Community Cost of Fire Fighter Injuries in Residential Properties
“Failure is Not an Option”

- Gene Kranz
- NASA’s Journey to the Moon
  - 1960s
    - Civil Rights Movement
    - Counter Culture
    - Vietnam War
    - Cold War
  - It Took Ten (10) Years to Accomplish
Man on the Moon Before the End of the Decade – Residential Sprinklers

- Multiple “Movies Playing”
- Unsettled Economy
- Political Uncertainty
  - Local and Nationally
- Commitment and Collaboration
- Development of
  - Relationships
  - Technologies
  - New Problems
  - Research and Facts
  - Education
Moon Landing

- The US Placed a Man on the Moon and Successfully Brought Him Back to Earth
  - The space program was based on fact not antidotal stories
  - Required collaboration between government, educational institutions, and industry
  - Long term commitment to achieve the goal
  - This same effort is needed for residential sprinklers
Residential Sprinkler Project

- Discuss the tax payer impact
- Research
  - Lots of data on
    - Injuries
    - Costs
  - Data is not organized in a useful manner
Research Methodology

- Identify the problem(s)
  - Lives lost in residential fires
  - Property loss
  - Firefighter injuries and fatalities
  - *Cost to communities - firefighter injuries*
Research Methodology

- Gather the data
  - Injury data
  - Medical costs
  - Wages and benefits
  - Overtime
  - Case studies
Data Challenges

- Injury data
  - Lack of data in a usable format
  - Insurance data categorized by slips, falls, cuts, sprains, and strains
  - Not arranged by property type or activity
    - Residential versus commercial
    - Responding/returning from a residential fire versus fireground
Data Challenges

- Medical costs
  - Data not in a usable format
    - Not identified by activity or property use
  - Privacy laws prevent linking of the data
Data Challenges

- Wages (personnel costs)
  - Retirement, Medicare, ICI, Life Ins, Workers’ Comp
  - Fire department records
    - Paper versus electronic
  - Financial accounting
  - Variables - no one metric for accounting
- Case studies
  - Privacy laws/HIPPA
Contacted NFPA – Residential fire data

65% reduction in firefighter injuries on the fire ground

From 73 firefighter fire ground injuries per 1,000 fires to 25 firefighter fire ground injuries per 1,000 fires

- Note: includes fire reported to NFPA from municipal fire departments based on NFIRS 5.0 and does not include fires reported from federal, state, or industrial brigades. Fires are excluded if sprinklers are not reported or status unknown or building under construction.

- Source: Impact of Home Sprinklers on Firefighter Fatalities 5/12, NFPA Fire Analysis and Research Division, Quincy, MA (Page 1)
Firefighter Fatalities

- The annual number of firefighter fatalities at home fires and the percentage of homes with sprinklers are both low enough that it is not possible to conduct a meaningful statistical analysis of the impact of sprinklers on firefighter fatalities.

  Source: Impact of Home Sprinklers on Firefighter Fatalities 5/12, NFPA Fire Analysis and Research Division, Quincy, MA (Page 1)
Residential fire – case study

“Sore neck” injury report
- Net medical cost to community - $16,252.00
- Lost work time – 32 days
- Salary (includes backfill OT) and benefit costs to community - $30,766.00
- Direct dollar loss to the community - $47,291.00
Case Study Outcome

- **One Injury**
  - Direct community loss $47,291.00
  - Taxpayers cost
    - Owner of a $125,000 home paid $1.94 for one firefighter injury
  - What other services could have been provided
    - Opportunity cost of injuries in non-sprinklered residential property
  - Cost of one injury; statewide, national losses
Support for Residential Sprinklers

- Communicate the financial burden to taxpayers to elected officials for injuries due to residential fires and how they can be avoided/reduced (state/local)
- Need to collaborate with the insurance industry regarding data collection
  - Categorize by
    - Fixed Property use
    - National Fire Incident Reporting System
- Collaborate with local governments on financial data collection
Support for Residential Sprinklers

- Continued collaboration with fire service on collection of data and case studies
  - National data base
  - National cost estimates
- Collaboration with the City national/state/local organizations
  - ICMA
  - League of Municipalities
  - League of Cities
Residential Sprinkler Puzzle

- Cost to local communities for firefighter injuries and fatalities are another piece of the larger initiative for residential sprinklers.
- Have not begun to identify or quantify the indirect costs to communities in terms of firefighter injuries and fatalities.
- Like the moon landing; residential sprinkler initiative will take time, commitment, and collaboration to achieve.
Residential Sprinkler Initiative

- Thank you for your participation
- Comments, questions, suggestions