



City of Grand Island

Saturday, April 28, 2012

Study Session

Item -5

Attachment C - Vision 20/20 "Community Risk Reduction"

Staff Contact: Mary Lou Brown

Attachment C Vision 20/20 “Community Risk Reduction”

Community Risk Reduction (CRR) for Fire Department Leaders



Supported by Centers for Disease
Control and Prevention

Community Risk Reduction

I. Introduction

CRR – Introduction

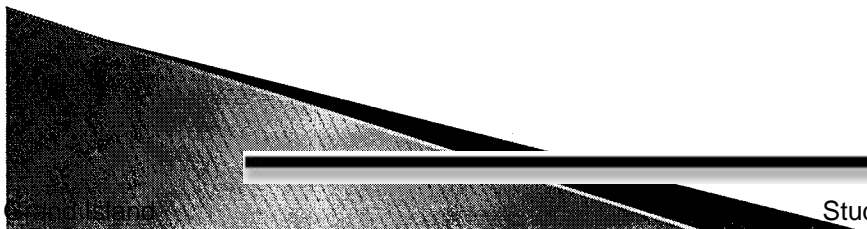
Participant & Instructor Introductions

- **Name**
- **Position/Role**
- **Experience with CRR**

Prime Example of CRR at work:

Merseyside Fire & Rescue, UK

- Doing CRR for 12 years now (called IRM there)
- Nationally mandated standard for the last 6 years
- Strategy includes home visits and referrals to other health and social services
- Reduced fire deaths by 50%

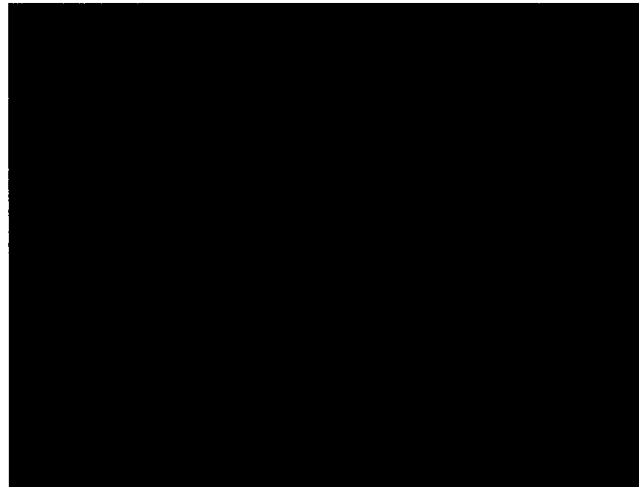


CRR - Introduction

Merseyside, UK - Fire Rescue Video

Every Street 1999-2009

-(2 mins & 26 seconds)

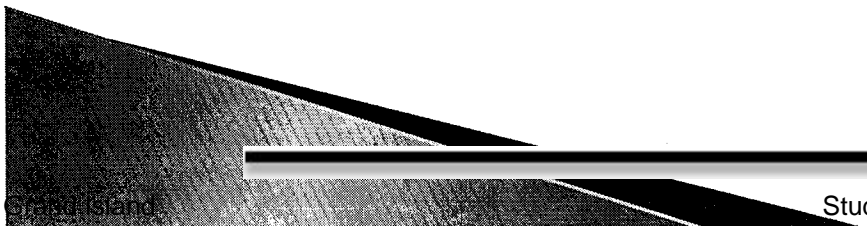


CRR - Introduction

What is Community Risk Reduction (CRR)?

CRR is an approach that helps you:

- Identify fire and life safety risks
- Prioritize those risks
- Determine how to prevent or mitigate risks
- Focus your efforts
- Become more of a community player



CRR - Introduction

Why do we need CRR?

- City and fire service budgets are being slashed
- Facing new and emerging hazards
- Community demographics are changing
- Still not reaching high risk residents who continue to be more likely to die from fire
- Firefighter safety and occupational health

CRR – Introduction

Station Nightclub Fire, West Warwick, RI February 2003

- 100 die - 230 injured - 132 escaped
- No sprinklers
- Combustible interior
- Fireworks inside without permit
- Fire was so fast no time to exit
- Exits met the code – but they were not used

What could've prevented/mitigated this fire?

CRR – Introduction

Fire may have Prevented/ Mitigated by:

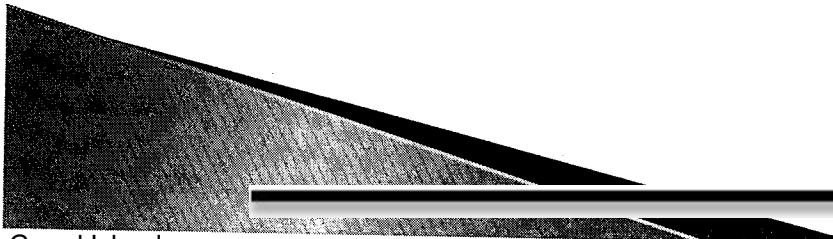
- Sprinklers
- Adequate fire code inspection
- Permits for using fireworks
- Fire safety education for staff
- Practice drills
- Pre-plans
- Clear exits – actively promoted

All potential CRR strategies

CRR - Introduction

Characteristics of CRR

- **Proactive**
- **Integrated** – balances emergency response & prevention
- **Community-based** - ideally fire station-based
- **Data driven** – fire/EMS, demographics, housing
- **Involves community partners**
- **Effective** – reduces risk
- **Efficient** - responsive to resource constraints



CRR - Introduction

6 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, & Modify Plan as Needed

CRR - Introduction

Involve Community Partners in all Steps

Potential Community Partners

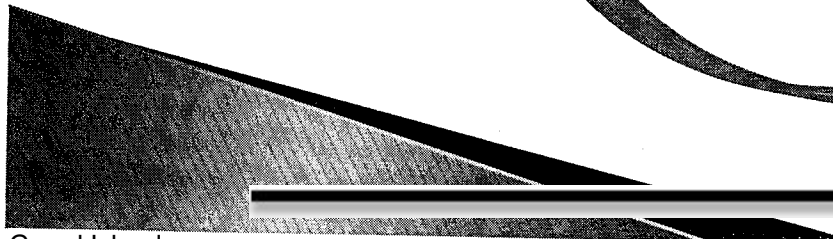
- Public Health
- CERT Organizers
- Senior Services
- Social Services
- Police
- Faith-based Organizations
- Neighborhood Associations
- Local Businesses
- Community Advocates
- Utility Companies

Community Risk Reduction:

- Your Experience
- Lesson Activities
- Other Participants
- Instructor Input
- CRR Case Studies
- Handouts
- Resources

Help you develop & implement a CRR Plan

1. Vision, Mission & More
2. Service Area
3. Risks
4. Strategies
5. Implementation
6. Monitoring & Evaluation



CRR -Introduction

CRR is not a new concept

- UK, NZ, AU, CA been doing for several years now with much success
- Also been done in the US – although sporadically and on a much smaller scale.

CRR - Introduction

Purpose of Training

- Introduce the CRR approach
- Cover basics for preparing a CRR station plan
- Inspire/motivate you to do CRR
- Provide additional resources to assist you

CRR – Introduction

Specific Objectives of Training

1. Know what Community Risk Reduction (CRR) means
2. Identify the 6 Steps of CRR
3. Know the benefits of CRR
4. Identify at least 3 kinds of data needed
5. Identify types of people and places most at risk
6. Define the “5 E’s” for reducing risk
7. Identify a common model practice CRR strategy

CRR –Small Group Activity #1

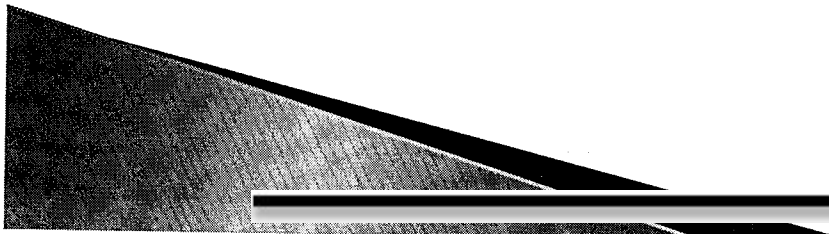
Community Risk Reduction in the USA

Instructions:

- Split into groups
- Read the case study
- Complete the Case Study Worksheet
- Be prepared to share your answers to the group

Community Risk Reduction

II. CRR Terminology

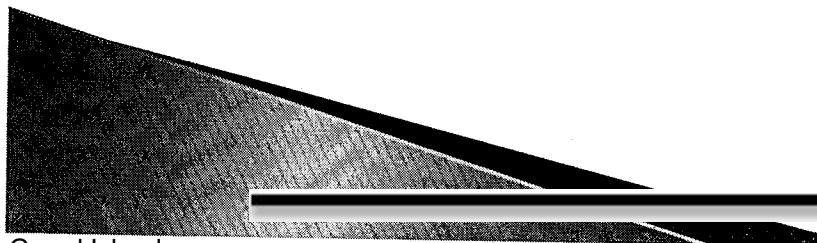


A Key Term:

- Risk ?

“Risk”

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



CRR – Terminology

Key Term:

- **Loss ?**

CRR – Terminology

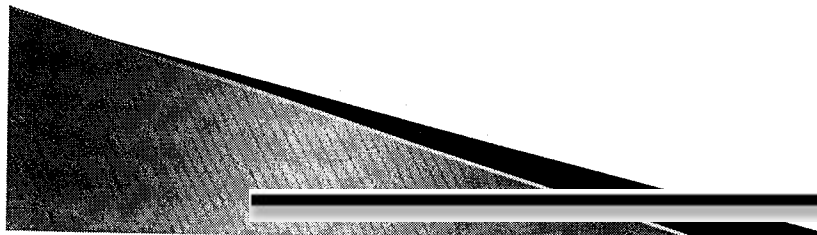
“Loss”

Death, injury, property damage,
or other adverse or unwelcome
circumstance.

CRR – Terminology

Key Term:

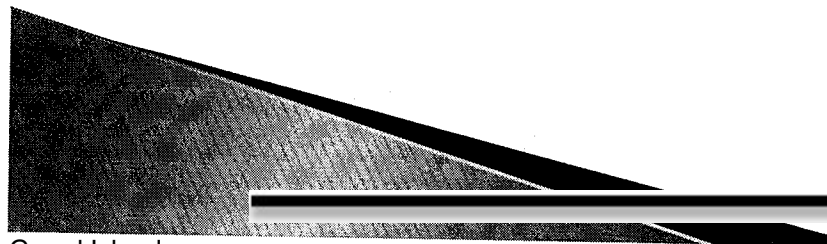
- **Prevention ?**



CRR – Terminology

“Prevention”

Keep something from happening



CRR – Terminology

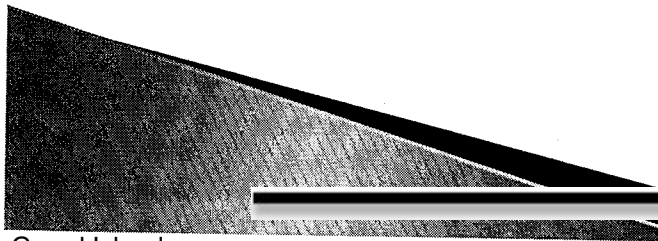
Key Term:

- **Mitigation ?**

CRR – Terminology

“Mitigation”

Efforts to reduce the impact/loss



CRR - Terminology

Some Exercises

Q: Prevention or Mitigation?

The military installs new **kitchen cook top technology** in all base homes.

CRR - Terminology

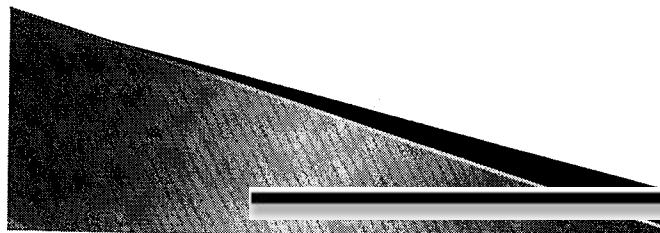
The military installs new **kitchen cook top technology** in all base homes.

Prevention

CRR Terminology

Q: Prevention or Mitigation?

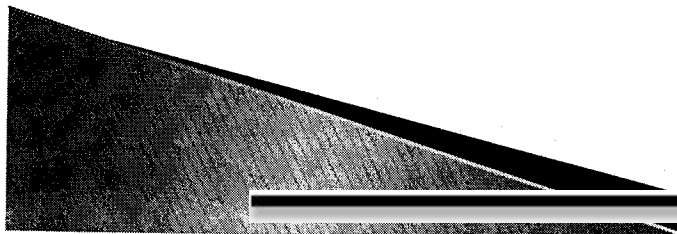
A resident living in an area at high risk for wildfires **eliminates vegetation** close by their home.



CRR - Terminology

A resident living in an area at high risk for wildfires **eliminates vegetation** close by their home.

Mitigation



CRR - Terminology

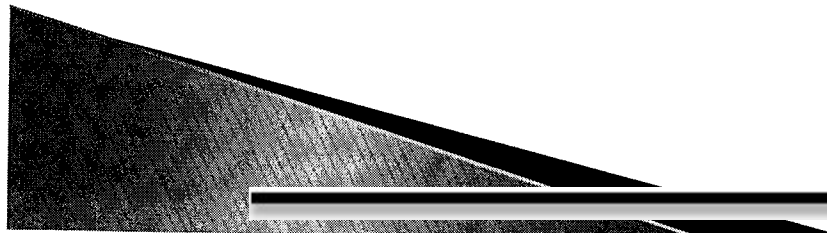
Q: Prevention or Mitigation?

A city mandates **sprinklers** in
all new construction

CRR - Terminology

A city mandates **sprinklers** in
all new construction

Mitigation



CRR - Terminology

Q: Prevention or Mitigation?

A city initiates a fire safety
**education program in
schools**

CRR - Terminology

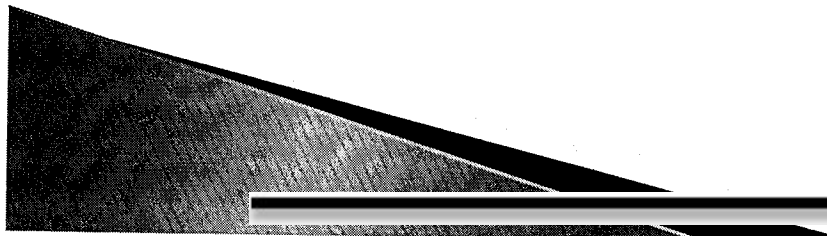
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Prevention

CRR - Terminology

Q: Prevention or Mitigation?

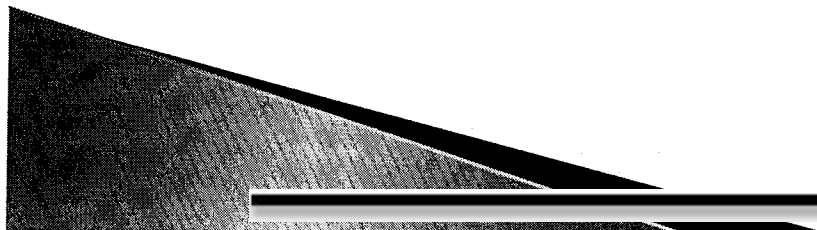
A new program **installs smoke alarms** in high risk homes.



CRR - Terminology

A new program **installs smoke alarms** in high risk homes.

Mitigation



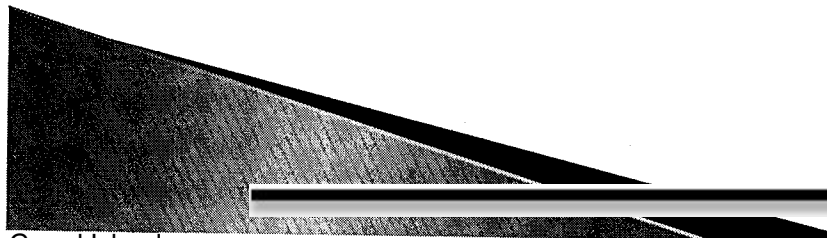
Community Risk Reduction

III. Identifying and Prioritizing Risks *(CRR Process Steps 1 & 2)*

CRR – Risks

“The more we know about which groups are at greatest risk and under what circumstances, the more effective we can be at targeting resources and developing the means to mitigate these risks.”

U.S. Unintentional Fire Death Rates by State
John R. Hall, Jr., May 2010.



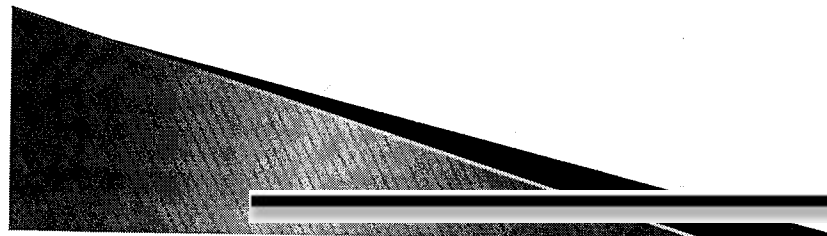
CRR -Risks

- 1. What are some common risks in your area?***

CRR – Risks

Common Community Risks:

- Residential fires
- Wildland fires
- Falls
- Drownings
- Poisonings
- Bicycle & skateboard incidents
- Hazardous materials incidents
- Motor vehicle/traffic incidents



CRR -Risks

2. *How do you know your top risks?*

CRR – 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.

CRR – 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.

CRR – Risks

3. What are some risk factors for house fires?

CRR – Risks

Household Risk Indicators for Fire

- Low income
- Low education
- People who smoke
- Young children
- Older adults
- People with disabilities
- Multi-family homes
- College student housing
- Ethnic and racial occupants
- Rural areas
- High population density areas
- Older homes-not well maintained
- Manufactured homes

Knowing these will help you select & focus
strategies

CRR – Risks

Risk Assessment: Simple or Sophisticated

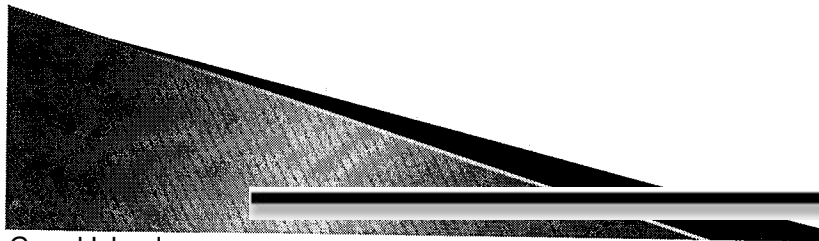
Philadelphia Example

- Each Engine/Ladder company chose one High Risk Area (of 1 block)
- Risk areas were determined by the company's recent fire experience

CRR – Risks

Wilmington, NC Example

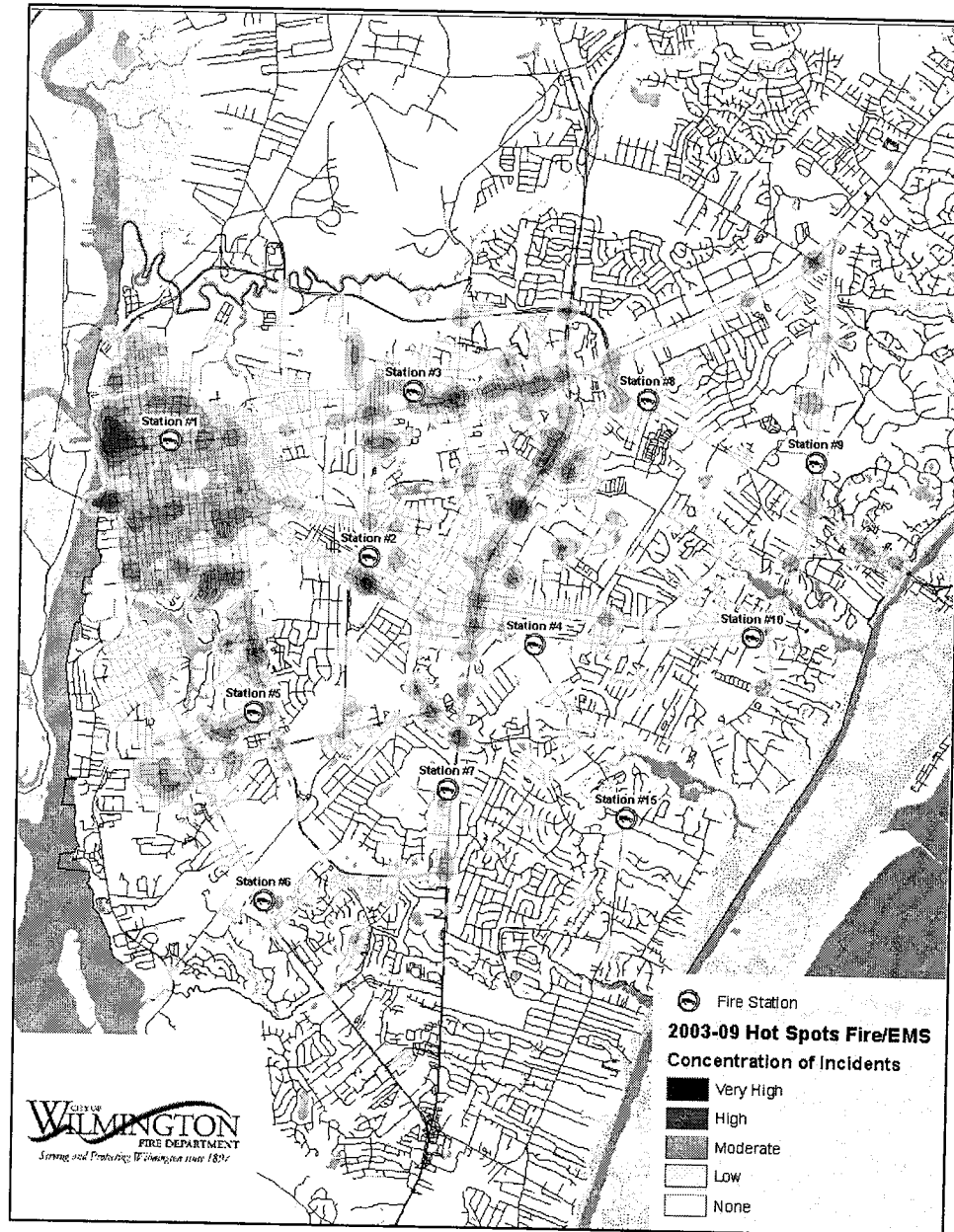
- Residential and home fire incident data were highlighted in GIS mapping to show “hot” spots
- Central administration identified stations serving those “hot spots”



CRR - Risks

Wilmington

*Where are
the high risk
areas?*



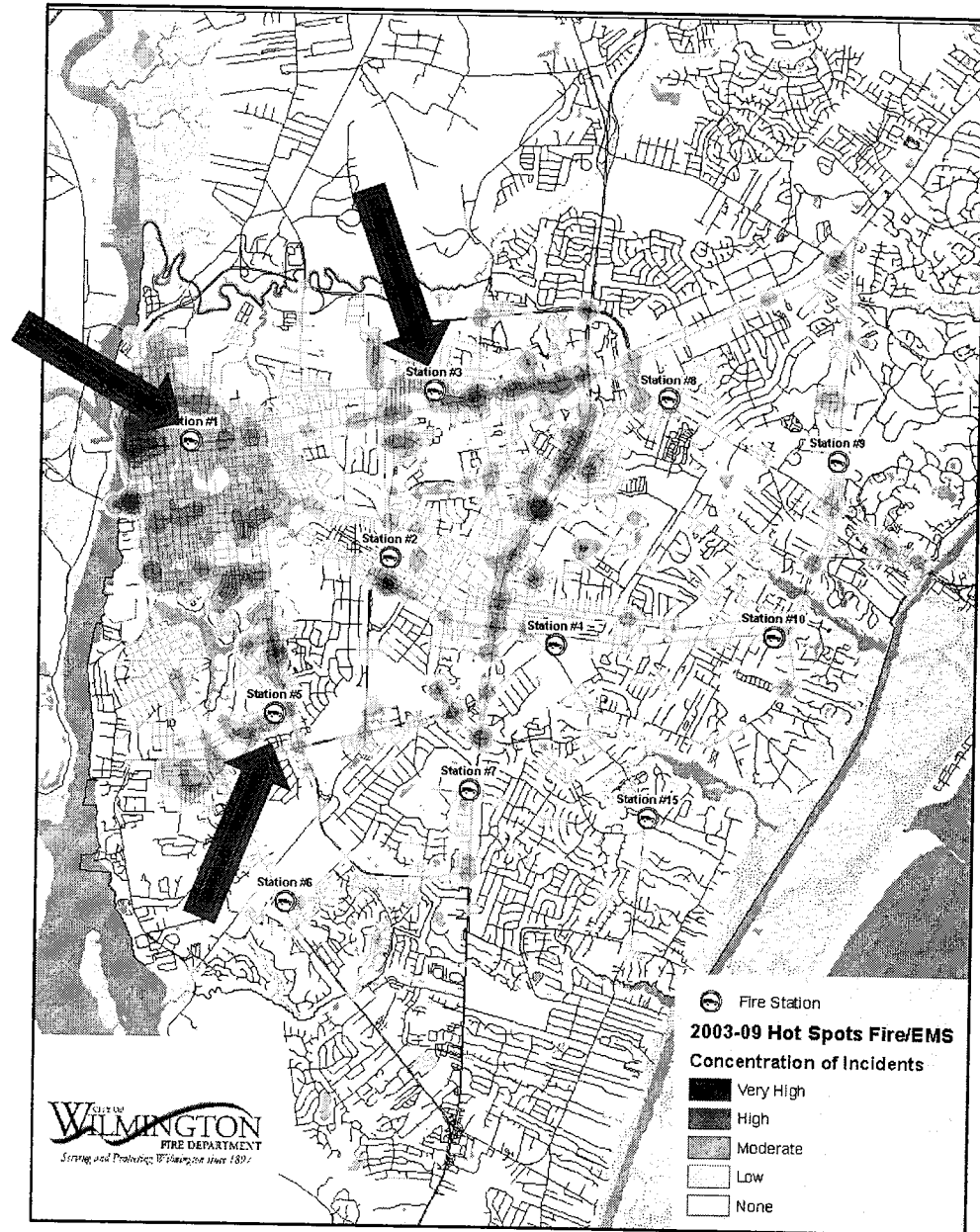
CRR - Risks

Wilmington

Fire Stations
in High Risk Areas

#1 #3 #5

Based on incidence
over several years



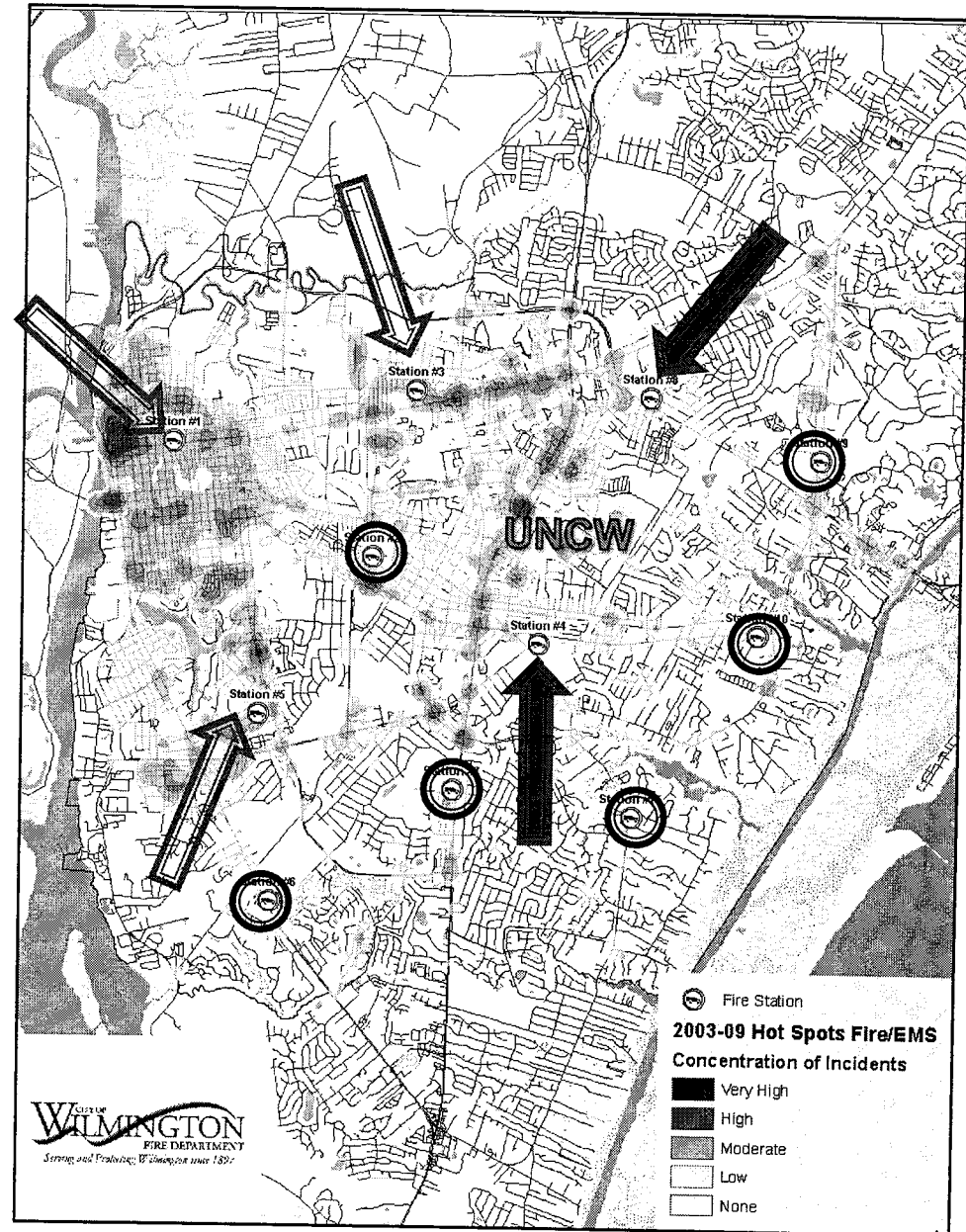
CRR –Risks

Wilmington

Fire Stations serving
UNCW*

#4 #8

Risks may vary based
on housing/
demographic data



* UNCW = University of North Carolina - Wilmington

CRR – Risks

Collect demographic data for area

<http://factfinder.census.gov/>

American FactFinder

City/town,
County, or zip

State

-- select a state --

GO

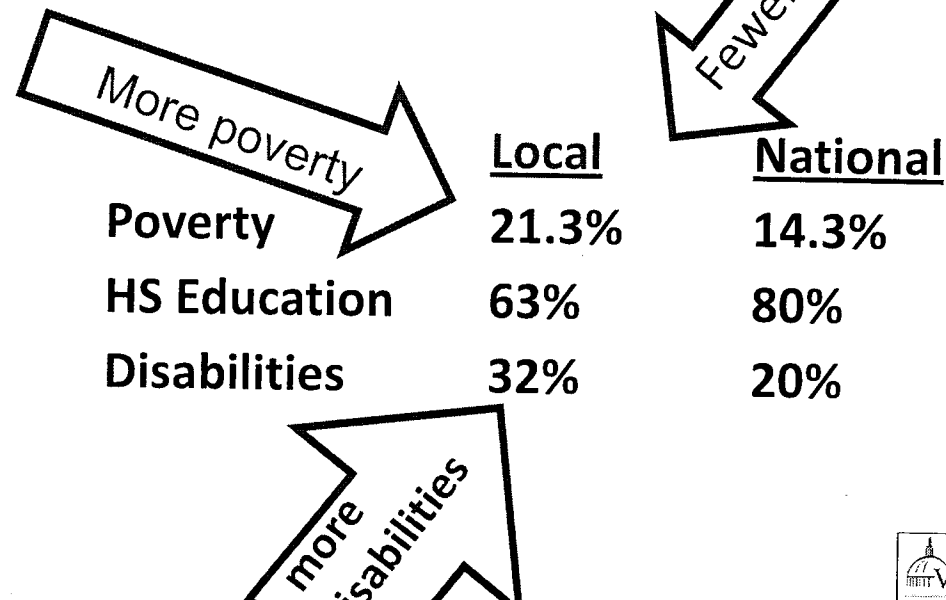
Or select a state using a map

Search by City, County, or Zip Code

CRR – Risks

Collect Comparison Data Too

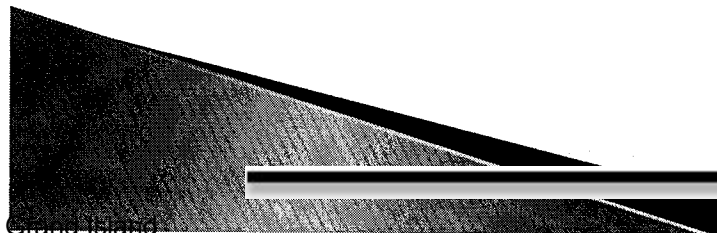
- Could compare station demographic risk factors to the city, state, or nation
- Determine where your risk is higher.



	<u>Local</u>	<u>National</u>
Poverty	21.3%	14.3%
HS Education	63%	80%
Disabilities	32%	20%

Demographic data helps you:

- Learn more about who lives in the areas with high incidence of Fires/EMS
- Focus efforts more efficiently and effectively

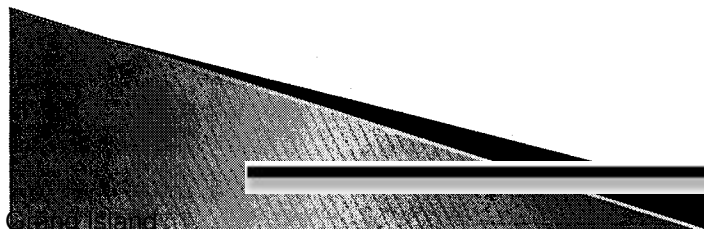


CRR - Risk

Don't forget potential risks areas

Consider the need to focus on areas where probability is low but consequence is great such as:

- Ports
- Hospitals
- Schools
- Theaters



CRR – Risks

Some Other Sources of Info/Data:

- City Chambers of Commerce
- City/County/State Departments
- Not-for-profit organizations
- Private business/industry

CRR - Risks

An easy method for prioritizing risks

- Assess risk's **probability** of occurring (*High, Medium, Low*)
- Assess seriousness/magnitude of **impact** if occurs
- Develop a grid and place each risk in the appropriate cell
- Focus on risks in the High/High cell, then Medium/High etc.

Probability of Occurring	Seriousness of Impact			
	Low	Medium	High	
	Low	5th	4th	4th
	Medium	4th	3rd	2nd
	High	4th	2nd	1st

CRR – Risks

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

CRR Risks - Small Group Activity #2

CRR - Risk Identification

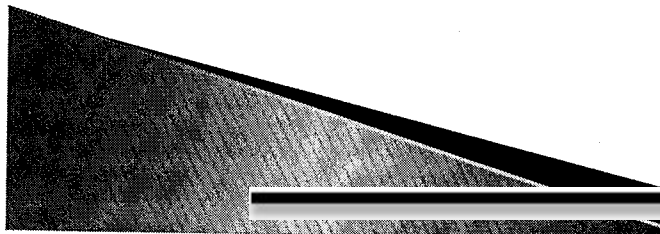
Instructions

- ▶ Read the scenario provided. (All groups have the same scenario)
- ▶ Answer the 5 questions
- ▶ Report back to the larger group answers to at least one of the questions

Community Risk Reduction

IV. Prevention/Mitigation Strategies

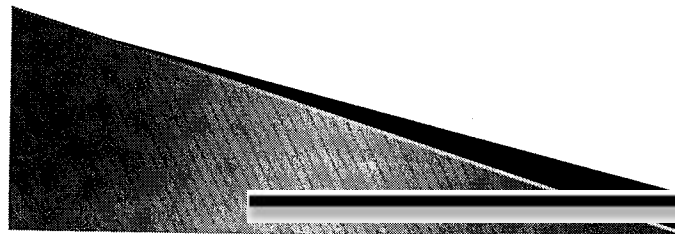
(CRR Step 3)



CRR – Strategies

When brainstorming, assessing, and selecting strategies:

- **Involve a variety of personnel**
 - Station personnel
 - Department staff
 - Community organization(s)
 - Local Agencies
- **Balance complex demands and make hard choices** about what to pursue



CRR- Strategies

5 Types of Prevention/Mitigation Strategies

*Does anyone know what
“the 5 Es” are?*

CRR- Strategies

5 Types of Prevention/Mitigation Strategies (*"The 5 E's"*)

Emergency Response

Education

Engineering

Enforcement

Economic Incentive

CRR - Strategies

Emergency Response

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

Can you think of some examples?

CRR - Strategies

Some Emergency Response Examples:

- Appropriate Equipment
- Trained Responders
- Timing of Response
- Appropriate staffing

CRR – Strategies

Education

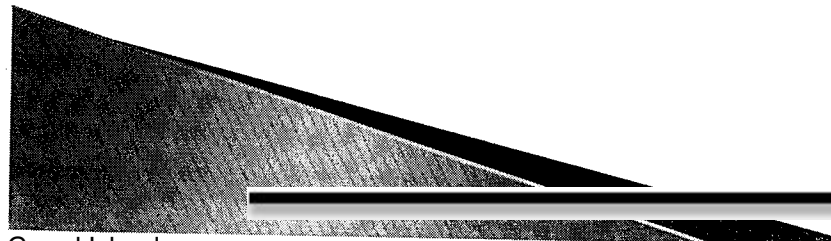
Education raises awareness and knowledge of fire safety, and is the first step of producing desired low-risk behavior.

Examples?

CRR – Strategies

Some Education Examples:

- School curriculum
- Station tours
- Presentations
- Door to door
- Flyers/Brochures
- Advertisements/Articles
- Media (including social)
- Website tools/content



CRR- Strategies

Engineering – New products/technology

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

Examples?

CRR- Strategies

Some Engineering Examples:

- Child passenger seats
- Auto air bags
- Fire sprinklers
- Ground Fault Circuit Interrupter (GFCI)
- Double wall chimney flues
- Bicycle helmets
- Smoke alarms
- Construction design
- Lighter SCBA

-

CRR - Strategies

Enforcement

Reduce risks (hazards) through legislation and its enforcement.

Typically done through inspections with penalties for non compliance.

Examples?

CRR - Strategies

Some Enforcement Examples:

- Fire Code adopted and enforced
- Fire sprinklers required
- Smoke alarms required

CRR - Strategies

Economic Incentives

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

Examples?

CRR - Strategies

Some Economic Incentive Examples:

- Free smoke alarm and installation
- Tax credit for voluntarily installing sprinkler system
- Construction or water supply trade-offs for fire sprinklers
- Fines/penalties for non compliance

CRR – Strategies

Some Risks → Multiple E Strategies

Can you think of some strategies to reduce or mitigate fire risk that would fall under more than one E category?

CRR – Strategies

Example of a Multiple E Strategy:

Seat Belts – all automobiles

What E strategies do “seat belts” represent?

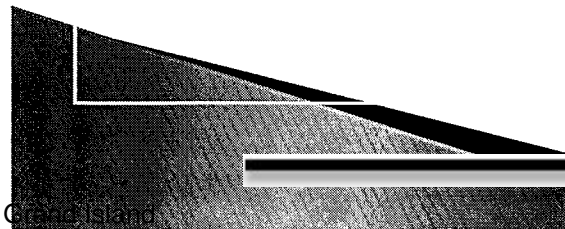
Education?
Engineering?
Enforcement?

Emergency Response?
Economic Incentives?

CRR – Strategies

E'S for Seat Belts

- Education:*** Campaigns to convince the public to use seat belts and the life saving potential
- Engineering:*** Technology of lap and cross chest seat belts – recent new developments in child passenger
- Enforcement:*** Manufacturers required to install for all automobiles, Penalties for non use



Another Example- Multiple E's

Home safety visits

What E strategies are used in “home visits”?

Education?
Engineering?
Enforcement?

Emergency Response?
Economic Incentives?

CRR – Strategies

E'S for Home Safety Visits

- Education:*** Talk with the resident about fire safety, alarm testing/maintenance and practicing home fire escape
- Engineering:*** Test and install smoke alarms
- Economic Incentives :*** Provide for free. Good for occupants and for Fire Department. (firefighter safety is value added)

CRR – Strategies

How to use the E's

- ▶ **Use the five E's Framework to brainstorm strategies.**
Ask: Could something be done in terms of E_____ to help reduce this particular prioritized risk?
 - Emergency Response
 - Education
 - Engineering
 - Enforcement
 - Economic Incentive

Applying the E's

Instructions:

- Split up into small groups
- Read the scenario given to your group
- Discuss possible “E” strategies to prevent/mitigate loss
- Present one possible E strategy to larger group

Reminder: Education, Enforcement, Economic Incentives, Engineering & Emergency Response

CRR - Strategies

Assess Key Brainstormed Strategies:

- Use pros/cons or criteria to assess each option
- Consider feasibility (*financial, political, logistical, organizational, and cultural*)
- Think about the degree of importance of each key point

CRR - Strategies

Prioritize & Select Strategies:

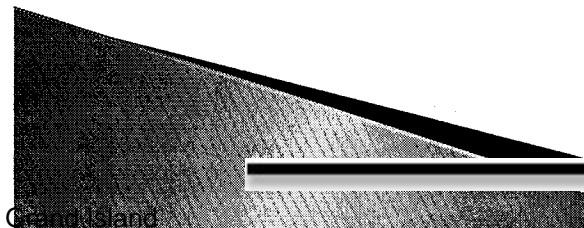
- Rank strategies
- Select strategies - could mean:
 - Top ranking (probability & impact)
 - Have the most agreement/enthusiasm to pursue
 - Are “low hanging fruit”, use to demonstrate success & garner support

CRR – Strategies

The Key Merseyside CRR Strategy:

Home Visits

- Conducted by fire service or advocates
- Complete home safety surveys
- Install free smoke alarms
- Refer residents to needed health & social services
- Use community advocates for special populations



Possible Home Visit Referrals - USA

- Falls prevention programs
- Energy assistance/ weatherization programs
- Nurse home visit programs
- Public health insurance referrals
- Aging services programs
- Transportation assistance
- Disability programs
- Environmental health

CRR – Strategies

CRR Ideas - Beyond the Home Visit

- Pre-plans for all commercial structures
- Annual fire hydrant inspection program
- Self-inspection program for businesses
- Child size equipment on medical response units
- Offering free services at the station or local area
 - blood pressure checks
 - bone density screening
 - child car seat installation assistance

CRR- Strategies

MGM Grand Fire, Las Vegas, November 1980

85 die 650 injuries

- 1972 Construction Cost \$106 Million
- Owners fought the installation of sprinklers.
Would've cost \$192,000 (.1% of construction costs)
- Estimated Loss: \$ 223 million in loss and legal settlements

What E Strategies could've prevented or mitigated this loss?

CRR- Strategies

MGM Grand Fire – E Strategies to Mitigate Loss

Engineering : Install sprinklers during construction

Enforcement: mandate sprinkler installation in all high rises – no exceptions

Education: ensure that Hotel and Casino staff know how to assist customers in event of an evacuation

Community Risk Reduction

V. Developing a CRR Plan

(CRR Step 4)

CRR - Plan

- Your Experience
- The Lesson Activities
- Participants Experience
- Instructor Input
- CRR Case Studies
- Handouts
- Resources

Help you develop a CRR Plan

1. Vision, Mission & More
2. Service Area Description
3. Risks
4. Strategies
5. Implementation
6. Monitoring & Evaluation

CRR - Plan

Purpose of a CRR Plan:

- Walks you through the CRR process
- Helps ensure alignment of efforts
- Empowers and engages staff
- Helps focus activity
- Facilitates capturing data needed for advocacy

CRR – Plan

Who prepares the plan?

Varies by department/locale. Some Examples:

Vancouver WA: Station-level and fire administration staff

Tucson AZ: Community Partner

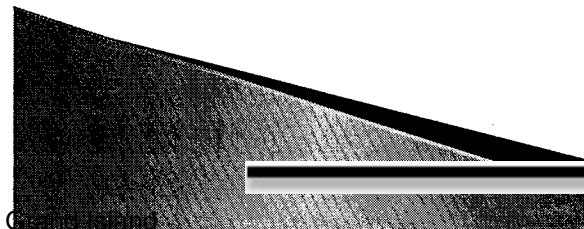
Dallas TX: Central Prevention Office staff and community partner

CRR - Plan

CRR Plans vary by station/department

Common elements:

- Local focus – neighborhood and/or station level
- Identifies what is going to be done and why
- Seeks to reduce risk through prevention/mitigation strategies



CRR - Plan

How CRR Plans Vary

- Content –ability to include all model sections
- Level of sophistication reg. data analysis & reporting
- Who all is involved in the planning

CRR - Plan

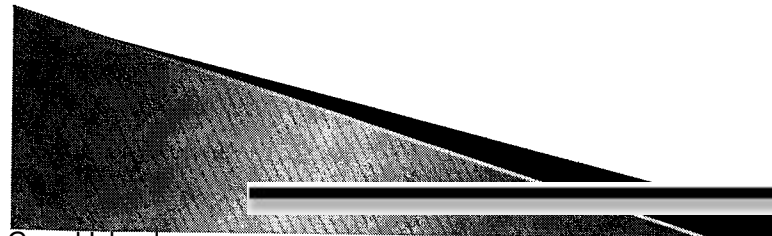
Ideally CRR Plans:

- 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

VI. Implementation

(CRR Step 5)



CRR -Implementation

Q: What helps make a program successful?

CRR – Implementation

Common Elements – Successful Programs:

- Program makes sense and is feasible
- Management at all levels support the effort
- Adequate resources allocated
- Project Manager assigned
- Clear expectations
- Program is monitored and adjusted as needed
- Good performance is recognized/rewarded

CRR -Implementation

***Q: How do you go about
implementing a program?***

CRR -Implementation

Implementation Steps

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

CRR – Implementation

More than one way:

- All Firefighters and Dept Staff (Wilmington, NC)
- All Community Partner (*Tucson AZ*)
- A combination approach - fire department & community partners (*Dallas TX*)

CRR – Implementation

It can be quick & focused...

Example: Philadelphia's Operation Staying Alive

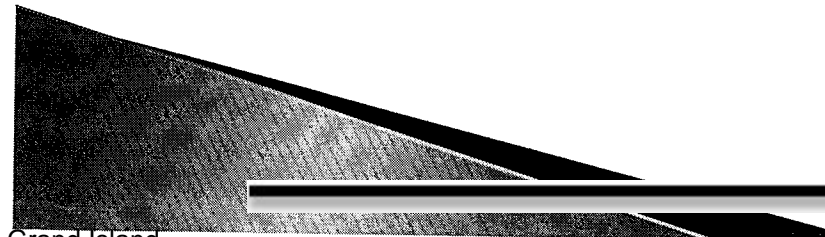
- Installed 7000 alarms in one month
- Involved every company
- Each station identified own risk areas based on experience
- Firefighters conducted home visits in teams of 2
- Prevention staff collected forms & entered data weekly
- Reported progress weekly to the Commissioner, Deputy Chief, and Battalion Chiefs

CRR – Implementation

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



CRR – Implementation

Or rely more heavily on a partner...

Example: Tucson, AZ fire

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

Community Risk Reduction

VII. Monitoring & Evaluation

(CRR Step 6)

CRR – Monitoring & Evaluation

Q: Why is it important to monitor and evaluate activities/programs?

CRR – Monitoring & Evaluation

Purpose of Monitoring & Evaluation

- Enables you to make timely adjustments
- Helps assess if achieving what set out to achieve
- Helps uncover unexpected benefits & problems
- Provides data to show value/success

CRR – Monitoring & Evaluation

Identify Measures

Process Measures:

Track activity, progress towards goal.

Eg: Number of Homes visited

Outcome Measures:

Let you know if achieved your goal.

May take years to see.

Eg: Reduction in residential fires/1000 citizens

CRR – Small Group Activity #4

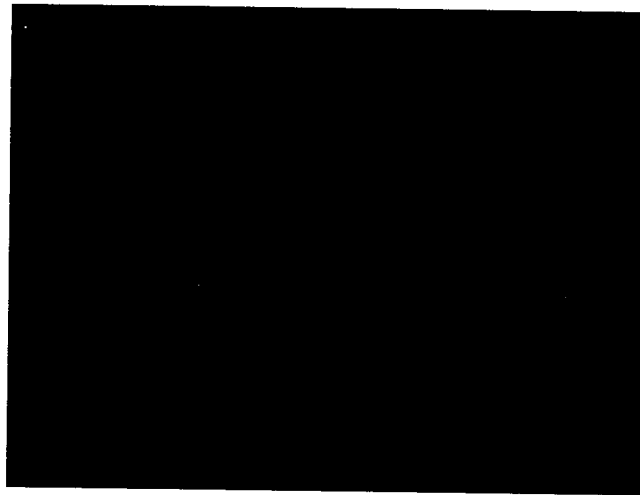
Monitoring and Evaluation

Instructions

- ▶ Read the program description
- ▶ Answer the questions
- ▶ Report back to the larger group

CRR Strategies

Community Risk Reduction Impact Video United States Efforts



Community Risk Reduction

VIII. Review

CRR - Review

1. What is CRR?

CRR - Review

“CRR”

CRR stands for “Community Risk Reduction.” It is an approach used to reduce and manage fire and life safety risks in a community.

CRR - Review

2. Why do CRR?

Do CRR because...

Helps you better manage risk in your service area.
Specifically it's:

- **Proactive** – addresses risk before they become problems
- **Integrated** – balances emergency response & prevention
- **Community-based** – address local needs
- **Data driven** – ensures addressing the right issues
- **Involves community partners** – broadens reach
- **Effective** – reduces risk
- **Efficient** - responsive to resource constraints

CRR - Review

3. What are the 6 Steps of CRR?

CRR - Review

The 6 Steps of CRR

1. Identify Risks
2. Prioritize Risks
3. Select Strategies
4. Prepare a CRR Plan
5. Implement CRR Plan
6. Monitor and Evaluate

CRR - Review

4. What kinds of data are needed to do CRR?

CRR - Review

Data needed:

- Fire/EMS call and run data
- Demographics
- Housing / Infrastructure
- Community Assets

5. What are the 5 “E’s” and how are they used?

CRR - Review

The 5 E's are:

1. Emergency Response
2. Engineering
3. Education
4. Enforcement
5. Economic Incentives

They are used to help brainstorm prevention/mitigation strategies.

6. Whose most at risk for a home fire?

CRR - Review

Most at Risk for Home Fire

- Low income
- Low education
- People who smoke
- Young children
- Older adults
- People with disabilities
- College student housing
- Ethnic and racial occupants
- Rural areas
- High population density areas
- Older homes-not well maintained

CRR - Review

7. What's a common model practice CRR strategy?

CRR - Review

A model practice CRR strategy:

Home visits in high risk neighborhoods to check and install alarms and identify hazards and educate residents about fire prevention and escape planning.

CRR – Small Group Activity #5

CRR Solutions – Your Community

Instructions:

- Break up into small groups
- Think about your community
- Answer the questions
- Report back to the larger group

Participant Activity

Community Risk Reduction

IX. So you want to know more?

CRR - Resources

Turn to

- Other Fire Departments
- Recommended Websites
- Handouts

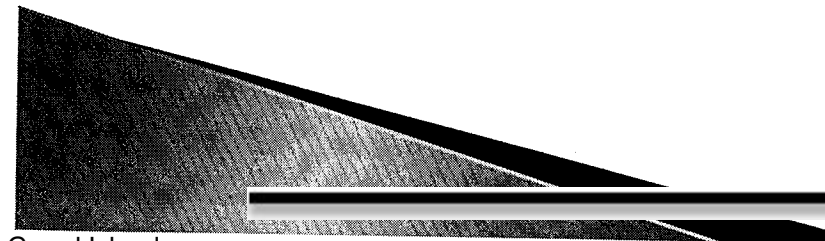
CRR – Resources

Handouts from Training

- Sample Station-based CRR Plan
- CRR Plan Template
- Guide for Developing a CRR Plan
- List of Resources
- Glossary of Terms
- Case Studies

Community Risk Reduction

X. Conclusion



CRR-Conclusion

What is Community Risk Reduction?

A practice that helps fire stations/departments:

- Identify fire & life safety risks
- Prioritize risks
- Develop strategies to prevent or reduce risks
- Focus efforts
- Involve community partners & engage the community

to better protect our communities from fire & other hazards/emergencies

CRR - Conclusion

Closing Quote

“Any person who is at all conversant with fire safety knows that at least 85% of [fires] could be prevented. It is the duty of the Fire Chief to assume leadership... he must be *up and doing* and prevent fires from starting, if he is to be successful in reducing the loss.”

*Chief W. D. Brosnan of Albany, Georgia,
First Annual Meeting, Southeastern Association of Fire Chiefs*

1928

CRR - Conclusion

THANK YOU
for participating in today's
training

