Vision 20/20
National Strategies for Fire Loss Prevention

Community Risk Reduction (CRR)
Leading the Way to Safer Communities
Our Approach

Community Risk Reduction (CRR):

Community Risk Reduction (CRR) is a process to identify and prioritize local risks, followed by the integrated and strategic investment of resources (emergency response and prevention) to reduce their occurrence and impact.
Our Approach

**Integrated Community Risk Reduction**

Coordinates emergency operations with prevention and mitigation efforts—community wide and ideally at the station level.
An approach that helps to:

- Identify and prioritize fire and life safety risks
- Determine how to prevent or mitigate risks
- Focus your efforts and resources
- Become more of a community player
- Benefit the department
  (enhanced community relations; manage call volumes; help with accreditations, ISO, firefighter & emergency responder safety, 16 NFFF initiatives)
Why do we need CRR?

- City and fire budgets increasing scrutinized
- New and emerging hazards present
- Changing community demographics
- High risk residents remain underserved
- Improve firefighter safety & occupational health
- Manage increasing call volume
- Improve community Relations
Six Steps of the CRR Approach

1. Identify Risks
2. Prioritize Risks
3. Develop Strategies & Tactics to Mitigate Risks
4. Prepare the CRR Plan
5. Implement the CRR Plan
6. Monitor, Evaluate and Modify Plan

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National Strategies for Fire Loss Prevention
Involve Community Partners in all Steps

Potential Community Partners

- Public Health
- CERT Organizers
- Senior Services
- Social Services
- Police
- HUD Health Homes
- Faith-based Organizations
- Neighborhood Associations
- Local Businesses
- Community Advocates
- American Red Cross
- EPA/Radon
CRR is not a new concept...

• Has been done for several years with much success in:
  United Kingdom
  New Zealand
  Australia
  Canada

• CRR has also been done in the US—although sporadically and on a much smaller scale.
CRR in the United States...

- Edmonds, WA
- Philadelphia, PA
- Tucson, AZ
- Tualatin Valley, OR
- Tennessee (statewide)
- Rio Rico, AZ
- SBM Fire, MN
Community Risk Reduction Impact Video
United States Efforts
CRR—Identify and Assess Risks

Terminology

- Risk
- Hazard
- Loss
- Prevention
- Mitigation
**Terminology**

**Risk**—The potential that a chosen action/activity (*including inaction*) will lead to an undesirable outcome or “loss.”

**Hazard**—A natural or man-made source or cause of harm or difficulty. A hazard can be actual or potential. Known physical features that can ignite and sustain combustion, or existing features (natural or man made) that have the potential to cause negative impacts to life, property and/or natural resources.
**Terminology continued...**

**Loss**—Death, injury, property damage, or other adverse or unwelcome circumstance.

**Prevention**—An action that stops something from happening.

**Mitigation**—An effort to reduce the impact/loss of something.
Prevention or Mitigation?

The military installs new *kitchen cook top* technology that keeps heat below ignition *temperatures* in all base homes.
Prevention or Mitigation?

A community establishes the goals and provides resources to respond to all emergencies in 5 minutes or less 90% of the time.
Identify Risks

Prioritize Risks

Prepare the CRR Plan

Develop Strategies & Tactics to Mitigate Risks

Implement the CRR Plan

Monitor, Evaluate and Modify Plan
Risks

What are some common risks in your area?

• Residential fires
• Wildland fires
• Falls
• Drownings
• Poisonings
• Bicycle & skateboard incidents
• Hazardous material incidents
• Motor vehicle incidents
• Medical risks
How do you know your top risks?

Know common risks from:

- Fire/EMS call data
- Fire/EMS incident report data
- Dispatch operators’ experience
- Firefighters’ experience

Keep in mind, even stations near each other can face different top risks.
Learn More About Each Risk

Ask:

• Why is each risk occurring?
• Who is it affecting?
• When is it occurring?
• Where is it occurring?

Answering these questions will help you brainstorm the best strategies to reduce each risk for your area.
What are some risk factors for house fires?

- Low income
- Low literacy
- People who smoke
- Young children
- Older adults
- People with disabilities
- Multi-family homes
- College student housing
- Racial and cultural factors
- Rural areas
- High population-density areas
- Older homes not well maintained
- Manufactured homes

Knowing these social, economic factors, environmental elements, cultural influences, and risk factors in a specific population, will help you select & focus effective strategies.
Risk Assessment: Simple or Sophisticated

Philadelphia Example

• Each engine/ladder company chose one high-risk Area (of one block).

• Risk areas were determined by the company’s recent fire experience.
Risk Assessment: Simple or Sophisticated

Wilmington, NC Example

- Residential and home fire incident data were highlighted in GIS mapping to show “hot” spots
- Central administration identified stations serving those “hot spots
Wilmington, NC

Where are the high-risk areas?
Wilmington, NC

Fire stations in the high-risk areas:

Stations 1, 3 & 5

Based on historical incident data from previous years
Wilmington, NC

Fire stations serving the University of North Carolina–Wilmington:

Stations 4 & 8

Risks may vary based on housing & demographic data.
Risk Assessment for Deployment

Model relies primarily on incident data—frequency, type, location

Also low frequency rates but high risk (hazardous operations, hospitals, etc.)

Helps determine stations, apparatus, personnel, etc.
Demographic data helps to:

Learn more about who lives in the area with high incidents of fires/EMS.

Focus efforts more efficiently and effectively.

American FactFinder

http://factfinder2.census.gov/

www.usa.com
Overall—Prioritizing Risk

Think about probability and potential consequences, prioritize risks

Solicit input from firefighters, inspectors, investigators, community partners

In the end, you must make the hard decision of what risk(s) to focus on
Community Risk Assessment Guide

http://www.strategicfire.org
Identify Risks

Prioritize Risks

Develop Strategies & Tactics to Mitigate Risks

Prepare the CRR Plan

Implement the CRR Plan

Monitor, Evaluate and Modify Plan
Five Types of Prevention/Mitigation Strategies

The Five E’s

- Emergency Response
- Education
- Engineering
- Enforcement
- Economic Incentive
Emergency Response

Effective emergency response can mitigate the loss of an unintentional injury, and save lives.

**Examples**

- Appropriate equipment
- Trained responders
- Timing of response
- Appropriate staffing
- Efficient use of resources (targeted to risk)
Education raises awareness and knowledge of fire safety, and is the first step of producing desired low-risk behavior.

Examples

School curriculum
Station tours
Presentations
Door-to-door

Flyers/Brochures
Advertisements/Articles
Media (including social)
Website tools/content
Engineering

New Products/Technology

Modifying the product or the environment to prevent or mitigate injury and death.

Examples

Child car seats
Automobile air bags
Fire sprinklers
Ground Fault Circuit Interrupter (GFCI)

Helmets (bike & sport)
Smoke alarms
Construction design
Heat-regulating stove elements
Smoke Alarms
Enforcement

• Reduce risks (hazards) through legislation and its enforcement.
• Typically done through inspections with penalties for non compliance.

Examples

Fire Code adopted & enforced
Fire sprinklers required
Fireworks regulated
Smoke alarms required
Economic Incentives

Economic incentives ($) are offered to encourage people to make certain choices, or behave in certain ways.

**Examples**

- Free smoke alarms and installation
- Tax credit for installing sprinkler system
- Construction or water supply trade-offs for fire sprinklers
- Fines/penalties for non-compliance
Multiple E’s Example

Home Safety Visits – The Core of CRR Success

• What E strategies are used in “home visits”?
  – Education?
  – Engineering?
  – Enforcement?
  – Economic Incentives?
  – Emergency Response?
E’s for Home Safety Visits

**Education**—Talk with resident about fire safety, alarm testing & maintenance, and practicing home fire escape.

**Engineering**—Test and install smoke alarms.

**Enforcement**—Provide for free; good for occupants and fire department (firefighter safety is added value).
Home Visits How-To Guide

HomeSafetyVisit.org

Guide details all the steps of planning and implementing a home safety visit program for your community.
Home Safety Visit App

- Provides a series of brief videos that can be shown on smartphones and tablet computers when doing home safety visits.
- Focuses on cooking, heating, smoke alarms & speed of fire.
- Each video available in English, American Sign Language, Mandarin Chinese, & Spanish.
Home Safety Visit App continued...

- Designed for home safety visits; could be used elsewhere

- Designed to reach anyone—but especially:
  - Adults with low literacy skills
  - English as a second language

- Self-contained, does not need internet connection once app is downloaded

- App for iPad, tablets or smart phones
Home Safety Visit App Video
Identify Risks

Prioritize Risks

Develop Strategies & Tactics to Mitigate Risks

Monitor, Evaluate and Modify Plan

Implement the CRR Plan

Prepare the CRR Plan
Common Elements

- Integrates prevention & mitigation strategies
- Identifies action items
- Local Focus
- Seeks to reduce risk
Ideally, CRR Plans:

- Outline vision, mission, values, and priorities
- Describe the community/service area
- Identify fire/EMS risks & rank their priority
- Identify prevention/mitigation strategies
- Provide a basic implementation plan for strategies
- Identify measures for monitoring & evaluation
Community Risk Reduction Planning Guide

http://www.strategicfire.org
Identify Risks

Prioritize Risks

Develop Strategies & Tactics to Mitigate Risks

Prepare the CRR Plan

Monitor, Evaluate and Modify Plan

Implement the CRR Plan
How do you implement a program?

- Identify & allocate needed resources
- Make adjustments as needed
- Prepare a timeline with milestones
- Assign responsibilities
- Communicate goals & expectations
- Monitor progress
More than one way:

- Fire department centered *(Wilmington, NC)*
- Community partner centered *(Tucson, AZ)*
- Statewide – Tennessee State Fire Marshal
Can be quick & focused...

Example: Philadelphia’s *Operation Staying Alive*

- Installed 7,000 alarms in one month—program continues
- Involved every company
- Each station identified own risk areas based on experience
- Firefighters conducted home visits in teams of two
- Prevention staff collected forms & entered data weekly
- Reported progress weekly to the commissioner, deputy chief, and battalion chiefs
Or slow, methodical & comprehensive...

Example: Merseyside Fire & Rescue *Home Visits*

- Done over 12 years time—sustained
- Visited virtually every home in district
- Focused on *behavior change*—not just alarms
- Reduced fire incidents by >30% and fire deaths by >50% over that time period
Or rely more heavily on a partner...

**Example: Tucson (AZ) Fire Department**

- Done with the *Sonoran Environmental Research Research Institute* (SERI)—already doing home safety visits
- Minimal fire department involvement/supervision
- Focused on behavior change—not just alarms
- Getting into homes fire department could not

Tucson Fire is now revisiting the program and getting fire department staff actively involved in CRR planning &
Identify & Overcome Barriers to Implementation

Department culture
Lack of confidence
Lack of interest on the part of personnel
Time constraints
Budgetary constraints
Lack of upper management support
Lack of trust with community members
No community (i.e., industrial area, wildland area)
Concerns over liability, lack of training in doing home visits
Volunteer vs. paid department – labor agreements
Lack of resources

What are some methods or ways to overcome these barriers, and obstacles?
Vision 20/20 Study: *Firefighter Attitudes*

- Recent national firefighter survey conducted for Vision 20/20 revealed that firefighters saw value of CRR efforts in increased public and firefighter survey.

- But highest value was placed on improving community relations.

- May be a high selling point for CRR efforts within the fire service.

* Full report at [www.strategicfire.org](http://www.strategicfire.org)
Identify Risks

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## Identify Evaluation Stages

**Formative Measures**

<table>
<thead>
<tr>
<th>The service area risk assessment</th>
<th>Decision-making about which risk is appropriate for the station’s focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determining need for the program</td>
<td>Determination about the target audience</td>
</tr>
<tr>
<td>Identifying program activities and resources needed</td>
<td></td>
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</tbody>
</table>
Identify Evaluation Stages

<table>
<thead>
<tr>
<th>Process Measures</th>
<th>Impact/Outcome Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Track progress towards goal</td>
<td>• Did you achieve short (impact)/long-term (outcome) goals?</td>
</tr>
<tr>
<td>• Example: <em>number of homes visited</em>, <em>smoke alarms installed</em></td>
<td>• May take years to see (outcome)</td>
</tr>
<tr>
<td>• Examines the process of program delivery</td>
<td>• Example: <em>reduction in residential fires per 1,000 citizens in 5-year period</em></td>
</tr>
</tbody>
</table>
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Resources
CRR Online Training

- www.strategicfire.org: *Community Risk Reduction* tab

- Free online training; overview of CRR concepts for the fire service – IFSTA Resource One
Evaluation Resources

www.strategicfire.org:
    Webinars and report
Vision 20/20 Online Training Course
Guide to Evaluating Public Education Programs, USFA
Fire is Everyone’s Fight™

http://www.usfa.fema.gov/prevention/outreach/fief/
Other CRR Materials

- CRR Postcard
- CRR One Sheet Explanation
- CRR Overview
- Videos
About Us

Vision 20/20 is hosted by the Institution of Fire Engineers, USA Branch
It grew from a grassroots effort to provide a forum for sustained, collaborative planning to reduce fire loss in the United States.

Major funding since inception in 2008 for the project is from the FEMA Assistance to Firefighters Grants
Thank You!