

# PUBLIC WARNINGS FOR PROTECTIVE ACTION

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START CENTER

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# RESEARCH DATA BASE

- TIME FRAME
  - 50 Years + of Research and Publications

# RESEARCH DATA BASE

- Research Locations
  - Communities
  - High Rise Buildings

# RESEARCH DATA BASE

- Numbers of Publication
  - 350 Community Study Publications
  - 175 High Rise Study Publications

# RESEARCH DATA BASE

- Major Protective Actions Studied
  - Evacuation
  - Shelter in Place

# RESEARCH DATA BASE

- Access to the Research
  - Annotated Community Bibliography
  - High Rise Bibliography

# RESEARCH DATA BASE

- Types of Events Studied
  - Natural
    - Weather
    - Geology
  - Technological/Hazardous-Materials
    - Fixed Site
      - Three Mile Island
    - Transportation
  - Human Caused
    - Terrorist Acts
      - World Trade Center
      - Oklahoma City Bombing

# MAJOR CONCLUSION #1

- Most of the variation in why the public and occupants respond as they do when they receive information and warnings during an emergency is MORE the result of the quality and quantity of the emergency information itself than it is anything else

# MAJOR CONCLUSION #2

- The human process that results in taking protective actions remains the same regardless of hazard type
- We know what that process is

# MAJOR CONCLUSION #3

- We should have great confidence in how to issue public warnings that work to maximize public health and safety because we have tested knowledge about how to do it well
- The knowledge is applied unevenly across different hazards and places

# WHAT WE KNOW



# EXAMPLE BACKGROUND ISSUES

- Panic
- How Pre-event Education Impacts Warning Response
- Fear of Decision Making
- Myth of Keeping Warnings Short
- No One “Automatically” Follows Directions

# ALERTING PEOPLE

- Getting People's Attention
- Noise Level
- Waking People Up
- Alerting the Impaired
- Alerting Transients
- Formal vs. Informal Alerting

# WHAT MUST BE IN A WARNING

- Guidance
- Location
- Time
- Hazard/Risk
- Source

# THE STYLE WARNERS MUST USE

- Specificity
- Certainty
- Clarity
- Accuracy
- Consistency

# EXAMPLE THINGS TO NEVER DO

- Tell People to Stay Calm
- Tell People There's No Risk
- Forget to Use Graphics and Visuals

# ITS ABOUT MANAGING A CONVERSATION

- Days of Linear Warnings are Over
- Inconsistency is Inevitable
- How to Manage the Conversation
  - Outreach to Others Also Warning
  - Monitor What Others are Saying
  - Address Inconsistencies in the Subsequent Warnings you Issue
  - Focus People on Official Information
    - Frequency
    - Multiplicity in Channels-

# HOW TO DELIVER THE WARNING

- Never Use a Single Mechanism
- Different Devices Reach Different Groups
- Use as Many as You Can

# MONITORING PUBLIC RESPONSE AND ADJUSTING THE NEXT WARNING MESSAGE

- The Most Effective Public Warnings are Dynamic and Take What the Public is Doing/Not Doing into Account
- Multiple Ways to Monitor Public Response to Inform Subsequent Warning Message

# SPECIAL WARNING ISSUES

- Protracted Events
- Size of Impact Zone
- Concurrent Events
- Unique Geographical Features
- Dealing with Quacks
- Ending the Warning
- Conducting a Post Warning Assessment

# MAJOR WARNING ISSUE TODAY

- Putting What We Already Know into Practice

THANK YOU