Reaching High-Risk Communities

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American Paradigm of Fire

Results from a combination of public apathy and the belief by citizens that they will never have a fire. It is displayed in the attitude…

"It can't or won't happen to me."

Oblivious to the risk of fire – often affect those groups most at risk from fire.

Fact Finding Reports

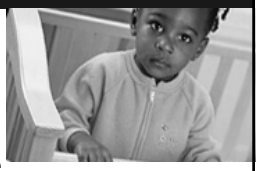
***America Burning* - 1973**
***Solutions 2000* – Advocating Shared Responsibilities for Improved Fire Protection**
Beyond Solutions 2000

National symposiums developed to examine fire safety challenges for those who cannot take lifesaving action in a timely manner in the event of a fire.

At- Risk Groups

Children under 5 years old
People over 65 years old
Handicapped/Disabled
Living in Poverty

Group Symptoms #1



Children Under 5 years old-

1. **Dependent on others**
2. **Limited ability to escape**
3. **Physiology – Children's skin thickness less than an adult's**
4. **Children cannot grasp abstract reason – How can a little match cause such a big fire?**

Group Symptoms #2

Older Adults (+65 years old)-

1. **Pride and complacency – "Don't need you to tell me what to do. I'll figure it out when the time comes."**
1. **Limited budget**
2. **"The fire department will rescue me."**
3. **More sensitive to lesser extremes of heat and cold**

Group Symptoms #3

People with Disabilities-

1. **Rely on family members or live independently**
2. **Don't want to be stereotyped as limited**
3. **Inability to detect, respond to, practice escape from, or escape fire and injury-producing situations**
4. **Disabled population is the poorest and least educated (largest minority in the United States)**

Group Symptoms #4

Lower Socioeconomic Groups-

1. **Literacy**
2. **Language barriers – increased immigration**
3. **Non-existent smoke detectors or fire exit drills**
4. **Older homes**

Common to All Groups

People May Change If:

1. **They know about the problem**
2. **They understand the problem**
3. **Believe they are at risk**
4. **Convinced they should change**

Selling Fire Safety"

Use an instructional approach:
"If I can alter your perception… I can change your attitude. If I can change your attitude… I can influence your behavior. If I can influence your behavior… I can more strongly motivate you from within."
<u>Now you're safer than before.</u>

3 Levels of Support

- **Individual Commitment**
- **Organizational Support**
- **Community Support**

Community Risk Reduction Process (1 of 4)

1. **Identify and summarize the problem**
   - **Frequency – How often does it occur?**
   - **Duration – How long has it been going on?**
   - **Scope – How many people affected? Where does it occur most often?**
   - **Severity of the problem – Is it killing or hurting people? How expensive is it?**
   - **Perception – Does the community perceive the problem as a problem?**

Community Risk Reduction Process (2 of 4)

2. **Identify the root causes of the problem – Whey did the incident occur?**
3. **Identify the target populations responsible for the occurrence of the incident.**
4. **Identify the primary & secondary audiences you want to target – Conduct market research**
5. **Identify risk factors – anything that places people at risk from a hazard**

Community Risk Reduction Process (3 of 4)

6. **Determine an intervention strategy: the 5 Es**

- ***Education intervention* – Raise awareness, provide information and knowledge (Root of the intervention system)**
- ***Engineering intervention* – Make products less hazardous**
- ***Enforcement intervention* – Laws and codes**

Community Risk Reduction Process (4 of 4)

- ***Economic incentives* –**
  -Positive (reduced insurance premiums for sprinklers & fire resistive construction)
  -Negative (fines for code violations)
- ***Emergency response* – Active involvement on the local level**

7. ***OTHER* –**
   Resources & budget needed
   Partner/Offset Costs
   Projected Timeline/Evaluation

Sample Risk Intervention

HANDOUT- "Addressing the Fire Risk in the Local Community / Older Adults (+65) in General

+65 Groups to Partner With

1. **Public Libraries**
2. **Churches**
3. **Senior Centers**
4. **AARP groups**
5. **Assisted Living Centers**
6. **Over 50 Independent Communities**
7. **Civic Associations**
8. **League of Older Americans**
9. **Home Healthcare Agencies**
10. **Meals on Wheels**

On-line Resources

- **www.phoenix.gov/FIRE**
- **www.survivingfire.com**
  (Burn Prevention Foundation)
- **www.tdi.state.tx.us/fire**
- **www.nfpa.org**
- **www.cpcs.gov**
- **www.homesafetycouncil.org**
- **www.usfa.dhs.gov**
- **www.census.gov**
- **www.city-data-gov**

Sources

- **National Fire Academy - *Discovering the Road to High Risk Audiences* (R-359)**
- **NFPA & CDC - *Remembering When: A Fire & Fall Prevention Program for Older Adults***
- **Hagerstown, Maryland Fire Department**
- **Howard County, Maryland Fire Department**
- **Riverdale Illinois Fire Department**
- **Illinois State Fire Marshal & Illinois Department of Health**

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Addressing Fire Risk in the Local Community
Older Adults (+65) In General

COMMUNITY PROFILE-

Harris County, Texas encompasses an area of approximately 2000 square miles. The unincorporated area surrounds the 4th largest city in the nation, that being Houston. The unincorporated area accounts for 1100 square miles having a population density of 1.7 million people, while the City of Houston accounts for the remaining 900 square miles and 2.3 million people. Demographic makeup by race is about equal in both areas being; 40% Caucasian, 30 % Hispanic, 20% Black and the remaining 10% a mixture of Asian, Middle Eastern and other European countries. Of the High Risk Groups: 8% are under 5 yoa; 7% are over 65 yoa; 14% have disabilities and 16 % are living in poverty.

ORGANIZATIONAL PROFILE-

The Harris County Fire Marshal's Office is comprised of 61 full part-time personnel charged with Fire Prevention, Fire Investigation and Hazardous Materials Response within the unincorporated area of Harris County. Unlike the City of Houston, which is serviced by a single paid, multi-function fire department, the county is staffed by 31 volunteer fire departments directly responsible for fire suppression efforts.

The 22-member Prevention Division conducts existing and new construction fire inspections, responds to fire & life safety complaints and conducts after-action inspections of facilities damaged by fire.

The 16-member Arson Division investigates all fires where there is serious injury, loss of life or when the responding fire department cannot determine the origin and cause. Should evidence of criminality be present, they handle the case through arrest and prosecution.

The 23-member Emergency Response Division responds to all hazardous materials incidents involving spills, motor vehicle accidents and chemicals releases.

IDENTIFICATION OF THE PROBLEM TO BE ADDRESSED-

A review of the fires investigated by the Harris County Fire Marshal's Offices indicates an alarming rate of fires and fire deaths in a particular High Risk Group of those persons 65 years old and up. Fire injury and death was the highest among this group with causes ranging from discarded smoking materials, to improper use of small appliances to open sparks and flames… the last being the leading cause of fire-related injuries. Due to age, disability and lack of fire safety knowledge, this populace is highly susceptible to becoming a fire victim. A majority of the fires occurred in single-family dwellings while the rest were spread about equally among group homes and multi-unit housing.

HISTORY OF PROBLEM-

Frequency- In 2007, this office responded to 671 fire calls. There were 46 injuries and 14 fires deaths involved with those responses.

Duration- Injuries and death rates to this High Risk Group are not new. National statistics document that while being the fastest growing segment of the population, the 65-75 age group is twice as likely to die in a fire as compared to the national average. Couple this with the 75-85 age group being 3 times as likely to die in a fire while the over 85 age group being 4 times as likely to die due to fire.

Scope- The problem has affected those in both single-family dwellings (living by themselves or with a partner) to group homes to assisted living facilities to nursing homes. A concern is the larger concentration of people in this age bracket housed in a larger facility. The immediate family residing with the older citizen is affected by being displaced, on a permanent or temporarily basis. Persons living within the same building of a multi-unit housing structure also faced the threat of injury or death due to the fire.

Severity of Problem- Among the 65 and older High Risk Group, injuries account for 19 (nearly half) while fire deaths were 5 (more than one third). This represents an increase of more than 30 compared to 2006.

Root Causes- No working smoke detector; lack of a sprinkler system; Lack of education regarding the safe use of alternative heating appliances and electrical systems.

Perception- Many of those affected by the fires knew there was a risk but thought "it would not happen to them" or that "the situation had existed for years and they had not had a fire". Some even stated that that this was not the first time they had experienced a fire.

TARGET POPULATIONS-

Primary Audience- The 65+ age group. Target what they can have done easily and immediately in their home to make it safer than it was. Focus on simple actions and daily precautions that older Americans can accomplish through proper training. As many of the elderly have pets, include what they can do responsibly to ensure their pet's safety in case of a fire. Use Hunter as a "living prop" in group settings.

Secondary Audience- The family, friends and associates of the 65+ person who know that the individual exhibits characteristics and whose routine puts them at risk. Educate community partners such as libraries, nursing homes, churches and community center staffs. Educate local fire departments as to the problem and how they can directly impact this high risk group.

PAST/PRESENT PROGRAMS-

To date, the Harris County Fire Marshal's Office has not and never has developed any programs specifically designed to address this target audience. From time to time, ad-hoc programs have been presented to small groups but only on an as-requested basis. Local fire departments are ill-equipped to conduct this type of intervention as they have neither the knowledge nor the training required to effectively tackle problem.

NEGATIVE IMPACT-

The growing "older adult" population is forecasted to increase by 50% within less than by 2017. The tremendous influx of post World War II "baby-boomers accounts for this spike. In Harris County, several public complaints and investigations has uncovered a disturbing and growing trend. Numerous group homes for seniors are operating without at license or exceeding the number of persons they are licensed for which to care. Without a serious and committed effort along with code enforcement addressing this High Risk Group, the serious injury and death rate could well sky rocket well into the double digits.

INTERVENTION STRATEGIES-

Education Solutions- Produce information materials specifically targeted to the 65+ community with recommendation identified by USFA; Conduct "how-to" seminars and

presentations in venues where seniors gather such as community centers, churches or libraries. Educate local fire departments on the issues facing older Americans and the program.

Engineering Solutions- Solicit smoke detector, batteries and flash/nightlights from local "Big Box Hardware stores such as Lowe's or Home Depot.

Enforcement Solutions- Ensure code enforcement is followed with working detectors in leased or rented properties. Use Title 6 of the Tenant Code to compel rental property owners to comply.

Economic Incentives- Apprise rental properties owners of the advantages of potential insurance premium reductions due to fire and life/safety measure. Possible reduction in homeowner insurance premiums. Encourage the installation of fire extinguishers in the units as an added measure of protection and enforce compliance via Chapter 9 of the IFC 2006. Prevent fines and sanctions imposed by the County Attorney.

Emergency Response- Partner with 2 local volunteer fire departments to provide manpower to help promote the program on a local level and install smoke detectors and flash/nightlights. This office will spear head the group presentations and "train the trainer" sessions. Local fire departments will install and train the end-user in their home.

RESOURCES & BUDGET NEEDED- The following projected budget would provide equipment to outfit 500 homes/apartments in an initial sample group in Northwest Harris County:

1000 smoke detectors @ $25 each =	$25,000
500 flash/nightlights @ $10 each =	5,000
80 Hours Inspector's Time @ $30/Hour =	2,400
Volunteer Fire Department Manpower =	0
Total cost of program=	$32,400

PARTNERS/OFFSET COSTS- Lowe's and/or Home Depot are to supply materials. PetSmart will supply SWAG for pet owners. Kinko's will print plastic peel n' press signs from camera-ready art. Local wood shop classes in high schools or junior high will cut "oven sticks" for kitchen safety. Print shop at school is capable of stenciling partners on sticks as free advertisement. Many of these businesses have provided such material in the past. Their participation has been both well-received and supported by the community who made an effort to patronize their locations having been apprised of their assistance is the success of the program. Community partnerships between businesses, venue and staffing providers will defray all labor costs.

PROJECTED TIMELINE/EVALUATION- The timeline for the project to be introduced spanning a 2-year period with installation benchmarks:

START MAR/2009	SEP/2009	MAR/2010	SEP/2010	MAR/2011	
Homes Serviced	**75**	**75**	**75**	**75**	**300 Total**

Upon request of the resident/homeowner, fire department personnel will make appointments to conduct a safety inspection, install the smoke detectors and lights. While there, firefighters will fill out a survey sheet and forward to this office. Having received the survey sheet, this office will conduct a follow-up survey with the resident assessing the service and information provided. This may be in the form of a check sheet or phone call. Tabulations will be compiled at 6-month intervals to evaluate performance and make adjustments as needed.

AUTHORITATIVE SOURCES-

The National Fire Protection Association

The United States Fire Administration

The National Center for Health Statistics- Centers for Disease Control

Bullet Points- **THOMAS C. PETTY**

<u>COMM PROFILE</u> – 40 W / 30 HISP / 20 B / 10 ASIAN, MIDEAST & EUROPEAN (7% OVER 65)

<u>ORGANIZATION</u> – 61 / 31 VOLS / 22- PREVENTION / 16 – ARSON / 23 – HAZMAT

<u>ID PROBLEM</u> – OVER 65 / SMOKE, OPEN SKS & FLAM / HEATING APPLIANCES

***HISTORY* – 671 CALLS / 46 INJURIES / 14 DEATHS**

***DURATION* – ONGOING / 65-85 YOA - 2X TO 4X LIKELY TO DIE IN FIRE**

SCOPE – RUNS GAMUT FROM SFD TO MULTI-UNIT

***SEVERITY* – 19 INJURIES (1/2 OF ALL) / 5 DEATHS (1/3 OF ALL) – UP 30% FROM 2006**

***ROOT CAUSES* – NO SDs / SPRINKLER / EDUCATION / MISUSE OF APPLIANCES**

***PERCEPTION* – WON'T HAPPEN TO ME – SOME HAPPENED TO BEFORE**

<u>TARGET POP</u> ***PRIMARY* - OVER 65 / FOCUS ON THINGS THEY CAN DO / ALSO SAVE PETS**
***SECONDARY* – F&F / COMMUNITY PARTNERS – LIB / NURSE / COM CENTER**
CHURCHES / FIRE DEPARTMENTS

<u>PAST/PRESENT PROGRAMS</u> – NONE

<u>NEGATIVE IMPACT</u> - BABY BOOMER / EXPONENTIAL GROWTH / DOUBLE DIGIT INJURY & DEATH RATE

<u>STRATEGIES</u>-

***EDUCATION* – 65 YOAs / HOW-TO SEMINARS CHURCHES, LIBRARIES CENTERS**

***ENGINEERING* – SOLITS SD, FLASH FROM BOX STORES**

***ENFORCEMENT* – TITLE 6 TENANT CODE ENFORCEMENT FOR RENTAL**

***ECONOMIC* – INSURANCE PREMIUM REDUCED / OWNERS SAVE FINES & SANCTIONS**

***EMERGENCY* – FF CONDUCT SURVEY AND IN-HOME INSTALLS**

<u>BUDGET & RESOURCES</u> – 1000 SDs (25)/ 500 FLASH (10)/ INSPECT TIME (30/hr) / $32,400
NO COST FOR FD VOLUNTEERS

<u>PARTNERS</u> **LOWEs or HD – SDs & LIGHTS** **HI SCHOOL – OVEN STICKS & PRINTING**
KINKOS – PRINTED STICKERS **PETSMART – SWAG**

<u>TIME & EVAL</u> – 2 YEARS / 6 MONTH BENCHMARKS / 300 TOTAL / IN-HOME SURVEY & FOLLOW-UP

Canvasses:	Date	Time	Visit or Phone
#1	____/_____/2008 or 2009	____:____	____ ____
#2	____/_____/2008 or 2009	____:____	____ ____
#3	____/_____/2008 or 2009	____:____	____ ____

DHMH ID:_____

Consent was given for installation: Signed ____ Verbal____

Installation: Completed_____ Refused_____ No one home-3 tries_____

Was this survey completed via: Telephone In-person

Maryland Smoke Alarms for Everyone (SAFE) Program Pre-Survey

Participant Demographic Information: (PLEASE READ TO PARTICIPANTS) This information is being collected for identification purposes only to conduct the follow-up survey. No identifying information will be recorded and your name will not be linked to your responses.

_____ _____

First Name Last Name

_____ _____

Street Address (Please do not include P.O. Boxes)

_____ _____

City Zip Phone Number

I would like to ask you a series of questions about your home and fire safety.

1. Do you own or rent your home?
   ☐ Own ☐ Rent

2. What type of home do you live in?
   ☐ House ☐ Apartment ☐ Duplex ☐Mobile Home ☐ Row House ☐Other

3. How many people live in your home? _____

4. What do you use to heat your home? (Check all that apply)
   ☐ Gas ☐ Wood ☐ Electric ☐Oil
   ☐ Don't know ☐ Other _____

5. How many adults over the age of 65 years live in the home? _____

6. How many children younger than 5 years of age live in the home? _____

7. How many people who live in your home are smokers? _____

8. How would you describe your race and/or ethnicity (choose all that apply)?
   ☐ White ☐ Black ☐ Asian ☐ Hispanic ☐ Native American ☐ Other

9. How did you find out about the SAFE program?
   ☐ Newspaper ☐ Radio ☐ Referral By whom:_____
   ☐ Internet ☐ Fire Department Staff visit ☐ Other: _____

10. Do you have a home fire escape plan?
    ☐ Yes ☐ No ☐ Don't Know

DHMH ID:_____

11. (If yes to #10:) Have you practiced your fire escape plan?
    ☐ Yes ☐ No ☐ Don't Know

12. (If yes to #10:) According to your fire escape plan, where is your meeting place?_____

13. When was the last time you tested your smoke alarms? (month or date)_____
    ☐ Don't have alarms ☐ Never ☐ Don't Know

14. Have you ever removed the batteries from your smoke alarm or otherwise disabled it because it was making noise?
    ☐ Yes
    ☐ No
    ☐ Don't know

15. (If yes to #14:) What caused it to make noise?
    ☐ Low battery
    ☐ Cooking
    ☐ No reason/ Don't know
    ☐ Other: _____

I would like to test your smoke alarm(s) and install new ones if needed. Please show me all of the smoke alarms in this home.

After testing all of the alarms in the home, please fill in the following:

How many alarms are present in the home?_____

How many of the alarms present work?_____

How many new alarms have you installed?_____

How many hearing impaired alarms have you installed?_____

Please use the space below for notes or comments:

Contact:	Date	Time	Visit or Phone
#1	____/_____/2008 or 2009	____:____	____ ____
#2	____/_____/2008 or 2009	____:____	____ ____
#3	____/_____/2008 or 2009	____:____	____ ____

Survey: Completed_____ Refused_____ No one home-3 tries_____

Was this survey completed via: Telephone In-person

DHMH ID:_____

Maryland Smoke Alarms for Everyone (SAFE) Follow-up Visit/Call

Address or Identifier:_____

Script: "A smoke alarm was installed for this home on (date of installation). I'm here/calling to ask about how the alarm is working in the home and a few fire safety and prevention questions. This information is confidential—no one will know who answered the questions. This should take 3 to 5 minutes. Do you have time to answer these few questions?"

☐ Yes
☐ No, *Is there a time I could call/come back? Date & Time:_____
☐ Refused, "Thank you for your time."

1. How many smoke alarms do you have in your home?
   ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 or more ☐ Don't Know
2. Have these smoke alarm(s) been tested in the last six months?
   ☐ Yes ☐ No ☐ Don't know
3. Could you go push the button to sound the smoke alarms (at least the one nearest the sleeping area) so I can hear?
   ☐ Yes (smoke alarm could be heard through phone)
   ☐ Yes (but the smoke alarm did not work. FILL OUT BOX 1)
   ☐ No
4. Do you have a home fire escape plan?
   ☐ Yes ☐ No ☐ Don't know
5. (If yes to #4:) Has this fire escape plan been practiced in the last six months?
   ☐ Yes ☐ No ☐ Don't know
6. (If yes to #4:) According to your fire escape plan, where is your family's meeting place?

   Meeting Place:_____

DHMH ID:_____

Since the alarm was installed:

7. Has a smoke alarm sounded in your home in the last six months? YES NO DON'T KNOW

IF YES: what caused the smoke alarm to sound?
- ☐ A fire (COMPLETE FIRE INCIDENT FORM)
- ☐ The battery was getting weak (fill out BOX 1)
- ☐ No reason (fill out BOX 1)
- ☐ Smoke from cooking
- ☐ Don't know (fill out BOX 1)
- ☐ Other: _____

If NO: Has there been a fire in your home within the last six months where the smoke alarm DID NOT sound?

☐ Yes (COMPLETE FIRE INCIDENT FORM) ☐ No ☐ Don't Know

BOX 1:

Has this problem occurred more than once? ☐ Yes ☐ No ☐ Don't know
Has the battery or alarm been replaced? ☐ Yes ☐ No ☐ Don't know

Would you like a firefighter to replace the smoke alarm?
- ☐ Yes (*If on the phone:* **We will contact you shortly to arrange for this.**)
- ☐ No

THANK YOU FOR YOUR PARTICIPATION IN THE SAFE PROGRAM!

After completing the survey please fill out the following:

How many working alarms were in the home?_____

How many alarms did not work?_____

How many new alarms were installed?_____

Use the space below for notes and comments: