries) could be secured at low or no cost. Work with the hardware store and electrical supply company to develop a strategy for upgrading older electric-only (no battery back-up) smoke alarms that would be encountered in homes built between 1985 and 1995. Note — the risk assessment indicated that half of the late notification to fires seemed to be related to aging smoke alarms. Step 4: Gain support from the Harmony Volunteer Fire Company auxiliaries, Ruritan and the two houses of worship to help market the program. In addition, reach out to these groups for people-power to help with the program and locate licensed electricians who could help with the upgrading of old electric smoke alarms. Step 5: Develop a custom home safety visitation protocol (with supporting public education materials for residents) so the home visitation process would be performed the same way by all personnel. Two members of the risk-reduction committee would develop an evaluation strategy to monitor program development, implementation, delivery and impact of services. The explorer team leader would interface with the committee to report on progress. Step 6: Engage the explorer group by pairing a team of four teenagers with a line officer to orchestrate the home visitations. One of the four explorers would be placed in charge of the group with mentoring support provided by the officer. Each group would recruit at least five Harmony Volunteer Fire Company members to serve on their team as well. Evaluated by: creation of the proposed action plan.

April		The action plan was approved by the Harmony Volunteer Fire Company membership at large. The explorer leaders spent the month setting up their teams. Harmony Volunteer Fire Company adult members scheduled a meeting with key potential partners from the community to explain the proposed program and gain their support. Evaluated by: approval of the action plan. Record of the list of key potential partners that agreed to attend a meeting to discuss the program.
May		A meeting with the partners who expressed interest in helping with the program was held at the Harmony Volunteer Fire Company. A list of needed resources was itemized and commitments from partners negotiated/ agreed upon.
June		The month was spent performing the following actions: Developing the home survey protocol (with inclusion of supplementary public education materials). Randall Insurance Agency sponsored printing costs for the materials. Securing smoke alarms and installation kits from the small box store and electrical supply company. One-hundred alarms with extended-life batteries and 50 electric alarms with battery back-up were donated by the two businesses. A smoke alarm manufacturer and the Ruritan Professional Development Club each matched the donation. This equated to 300 battery and 150 electric alarms to start the program. The Harmony Volunteer Fire Company's Second Alarm Club, members of Ruritan's 65 Alive, and the local lumber yard finalized a commitment from 10 licensed electricians to help with the program on an as-needed basis. A subgroup created a marketing strategy that involved the school, local businesses, two churches and local media. The marketing blitz for the open house and home visitation program would encompass the month of September. Church members, Harmony Volunteer Fire Company's Second Alarm Club and the Ruritan's 65 Alive Club (with assistance from the pharmacy, grocery and optical center) agreed to contact folks who they know were over the age of 65 to see if they would be interested in having the Harmony Volunteer Fire Company visit. Contacts would be made in early October. Evaluated by: commitments from partners.

July		The month was dedicated to organizing the annual open house. A plan was developed that outlined how the event would become more structured and feature enhanced safety information pertinent to the local issue(s) being addressed. The open house would encompass two evenings and culminate with an exciting event on Saturday afternoon. Evaluated by: written plan of how the open house would operate and identification of key people who would be responsible for specific actions. A commitment sheet was posted at the firehouse and available on-line so members could sign up to participate with the open house.
August		The month was dedicated to organizing all materials needed to orchestrate a successful open house and implement the home visitation program. Evaluated by: inventory of materials. Review of check-list for tasks needing to be accomplished.
September		The marketing blitz for the October open house commenced the first day of September. Key partners included the local elementary school, all Harmony businesses, service groups and the media. Evaluated by: distribution of 500 fliers by the elementary school. Distribution of 1,000 fliers through local businesses and service groups. Posting of 50 posters throughout the village of Harmony. Appearance of two articles announcing the event in local newspapers. A news story produced by the local TV station. Airing of 50 public service announcements promoting the event on a local radio station. Final event preparations/commitment affirmations were made by the Harmony Volunteer Fire Company risk-reduction committee. Evaluated by: check-list.
Early October		The open house was held as planned during fire prevention week with nearly 2,000 people attending. Many families attended all three events. One-thousand safety brochures were distributed to attendees, and 200 households signed up for a free home safety visit by the Harmony Volunteer Fire Company. Evaluated by: counting the number of people who attended at least one event. Those who attended two or three of the events were only counted once. Counting the number of brochures distributed to attendees.

Mid-October		The home visitation program was implemented. Five homes were visited as a trial (pilot) test to ensure the program was being delivered as intended and impacts being made. It should be noted that an unexpected event occurred at all five homes visited: Each family wanted to pay the Harmony Volunteer Fire Company for their services. The risk-reduction committee met and decided that in lieu of payment for services, each household served would be asked to recruit a minimum of two other households to participate in the program. After minor tweaking of the program, it proceeded in earnest. Evaluated by: statistical data collected by participating staff. Program delivery observed in-person by a member of the risk-reduction committee. Personal discussion with recipients of the home visitation service.
Late October		Marketing of the program to residents over age 65 commenced. An additional 50 households agreed to participate in the program. Evaluated by: record of intent to participate.
November		Requests for the program continued to be received at the Harmony Volunteer Fire Company. Those who resided outside the village of Harmony that requested safety visitations were now being served by the program. The majority of requests, however, were still being received from within the “village” of Harmony. Evaluated by: record of intent to participate and statistics gathered from households that already participated in the program.
December		Another unexpected event occurred. Requests for service were received from occupants residing in the two 12-unit multifamily apartment buildings located in Harmony. When a risk-reduction committee member contacted the landlord (who resided in a nearby urban community) to see if he would like assistance with upgrading the old, and often unreliable, electric-only powered smoke alarms, he told her to stay out of his buildings and hung up on her. She contacted the fire chief for advice and was directed to document the encounter and provide copies of the requests for service that indicated smoke alarms in the two apartment buildings were likely in poor or nonworking condition.

		The fire chief subsequently submitted the information to the Greene County Fire Marshal's Office who handles fire code enforcement in Harmony Volunteer Fire Company's response area. Since the fire code requires multifamily buildings with four or more living units to have electric smoke alarms with battery back-up in all sleeping areas, the fire marshal's office acted accordingly and inspected the properties. In addition to the antiquated smoke alarms, inspectors found the required manually operated local fire alarms system to be out of service. The owner was given three months to install new electric smoke alarms with battery back-up and upgrade the nonworking local fire alarm system. He complied with the mandate within six weeks. Evaluated by: Fire Marshal's Office records.
January		The risk-reduction committee generated a three month report on the outreach and impact made by the home visitation program. Number of homes served to date: 175 Number of people served to date: 470 Requests for service waiting: 80 Battery-powered alarms installed: 200 Electric/Battery alarms installed: 30 Number of volunteers participating: 60 Volunteer staff hours to date: 700 Additional smoke alarms pledged by Harmony Volunteer Fire Company and service groups: 500

WORKBOOK
PERFORM PART 7

Slide 3-39

What is your takeaway from this unit?

Slide 3-40

V. SUMMARY

SUMMARY

- Industry best practices include the integration of multiple strategies.
- The five E's include:
  - Education.
  - Engineering.
  - Enforcement.
  - Economic incentives.
  - Emergency response.

Slide 3-41

SUMMARY (cont'd)

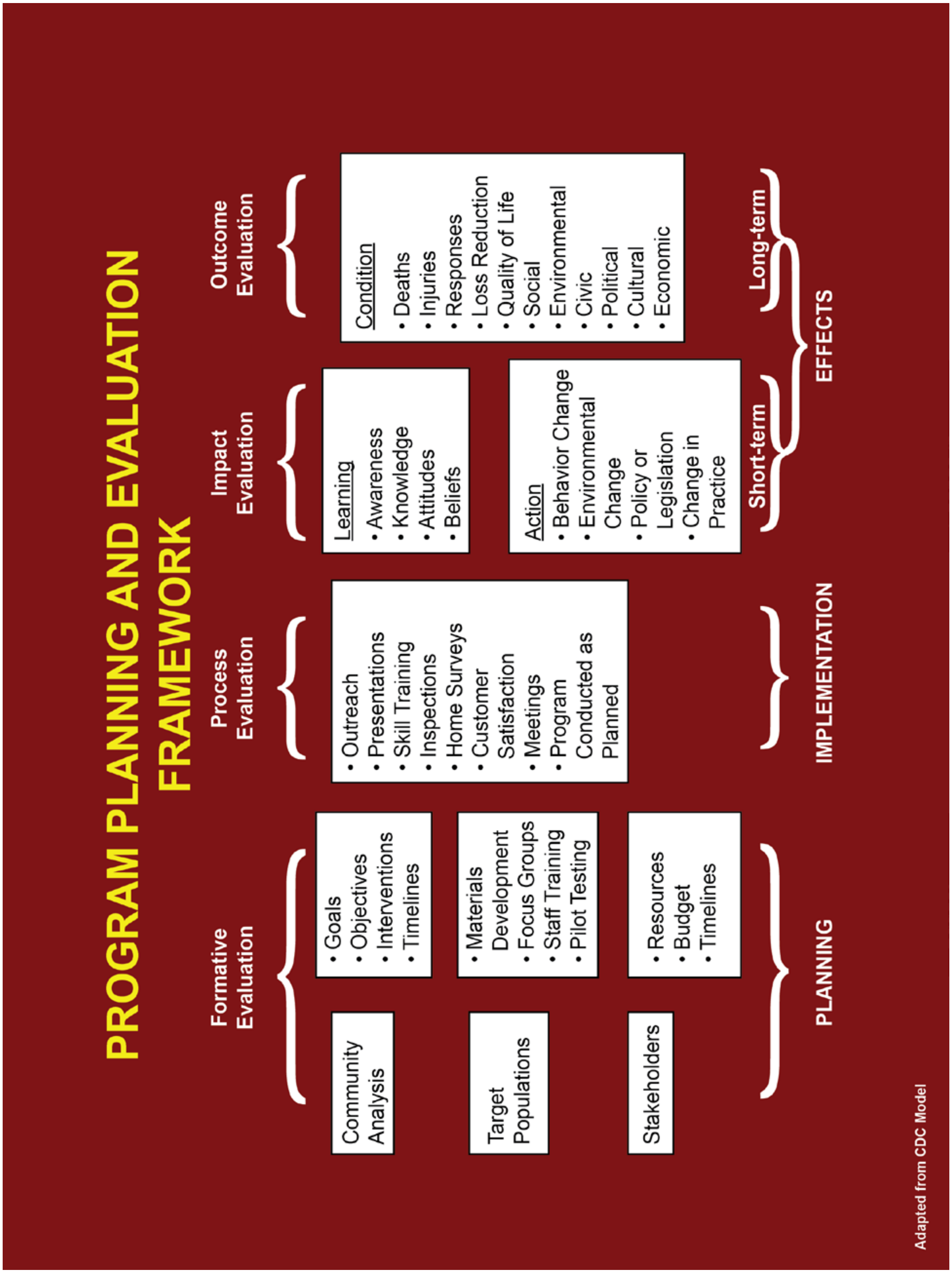
- Action plan incorporates evaluation to describe, in measurable terms, the strategic components of a program.
- Cost-benefit analysis weighs the total expected costs against the total expected benefits.

Slide 3-42

APPENDIX

PROGRAM PLANNING AND EVALUATION FRAMEWORK

This page intentionally left blank.


PROGRAM PLANNING AND EVALUATION FRAMEWORK
Formative Evaluation
Community Analysis
Target Populations
Stakeholders
• Goals
• Objectives
• Interventions
• Timelines
• Materials Development
• Focus Groups
• Staff Training
• Pilot Testing
• Resources
• Budget
• Timelines
PLANNING
Process Evaluation
• Outreach
• Presentations
• Skill Training
• Inspections
• Home Surveys
• Customer Satisfaction
• Meetings
• Program Conducted as Planned
IMPLEMENTATION
Impact Evaluation
Learning
• Awareness
• Knowledge
• Attitudes
• Beliefs
Action
• Behavior Change
• Environmental Change
• Policy or Legislation
• Change in Practice
Short-term
Outcome Evaluation
Condition
• Deaths
• Injuries
• Responses
• Loss Reduction
• Quality of Life
• Social
• Environmental
• Civic
• Political
• Cultural
• Economic
Long-term
EFFECTS
Adapted from CDC Model

This page intentionally left blank.

UNIT 4: RESOURCES

TERMINAL OBJECTIVE

The students will be able to:

4.1 Illustrate the value of investing resources into community risk reduction.

ENABLING OBJECTIVES

The students will be able to:

4.1 Explain the difference between developing and sustaining a community risk-reduction program.

4.2 Describe the types of resources that can be invested into community risk reduction.

4.3 Suggest where to obtain ancillary resources to develop and sustain a community risk-reduction program.

This page intentionally left blank.

UNIT 4: RESOURCES

Slide 4-1

ENABLING OBJECTIVES

- Explain the difference between developing and sustaining a community risk-reduction program.
- Describe the types of resources that can be invested into community risk reduction.
- Suggest where to obtain ancillary resources to develop and sustain a community risk-reduction program.

Slide 4-2

I. DEVELOPING AND SUSTAINING COMMUNITY RISK-REDUCTION PROGRAMS

DEVELOPING AND SUSTAINING COMMUNITY RISK-REDUCTION PROGRAMS

- Development stage:
  - Program planning.
  - Creation of an evaluation strategy.
  - Securing program resources.
  - Program pilot-testing and implementation.

Slide 4-3

A. The development stage of a community risk-reduction program includes the following actions:

1. Program planning.

2. Creation of an evaluation strategy.

3. Securing program resources.

4. Program pilot-testing and implementation.

B. Building a risk-reduction program requires an adequate amount of resources so that it can deliver services at its intended initial capacity.

DEVELOPING AND SUSTAINING COMMUNITY RISK-REDUCTION PROGRAMS (cont'd)

- Resources may come from the following:
  - Organization's budget.
  - Surplus "end of year" monies.
  - Stakeholder groups.
  - Grants.
  - Corporate or other community-based support.
  - In-kind support.

Slide 4-4

C. Resources for program development may come from the following sources:

1. A planned expense included in the lead organization's budget.

2. Surplus "end of year" monies from the lead organization's budget.

3. Support from stakeholder groups.

4. Grant funding.

5. Corporate or other community-based support.

6. In-kind support, such as free labor or program materials.

DEVELOPING AND SUSTAINING COMMUNITY RISK-REDUCTION PROGRAMS (cont'd)

- Once a program is up and running, it must sustain its operation.
  - Consider the long-term costs.
  - Stakeholders can help sustain.

Slide 4-5

D. Once a risk-reduction program is up and running, it must have resources to sustain its operation.

1. As part of the planning process, the lead agency must consider the long-term costs of the program.

2. Stakeholders can play a vital role in helping to sustain a risk-reduction program by providing resources over the long term.

3. In some cases, programs that began through volunteer participation may need to supplement staffing by compensating personnel.

Which can be more challenging, developing support for a new program or sustaining an existing one?

Slide 4-6

What community-based entity can have some of the greatest influence over the public's perception of a risk-reduction program's effectiveness?

Slide 4-7

II. INVESTING RESOURCES IN COMMUNITY RISK REDUCTION

INVESTING RESOURCES IN COMMUNITY RISK REDUCTION

- Types of resources:
  - Approvals from departmental and community leadership.

Slide 4-8

What types of resources are needed to develop and/or sustain a community risk-reduction program?

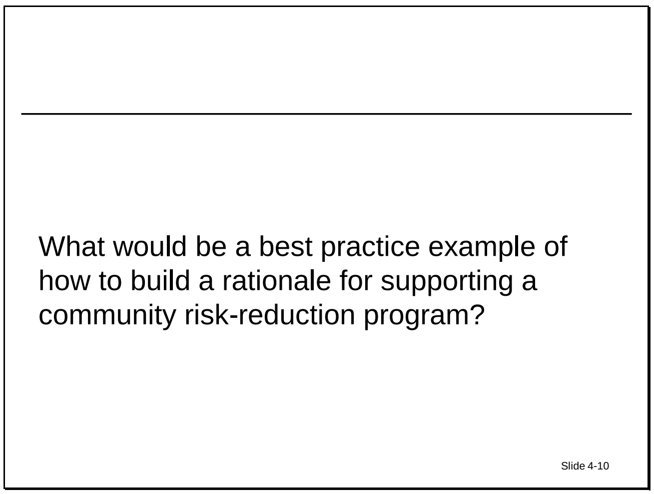
Slide 4-9

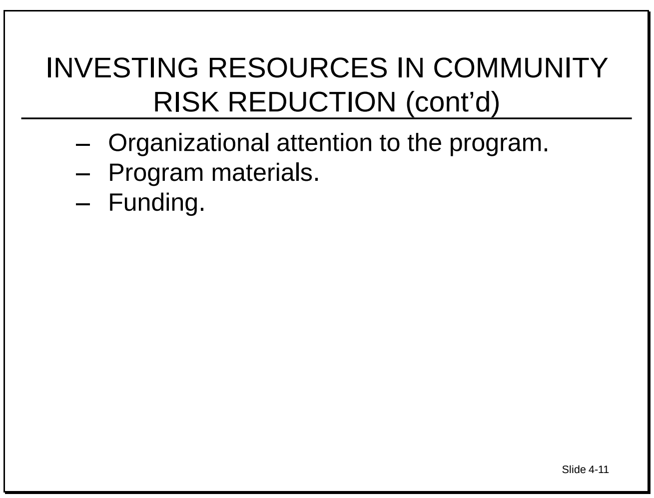
Types of resources needed to develop and/or sustain a community risk-reduction program include:

A. Approvals from departmental and community leadership.

1. A risk-reduction program must have the approval of the chief and his or her administration.

2. If it is a program funded by public monies, such as taxes that support a career, combination or independent fire district, approval may be required from public officials.





B. Organizational attention dedicated to the program.

1. Strategic risk reduction cannot be performed single-handedly.

2. Organizational support must be built so that the program receives attention from leadership and staff.

3. Staff time must be dedicated to the program.

4. The salaries and benefits of staff members may need to be budgeted.

5. This may require a change in priorities by the organization.

C. Program materials.

1. The scope of a program should guide the decision on the type and amount of materials required to deliver it effectively.

2. The use of formative evaluation can help developers project the type and amount of materials required to deliver the program over a set amount of time.

D. Funding (from the department, external organizations, grants, foundations, etc.).

How can an organization use the documented success of a program to leverage additional resources that will help sustain or advance it?

Slide 4-12

III. DEVELOPING OR ADAPTING EDUCATIONAL MATERIALS

DEVELOPING OR ADAPTING EDUCATIONAL MATERIALS

- Current risk-reduction programs must operate in an efficient manner.
- Developing custom program materials can represent a significant cost.

Slide 4-13

A. Current resource-challenged environment demands that risk-reduction programs operate in an efficient manner.

B. Developing custom program materials can represent a significant cost.

C. Risk-reduction leaders often look for free or low-cost educational materials to support programs.

What questions should be answered when considering the use of educational materials to support a risk-reduction program?

Slide 4-14

DEVELOPING OR ADAPTING EDUCATIONAL MATERIALS (cont'd)

- Educational materials to support a risk-reduction program.
  - Correspond with the goal and objectives.
  - Accurate information.
  - Educationally and technically sound.
  - Information creates change in knowledge.

Slide 4-15

D. When considering the use of educational materials to support a risk-reduction program, answer the following questions:

1. Do the materials correspond with the goal and objectives of the program?

2. Is information accurate, as well as educationally and technically sound?

3. Do the materials provide the information needed to bring about a change in knowledge?

DEVELOPING OR ADAPTING EDUCATIONAL MATERIALS (cont'd)

- Promote the appropriate behaviors.
- Explain actions that students must take to accomplish goals.
- Produced by a reputable organization.
- Appropriate for the target audience.
- Validated by a focus group and pilot-tested.

Slide 4-16

4. Do they promote the appropriate risk-reduction behaviors and explain actions that students must take to accomplish goals?

5. Have they been produced by a reputable organization?

6. Are the materials appropriate for the target audience?

   a. Age appropriate?

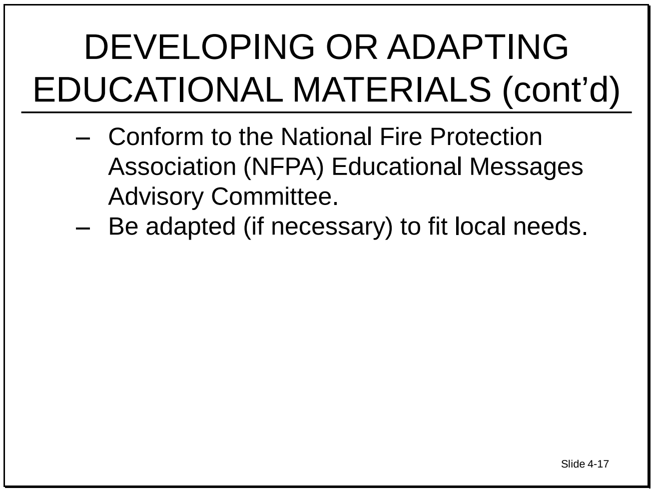
   b. Culturally sensitive?

   c. Appealing to the target group(s)?

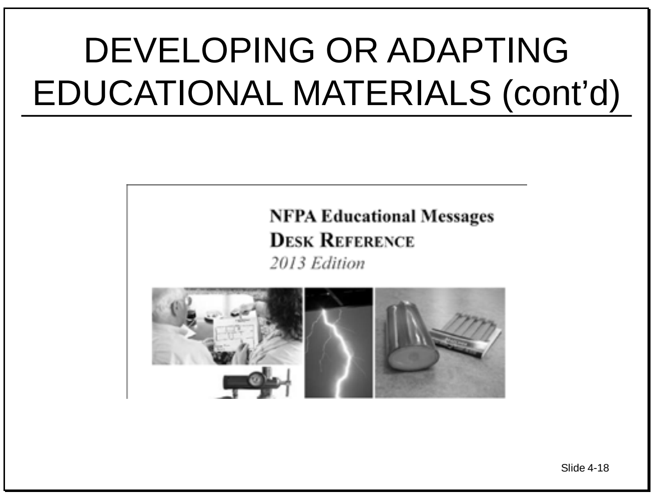
   d. If visual, do they portray the target population in a positive manner?

   e. Can they be clearly understood by target group(s)?

7. Have the materials been validated by a focus group and pilot-tested?



8. Do the messages conform to the National Fire Protection Association (NFPA) Educational Messages Advisory Committee?



9. Could the materials be adapted (if necessary) to fit local needs?

E. As part of the pre-course assignment, we explored several programs being offered by Vision 20/20 and the U.S. Fire Administration (USFA).

What are the potential benefits of using materials from a national-level campaign?

Slide 4-19

DEVELOPING OR ADAPTING EDUCATIONAL MATERIALS (cont'd)

- Materials from national campaigns.
  - Created by professionals.
  - Usually free, low-cost, or able to be copied.
  - Educationally sound and promote behaviors validated by industry professionals.
  - Focus group-tested.
  - Complete packages because they include program guides.

Slide 4-20

F. Program materials from national campaigns.

1. Created by recognized industry professionals with expertise in the subject matter who have been trained in educational methodology.

2. Created by recognized industry professionals, often with assistance from professional development corporations.

3. Usually free, low-cost, or able to be copied.

4. Educationally sound and promote behaviors validated by industry professionals.

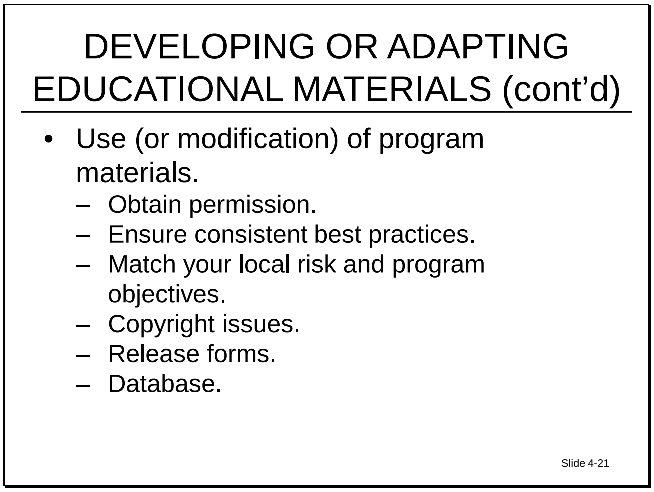
5. Focus group-tested to help ensure that materials are valid and should prove effective in educating the target population(s).

6. Complete packages because they include program guides that explain how to use the materials and implement the campaign at the local level.

G. Networking with peers often results in program material sharing.

H. Many great programs have been developed by localities and shared nationally with peers.

I. One of the key goals of National Fire Academy (NFA) classes and risk-reduction conferences is to facilitate networking opportunities between members of our industry.



J. When considering the use (or modification) of program materials from another jurisdiction:

1. Obtain permission from said organization for use or modification of its work.

2. Ensure that the materials are consistent with best practices recognized by our industry (just presented).

3. Ensure that the materials match your local risk and program objectives.

4. Be cognizant of potential copyright issues.

5. If the program uses photographs or video, determine if release forms are required that permit the material to be used in your community.

6. Should you find that the other organization's program uses a database of information about people from the community, and you want to create your own database of local information, do the following:

   a. Research your local authority having jurisdiction (AHJ) policy on collecting personal data.

b. Follow all requirements to avoid violation of Healthcare Information Privacy Protection Act (HIPPA).

c. Ensure that your database of information is secure.

d. If information contained in the database is intended for your organization's use only, be sure it is not available for public access.

IV. ANCILLARY RESOURCES TO SUPPORT RISK REDUCTION

ANCILLARY RESOURCES TO SUPPORT RISK REDUCTION

- Organization leading a community risk-reduction program should provide at least basic support in the form of time, staff and a budget.

Slide 4-22

A. The organization leading a community risk-reduction program should provide at least basic support in the form of time, staff and a budget.

B. Committing to leading a program demands good leadership and coordination abilities.

What are some techniques that a risk-reduction planning team can use to help ensure that basic support is provided and sustained from the lead agency?

Slide 4-23

What can be done to continue a risk-reduction program if the lead agency no longer wants to (or can) dedicate time, people and a budget to support the effort?

Slide 4-24

ANCILLARY RESOURCES TO SUPPORT RISK REDUCTION (cont'd)

- Ancillary resources to support program development.
  - Grants.

Slide 4-25

C. Ancillary resources to support program development may include:

1. Grants.

   a. Federal Emergency Management Agency (FEMA) — Fire Prevention and Safety (FP&S) grants — The FP&S grants are part of the Assistance to Firefighters grant initiative.

   b. FP&S grants support projects that enhance the safety of the public and firefighters. A primary goal is to reduce injury and prevent death among high-risk populations.

   c. Risk-reduction leaders should not overlook potential support from the public health arena.

   d. State departments of public health often have grants available that support the reduction of preventable injuries.

e. When exploring grants, always read the application criteria carefully as there may be specific commitments that need to be made, such as the following:

- Providing matching funds.

- Agreeing to sustain the program for a certain time period after the grant funding has been expended.

- Agreeing to fully fund the program after the grant has been expended.

Has anyone received a grant?

Slide 4-26

ANCILLARY RESOURCES TO SUPPORT RISK REDUCTION (cont'd)

- Private foundations.
- In-kind support.

Slide 4-27

2. Private foundations.

a. Many private foundations exist throughout the U.S.

b. Corporations often create foundations to provide philanthropic support to worthy local issues.

c. Large local businesses sometimes create foundations.

d. Some organizations contract with grant writers to help seek resources.

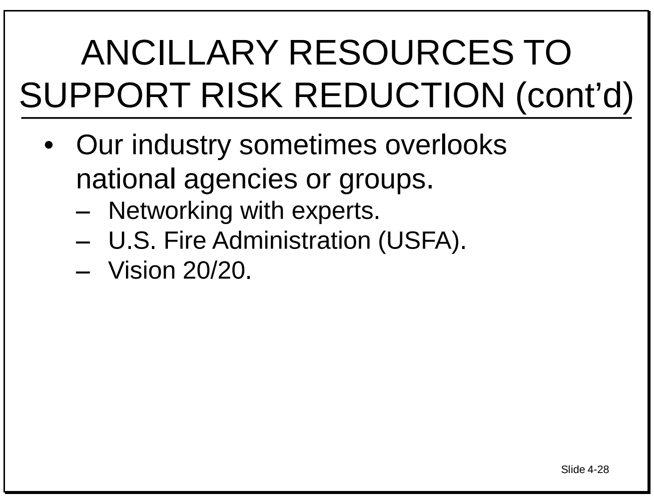
3. In-kind support.

a. In-kind support includes the donation of one or more of the following:

- A person or group's time to provide people power that supports a program.
- Free consultation from professionals pertinent to the development of a program.
- Services such as printing of materials or the building of props for programs.
- Free food for those who deliver programs.

b. In-kind services are often overlooked by those who are developing programs.

c. Even in challenging fiscal times, there are often many community partners willing to step up and provide in-kind support.



D. Our industry sometimes overlooks national agencies or groups that can provide free (or low-cost) supportive resources, such as advice and educationally/ behaviorally sound program materials.

Examples include:

1. Networking with experts who are active in the profession of community risk reduction.

2. Seeking assistance from USFA and using program materials from one of USFA's national-level community risk-reduction campaigns.

3. Using materials from the Vision 20/20 initiative.

E. National community risk-reduction campaigns.

1. "Fire is Everyone's Fight™" is a tagline and not a specific risk-reduction program.

2. Taglines are slogans that promote an overall theme. Examples of taglines pertinent to risk reduction include the following:

   a. "Only You Can Prevent Forest Fires."

   b. "Everyone Goes Home."

3. "Fire is Everyone's Fight" is designed to unite the fire service and others in a collaborative effort to reduce home fire injuries, deaths and property loss.

4. It invites fire departments, safety advocates, community groups, schools and others to rally behind a common and compelling theme.

5. By doing so, USFA and its partners will communicate and reinforce key lessons across fire safety and prevention initiatives and programs.

6. You can find out more about the initiative and how you can become involved by visiting the website at www.usfa.fema.gov/fireiseveryonesfight.

7. Once on the site, you can register to use the theme's graphic.

8. Upon registering, you will be provided access to several resource pages that contain the following:

    a. A variety of graphic formats.

    b. Graphic usage guidelines.

    c. Public service announcements (PSAs).

    d. Downloadable and customizable materials to use in your own programs.

9. After registering, you will also be invited to join the "Fire is Everyone's Fight" community. This will give you a forum to discuss ideas, pose questions, and share materials and events with other partners.

10. USFA has other fire and life safety campaigns that focus on smoke alarms, older adults, babies and toddlers, and smoking. You can find all of these resources by visiting the USFA website.

This page intentionally left blank.

ACTIVITY 4.1

Exploring the Components of a Successful Assistance to Firefighters Grant Application

Purpose

To explain why the risk-reduction program received funding, given a successful Assistance to Firefighters grant application.

Directions

1. Work in your table groups to process this activity.

2. Each table group will be assigned the same grant application to evaluate.

3. Read the grant application, and identify the following attributes that were included in the grant application:

   a. Group 1.

      - Was an objective risk assessment performed? If so, what did it indicate?

      - How did the applicant use the results of the risk assessment to identify and prioritize risk(s) and target audiences?

   b. Group 2.

      - Describe how the problem statement and subsequent narrative defined the risk and appealed to stakeholders to take action.

      - Did the applicant explain how stakeholders might be used in the planning, piloting, implementation and delivery phases of the program? If so, what seemed to be the strategy?

   c. Group 3.

      Describe how the applicant proposed the use of multiple intervention strategies (five E's) with clear objectives that were measurable through program evaluation.

   d. Group 4.

      - Did the proposed program appear to be cost-effective? If so, what strategies were proposed to be so?

- Was there a plan on how to sustain the program over the long term? If so, describe it.

4. Your table group will be given up to five minutes to summarize your findings to the class at large.

5. You will have 20 minutes allotted for reading the tasks listed above.

ACTIVITY 4.1 (cont'd)

Narrative 2009 Federal Emergency Management Agency Fire Prevention Grant Application

This narrative provides a rationale supporting our fire department's request for FEMA funding to enhance risk reduction among the older adult population in Lovell, Michigan.

Lovell, a community of nearly 40,000 citizens, is located in the center of Smith County, Michigan. The community earned the name "Hub City" because service by four major railroads made the town a bustling center for commerce in the early and mid-1900s. Sadly, as railroads struggled economically in the 1970s, so did Lovell.

While Lovell's periphery is slowly growing, its center-core and adjacent neighborhoods remain an aging railroad town. Many structures are large wood-frame homes that have been purchased by investors and subdivided into multiunit occupancies. This type of housing stock is pre-1950 construction and inhabited by a rapidly growing number of aging residents.

Evaluation of Lovell's demographics reveals the following high fire-risk profile:

- Rental properties account for nearly 60 percent of Lovell's residential housing profile. 20 percent of rental properties are inhabited by at least one or more older adults. 80 percent of our structure fires occur in rental properties.

- 2007 data reveals that 65 percent of Lovell's residents receive some form of public assistance. 50 percent of that population is over age 65.

- Nearly 20 percent of owner-occupied homes in our city are inhabited by adults over age 55.

- Many residents over age 65 who live independently lack a support system or the economic resources to address safety issues within their home.

The Lovell Fire Department upholds the philosophy that fires and injuries are understandable, predictable and most often — preventable.

In 1988, the City of Lovell created (and continues to fund) a community risk-reduction officer position within our department. Our risk-reduction officer has led the department in decreasing the occurrence of significant structure fires by over 50 percent. This outcome positively impacts both citizen and firefighter safety. We have accomplished this task by increasing the use of combined prevention interventions and **strong** community-based support. Our fire risk-reduction strategies include:

- Annual visitation of 4,000 households to provide free home inspections, smoke alarms, prevention education and instruction on what to do if a fire occurs. This strategy allows us to reach every home at least once every five years. Our highest risk areas (center-city) are visited annually.

- Integration of life safety education into the essential curriculum of all schools — Grades K through 12.
- When residential fires strike, we use burned homes as neighborhood classrooms so citizens can see the destructive power of fire and learn prevention strategies.
- Management of a youth firesetting prevention and intervention program that maintains a .01 percent recidivism rate.
- Development of a social marketing campaign to increase citizen responsibility and ultimately reduce the occurrence of fire. The effort includes a prevention initiative whereby property owners require tenants to sign a lease addendum mandating safe behaviors as a condition of residency.
- Facilitate a long-standing partnership with the Lowe's corporation. Five times in the past decade, Lovell has participated collaboratively in the Lowe's Heroes initiative. Our team was honored regionally in 1997 and 1998, nationally in 1999.

The Lovell Fire Department (LFD) works hard to provide a high level of proactive risk reduction in our community. 98 percent of our homes are equipped with smoke alarms. Sadly, like in many other communities, impact evaluation identifies that up to **30 percent** of alarms are inoperable. **LFD estimates that older adults who reside at or below the poverty level and lack a support system comprise over a third of this population**.

Despite our aggressive fire prevention strategies, the period of 2003 to present has been both deadly and costly to our citizens. During this period, six citizens died and our community sustained millions of dollars in property loss from residential fire. More than half of our fire deaths and two-thirds of fire-related injuries over the past decade have been suffered by members of Lovell's older adult population.

In early 2008, LFD worked with our Office of Community Development to examine the projected 20 year growth pattern of Lovell's older adult population. Our projections mirror national findings. We estimate that by 2020, a third of Lovell's population will be over age 55. We also examined how preventable injuries (other than fire) are expected to impact this group.

Exploration of Center for Disease Control and Prevention (CDC) data surprised us. We were unaware that more than one third of older adults fall at least once each year and that falls are the leading cause of injury deaths among this population. We were also surprised to learn about the number of older adults who are injured or die from carbon monoxide poisoning.

Since many of Lovell's older adults are challenged by economic issues or lack support to perform important home maintenance tasks, we estimated that their living areas, smoke alarms and fuel-burning heating devices may be in a state of disrepair. LFD viewed this as unacceptable.

In November 2008, LFD and the Lowe's corporation teamed to offer a first for Lovell: a pilot program on fire, fall and carbon monoxide poisoning prevention for older adults. The goal of our program was to identify 25 older adult households, educate residents about common home dangers and modify living environments to create safer conditions. LFD, with help from Lowe's, purchased lithium smoke alarms, carbon monoxide detectors, LED lighting, stair rails and grab bars.

The program was marketed using all forms of media. While interest was brisk, many seniors were suspicious of this alleged free Home Safety Makeover.

Input from senior citizens sparked an educational campaign at area churches. Some embraced the offer for free services; other waited to hear reports of the program's success.

On Nov. 1, 2008, 20 LFD firefighters, 10 Lowe's employees and 12 volunteers from Habitat for Humanity visited 25 households, providing the safety makeovers as planned. The effort was greatly appreciated by those we served and proved to be a popular story in our local media.

What happened next surprised our team. The day after our program, all of the seniors we served attended their weekly church service to report on the exemplary service provided by our safety team. By noon on Monday, the risk-reduction officer had received an additional 50 requests for service. These calls were placed by those who were initially skeptical of the free safety makeover. The combination of fire, fall and carbon monoxide protection really sparked interest. Unfortunately, the program was out of resources for 2008.

It was very painful to tell seniors who were now excited about the program that resources (with exception of fire department supplied smoke alarms) had been depleted for 2008. We did tell them, however, that we are hopeful that a 2009 FEMA fire prevention grant application will receive a favorable response, enabling us to resume our safety makeovers. A waiting list has been established.

If LFD is awarded a 2009 FEMA prevention grant, we will team with Lowe's, the Office of Community Development and the older adult advocacy groups that serve our city. We will train visiting home health practitioners to identify homes qualifying for a safety makeover and market the program to their clients. LFD staff will attend church services to market the program at all houses of worship.

What LFD needs to make this program come to fruition is three-fold:

First, we need funding for smoke alarms, carbon monoxide detectors, LED nightlights and tape to secure rugs. Our vision is to use dual sensor smoke alarms and power them with lithium batteries. Carbon monoxide detectors would be electric-powered with back-up from a lithium extended-life battery.

Second, we must either purchase or develop educational materials for the program. We would likely produce our own smoke alarm/carbon monoxide booklet and purchase fall prevention materials from the Home Safety Council.

Third, and arguably most critical to the feasibility of this project, LFD must bring another staff person into our risk-reduction office to manage this endeavor on a part-time basis for **one** year.

While our community risk-reduction officer would ultimately oversee the project, he must have someone dedicated to getting the project online, delivering educational intervention, coordinating smoke/carbon monoxide alarm installation and conducting formative, process and impact evaluation.

If FEMA can support LFD for the fire safety and carbon monoxide prevention component, the City of Lovell is willing to contribute significant resources to the fall prevention section of this project. In addition to offering the services of firefighters, the City will absorb the cost of hiring a contractor to install grab bars and hand rails in homes. Lowe's will sell the City grab/hand rails at their cost and also provide staff to help with installations. Program services would be initially coordinated by the fire department staff person and segued to the Office of Community Development after the one-year grant period.

Contingent on FEMA support, we anticipate providing Home Safety Makeovers in **at least** 300 older adult households during the term of the grant. The Lovell Fire Department respectfully requests consideration for $76,000.00 in prevention grant monies to make this project a reality.

ACTIVITY 4.1 (cont'd)

Budget Worksheet

1,200 Dual sensor smoke alarms	$24,000.00
300 Electric/Battery back-up carbon monoxide detectors	$9,000.00
1,500 Ultra-life nine volt lithium batteries	$7,500.00
900 light emitting device (LED) night lights	$9,000.00
Tape for area rugs	$1,000.00
Installation kits and supplies	$500.00
Educational materials (fire, fall, carbon monoxide poisoning prevention)	$3,000.00
Multimedia production costs (TV and Radio)	$2,000.00
One-year salary for life safety educator/team leader	$20,000.00
Total Cost:	**$76,000.00**

This page intentionally left blank.

ACTIVITY 4.1 (cont'd)

Evaluation Plan — Home Safety Makeovers

This evaluation plan describes in precise terms what our intervention program will do. It identifies what is going to be done, who is going to do it, and when it will be completed.

Community Risk Problem

Injuries, deaths and economic costs associated with preventable fires and falls are increasing within the homes of older adults in Lovell, Michigan.

Goal

Reduce the occurrence of fires and falls within the homes of older adults.

Outcome Objectives

By January 2015, there will be a 90 percent reduction in fire deaths and a 70 percent reduction of fire-related injuries occurring among the older adult population in Lovell, Michigan.

Evaluation method: Fire Department Statistics.

Group responsible: Fire Department Staff.

By January 2015, there will be a 60 percent reduction in fall-related deaths and a 40 percent reduction of fall-related injuries among the older adult population in Lovell, Michigan.

Evaluation method: Hospital and Health Department Data.

Group responsible: Hospital and Health Department Staff.

By January 2013, there will be a 70 percent reduction in the number of fires causing significant damage within the homes of older adults in Lovell, Michigan. (**Note:** a significant fire is designated as an incident that causes greater than $100 in damage.)

Evaluation method: Fire Department Statistics

Group responsible: Fire Department Staff

Impact Objectives

By September 2012, there will be a 40 percent increase in older adult **baseline** knowledge of fire problems and fall-related issues in Lovell.

* Statistics will be compared with aggregate and annual life safety survey baselines.

Evaluation method: Baseline census tract survey statistics.

Group responsible: Fire Department Staff.

By September 2010, the LFD will have modified the living environments within 300 older adult households to enhance fire protection and fall-prevention equipment. Education will also be provided.

Evaluation method: Record of visitation and equipment installation.

Group responsible: Fire Department Staff.

By December 2011, there will be a 60 percent increase in the number of older adults who state they are taking additional precautions to reduce the occurrence of fires and falls.

Method of evaluation: Direct Interviews.

Group responsible: Fire Department and Emergency Medical Services (EMS) Staff.

Process Objectives

By November 2009, all Lovell community service agencies will be discussing leading fire/fall risks and smoke alarm maintenance with the clients they serve.

Evaluation method: Service Agency Records.

Person responsible: Service Agency/Risk-Reduction Assistant.

By August 2013, the LFD will have revisited all census tracts and provided direct information to older adults about fire/fall/carbon monoxide issues and smoke alarm maintenance. Staff will have also screened all households contacted for possible participation in LFD program.

Evaluation method: Data review.

Person responsible: Risk-Reduction Officer/Assistant.

On-going effort: The fire department will continue to promote fire/fall prevention through community events, block parties, select neighborhood blitzes and tours of burned homes.

Evaluation method: Review of programs presented.

Group responsible: Fire Department Staff.

Formative Objectives

By October 2009, the LFD will have in place — an educational campaign to increase awareness of the fire/fall problem among older adults in Lovell. The campaign will include use of all message mediums.

Evaluation method: Implementation of Campaign.

Person responsible: Risk-Reduction Officer/Assistant.

By October 2009, the City of Lovell fire and community development departments will have in place a comprehensive fire and fall prevention program.

Evaluation method: Creation of Program.

Groups responsible: Fire Department; Office of Community Development.

By October 2009, the LFD will have formed a partnership with five community-based organizations that will identify 300 older adult households eligible to participate in the fire/fall prevention program.

Evaluation method: Agreement on Partnership/Identification Records.

Person responsible: Risk-Reduction Assistant.

On-going effort: The risk-reduction officer will review LFD fire experience at monthly intervals.

This page intentionally left blank.

ACTIVITY 4.2

Securing and Sustaining Program Resources

Purpose

To explain how the community is using partnerships to help sustain the program, given a successful community risk-reduction program.

Directions

1. Work in your table groups to process this activity.

2. The case studies will be assigned as follows:

   a. Group 1 — Case Study 1: What to Do to Make it Through.

   b. Group 2 — Case Study 2: Start Safe: A Fire and Burn Safety Education Program for Preschoolers and Their Families.

   c. Group 3 — Case Study 3: Growing Resilient Communities.

   d. Group 4 — Case Study 4: The London Approach to Fire Safety Visits.

   e. Group 5 — Case Study 5: Code Red: A Public Safety Initiative of Cribs for Kids, Inc.

3. After reading your case study, develop responses that explain:

   a. What is the program? Please describe its scope of service.

   b. How did the community secure its original resources for the program?

   c. How is the community using partnerships (local to national) to sustain or even advance the program?

4. You will have 20 minutes allotted for table group work.

5. Your group will have up to five minutes to present your findings to the class at large.

This page intentionally left blank.

ACTIVITY 4.2 (cont'd)

Case Study 1: What to Do to Make it Through

Overview

Due to the risk of natural disasters and catastrophes in the Puget Sound, the City of Seattle and King County Offices of Emergency Management led campaigns and programs to raise awareness and help residents prepare for the occurrence of significant events. To increase visibility and reach of their messages and tools, and ensure continuity of preparedness messages across the region, the City of Seattle and King County joined with emergency management agencies throughout the Puget Sound to launch a spring 2012 campaign — What to Do to Make it Through.

The campaign aimed to raise awareness and encourage individuals in the Puget Sound region to prepare for catastrophes by making a plan, building a survival kit with supplies for seven to 10 days and helping each other. The City of Seattle and King County hired PRR, a marketing and communication firm specializing in human-powered change, to plan and implement the campaign.

Using a multimedia approach that involved multiple agencies, stakeholders, and funding partners, the initial campaign made significant impact. Building on that success, Offices of Emergency Management identified additional grant funds to extend the visibility and reach of What to Do to Make it Through in spring 2013. New strategies or tactics were added to help increase the reach and impact of the campaign such as earned media to reach key audiences, especially women with children. In addition, they focused on telling the compelling story of Susan McLaughlin, a survivor from the Christchurch, NZ, earthquakes, through earned and paid media as well as video. Other campaign elements were a Facebook contest to encourage people to build and share their survival kits, and two new videos to share key preparedness information, including tips on how to build a kit on a limited budget.

Conducting Research

To better understand the "lay of the land" and to inform key messages, opportunities and challenges for the campaign, PRR conducted initial research in 2011. The research included interviews with local emergency program managers, review of regional and national campaigns, and a series of focus groups, including groups in Chinese, Vietnamese and Spanish. Focus group participants reported they were prepared to survive a three-day emergency. However, this level of preparedness was not deemed adequate for catastrophic longer-term events that are predicted to occur in the region. Many also indicated they were unfamiliar with local preparedness campaigns and did not have immediate concerns about a catastrophe.

Prior to planning the media campaign, PRR researched demographics in the program area to identify key audiences to inform through their media plan. Several challenges were identified that needed to be addressed:

- A large outreach area encompassing eight counties.
- Limited funding existed considering the size of the target area.
- There were several language barriers to overcome. Many residents do not read or understand English.
- Many competing messages and other community-based concerns existed.

After the 2012 campaign, Puget Sound Offices of Emergency Management assessed if any new strategies or tactics could help increase the reach and impact of the campaign. In addition to using strategies that worked well previously, they included earned media to reach key audiences, especially women with children.

Partnering to Enhance Resources and Services

To establish widespread regional awareness and a sense of urgency to take preparedness actions, Puget Sound Offices of Emergency Management formed a media partnership with Fisher Communications in the fall of 2011. The City of Seattle and King County were originally planning two different grant-funded campaigns. Joining forces allowed them to leverage campaign dollars and coordinate regional messages. Advisory committees with regional representatives for both grants played a key role in reviewing campaign messaging and products, as well as program managers and leadership. Representatives from each committee were invited to review deliverables at key milestones.

The campaign introduced the concept of preparing for a catastrophic event and planning beyond three days. After considering the results of the focus groups and advisory group feedback, they created a campaign name “What to Do to Make it Through” and targeted their messaging to ask people to prepare for seven to 10 days. While the campaign still encouraged individuals to prepare for catastrophes by following three simple steps, similar to Three Days Three Ways, they updated the steps to include “help each other.” Since learning from the focus groups that women tend to take on responsibility for preparing their family, they primarily focused advertising on reaching women with children. Secondary audiences included individuals, seniors, people with pets, traditionally underserved populations and people with functional needs.

Local companies contributed funds to support a multifaceted media campaign in an effort to raise awareness about catastrophe preparedness and key steps for survival. Partners for the campaign included Mud Bay, Safeway and the Snohomish County Office of Emergency Management. The partnership launched in April 2012 during disaster preparedness month and ran through the week of June 4, 2012.

Goals of the partnership included:

- Raising awareness about catastrophe preparedness and the three most important tips for survival:
  - Make a plan.
  - Build a kit.
  - Help each other.
- Increasing emergency preparedness product availability/sales.
- Getting tools into people's hands to help make preparing for a catastrophe easier.

Given limited advertising dollars, their approach was to encourage agency partners to reach additional residents with campaign messaging. They provided incentive for them by providing practical and actionable ways to promote the campaign — a checklist of activities, updated social media toolkit, and link to the 2012 campaign materials.

Ads were produced for TV, radio, and online. In-store point of purchase materials were also produced for retail locations. TV and radio ads featured Elisa Jaffe, an on-air personality, to help give added credibility to the message. Social media elements were also incorporated and pushed out by partners.

During planning and implementation of the campaign, several actions were taken to ensure the information shared was accessible to underserved audiences in the campaign area.

Website: To make the content accessible to non-English users, a "Translate" button was added, allowing users to translate information into multiple languages. Translated information was also made available in a "Resources and Events" section in a total of 18 different languages.

Special consideration was given to the website color scheme, allowing the maximum amount of contrast for easier differentiation by people who are colorblind. The site was built to conform to web best practices, including using screen reader-friendly code, using HTML 5.0 standards and avoiding the use of Flash.

Educational toolkit: To provide public educators with resources to incorporate campaign messages, they provided a training and toolkit of informational outreach materials including an educational brochure translated into five languages (Chinese, Korean, Russian, Spanish and Vietnamese), and a customizable PowerPoint presentation for community briefings with a preparedness checklist for people with limited mobility.

Two series of videos were provided with closed-captioning. The first series of survivor videos was translated into Spanish and Chinese using subtitles. The second series of educational videos was translated into Spanish.

Non-English media: The campaign included advertising in several languages and placed in non-English media outlets to reach various communities, including Spanish TV and radio ads. Additional non-English media included print ads in publications serving Somali, Russian, Chinese, Vietnamese and Ukrainian communities.

Evaluating the Program

The methodology and measurement tools for the campaign were tied to the campaign objectives and tactics outlined in the marketing plan. All forms of support provided by campaign partners were reviewed and evaluated according to specific objectives.

With a goal to increase campaign awareness and recommended preparedness actions by 5 percent among the target audience, precampaign and post-campaign telephone surveys were designed to measure:

- Source from which awareness came.
- Perceived risk.
- Level of preparedness.
- Likelihood to prepare if not already prepared.
- User demographics.

What to Do to Make it Through resulted in several key successes during the spring 2012 campaign, including:

- Partnerships with Fisher Communications, Mud Bay and Safeway resulted in leveraging media budget from $106,000 to a value of $506,286.

- Achieved over 45 million impressions through paid media about key steps to prepare for catastrophes and how to prepare beyond three days.

- The website received over 16,000 visits in the first 90 days.

- Reached nearly 500 fans through Facebook and Twitter and 1,836 people through preparedness videos on YouTube.

- Reached students, parents and teachers in over 550 schools about the drawing contest and presented to over 600 people at award assemblies.

- Over 180 students participated in a campaign coloring contest and we reached over 550 schools in the region.

- Shared information in Spanish, Russian, Somali, Chinese and Vietnamese.

- People reported being prepared for an increased number of days. Survey respondents reported being prepared for a median of seven days, an increase from the presurvey's median of five days. 58 percent of people reported being prepared for seven days or more, an increase from the presurvey (49 percent).

- Reading about preparedness and needing to be prepared in general increased 15 percent from presurvey to post-survey.

- Over half of those surveyed reported that they had heard about preparing for an emergency of any kind over the past three months.

- There was a 20 percent increase in respondents reporting they had heard or read about storing food and water, having emergency kits, needing to be prepared in general and earthquake safety.

Overall, the What to Do to Make it Through media partnership was a huge success. The campaign partners contributed a total of $48,000 in advertising support for the campaign, allowing King County and Puget Sound Offices of Emergency Management to increase their original budget of $30,000 to $78,000. The media partnership campaign impressions totaled more than 20 million (adults aged 18 and up) across the eight-county region during its two-month run.

Recommendations for Others

- In order for campaigns to make an impact in changing attitudes and behaviors, it is necessary to expose residents to the campaign messages multiple times.

- A local news outlet ran an emergency preparedness program right before this campaign began. It is therefore possible that awareness of preparedness campaigns was high during this time and we captured this with this survey.

- People may not remember specific names of campaigns, so name recognition may be low, but overall awareness of preparedness messages may be high.

For more information contact:

JoAnn Jordan
Public Education Coordinator
Seattle Office of Emergency Management
105 5th Avenue South, Suite 300
Seattle, WA 98104
Phone: 206-233-7122
Fax: 206-684-5998
Email: joann.jordan@seattle.gov

This page intentionally left blank.

ACTIVITY 4.2 (cont'd)

Case Study 2: Start Safe: A Fire and Burn Safety Education Program for Preschoolers and Their Families

In 2009, the Home Safety Council developed Start Safe: A Fire and Burn Safety Education Program for Preschoolers and Their Families. The rationale behind creation of the program was that fires and burns were a big problem in America for preschool-aged children. In addition, thousands of preschoolers were being injured or killed from preventable injuries.

Funded through a grant from the U.S. Department of Homeland Security (DHS)/Office of Domestic Preparedness, Start Safe provided resources for preschool teachers and administrators to work hand-in-hand with a local fire department. Working together, using developmentally appropriate teaching tools from Start Safe, teachers and local fire safety experts were empowered to deliver life-saving lessons to the preschoolers. This medium also helped reach parents and caregivers with key safety messages and helped them take action to reduce the risk of fires and burns at home. To help ensure widespread marketing of the program, the Home Safety Council teamed up with Weekly Reader Custom Publishing to promote and help facilitate use of Start Safe.

The Start Safe program package included everything educators needed to deliver effective preschool fire and burn safety education in the classroom or community. Program materials included:

- An eight-page teacher guide with bilingual student activities.
- An eight-page expert guide with bilingual student activities.
- The "I Spot Something Hot" Big Book for classroom reading.
- Mini, take-home versions of the "I Spot Something Hot" Big Book.
- An 8 1/2-minute "I Spot Something Hot" DVD with original song in English.
- An 8 1/2-minute "I Spot Something Hot" DVD with original song in Spanish.
- A parent resource booklet in English.
- A parent resource booklet in Spanish.
- A hand puppet activity.
- Program evaluation forms.
- Additional program materials were added as the program expanded.

A national Start Safe training program was conducted by the Home Safety Council in Orlando, Florida, on April 26-28, 2009. Funded in part through a generous donation from Tyco International, the training brought together 12 teams of Head Start teachers, parents and fire and life safety educators to introduce them to the Start Safe program and provide best practices for implementation. The Hagerstown, Maryland, fire department participated in this training session after being invited to serve as a pilot-test community for Start Safe.

Once the training was completed, the Home Safety Council prepared to formally evaluate the Start Safe program during a 10-week pilot test. Hagerstown received all the Start Safe materials at no cost in agreement to participate in the pilot test. In return for the no cost materials, the Hagerstown Fire Department agreed to perform the following actions:

- Determine the adequacy and appropriateness of the training and materials in preparing teams to carry out the project.

- Determine the level of satisfaction of teachers, fire service educators, and families with the program materials.

- Assess changes in knowledge and practices of participating parents that affect the home safety environment.

- Examine the adequacy and appropriateness of implementation methods for delivering the program through a partnership of the preschool center and the fire department.

Hagerstown Fire Department was very impressed with the Start Safe program. Especially noteworthy was the quality of program materials and age-appropriate behaviorally correct lesson plans. This reflected well on the **initial** program support provided from FEMA to the Home Safety Council for development/piloting of Start Safe.

During their formative evaluation, the Hagerstown Fire Department noted the following:

- Head Start and childcare centers were enthusiastic about Start Safe and made time to conduct a good pilot test.

- Teachers rated the program materials as being excellent. They immediately asked for supplemental teaching kits that included materials so they could expand on the lessons presented as part of Start Safe.

- Initiatives to obtain parental involvement were successful. The Hagerstown Fire Department and teachers felt the process still needed some enhancements.

- Firefighters were impressed with the comprehensiveness of instructional methodologies.

- Start Safe built equity among firefighters. It took the pressure of teaching away and allowed them to simply explain their role as community helpers and provide a close-up look at a firefighter in his or her work suit with equipment.

Process and impact evaluation conducted by the Hagerstown Fire Department revealed the following:

- 15 educational centers participated in the program.
- 40 educational deliveries occurred.
- The program reached 830 preschoolers and 200 parents.
- The program's total pilot outreach was 1,030 people.
- Knowledge gain was proven through prequestioning/post-questioning and skill demonstration.
- 50 homes were visited as part of the post-program outreach.
- All homes surveyed had appropriate working smoke alarm protection.

Based on the success of the pilot program, Hagerstown was eager to fully incorporate and sustain Start Safe as an on-going program. In 2010, the Hagerstown Fire Department applied for a Fire Prevention and Safety grant as part of the Assistance to Firefighters Grants initiative. Hagerstown Fire Department's strategy was **not** to ask for a huge sum of money to fund the program with a grant alone. Rather, the department asked for matching funds (per se) so the program could be sustained and expanded.

Hagerstown Fire Department asked for funding to conduct a "train the trainer" program for all childcare center and Head Start staff on how to deliver Start Safe. To accomplish this, they proposed funding for a temporary part-time staff person to oversee the effort. The Home Safety Council would sponsor most of the materials needed to implement the program. With grant funding, Hagerstown Fire Department would create supplemental teaching kits that included materials called for by teachers to help them expand on the Start Safe lessons.

In turn, childcare centers and Head Start (in addition to teaching preschoolers) would sponsor special events to entice parents to become involved in the safety education of their child. Events would be tailored to meet the needs of each center and target population. An in-home visitation component that included a home safety inspection by on-duty firefighters was proposed as well. Hagerstown Fire Department highlighted that they would sponsor the costs of firefighters to perform the home inspections. They also pledged to absorb the costs associated with smoke alarm installations.

A key objective of the plan (and strategy to help sustain the program) stated that upon completion of the implementation cycle, Hagerstown childcare centers and Head Start would assume responsibility for all program costs associated with Start Safe. Firefighters would continue to visit centers as an extension to the lessons taught by teachers. Hagerstown Fire Department pledged to also continue home inspections, smoke alarm installations and one on one interaction with at-risk families.

The overarching theme of the grant request promoted that if Start Safe could be fully implemented and sustained in Hagerstown, it would lead to institutionalized change in the way childcare centers, Head Start and parents viewed fire safety. All parties would likely take a more collaborative role in teaching fire safety to one of the city's most vulnerable populations. Equally important, Start Safe would give firefighters a window of opportunity to access the households of those at greatest risk from fire.

The modest request of $16,000.00 in prevention grant monies was ultimately approved and Start Safe has become a sustainable component of the Hagerstown Fire Department's community-based risk-reduction strategy.

ACTIVITY 4.2 (cont'd)

Case Study 3: Growing Resilient Communities

Community Resiliency Pilot Project — Nov. 23, 2013

Over the course of 20 months, the city of Sioux Falls experienced nine fire related fatalities. In each incident, the residence had no working smoke alarms. Community leaders decided to take action to address this issue. In August of 2013, after the city of Sioux Falls experienced its ninth fatality in 20 months where there were no working smoke alarms in the residence, it was decided it was time to take action by convening community discussions.

New Framework for Preparedness

Organizations like the American Red Cross (ARC) have been distributing information on preparedness for years, yet the majority of Americans remain underprepared and at risk should a disaster occur. According to FEMA, only 33 percent of U.S. citizens have participated in a preparedness drill at work, school, or home in the past two years. Less than half of U.S. citizens have a household emergency plan. In a recent NFPA survey, only 33 percent of Americans have developed and practiced a fire escape plan. In national per capita comparisons, the Midwest has the most fires and the most civilian fire deaths and injuries.

What is resilience? Resilience is built by strengthening a community's physical, psychological, social, and economic capacity. The ARC proposed a new approach to building resiliency. The strategy brings people together to discuss the community's preparedness needs and foster strong connections among the ARC, residents, businesses, nonprofit organizations (NPOs), the faith based community, and government. Working with partners, the ARC brought attention to local preparedness needs with the goal of preventing more injuries and deaths.

"Silent Disasters"

Out of the 70,000 disaster calls the ARC responds to across the nation annually, 65,000 of those disasters are related to fire, the "silent disaster." NFPA states in 62 percent of home fire deaths there was no working smoke alarm in the house. 75 percent of fires are preventable. Each year, home fires impact more people than any other disaster. Of the approximately 65,000 disasters ARC responds to related to fire, 80 percent of those are families below the poverty line. Children, low income families, and rural communities tend to suffer the effects of fire disproportionally.

Prevention and Preparedness

At the ARC, we believe that prevention efforts, like installing state-of-the-art smoke alarms in homes, open the door to discussions about preparedness education. By engaging the community to prevent the "silent disaster," we will empower residents to discuss other immediate actions they can take to build their own resiliency and that of their community, encouraging education into immediate action and obtaining measurable results.

The goal of the "Growing Resilient — Sioux Falls" event was to build community resiliency through one-on-one discussions with families in their homes. 30 percent of the 1,500 homes we approached opened their doors and welcomed us in. Our teams installed state-of-the-art smoke alarms which provide 10 years of protection without having to change batteries. While firefighters installed the alarms, ARC volunteers educated and empowered citizens to prepare for many types of disasters such as winter weather, tornadoes, and flooding. Teams performed free blood pressure checks for residents to build individual resiliency. Over one third of the pressures checked were high.

Other goals:

- Obtain a home by home assessment of the neighborhood.
- Bring up awareness of prevention and preparedness though large scale public awareness campaign prior to event.
- Reduce the number of injuries and deaths over the long-term.
- Secure a baseline to measure future Growing Resilient successes.

Pre- and post-evaluations were developed by subject matter experts and vetted through the steering committee. Volunteers received training before and during the event. Trained volunteers took blood pressures and provided appropriate direction for follow up.

Process Evaluation — Implementation

ARC, partnered with the City of Sioux Falls, Sioux Falls Fire Rescue, City of Sioux Falls Public Health, 10 corporate partners and many community leaders, formed a steering committee and set up the "Growing Resilient — Sioux Falls" pilot project, a one day canvass of the Sioux Falls' Whittier Neighborhood. Consisting of 1,500 homes, it has the highest concentration of fires, injuries and fatalities as documented by Sioux Falls Fire Rescue.

The steering committee used the Incident Command System (ICS) to provide the framework, creating the organizational structure which could be scaled to size considering variables, such as number of volunteers, donations, etc. An Incident Action Plan (IAP) was also developed through the process to increase situational awareness.

Numbers to date:

- Over 30 percent of homes opened their doors to the volunteers.

- 45 homes had no smoke alarms in the home.
- More than 130 smoke alarms were installed.
- More than 60 blood pressure checks were performed.
- More than 1,000 disaster preparedness kits were left at doorsteps where no one was home.

Resources used:

- 117 ARC volunteers and firefighters canvassed homes.
- Partners and sponsors committed $8,000 of monetary support and $20,000 of in-kind support, which covered project costs including:
  - Printed materials distributed and smoke alarms installed in neighborhood canvassing.
  - T-shirts, meals, and snacks for 117 volunteers and partners on the day of the canvassing event.
  - Support for a public relations blitz, including a PSA dedicated to the project, direct mailer, an automated call from the school district, and social media.
- Over 1,500 volunteer hours tracked.

Impact Evaluation — Short-Term Results

Increased conversation in community continues. At this point, we know the immediate results as quantified above. Further evaluation will be done as we move forward.

Outcome Evaluation — Long-Term Results

The success of this program and others like it within the ARC network has helped create momentum for the ARC to take this concept to scale in the form of a predictable and repeatable program that can be applied consistently across the country. The ARC desires to help lead a broad, nationwide coalition to dramatically reduce losses from home fires.

Recommendations for Others

Begin conversations with ARC field network offices around the nation. Work with other active community stakeholders.

Conclusions

Continue to seek the greatest impact by changing behaviors though pairing empowering education and smoke alarm installation in homes, which will strengthen individual and community resiliency and lead to saved lives and reduced suffering.

ACTIVITY 4.2 (cont'd)

Case Study 4: The London Approach to Fire Safety Visits

Formative Evaluation — Planning

Part of the preventative efforts of the London Fire Brigade (LFB) have been to focus on the home fire safety visit (HFSV). In the early days (from 2003) this involved firefighters visiting homes regardless of risk. Londoners were encouraged to contact the LFB on a free telephone number and book a free HFSV. The development of the P1 postcode and P1 person concept moved the LFB from a volume approach to a targeted approach. These concepts use a combination of MOSAIC lifestyle data, fire data, demographic profiling and a range of risk factors such as smoking, drinking and mobility impairment. The intention of this targeting is to focus on those homes where the risk of fire is thought to be higher; given the size of London, LFB will only ever reach a very small percentage of households, so targeting based on risk is critical.

Process Evaluation — Implementation

LFB started carrying out HFSVs in 2003. The number of HFSVs was boosted by grants from central government from 2004-8 which gave London a grant of 1 million pounds to promote this approach. The number of HFSVs rose from 2,197 in 2003/4 to 44,649 by the end of the four year grant period.

By 2012/13, LFB carried out over 78,000 HFSVs. It continues to set itself stretching targets through its own corporate plan — the Integrated Risk Management Plan, as required by statute. In the recently published plan for the three years to March 2016, LFB aims to complete 219,000 more visits, with 8 out of 10 of them targeted at those most at risk of fire (the P1 person).

Impact Evaluation — Short-Term Results

In 2012 LFB commissioned an external evaluation into the effectiveness of HFSVs. The analysis was based on data for individual homes that received or experienced an HFSV in the six and a half years from January 2006. It confirmed that homes which received an HFSV were less likely to experience an accidental dwelling fire than those that did not. The rate of fire for those homes which received an HFSV was 10 times lower than those that did not. Interestingly the severity of fire experienced by those who did have an HFSV previously was lower than those who had no HFSV history. This is thought to be because the alarm is raised earlier, because of raised awareness and the presence of smoke alarms.

The evaluation also sets out cost savings to the London economy as a result of the HFSV programmer over this period. This is rather complex to explain here but is set out in the committee paper from July 2013 (FEP 2085) which is publicly available and provided as part of this symposium.

Outcome Evaluation — Long-Term Results

Looking at the last five years, fire injuries have been reduced by 25 percent and fire fatalities have decreased, as a 10 year average from 64 to 55. This is good news until you look at dwelling fires. London has seen its dwelling fires remain stable at around 6,000 per year. This figure is proving hard to budge despite the efforts of the HFSV programmer. The 2012 evaluation showed that homes that received an HFSV experienced only two accidental dwelling fires per 10,000 population against 20 for homes that did not. LFB plans to reduce the number of accidental dwelling fires by 2 percent (or 8 percent as a stretch target) by March 2016. This is very much a work in progress.

Recommendations for Others

- Work out what your elected officers want — is it a numbers game or is something less tangible acceptable?
- What resources do you have to commit to a preventative approach to home fire safety? Are uniformed officers the most cost effective approach? What is to be gained from partners or nonuniformed officers?
- Think hard at the start about what success looks like. If it's just about numbers, be sure to agree on metrics and consistently collect, collate and report on data on a regular basis. If it is more qualitative, determine how that will be collected and if your timelines are reasonable to draw any firm conclusions especially about causality.
- Money. Money. Money. What's it going to cost in real terms? Be sure to calculate all costs and not just the obvious ones. Determine the timeline for any cost recovery and be sure to be confident of cause and effect.
- Data. Data. Data. Collect it consistently and be prepared to be challenged. Be robust.
- If you do all of this, you should be in a position to defend your prevention budget when economic times are bad and you are under the spotlight. Be prepared to be scrutinized — your data and your upfront planning will benefit you hugely here.

Conclusions

Many thousands of Londoners are now safer as a result of the investment in HFSVs made by the UK Government and the London Fire Brigade. HFSVs are just one part in the prevention toolkit needed by fire services to reduce accidental dwelling fires in the home. It is all very much a work in progress.

ACTIVITY 4.2 (cont'd)

Case Study 5: Code Red: A Public Safety Initiative of Cribs for Kids, Inc.

Executive Summary

Infant sleep-related deaths such as Sudden Infant Death Syndrome (SIDS) are the number one cause of infant mortality after the first month of age in the U.S. Over time, numerous theories were developed to attempt to explain these deaths, including the thymus theory, apnea theory, and respiratory infection. As theories came and went, one theme was recurrent environmental factors such as pillows, loose blankets, and unnecessary decorative articles found in the sleeping environment of babies who had died suddenly and unexpectedly. Even before the development of the child death review process (which would be key in the discovery that unsafe sleeping environments were dangerous), observations would be made repeatedly that where and how the baby slept were critical to infant safety. In 1998, the Program was developed to assure that infant safe sleep education was given to all new mothers and every baby had a safe sleeping environment. In order to educate the public, Cribs for Kids® developed a program called **Code Red**. **Code Red** was developed to educate first responders about the importance of a safe sleeping environment and to train them to be our 'eyes and ears' in the community.

Overview

Code Red is a program that is used by first responders to deliver the "safe to sleep" message for all infants in the communities that they serve. The first responders that are trained in the **Code Red** program are firefighters and EMS personnel throughout the U.S. The EMS training consists of an overview of infant mortality rates, explanation of the differences between SIDS and Sudden Unexpected Infant Death (SUID), and teaches the guidelines for safe infant sleep practices. These guidelines are given to each first responder in the form of a free Cribs for Kids® App for their mobile devices so that they have this information with them at all times. A Fire Rescue professional presents information on what EMS workers can do on 911 calls, how to do on-scene observation of unsafe infant sleep conditions (even when the call may be for an elderly family member), and how/where to make referrals to address any risks identified, such as to their local Cribs for Kids® program if a crib is needed. The First Responder presentation points out: Fire Rescue Service professionals have teaching opportunities that others do not; and people who call 911 have willingness, desire and a need for help.

Formative Evaluation

The death of an infant is a personal tragedy and a sentinel community event. The U.S. ranks 34th in the world in infant mortality according to the UN's 2011 estimates. In 2010, 24,586 infants died. Fifteen percent (3,610) of those deaths were from SIDS, accidental suffocation and strangulation in bed, or sleep-related infant deaths due to unknown causes. To give a sense of proportion to this loss, during 2010, when 3,610 babies died in sleep-related deaths, only about 500 other babies died from causes other than medical: around 200 of them died from other unintentional injuries such as motor vehicle deaths, drowning, fire, fall, poison, etc., and the rest (311) died from homicide. Seven times that number died in sleep environments.

Infant mortality in general is higher among African Americans and American Indians/Native Alaskans than among non-Hispanic whites, a disparity that is repeated for SUID deaths. Babies born to African American and American Indian/Native Alaskan mothers are two times more likely than babies of non-Hispanic white mothers to be placed on their stomachs to sleep and two times more likely to die of SUID/SIDS. Babies born to Hispanic or Asian/Pacific Islander mothers are less likely to die from SUID than a non-Hispanic white baby.

Process Evaluation

In 1994, doctors began instructing new mothers to put their babies on their backs to sleep. This “Back to Sleep” Campaign resulted in a drop in SIDS rates of 50 percent in the U.S., but sleep-related deaths remained the number one cause of infant deaths after the first month of age. Judy Bannon, Executive Director of Sudden Infant Death Services of Pennsylvania, a Pittsburgh-based nonprofit, realized most of the deaths she was seeing were from lower-income areas and were predominantly African-American infants. She was wondering if there was a reason that at-risk families were not responding to the Back to Sleep Campaign, when another trend caught her attention: of these deaths, most were not found in cribs, but on couches or in chairs or adult beds. Was it possible that these babies were dying for the simple and tragic reason that their mothers couldn’t afford cribs and/or had not been educated about infant safe sleeping practices?

The mission became clear: provide cribs to babies whose mothers could not afford them and educate mothers about the dangers of unsafe sleep environments. In 1998, Judy created Cribs for Kids® to do just that.

How did Cribs for Kids® grow from an idea to a national crib campaign in 10 years? Knowing that the faster Cribs for Kids® grew, the more lives could be saved, was great motivation. A Cribs for Kids® Toolkit was developed which includes everything necessary to become a Cribs for Kids® partner. The Toolkit can be accessed from our website, free of charge, to interested organizations. This allows partners to get up and running quickly, while assuring that a consistent safe-sleep message is being spread throughout the country.

Providing cribs fast and at the best price to our partners is another way we help our partners to succeed. To this end, a Cribs for Kids® Resource Center was established on Pittsburgh’s North Shore. The Resource Center is a warehouse and distribution hub that offers educational materials, portable cribs and other safe sleep products to partners. The Pack n’ Play portable crib is specially designed for Cribs for Kids® by our major sponsor Graco Children’s Products. This unit was chosen because of its safety record, portability, size, and ease of assembly. The sheer volume of Pack n’ Plays that are purchased allows Graco to offer them Cribs for Kids® at a drastically discounted rate, which we pass on to our partners.

Finding low shipping rates in spite of high oil prices has also been crucial to the program’s success. Pitt-Ohio Express generously delivers our cribs for free to more than 14 states and donated and maintains our fork lift. Negotiated shipping discounts from UPS help keep prices low throughout the rest of the country.

Cribs for Kids®, through a network of over 450 partners nationwide, has distributed over 200,000 safe cribs to low-income families and infant safe sleep education to all mothers through its Infant Safe Sleep Hospital Initiative, PSAs, billboard campaigns and the passage of Pennsylvania Act 73 of 2010. Act 73 mandates that every mother giving birth in Pennsylvania receive infant safe sleep education before leaving the birthing hospital. The language for Act 73 is being adopted by other states through the advocacy of our network of partners.

Implementation and Sustainability

A PowerPoint presentation and Baby Safe Sleep tracking form have already been developed for the project. Questions and Answers follow the presentation.

The training also includes the distribution of 50 Safe Sleep Kits per Fire/Rescue station. The "kit" is an envelope to give families full of safe sleep educational materials, which are produced by Cribs for Kids®. These materials can be easily stored on the Fire/Rescue vehicle. The station is given a resource list for replenishing their envelopes. All of the materials are paid for by Cribs for Kids® through the proceeds of the sales of safe sleeping environments to our partners throughout the country, making the program self-sustaining.

The trainings are scheduled during EMS shift times on several consecutive days to engage as many first responders at one station as possible. While a 911 call may interrupt the training, the participants have another opportunity to finish the training the next day. Each station selects an "administrator" to follow up after the training, track where/when kits are distributed after 911 calls, and conduct follow-up with the families who receive Safe Sleep Kits or referrals to services. The **Code Red** trainers, who are Cribs for Kids® employees, will conduct phone follow up with EMS units monthly post-training for one year to collect data, and offer support and advice, as needed.

Cribs for Kids® presently has partners in over 450 locations nationwide. We are hoping to work with first responders in every one of these areas.

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

In Allegheny County, Pennsylvania, where the Cribs for Kids® program originated in 1998, over 22,000 high-risk babies have been put into safe sleeping environments. To date, all of those babies have lived to celebrate their first birthdays. In addition, ongoing infant safe sleep education to every mother in all of our birthing hospitals, billboard campaigns and education at all child care facilities has resulted in a drop in sleep-related deaths by over 50 percent.

This page intentionally left blank.

V. MODIFYING OR TERMINATING RISK-REDUCTION PROGRAMS

MODIFYING OR TERMINATING RISK-REDUCTION PROGRAMS

- Justification for modifying or terminating a risk-reduction program.
  - Program's goals and objectives have been met.
  - Cycle the program back into operation.
  - Rotate the program with another.
  - New approach may be needed.
  - Support has been lost.

Slide 4-32

A. Justification for modifying or terminating a risk-reduction program may include the following:

1. Evaluation has proven that the program's goals and objectives have been met.

2. A decision has been made to cycle the program back into operation at a later date if needed.

3. A decision has been made to rotate the program with another.

4. A new approach to the risk-reduction issue may be needed.

5. Support has been lost or terminated for the program.

B. A key point to remember is to make decisions using a data-driven, strategic approach.

When do you modify or end a risk-reduction program?

Slide 4-33

WORKBOOK
PERFORM PART 8

Slide 4-34

What is your takeaway from this unit?

Slide 4-35

DVD PRESENTATION

“COMMUNITY RISK REDUCTION”

Slide 4-36

VI. SUMMARY

SUMMARY

- Risk-reduction programs require resources.
- Must have resources to sustain operation.
- Combination of resources is required.
- National agencies or groups can provide free (or low-cost) supportive resources.

Slide 4-37

SUMMARY (cont'd)

- When collaborating with peers, ensure that materials are consistent with best practices.

Slide 4-38

This page intentionally left blank.

APPENDIX

NFPA EDUCATIONAL MESSAGES DESK REFERENCE

This page intentionally left blank.

NFPA Educational Messages Desk Reference

2013 Edition

NFPA, 1 Batterymarch Park
Quincy, MA 02169-7471

www.nfpa.org/education

This page intentionally left blank.

Table of Contents

NFPA®

This page intentionally left blank.

PURPOSE OF EDUCATIONAL MESSAGES ADVISORY COMMITTEE

The Educational Messages Advisory Committee meets periodically to review NFPA's fire safety education messages and to provide recommendations to NFPA public education staff for updating and revising the messages. The messages are used throughout NFPA's educational programs, curricula, and handouts and provide fire and life safety educators with accurate and consistent language for use when offering safety information to the public. Each topic area is self-contained, written so that all the information needed on a certain subject is provided within that category. As a result, some messaging may be repeated throughout topic areas.

Educational Messages Advisory Committee Members 2013

Bev Gilbert, Chair
Gilbert and Associates

Marty Ahrens, *NFPA*

Karen Berard-Reed, *NFPA*

Brett Brenner, *Electrical Safety Foundation International*

April Briggs, *NFPA*

Gary Carter, *Bessemer, AL Fire Department*

Judy Comoletti, *NFPA*

Kwame Cooper, *LA City Fire Department*

Steve Dornbusch, *NFPA*

Ernest Grant, *North Carolina Jaycee Burn Center*

Larry Gray, *Cleveland Fire Department*

Amy LeBeau, *NFPA*

Jorge Mederos, *Fort Lauderdale Fire/Rescue Department*

Angela Mickalide, *Children's National Medical Center*

Patricia Mieszala, *Burn Concerns*

Teresa Neal, *United States Fire Administration*

Gerri Penney, *Palm Beach County Fire/Rescue*

Nancy Trench, *Oklahoma State University*

Lisa Braxton, *Staff Liaison*

Regulations Governing Educational Messages Document Project

Purpose

The purpose of the Education Messages Advisory Committee is to produce NFPA's Educational Messages Document (EMD).

Scope

The intent of the EMD is to provide NFPA, fire department public educators, and other fire safety advocates with a guide for the presenting of standardized fire and burn safety messages to the general public.

Goals

- To prepare proposed fire and burn safety educational messages
- To prepare and/or process comments to amend existing or add new educational messages
- To recommend reconfirmation, withdrawal, or addition of messages
- To maintain NFPA philosophy of clear, simple, accurate, technically sound, and–whenever possible–positive messaging
- To use messages that support the most recent edition of the applicable NFPA code, standard, recommended practice, or guide
- To produce an Educational Messages Document to be made available on the NFPA website

Membership

The NFPA division manager for public education shall be responsible for determining the size and membership of EMAC. NFPA voting staff members shall not exceed 30 percent of the Committee.

Structure

EMAC shall have a Chair serving a 3-year term. An NFPA public education staff person shall be assigned as the liaison to EMAC. The liaison holds a non-voting position.

Appointments of Members and Their Tenure

The Chair shall be appointed by the NFPA division manager for public education. All Members of EMAC are subject to annual review and reappointment by the NFPA. Those Members who miss two meetings, or otherwise exhibit lack of interest, knowledge, or responsibility, shall not be reappointed and may be removed for the stated causes at any time.

Change of Status

When the status of a Member changes, including employment, organization represented, or funding source, the individual's membership automatically terminates.

Role of the Staff Liaison

- To serve in an advisory capacity and assist EMAC to achieve compliance with these regulations
- On instruction and guidance from EMAC, to process and edit text for the EMAC messages
- To be responsible for the editorial treatment of messages to ensure compliance with the *Manual of Style for NFPA Technical Committee Documents*
- To attend EMAC meetings

- To plan meetings, including meeting notification, agenda, and incidentals
- To prepare detailed minutes of EMAC meetings
- To prepare Comments received in a format suitable for EMAC consideration
- To prepare the final EMD and post it on NFPA's website

Calling Meetings

The Chair shall call meetings at such times as may be necessary and convenient for the transaction of business.

Quorum

There shall be no quorum requirement for EMAC meetings.

Participation

- Participation shall be limited to Committee Members and NFPA staff, except that the request of a guest to address the committee on a subject relevant to a specific item under consideration shall be honored. Guests wishing to address EMAC shall notify the staff liaison in writing at least 7 days before the meeting. When a guest addresses the committee, equal opportunity shall be afforded those with opposing views. The Chair shall designate the time allotted for any such addresses.
- Videos, slides, overheads, and similar visual aids shall be allowed during the meeting of EMAC. The presenters of the information shall be responsible for all equipment arrangements and associated fees pertaining to their presentations.
- Physical demonstrations, experiments or simulations shall not be allowed during EMAC meetings.

Minutes of Meetings

Minutes of each meeting shall be recorded and issued without undue delay to Members by the public education staff liaison. Minutes shall, at a minimum, include the time and place of the meeting, names and affiliations of all persons attending, and the actions taken.

Voting Procedures and Privileges

Each voting Member, including the Chair, shall have one vote in the affairs of EMAC.

Voting by Proxy

Voting by proxy shall not be permitted.

Voting at Meetings

Actions decided during EMAC meetings shall be supported by at least a simple majority of the voting members at the meeting. In calculating the vote, those who abstain shall be omitted from the calculations.

Who May Submit a Comment

Anyone may submit a Comment, and the submitter need not be a member of EMAC or NFPA. Except for Comments submitted by EMAC, all Comments must be submitted in the name of an individual with the individual's relevant organizational affiliation or representation noted separately. The individual shall be considered the submitter for purposes of these Regulations.

Content of Comments

Each Comment shall be submitted to the assigned NFPA public education staff liaison and shall include the following:

- Identification of the submitter and his or her affiliation where appropriate
- Identification of the educational message to which the Comment is directed
- Proposed text of the Comment, including the wording to be added, revised (and how revised), or deleted
- Statement of the problem and substantiation for the Comment
- The signature of the submitter
- Two copies of any document(s) being proposed as a reference standard or publication.

Time for Submission

A Comment to revise or amend an existing or proposed message shall be submitted up to the published Comment closing date. A Comment received after that date shall be returned to the submitter.

EMAC Action on Comments

EMAC shall act on all current Comments. EMAC shall act on each Comment by taking one of the following actions:

- Accept the Comment
- Reject the Comment
- Accept the Comment in principle but with changes in the proposed wording
- Accept the Comment in part

The EMAC action on a Comment "accept," "accept in principle," "accept in part," and "reject" shall include a statement, preferably technical in nature, on the reason for the EMAC action. Such statements shall be sufficiently detailed so as to convey the EMAC rationale for its action. A Comment that does not include all of the information listed in "Content of Comments" may be rejected by the Committee for that reason.

CHAPTER 1 Home Smoke Alarms

1.1 Fire Deaths — Smoke Alarms Save Lives

1.1.1 Working smoke alarms save lives, cutting the risk of dying in a home fire in half. Smoke alarms should be installed and maintained in every home.

1.2 Installation

NEW! **1.2.1** Install smoke alarms in every sleeping room, outside each separate sleeping area, and on every level of the home, including the basement. Larger homes may require additional smoke alarms to provide a minimum level of protection.

NEW! **1.2.2** Interconnect all smoke alarms throughout the home for the best protection. When one sounds, they all sound. Make sure you can hear the sound of the smoke alarm.

NEW! **1.2.2.1** It is especially important to have interconnected smoke alarms, if you sleep with doors closed.

1.2.3 Smoke alarms can be interconnected electrically by a qualified electrician and by installing battery-operated wireless interconnected smoke alarms.

1.2.4 An ionization smoke alarm is generally more responsive to flaming fires, and a photoelectric smoke alarm is generally more responsive to smoldering fires. For the best protection or where extra time is needed to awaken or assist others, both types of alarms or combination ionization-photoelectric alarms, also known as dual sensor smoke alarms, are recommended.

1.2.5 Choose a smoke alarm that has the label of a recognized testing laboratory.

NEW! **1.2.6** Install smoke alarms away from the kitchen to prevent false alarms. Generally, they should be at least 10 feet (3 meters) from a cooking appliance.

NEW! **1.2.7.** Photoelectric type smoke alarms are the best type of alarms to be installed near the kitchen.

1.3 Testing and Maintenance

NEW! **1.3.1** Test smoke alarms at least once a month using the test button.

1.3.2 Make sure everyone in the home understands the sound of the smoke alarm and knows how to respond.

NEW! **1.3.3** Follow the manufacturer's instructions for cleaning to keep smoke alarms working well. The instructions are included in the package or can be found on the internet.

1.4 People Who Are Deaf or Hard of Hearing

NEW! **1.4.1** Install smoke alarms and alert devices that meet the needs of people who are deaf or hard of hearing.

NEW! **1.4.2** Smoke alarms and alert devices, called accessories, are available for people who are deaf or hard of hearing. When the smoke alarm sounds, strobe lights flash to alert people of a possible fire.

NEW! **1.4.2.1** When people who are deaf are asleep, a high-intensity strobe light is required along with a pillow or bed shaker to wake them up and alert them to fire conditions so they can escape. This device is activated by the sound of a standard smoke alarm.

NEW! **1.4.2.2** When people who are hard of hearing are asleep, a loud, mixed low-pitched sound alert device should be used. This device is activated by the sound of the standard smoke alarm. People who are hard of hearing may find that a pillow or bed shaker is also helpful to awaken them.

NEW! **1.4.3** Choose smoke alarms and accessories for people who are deaf or hard of hearing that have the label of a recognized testing laboratory.

1.5 Battery Replacement

1.5.1 Smoke alarms with nonreplaceable (long-life) batteries are designed to remain effective for up to 10 years. If the alarm chirps, warning that the battery is low, replace the entire smoke alarm right away.

1.5.2 For smoke alarms with any other type of battery, replace batteries at least once a year. If that alarm chirps, replace only the battery.

1.6 Smoke Alarm Replacement

1.6.1 Replace all smoke alarms when they are 10 years old.

1.6.2 Immediately replace any smoke alarm that does not respond properly when tested.

NEW! **1.6.3** Replace combination smoke-carbon monoxide alarms according to the manufacturer's recommendations.

1.7 Rental Housing

1.7.1 All rental housing must have working smoke alarms.

NEW! **1.7.2** Be sure smoke alarms are installed in all rental housing. Contact your landlord, property manager, or fire department for help.

NEW! **1.7.3** Check with your local fire or building department for information about state and local ordinances on smoke alarm installation and maintenance in rental housing.

NEW! **1.7.4** Maintenance of the smoke alarms may be the responsibility of the landlord or the renter, depending on the rental agreement. Maintain the smoke alarm in accordance with the manufacturer's instructions.

CHAPTER 2 Home Fire Sprinklers

2.1 General Tips

NEW! **2.1.1** Home fire sprinklers protect lives and property by keeping fires small. Because the sprinkler system reacts so quickly, it can dramatically reduce the heat, flames, and smoke produced in a fire, allowing people more time to escape safely.

NEW! **2.1.2** Home fire sprinklers activate individually. Only the sprinkler closest to the fire will activate, spraying water directly on the fire and not the rest of the home.

NEW! **2.1.3** A home fire sprinkler will control or put out a fire with a tiny fraction of the water that would be used by fire department hoses.

2.1.4 Accidental sprinkler discharges are extremely rare.

2.1.5 Home fire sprinklers can be installed in new or existing homes. If you are remodeling or building your home, install a home fire sprinkler system.

2.1.6 It is especially important to install a home fire sprinkler system in homes with persons who may not be able to get out without help, such as people with disabilities, young children, or older adults.

2.2 Installation

2.2.1 Have a qualified contractor install your home fire sprinkler system according to NFPA codes and standards and local fire safety regulations.

2.2.2 Home fire sprinklers work along with smoke alarms to save lives. NFPA data shows that home fire sprinklers reduce the risk of dying in a home fire by 80 percent.

2.3 Maintenance

2.3.1 The home fire sprinkler installer must provide instructions on inspecting, testing, and maintaining the system, a simple process that can be performed by the home occupant. A simple visual inspection should be done monthly to ensure that the water valve on the sprinkler is open.

NEW! **2.3.2.1** Make sure that your home fire sprinkler system is working properly by

(A) Visually inspecting all home fire sprinklers to make sure nothing is blocking them and nothing is hung from or attached to them. This should be done monthly.

(B) Doing a water flow test on the sprinkler system every six months or having a fire sprinkler contractor do the test to ensure all water flow devices are working.

(C) Keeping home fire sprinklers clear and free of objects that can interfere with their proper use.

(D) Inspecting tanks, if present, monthly to make sure that they are full.

(E) Starting the pump every month if you have one to make sure that it works and that it does not trip any circuit breakers.

(F) Not painting fire sprinkler heads. If you are painting, cover the sprinkler head with a bag and remove after the work is done.

CHAPTER 3 Carbon Monoxide

3.1 Dangers of Carbon Monoxide

NEW! **3.1.1** Carbon monoxide (CO) is a gas you cannot see, taste, or smell. It is often called "the silent killer." It is created when fossil fuels, such as kerosene, gasoline, coal, natural gas, propane, methane, or wood do not burn properly. CO gas can be deadly.

3.1.2 Carbon monoxide (CO) poisoning can result from faulty furnaces or other heating appliances, portable generators, water heaters, clothes dryers, or cars left running in garages.

NEW! **3.1.3** Headache, nausea, and drowsiness are symptoms of carbon monoxide poisoning.

3.1.4 Exposure to undetected high levels of carbon monoxide can be fatal.

3.2 Installation

NEW! **3.2.1** Choose a carbon monoxide (CO) alarm that has the label of a recognized testing laboratory.

NEW! **3.2.2** Install and maintain carbon monoxide (CO) alarms inside your home to provide early warning of carbon monoxide.

NEW! **3.2.3** Install and maintain carbon monoxide alarms (CO) in a central location outside each separate sleeping area, on every level of the home, and in other locations as required by laws, codes, or standards. For the best protection, have CO alarms that are interconnected throughout the home. When one sounds, they all sound.

3.2.4 Follow the manufacturer's instructions for placement and mounting height.

NEW! **3.2.5** If you have combination smoke-carbon monoxide (CO) alarms, follow the directions for smoke alarm installation.

3.2.6 Carbon monoxide (CO) alarms are not substitutes for smoke alarms and vice versa. Know the difference between the sound of smoke alarms and the sound of CO alarms.

3.3 Testing and Replacement

3.3.1 Test carbon monoxide (CO) alarms at least once a month and replace them if they fail to respond correctly when tested. The sensors in CO alarms have a limited life. Replace the CO alarm according to manufacturer's instructions or when the end-of-life signal sounds.

3.3.2 Know the difference between the sound of the carbon monoxide (CO) alarm and the smoke alarm, and their low-battery signals. If the audible low-battery signal sounds, replace the batteries or replace the device. If the carbon monoxide (CO) alarm still sounds, get to a fresh air location and call 9-1-1 or the fire department.

3.3.3 To keep carbon monoxide (CO) alarms working well, follow manufacturer's instructions for cleaning. The instructions are included in the package or can be found on the internet.

3.4 Inside the Home

3.4.1 Have fuel-burning heating equipment (fireplaces, furnaces, water heaters, wood stoves, coal stoves, space heaters, and portable heaters) and chimneys inspected by a professional every year.

3.4.2 Open the damper for proper ventilation before using a fireplace.

3.4.3 Never use your oven or stovetop to heat your home. The carbon monoxide (CO) gas can kill people and pets.

3.4.4 Purchase from a reputable retailer heating and cooking equipment that has the label of a recognized testing laboratory.

3.4.5 Vent the exhaust from all fuel-burning equipment to the outside to avoid carbon monoxide (CO) poisoning. Keep the venting clear and unblocked.

3.5 The Garage

3.5.1 Remove vehicles from the garage immediately after starting. Never run a vehicle or other fueled engine or motor in a garage, even if garage doors are open. Make sure the exhaust pipe of a running vehicle is not blocked with snow, ice, or other materials. The carbon monoxide (CO) gas can kill people and pets.

3.6 Appliances

3.6.1 Make sure vents for the dryer, furnace, stove, and fireplace are clear of snow and other debris.

3.6.2 Always use barbecue grills outside, away from all doors, windows, vents, and other building openings. Grills can produce carbon monoxide (CO) gas. Never use grills inside the home or the garage, even if the doors are open.

3.7 Portable Generators

3.7.1 Use portable generators outdoors in well-ventilated areas away from all doors, windows, vents, and other building openings to prevent exhaust fumes from entering the home.

3.7.2 If you are using a portable generator, make sure you have battery-operated carbon monoxide (CO) alarms or plug-in CO alarms with a battery backup in the home.

3.8 If Your Carbon Monoxide (CO) Alarm Sounds

3.8.1 Immediately move to a fresh air location (outdoors or by an open window or door). Make sure everyone inside the home is accounted for.

3.8.2 Call 9-1-1 or the fire department from the fresh air location. Remain there until emergency personnel arrive to assist you.

CHAPTER 4 Home Fire Escape

4.1 Planning

4.1.1 Make a home escape plan. Draw a map of each level of the home. Show all doors and windows. Discuss the plan with everyone in your household, including visitors.

4.1.2 Children, older adults, and people with disabilities may need assistance to wake up and get out. Make sure that someone will help them.

4.1.3 Teach your children how to escape on their own in case you cannot help them.

4.1.4 Practice your home fire drill with overnight guests.

4.1.5 Know at least two ways out of every room, if possible. Make sure all doors and windows that lead outside open easily.

4.1.6 If a room has a window air conditioner, make sure there is still a second way out of the room.

4.1.7 If you sleep with the bedroom door closed, install smoke alarms inside and outside the bedroom. For the best protection, make sure all smoke alarms are interconnected.

4.1.8 Windows with security bars, grills, and window guards should have emergency release devices.

4.1.9 Make sure everyone in your home knows how to call 9-1-1 or your local emergency number from a cell phone or from a neighbor's phone.

4.1.10 Make sure everyone in your home knows the sound and understands the warning of the smoke alarm and knows how to respond.

4.1.11 Have an outside meeting place (something permanent, like a tree, light pole, or mailbox) a safe distance in front of the home.

4.1.12 Make sure your house number can be seen from the street both day and night.

4.1.13 Have a plan for everyone in your home who has a disability.

4.2 If There Is a Fire

4.2.1 When the smoke alarm sounds, get out and stay out. Go to the outside meeting place. Call 9-1-1.

4.2.2 If there is smoke blocking the door or first way out, use your second way out.

NEW! **4.2.3** Smoke is poisonous. If you must escape through smoke, get low and go under the smoke to your way out.

4.2.4 Before opening a door, feel the doorknob and the door. If either is hot, leave the door closed and use your second way out

4.2.5 If there is smoke coming around the door, leave the door closed and use your second way out.

4.2.6 If you open a door, open it slowly. Be ready to shut it quickly if heavy smoke or fire is present.

4.2.7 If you cannot get to someone needing assistance, leave the home and call 9-1-1 or the fire department. Tell the emergency operator where the person is located.

4.2.8 If pets are trapped inside your home, tell firefighters right away. Never re-enter a burning building.

4.2.9 If you cannot get out, close the door and cover vents and cracks around the door with cloth or tape to keep smoke out. Call 9-1-1or your fire department. Say where you are and then signal for help at the window with a light-colored cloth or a flashlight.

4.3 Practicing the Home Fire Drill

4.3.1 Push the smoke alarm button to start the drill.

4.3.2 Practice what to do in case there is smoke. Get low and go. Get out fast.

4.3.3 Practice using different ways out.

4.3.4 Close doors behind you as you leave.

4.3.5 Get out and stay out. Never go back inside for people, pets, or things.

4.3.6 Go to your outside meeting place.

4.3.7 Practice your home fire escape drill twice a year with everyone in your home. Practice at night and during the daytime.

4.3.8 After you have practiced your home fire escape drill, evaluate it and discuss what worked and what needs to be improved. Improve it and practice again.

CHAPTER 5 Hotels/Motels

5.1.1 Choose a hotel that is protected by both smoke alarms and fire sprinklers.

5.1.2 When you check in, ask the desk clerk what the fire alarm sounds like. If you are deaf or hard of hearing, ask for a room equipped with a smoke alarm and accessories that will awaken you or a portable smoke alarm made specifically for people who are deaf or hard of hearing. You may want to consider bringing one with you.

5.1.3 Read the escape plan posted in your room.

5.1.4 Count the number of doors between your room and the nearest two fire exits. Open the exit doors to be sure they are unlocked.

5.1.5 Keep your room key by your bed and take it with you if there's a fire. If you cannot escape, you may have to return to your room.

5.1.6 If you hear an alarm, leave immediately, closing all doors behind you.

5.1.7 Use the stairs—never use elevators during a fire.

5.1.8 If you must escape through smoke, get low and go under the smoke to your exit.

5.1.9 If all escape routes are blocked, return to your room. Shut off fans and air conditioners. Stuff wet towels or bedding in the cracks around the doors and vents. Call the fire department to let them know your location. Wait at a window and signal for help with a flashlight or light-colored cloth.

5.1.10 Bring a flashlight; keep it near your bed.

CHAPTER 6 If You Are on Fire

6.1.1 If your clothes catch fire, stop, drop, and roll. Stop immediately, drop to the ground and cover your face with your hands. Roll over and over or back and forth until the fire is out.

6.1.2 If you cannot stop, drop, and roll, keep a blanket or towel nearby to help you or others smother flames. Cover the person with a blanket to smother the fire. If you use a wheelchair, scooter, or other device and are able to get to the floor, lock the device first to stay in place before getting on the floor to roll until the flames are out.

6.1.3 Immediately remove loose clothing or clothing with elastic bands, belts, and jewelry.

6.1.4 Treat a burn right away by putting it in cool water for 3 to 5 minutes. Cover with a clean, dry cloth. Do not apply creams, ointments, sprays, or other home remedies. Get medical help right away by calling 9-1-1 or the fire department.

CHAPTER 7 Cooking

7.1 Stay Alert

7.1.1 To prevent cooking fires, you must be alert. You will not be alert if you are sleepy, have consumed alcohol, or have taken medicine or drugs that make you drowsy.

7.2 Watch What You Heat!

7.2.1 The leading cause of fires in the kitchen is unattended cooking.

7.2.2 Stay in the kitchen when you are frying, grilling, or broiling food. If you leave the kitchen for even a short period of time, turn off the stove.

7.2.3 If you are simmering, baking, roasting, or boiling food, check it regularly, stay in the home while food is cooking, and use a timer to remind you that you're cooking.

7.3 Keeping Things That Can Catch Fire Away from Heat Sources

7.3.1 Keep anything that can catch fire—oven mitts, wooden utensils, food packaging, towels, curtains–away from your stovetop.

7.3.2 Keep the stovetop, burners, and oven clean.

7.3.3 Wear short, close-fitting, or tightly rolled sleeves when cooking. Loose clothing can dangle onto stove burners and can catch fire if it comes in contact with a gas flame or an electric burner.

7.4 What to Do If You Have a Cooking Fire

7.4.1 Always keep a lid nearby when you are cooking. If a small grease fire starts in a pan, smother the flames by carefully sliding the lid over the pan. Turn off the burner. Do not move the pan. To keep the fire from restarting, leave the lid on until the pan is completely cool.

7.4.1.1 Never pour water on a cooking pan grease fire.

7.4.1.2 Never discharge a portable fire extinguisher directly into a cooking pan grease fire because it will spread the fire.

7.4.2 In case of an oven fire, turn off the heat and keep the door closed until it is cool. After a fire, the oven should be checked and/or serviced before being used again.

7.4.3 When in doubt, just get out! When you leave, close the door behind you to help contain the fire. After you leave, call 9-1-1 or the fire department from a cell phone or a neighbor's telephone.

NEW! **7.4.4** If you know how to use a portable fire extinguisher and are capable of fighting the fire, be sure others are already getting out and that you have a clear path to the way out. Call 9-1-1 or the fire department from outside the home.

7.5 Keeping Children and Pets Away from the Cooking Area

7.5.1 Have a "kid-free zone" of at least 3 feet (1 meter) around the stove and areas where hot food or drink is prepared or carried.

7.5.2 Never hold a child while you are cooking, drinking a hot liquid, or carrying hot foods or liquids.

7.5.3 Keep pets off cooking surfaces and nearby countertops to prevent them from knocking things onto the burner.

7.6 Safe Cooking Equipment

7.6.1 Always use cooking equipment that has the label of a recognized testing laboratory.

7.6.2 Follow the manufacturer's instructions and code requirements when installing cooking equipment. Follow the manufacturer's instructions when cleaning and operating cooking equipment.

7.6.3 Plug microwave ovens or other cooking appliances directly into a wall outlet. Never use an extension cord for a cooking appliance—it can overload the circuit and cause a fire.

7.6.4 Check electrical cords for cracks, breaks, damage, or overheating. Have a professional repair the appliance or cord as needed, or replace the appliance.

7.7 Microwave Ovens

7.7.1 Place or install the microwave oven at a safe height within easy reach of all users. If possible, the face of the person using the microwave oven should be higher than the front of the microwave oven door to reduce the risk of a scald.

7.7.2 Always supervise children when they are using the microwave oven.

7.7.3 Use only microwave-safe cookware (containers or dishes). Never use aluminum foil or metal objects in a microwave oven.

7.7.4 Open microwaved food slowly and away from the face. Hot steam escaping from a container of microwaved food or the food itself can cause burns.

7.7.5 Never heat a baby bottle in a microwave oven because it heats liquids unevenly. Heat baby bottles in warm water from the faucet.

7.7.6 If your microwave is mounted over your stove, use extra caution.

7.8 Barbecue Grills

7.8.1 Propane, charcoal, and wood pellet barbecue grills must only be used outdoors. Indoor use can kill occupants by causing either a fire or carbon monoxide poisoning.

7.8.2 Place the grill well away from siding and deck railings and out from under eaves and overhanging branches according to the manufacturer's instructions. Do not store or use a grill on a porch or balcony, including any porch or balcony on an upper level of the building.

7.8.3 Place the grill a safe distance from lawn games, play areas, and foot traffic.

7.8.4 Keep children and pets away from the grill area. Have a 3-foot (1 meter) "kid-free zone" around the grill.

7.8.5 Use long-handled grilling tools to give the chef plenty of clearance from heat and flames.

7.8.6 Periodically remove grease or fat buildup in the tray(s) below the grill so it cannot be ignited by a hot grill.

7.8.7 Never leave a barbeque grill unattended.

7.9 Charcoal Grills

7.9.1 Use one of the following methods to start charcoal for cooking:

(A) If you use a charcoal chimney to start charcoal for cooking, use a long match to avoid burning your fingers when lighting the paper.

(B) If you use an electrical charcoal starter, be sure to use a grounded extension cord.

(C) If you choose to use lighter fluid, use only fluid intended for charcoal grills.

7.9.2 Never add charcoal starter fluid to coals or kindling that has already been ignited.

7.9.3 Never use gasoline or any other flammable liquid except charcoal starter or lighter fluid to start a charcoal fire.

7.9.4 Store the charcoal starter fluid out of reach of children and away from heat sources.

7.9.5 Dispose of charcoal coals only after they are cool. Empty the coals into a metal container with a tight-fitting lid that is used only to collect coals. Place the container away from anything that can burn. Never empty coals directly into a trash can.

7.10 Propane Grills

7.10.1 Check the gas tank hose for leaks before using it for the first time each year and after each time the gas tank is reconnected. A soap-and-water solution (1/3 liquid dish soap and 2/3 water) applied to the hose and connection will quickly reveal escaping propane by causing bubbles to form. If you determine by smell or by the soap bubble test that your gas tank hose and connection has a gas leak, do the following:

(1) Turn off the gas tank and grill.

(2) If the leak stops, get the grill serviced by a professional before using it again.

(3) If the leak does not stop, call the fire department.

7.10.2 Use only equipment that has the label of a recognized testing laboratory. Follow the manufacturer's instructions on how to set up the grill and maintain it.

7.10.3 Always store propane gas tanks outside of buildings or garages. Vapors leaked indoors can be easily ignited by pilot lights or electrical equipment, causing an explosion. If you store a gas grill inside during the winter, disconnect the tank or cylinder and leave it outside.

7.10.4 Light a propane grill only with the cover open.

7.11 Turkey Fryers

7.11.1 The National Fire Protection Association (NFPA) discourages the use of outdoor gas-fueled turkey fryers that immerse the turkey in hot oil. These turkey fryers use a substantial quantity of cooking oil at high temperatures, and units currently available for home use pose a significant danger that hot oil will be released at some point during the cooking process. The use of turkey fryers by consumers can lead to devastating burns or other injuries and the destruction of property.

CHAPTER 8 Burns

8.1 Preventing Scalds and Burns in the Kitchen

8.1.1 Teach children that hot things burn.

8.1.2 Place objects so they cannot be pulled down or knocked over.

8.1.3 Turn pot handles away from the stove's edge.

8.1.4 Keep appliance cords coiled and away from counter edges.

8.1.5 Keep hot foods and liquids away from table and counter edges.

8.1.6 Use dry oven mitts or potholders. Hot cookware or tableware can heat moisture in a pot holder or hot pad, resulting in a scald burn.

8.1.7 If you have young children in the home, cook on the stove's back burners.

8.1.8 When children are old enough, teach them to cook safely.

8.2 Hot Tap Water and Scald Burns

8.2.1 Set your water heater to 120 degrees Fahrenheit (49 degrees Celsius).

8.2.2 For bathing and showering, the temperature of the water should not exceed 100 degrees Fahrenheit (38 degrees Celsius).

8.2.3 If you do not install anti-scald devices on tub faucets and shower heads, adjust the thermostat setting on your water heater to 120 degrees Fahrenheit (49 degrees Celsius). The lower temperature lowers the risk of scalds and burns.

8.2.4 If you lower the temperature setting on your water heater, you will need to test the temperature at the faucet. Allow water to run 3 to 5 minutes. Test the water with a meat, candy, or cooking thermometer. If the water is hotter than 120 degrees Fahrenheit (49 degrees Celsius), adjust the temperature of the water heater and wait a full day to allow the temperature in the tank to adjust. Retest and readjust as needed.

8.2.5 If children are in the home, do not leave the bathroom while the tub is filling.

8.2.6 Before placing a child in the bath or getting into the tub yourself, test the water.

8.2.7 Fill the tub or sink by running cool water first and then adding hot water.
Turn the hot water off first. Mix the water thoroughly and check the temperature by moving your hand, wrist, and forearm through the water. The water should feel warm, not hot, to the touch.

8.2.8 When bathing a young child, seat the child facing away from the faucets so the child cannot reach the faucet. Turn the faucet to the "COLD" position.

8.2.9 Consider installing anti-scald devices on tub faucets and shower heads to prevent scalds. These devices reduce the water flow to a trickle as the water temperature nears 120 degrees Fahrenheit (49). Anti-scald devices are available online and in some hardware stores.

8.3 Treatment of Burns

8.3.1 Treat a burn right away by putting it in cool water. Cool the burn for 3 to 5 minutes. Cover with a clean, dry cloth. Do not apply creams, ointments, sprays, or other home remedies.

8.3.2 Remove all clothing, diapers, jewelry, and metal from the burned area. These can hide underlying burns and retain heat, thereby increasing skin damage.

8.3.3 Call 9-1-1 right away or see your doctor if the burn is:

(A) on the face, hands, feet, major joints, or genital area and/or bigger than the injured person's palm

(B) white, tight, dry (leathery), or painless

(C) caused by chemicals or electricity

(D) causing difficulty breathing

8.3.4 See your doctor as soon as possible if the burn:

(A) does not heal in 2 to 3 days

(B) becomes foul smelling

(C) develops thick drainage, redness, or swelling

(D) causes a fever

CHAPTER 9 Heating

9.1 General Heating

9.1.1 Have a 3-foot (1 meter) "kid-free zone" around open fires and space heaters.

9.1.2 Supervise children whenever a wood or oil stove or other space heater is being used. Use a sturdy metal screen to prevent contact burns, which are more common than flame burns.

9.1.3 All heaters need space. Keep anything that can burn at least 3 feet (1 meter) away from heating equipment.

9.1.4 Use heating equipment that has the label of a recognized testing laboratory.

9.1.5 Never use your oven or stove for heating. Ovens and stoves are not designed to heat your home.

9.1.6 Install stationary space heating equipment, water heaters, or central heating equipment according to local codes and the manufacturer's instructions.

9.1.7 Have a qualified professional install the equipment.

9.1.8 Make sure all fuel-burning vented equipment is vented to the outside to avoid carbon monoxide (CO) poisoning. Carbon monoxide is created when fuels burn incompletely. Carbon monoxide poisoning can cause illness and even death. Make sure the venting for exhaust is kept clear and unobstructed. This includes removal of snow and ice and other debris around the outlet to the outside.

9.1.9 Choose a carbon monoxide (CO) alarm that has the label of a recognized testing laboratory. Install and maintain CO alarms inside your home to provide early warning of carbon monoxide.

9.1.10 Maintain heating equipment and chimneys by having them cleaned and inspected annually by a qualified professional.

9.2 Portable Electric Space Heaters

9.2.1 Turn heaters off when you go to bed or leave the room.

9.2.2 Purchase and use only portable space heaters that have the label of a recognized testing laboratory and that have an automatic shut-off—if they tip over, they shut off.

9.2.3 Place space heaters on a solid, flat surface and keep them and their electrical cords away from things that can burn, high traffic areas, and doorways.

9.2.4 Plug space heaters directly into wall outlets and never into an extension cord or power strip.

9.2.4.1 Do not plug anything else into the same circuit as the one you are using for your space heater. Doing so could result in overheating.

9.2.4.2 Check often for a secure plug/outlet fit. If the plug does not fit snugly into the wall outlet or if the plug becomes very hot, the outlet may need to be replaced. Have a qualified electrician replace the wall outlet.

9.2.5 Inspect for cracked or damaged cords, broken plugs, or loose connections. Replace them before using the space heater.

9.3 Fuel-Burning Space Heaters

9.3.1 Always use the proper fuel as specified by the manufacturer.

9.3.2 When refueling, allow the appliance to cool first and then refuel outside.

9.3.3 When using the space heater, open a window to ensure proper ventilation.

NEW! **9.3.4** Portable kerosene heaters are illegal in some communities. Check with your local fire department before using.

NEW! **9.3.4.1** Use the proper grade of fuel in portable kerosene or other liquid-fueled space heaters.

9.3.5 All new unvented gas-fired space heaters have an oxygen depletion sensor that detects a reduced level of oxygen in the area where the heater is operating and shuts off the heater before a hazardous level of carbon monoxide accumulates. If you have an older heater without this feature, replace it with one that does.

9.3.6 If the pilot light of your gas heater goes out, allow 5 minutes or more for the gas to go away before trying to relight the pilot. Follow manufacturer's instructions when relighting the pilot. Do not allow gas to accumulate, and light the match before you turn on the gas to the pilot to avoid risk of flashback.

9.3.7 If you smell gas in your gas heater, do not light the appliance. Leave the building immediately and call 9-1-1, the fire department, or the gas company.

9.4 Wood-Burning Stoves

9.4.1 Have a qualified professional install stoves, chimney connectors, and chimneys following the manufacturer's instructions.

9.4.2 Wood stoves should bear the label of a recognized testing laboratory.

9.4.3 In wood stoves, burn only dry, seasoned wood. In pellet stoves, burn only dry, seasoned wood pellets.

9.4.4 Start the fire with newspaper, kindling, or fire starters. Never use a flammable liquid, such as lighter fluid, kerosene, or gasoline, to start a fire. They produce invisible vapors that can easily catch fire.

9.4.5 Keep the doors of your wood stove closed unless loading or stoking the live fire.

9.4.6 Allow ashes to cool before disposing of them. Place ashes in a tightly covered metal container and keep the ash container at least 10 feet (3 meters) away from the home and any other nearby buildings. Never empty the ash directly into a trash can. Douse and saturate the ashes with water.

9.4.7 Chimneys and vents need to be cleaned and inspected by a qualified professional at least once a year.

9.5 Fireplaces

9.5.1 Always use a metal or heat-tempered glass screen on a fireplace and keep it in place.

9.5.2 Burn only dry, seasoned wood. Never burn trash in the fireplace. Not only is it cleaner for the environment, it also creates less buildup in the chimney.

9.5.3 Use artificial fire logs according to manufacturer's recommendations. Never burn more than one log at a time.

9.5.4 Use only newspaper and kindling wood or fire starters to start a fire. Never use flammable liquids, such as lighter fluid, kerosene, or gasoline, to start a fire. They produce invisible vapors that can easily catch fire.

9.5.5 Chimneys and vents need to be cleaned and inspected by a qualified professional at least once a year.

9.5.6 Keep children and pets away from the outside vents. Have a "kid-free zone" of at least 3 feet (1 meter) away from the fireplace. Glass doors and screens can remain dangerously hot for several hours after the fire goes out.

9.5.7 Use chimineas, outdoor fireplaces, and fire pits outdoors only and at least 10 feet (3 meters) away from the home or anything that can burn.

9.6 Fire Pots, Personal Fireplaces, and Patio Torches

9.6.1 Fire pots, personal fireplaces, and patio torches are considered open flames and use gel fuel. Gel fuel is highly flammable. Extreme caution should be taken when using or adding fuel.

9.6.2 Never leave a lit fire pot, personal fireplace, or torch unattended.

9.6.3 Keep these devices at least one foot (1/3 meter) from anything that can burn.

9.6.4 Place the fire pot or personal fireplace on a sturdy surface.

9.6.5 Make sure patio torches are secure and not in the path of people or pets.

9.6.6 Have a "kid-free zone" of at least 3 feet (1 meter) away from fire pots, personal fireplaces, and torches.

9.6.7 Be careful reaching over the devices—clothing or hair could catch fire.

9.6.8 Use only gel fuel to refuel.

9.6.9 Citronella fuel is intended for outdoor use only.

9.6.10 Allow the device to cool for 30 to 45 minutes before refueling. Pouring gel fuel in a device that is not completely cool may result in a fire or injury.

9.6.11 If gel fuel is spilled on clothing, remove the clothing and launder immediately.

9.6.12 Store the gel fuel in its tightly sealed container away from heat sources and out of reach of children and pets.

9.6.13 Stop, drop, and roll may not put out clothing that catches fire from splattered or spilled gel fuel. A dry chemical portable fire extinguisher can be used to extinguish the fire.

9.7 Central Heating

9.7.1 Furnaces need to be inspected and serviced at least once a year by a qualified professional.

9.7.2 Keep things that can burn at least 3 feet (1 meter) away from the furnace. Keep the furnace area clean and uncluttered.

9.7.3 If you smell gas, do not light the appliance. Leave the building immediately and call 9-1-1, the fire department, or the gas company.

CHAPTER 10 Smoking

10.1.1 If you smoke, use only fire-safe cigarettes.

10.1.2 To prevent a deadly cigarette fire, you must be alert. You will not be alert if you are sleepy, have taken medicine or drugs that make you drowsy, or have consumed alcohol.

10.1.3 If you smoke, smoke outside.

NEW! **10.1.4** Never smoke in bed.

10.1.5 Never smoke where medical oxygen is used. Medical oxygen can cause materials to ignite more easily and make fires burn at a faster rate than normal. It can make an existing fire burn faster and hotter.

10.1.6 Wherever you smoke, use deep, sturdy ashtrays. If ashtrays are not available, use a metal can or pail. Never empty smoking material directly into a trash can. Place the ashtrays or metal cans away from anything that can burn.

10.1.7 Do not throw out cigarettes into vegetation, potted plants or landscaping, peat moss, dried grasses, mulch, leaves, and other similar items—they can easily catch fire.

10.1.8 Before you throw out butts and ashes, make sure they are out. Put them out in water or sand.

10.1.9 Before going to bed, check under furniture cushions and around places where people smoke for cigarette butts that may have fallen out of sight.

10.1.10 Keep cigarettes, lighters, matches, and other smoking materials up high out of the reach of children, in a locked cabinet.

CHAPTER 11 Electrical

11.1 Inside the Home

11.1.1 Electrical work should be done only by a qualified electrician. Some communities require that a person doing electrical work have a license. Find out about the laws in your area.

11.1.2 Have your home electrical system inspected by a qualified professional when buying, selling, or renovating a home.

11.1.3 Keep lamps, light fixtures, and light bulbs away from anything that can burn, including furniture, bedding, curtains, clothing, and flammable or combustible gases and liquids.

11.1.4 Use light bulbs that match the recommended wattage on the lamp or fixture.

11.1.5 If a fuse blows or a circuit breaker trips often, find out why and get the problem corrected before turning the breaker back on or replacing the fuse. Have a qualified electrician inspect and fix it.

11.1.6 Always replace blown fuses with ones of the proper rating. If the problem continues, call an electrician.

NEW! **11.1.7** Major appliances (refrigerators, stoves, washers, dryers, etc.) should be plugged directly into a wall outlet. Never use an extension cord with a major appliance—it can easily overheat and start a fire.

11.1.7.1 Small appliances should be plugged directly into a wall outlet. Unplug small appliances when not in use.

11.1.8 Window air conditioners should be plugged directly into a wall outlet. Many manufacturers of room air conditioners prohibit the use of extension cords. If the manufacturer's instructions allow extension cords, follow the instructions for the proper type.

11.1.9 Buy only appliances that have the label of a recognized testing laboratory.

11.1.10 Check electrical cords often. Replace cracked, damaged, and loose electrical or extension cords. Do not try to repair them.

11.1.11 Avoid putting cords where they can be damaged or pinched by furniture, under rugs and carpets, or across doorways.

11.1.12 Use only surge protectors or power strips that have internal overload protection. Use surge protectors or power strips that have the label of a recognized testing laboratory.

11.1.13 Extension cords are for temporary use only. Have a qualified electrician determine if additional circuits or wall outlets are needed.

11.1.14 Replace wall outlets if plugs do not fit snugly or the wall outlet does not accept plugs with one blade larger than the other.

11.1.15 All wall outlets and switches should be covered with wall plates to prevent shocks.

11.1.16 Install tamper-resistant electrical outlets if you have young children. Where replacement is not possible, install new protective outlet covers, which do not allow a child to insert an object into the wall outlet.

11.1.17 Call a qualified electrician if you have any of the following:

(A) recurring problems with blowing fuses or tripping circuit breakers

(B) a tingling feeling when you touch an electrical appliance

(C) discolored or warm wall outlets or switches

(D) a burning smell or rubbery odor coming from an appliance

(E) flickering lights

(F) sparks from a wall outlet

(G) cracked or broken wall outlets

11.1.18 Arc fault circuit interrupters (AFCIs) shut off electricity when a dangerous condition occurs. Have a qualified electrician install AFCIs in your home.

11.1.19 Ground fault circuit interrupters (GFCIs) reduce the risk of shock. GFCIs shut off electricity when it becomes a shock hazard. Make sure GFCIs are installed in bathrooms, basements, garages, outdoors, at kitchen counters, and in other locations in the home where electricity is near water.

11.1.20 Test AFCIs and GFCIs once a month by pushing the test button to make sure they are working properly.

11.2 Outside the Home

11.2.1 Electrical work should be done by a qualified electrician.

11.2.2 Keep ladders at least 10 feet (3 meters) away from overhead power lines. Use wooden or fiberglass ladders outdoors.

11.2.3 Never touch a power line. You could be injured or electrocuted. Assume that all power lines are live. Stay at a safe distance.

11.2.4 Never touch anyone or anything in contact with a downed wire. You could be injured or electrocuted.

11.2.5 Report downed power lines to authorities.

11.2.6 Some power lines are underground. Call your local authority to have lines identified and marked before digging. You can also call the national 8-1-1 “Call before you dig” number.

CHAPTER 12 Lightning

12.1 Indoor Safety

12.1.1 Follow these guidelines during a lightning storm:

(A) Stay off corded phones, computers, and other electronic equipment that put you in direct contact with electricity or plumbing.

(B) Avoid washing your hands, showering, bathing, doing laundry, or washing dishes.

(C) Stay away from windows and doors.

12.2 Outdoor safety

12.2.1 Follow these guidelines during a lightning storm:

(A) Seek shelter immediately in a building or a hard-topped vehicle.

(B) If you are in or on open water, go to land and seek shelter immediately.

(C) If you cannot get to shelter and you feel your hair stand on end, indicating that lightning is about to strike, squat low to the ground on the balls of your feet. Place your hands over your ears and put your head between your knees. Make yourself the smallest target possible and minimize your contact with the ground. This is a last resort when a building or hard-topped vehicle is not available.

12.2.2 If a person is struck by lightning, call 9-1-1 and get medical care immediately. Victims of lightning strikes carry no electrical charge, so attend to them immediately. Administer CPR if needed.

CHAPTER 13 Candles

13.1 General Candle Safety

13.1.1 Consider using battery-operated flameless candles, which can look, smell, and feel like real candles.

NEW! **13.1.2** When using candles, place them in sturdy, safe candleholders that will not burn or tip over.

13.1.3 Protect candle flames with glass chimneys or containers.

13.1.4 Keep candles at least 12 inches (30 centimeters) from anything that can burn.

13.1.5 Never leave a burning candle unattended. Burning candles can start a fire.

13.1.6 Avoid using candles in bedrooms and sleeping areas. Extinguish candles when you leave a room or the home or go to bed. Keep children and pets away from burning candles.

13.1.7 Be careful not to splatter wax when extinguishing a candle.

13.1.8 Never use a candle where medical oxygen is being used. The two can combine to create a large, unexpected fire. Medical oxygen can cause materials to ignite more easily and burn at a faster rate than normal. It can make an existing fire burn faster and hotter.

13.1.9 Always use a flashlight—not a candle—for emergency lighting.

13.1.10 Use only battery-powered lights in tents, trailers, motor homes, and boats.

13.2 Candle Use in Home Worship

13.2.1 Lit candles are used in some religious rites and ceremonies in the home. Candles should be used with care.

13.2.2 Lit candles should not be placed in windows, where blinds and curtains can close over them, causing a fire.

13.2.3 Handheld candles should not be passed from one person to another at any time.

13.2.4 To lower the risk of fire, candles should be used by only a few designated adults.

13.2.5 Candles placed on or near tables, altars, or shrines must be maintained under the supervision of an adult.

13.2.6 Place candles in sturdy, noncombustible candle holders that do not allow dripping wax to escape through the bottom of the holder.

13.2.7 If a sturdy, noncombustible candle holder is not available, place the candle on a noncombustible plate.

13.2.8 A handheld candle should be put out before the person holding it moves from the place of initial lighting. Once it is put out, the candle should be placed in an approved, noncombustible container.

13.2.9 The best way to avoid getting burned from splashed wax is to use a candle snuffer instead of blowing on the flame.

CHAPTER 14 Matches and Lighters

14.1.1 Keep matches and lighters high out of the reach of children, in a locked cabinet.

14.1.2 Purchase and use only child-resistant lighters.

14.1.3 Lighters that look like toys can confuse children and cause fires, injuries, and death. Do not buy or use them.

14.1.4 Teach young children to tell a grownup when they find matches or lighters and to never touch matches or lighters.

CHAPTER 15 Outdoor Burning

15.1.1 Check with your local fire department or municipality for any restrictions before starting an open-air, recreational, or outdoor cooking fire. Obtain proper permits, if required. You might not be permitted to do outdoor burning in some municipalities and during some seasons.

15.1.2 Closely supervise all outdoor fires. Make sure the fire is out before leaving.

15.1.3 Supervise children around any fire outdoors, including campfires, fire pits, chimineas, and outdoor fireplaces.

15.1.4 Permitted open fires (such as bonfires or trash fires) need to be at least 50 feet (15 meters) from anything that can burn.

15.1.5 Permitted recreational fires (such as campfires or fire pits) need to be at least 25 feet (8 meters) away from anything that can burn.

15.1.6 Avoid burning on windy, dry days. When conditions are windy or dry, it is easy for open burning to spread out of control.

15.1.7 Where outdoor burning is allowed, never use gasoline or other flammable or combustible liquids.

15.1.8 When burning, have a hose, bucket of water, or shovel and dirt or sand nearby to extinguish the fire.

CHAPTER 16 Medical Oxygen

16.1.1 A patient on oxygen should not smoke.

16.1.2 Never smoke in a home where medical oxygen is used. Medical oxygen can cause material to ignite more easily and make fires burn at a faster rate than normal. It can make an existing fire burn faster and hotter.

16.1.3 Post “No Smoking” and “No Open Flames” signs inside and outside the home to remind residents and guests not to smoke.

16.1.4 Keep oxygen cylinders at least 5 feet (1.5 meters) from a heat source, open flames, or electrical devices.

16.1.5 Body oil, hand lotion, and items containing oil and grease can easily ignite. Keep oil and grease away from where oxygen is in use.

16.1.6 Never use aerosol sprays containing combustible materials near the oxygen.

16.1.7 If medical oxygen or an oxygen tank is used in the home, the amount of oxygen in the air, furniture, clothing, hair, and bedding can increase, making it easier for a fire to start and spread. This means that there is a higher risk of fires and burns.

16.1.8 Never use a candle, match, lighter, or other open flame; a fireplace, stove, or other device fueled by gas, kerosene, wood, or coal; or a sparking toy when medical oxygen is in use. Medical oxygen can cause material to ignite more easily and make fires burn at a faster rate than normal. It can make an existing fire burn faster and hotter.

CHAPTER 17 Portable Fire Extinguishers and Fire Fighting

17.1.1 As a general rule, fire fighting should be left to the fire department.

17.1.2 Only adults who know how to use portable fire extinguishers should use them.

NEW! **17.1.3** Before trying to fight a fire, be sure that:

- You know how to use the fire extinguisher and it is the correct type.
- Everyone else has left the home and someone is calling the fire department.
- The fire is small, confined, and not spreading.
- You have a clear escape route.

NEW! **17.1.3.1** If the fire does not go out after using one extinguisher, back out of the room and get outside.

17.1.4 If you have portable fire extinguishers, inspect them monthly and have them serviced annually.

17.1.5 Where portable fire extinguishers are installed in the home, follow the manufacturer's instructions for placement and mounting height.

17.1.6 As a general rule, where portable fire extinguishers are installed, a person should not have to travel far [more than 40 feet (12 meters) to reach one and never have to travel up or down stairs to reach it.

17.1.7 As a general rule, portable fire extinguishers for the home should have a rating of at least 2-A:10-B:C

CHAPTER 18 Clothes Dryers

18.1.1 Have your dryer installed and serviced by a professional.

18.1.2 Do not use the dryer without a lint filter.

18.1.3 Clean out the dryer's lint filter before each use of the dryer. Remove the lint that has collected around the drum.

18.1.4 Clean lint out of the vent pipe quarterly or more often if you notice that it is taking longer than usual for your clothes to dry, or have a dryer lint removal service do it for you.

18.1.5 Rigid or flexible metal venting material should be used to sustain proper air flow and drying time to reduce the risk of fire or fire spread.

18.1.6 Make sure the air exhaust vent pipe is not restricted and the outdoor vent flap will open when the dryer is operating.

18.1.7 Make sure the right plug and wall outlet are used and that the machine is connected properly.

18.1.8 Keep dryers in good working order. Gas dryers should be inspected by a professional to make sure that the gas line and connection are intact and free of leaks.

18.1.9 Follow the manufacturer's operating instructions. Do not overload the dryer.

18.1.10 Turn off the dryer when you leave home or go to bed.

NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471
www.nfpa.org/education

This page intentionally left blank.

GLOSSARY/ACRONYMS

This page intentionally left blank.

GLOSSARY

Action Plan	A plan that incorporates evaluation to describe, in measurable terms, the strategic components of a risk-reduction program.
Causal Chain Analysis	Explores the factors that directly contribute to the cause of a risk.
Community Risk Assessment	A multistep process that gathers and analyzes information about the community. A community risk assessment examines problem- and people-related data.
Community Risk Reduction	The identification and prioritization of risk, followed by the coordinated application of resources to minimize occurrence of unwanted events.
Cost-Benefit Analysis	Weighs the total expected costs against the total expected benefits of one or more actions to ultimately select the best option.
Economic Incentives	Money, goods or services offered to people in exchange for cooperation in reducing a risk. Also includes fines or other penalties for lack of compliance with policies.
Education	Designed to raise awareness and knowledge of a risk and steps designed to help reduce that risk.
Emergency Response	Increasing or improving the effectiveness of a department's ability to handle a risk.
Enforcement	Reducing a risk through enactment of public policy and its enforcement.
Engineering	Methods used to modify a product or the environment as a way to prevent and/or reduce the effect of a risk.
Five E's	Education, engineering, enforcement, economic incentives and emergency response.
Formative Stage of Evaluation	Evaluation of a program's planning process to ensure that the program has the potential to reach the target audience and meet program objectives.

Impact Stage of Evaluation	Measuring to what extent a program is facilitating knowledge, behavioral, environmental and lifestyle changes among a target population. Impact evaluation also measures the adoption of public policy.
In-Kind Support	An ancillary resource that supports a risk-reduction program through the donation of a person's time and/or materials.
Outcome Stage of Evaluation	Determining if a program is decreasing a targeted risk over the long term.
People-Related Data	Builds a demographic profile of a community and the people who live and work there.
Problem-Related Data	Explores risk through four variables: the **frequency** with which a risk is occurring; the **severity** of a risk in terms of loss; the estimated **duration** of a risk when it occurs; and the **capacity** of the community to respond and manage the impact of a risk.
Problem Statement	A clear and concise problem statement provides the rationale for why the identified risk should be addressed. It also promotes ownership of the risk which can be used to create a sense of urgency to take action.
Process Stage of Evaluation	Monitoring a program's implementation, its outreach and overall operation.
Program Goal	Written as a broad general statement of a desired overall outcome.
Risk	The vulnerability for harm or damage to life, property or community.
SMART	Objectives that are **S**pecific, **M**easurable, **A**chievable, **R**ealistic (Relevant) and **T**ime framed (Time bound).
Stakeholders	Those who are performing actions that are contributing to the problem, affected by the problem, or logical individuals and agencies to help solve the problem.

ACRONYMS

AHJ	authority having jurisdiction
BPCRR	Best Practices in Community Risk Reduction
CARES	Children ARE Safe
EMD	Educational Messages Document
FEMA	Federal Emergency Management Agency
FP&S	Fire Prevention and Safety
GFCI	Ground Fault Circuit Interrupter
HIPPA	Healthcare Information Privacy Protection Act
IG	Instructor Guide
KSAs	knowledge, skills and abilities
MOUs	Memorandums of Understanding
NFA	National Fire Academy
NFIRS	National Fire Incident Reporting System
NFPA	National Fire Protection Association
NPO	nonprofit organization
PSA	public service announcement
SCBA	self-contained breathing apparatus
SM	Student Manual
SOP	standard operating procedure
USFA	U.S. Fire Administration
WUI	wildland urban interface
YFPI	Youth Firesetting Prevention and Intervention

This page intentionally left blank.