


education      PREPARE  
evacuation      pre-event

## Communicating to the Public During Radiological Emergencies

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Macro International Inc.



exposure      health literacy  
risk communication      contamination

The findings and conclusions presented are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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## Acknowledgments

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  - M. Carol McCurley
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## Overview

- Presentation Purpose
- Project Purpose and Objectives
- Overview of the RSB Project
- Tool 1: PREPARE Communication Map
- Tool 2: Findings From Message Testing
- Scenarios and Small Group Exercise




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### Presentation Objectives

- Understand the application of a communication map in emergency planning
- Understand the steps in communicating with the general public during radiation emergencies
- Identify challenges in communicating to the public about radiation emergencies

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### CDC/Radiation Studies Branch

- Broad range of preparedness and response activities concerning radiation and radiation emergencies
  - **Including communication**
- Direct to public communication
  - Fact sheets
  - Website
- Communication activities with partners
  - Other federal agencies
  - Public health officials
  - Clinicians

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### Project Purpose and Objectives

**P** *Public*  
**R** *Radiological*  
**E** *Emergency*  
**P** *Preparedness*  
**A** *And*  
**R** *Response*  
**E** *Education*

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## Project Purpose and Objectives

*Overall purpose is to work with RSB to refine public facing messages and materials based on sound communication theory and evidence.*

3 primary objectives:

1. Message and materials testing and refinement
2. Radiation emergency Web site usability
3. Messages and materials for special populations

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education      PREPARE

evacuation      pre-event

*Tool 1*

### PREPARE Communication Map

exposure

risk communication

health literacy

contamination

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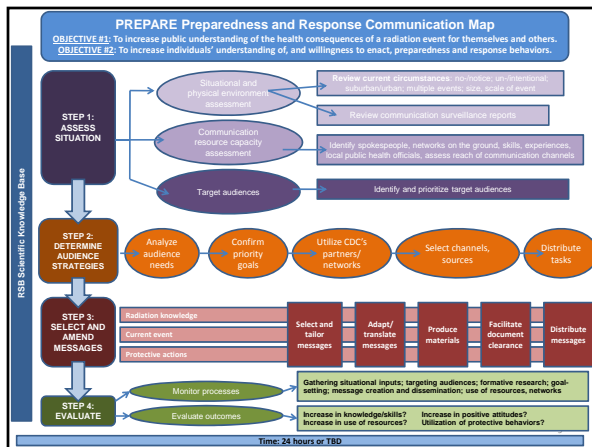
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# STEP 1: ASSESS SITUATION: Review Communication Surveillance Reports

What are the audiences asking for from the media, clinicians, public health officials, and CDC? Does CDC need to develop/modify responses given the circumstances?

### Preparedness and Response Communication Considerations:

- **DIRECT FROM CONSUMERS (CDC – INFO)**
  - What are the questions being asked and by whom?
  - Preparedness: Review secondary analysis of public opinion
- **MEDIA**
  - What are the major themes/frames found in media coverage?
  - What information/misinformation is in media reports?
  - What information is provided about CDC's role/response?
  - Response: How much media coverage is devoted to the event?
- **CDC NETWORKS (COCA, EPI-X)**
  - What questions are individuals asking clinicians, public health officials, and first responders?
  - What questions are clinicians, public health officials, and first responders asking CDC?

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# STEP 1: ASSESS SITUATION Communication Resource Capacity Assessment

What are the interpersonal and mediated resources available to disseminate messages? How can CDC support local resources to communicate preparedness behaviors across risk groups?

### Preparedness and Response Communication Considerations:

- **PEOPLE**
  - What spokespersons are present and available?
  - What relationships exist with local public health officials and first responder groups?
  - To what extent could/have these connections been affected by a radiation event?
  - What community leaders are available to support communication of and adherence to protective action directives?
- **SKILLS, EXPERIENCE**
  - Are the current spokespersons trained and experienced in speaking to the media and other groups?
  - Are the current spokespersons personally prepared?
- **RESOURCES**
  - What physical communication networks (e.g., airwaves, cable lines, electronic warning signals, other public alert systems) are available?
  - What preparedness-related educational campaigns, resources, or movements exist?

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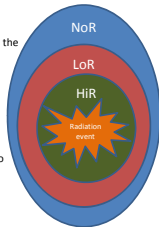
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# STEP 1: ASSESS SITUATION Identify/Prioritize Target Audiences

What are the communities at risk or affected by a radiation event? What information do they need?

### Preparedness and Response Communication Considerations:

- **PRIORITIZE TARGET AUDIENCES**
  - High risk (HiR)—in the immediate vicinity of a potential or actual event
  - Low risk (LoR)—in the immediate vicinity of a potential or actual event and with the potential for contamination
  - No risk (NoR)—not in the immediate vicinity of a potential or actual event
  - Special populations that may not be in the immediate vicinity of a potential or actual event but may need or want specific protective action information (e.g., pregnant women, nursing mothers)
- **INFORMATION FOR DIFFERENT AUDIENCES**
  - Preparedness: What information on preparedness behaviors needs to be communicated to each audience?
  - Response: What information on protective actions needs to be communicated to each audience?



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## STEP 2: DETERMINE AUDIENCE STRATEGIES

### Confirm Priority Goals

What are the communication goals based on the situation and the audience needs?

*Preparedness and Response Communication Considerations:*

- PRIORITIZE COMMUNICATION MESSAGES**
  - Utilize threat/efficacy profiles to identify audience needs and areas of high concern
  - List areas related to knowledge/skills, resources, behaviors, and attitudes where core messages are needed
  - Rank the core messages in order of importance

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## STEP 2: DETERMINE AUDIENCE STRATEGIES

### Utilize CDC's Partners/Networks

How can CDC best utilize established partnerships and networks to disseminate information?

*Preparedness and Response Considerations:*

- CDC/RSB WILL:**
  - Preparedness: Gather and deliver information about radiation to partners via CDC networks, incorporate education in existing systems, and refine existing materials
  - Response: Gather and deliver event-specific information to partners via CDC networks
- CDC NETWORKS INCLUDE:**
  - Clinician Outreach and Communication Activity (COCA)
  - The Epidemic Information Exchange (EPI-X)
  - National Public Health Information Coalition (NPHIC)
  - Faith-based and community organizations (FBCOs)
  - National Safety Council business alert system
  - Poison control centers
- CDC PARTNERS WILL:**
  - Develop localized preparedness education and response outreach strategies based on RSB information and tailored to meet the needs of their constituents to increase understanding of risks and consequences
  - Inform CDC about overall resource and information needs in local communities

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## STEP 2: DETERMINE AUDIENCE STRATEGIES

### Select Channels

What communication channels will be used for each target audience?

*Preparedness and Response Communication Considerations:*

- UTILIZE LOCAL CAPACITY ASSESSMENT**
  - Preparedness: Use the current understanding of target audience communication channels and integrate within existing CDC channels
  - Response: Evaluate availability of the channels and the reach given the timeframe of the event.

CDC

State/local health departments and emergency responders

Businesses

FBCOs

Local media

Individuals

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## STEP 2: DETERMINE AUDIENCE STRATEGIES

### Select Sources

STEP 2: DETERMINE AUDIENCE STRATEGIES → Select channels, sources (interpersonal and mediated)

What interpersonal sources will be used for communication?

*Preparedness and Response Considerations:*

- **LOCAL SPOKESPERSON QUALITIES**
  - Community leaders (e.g., religious leaders, emergency personnel, civic group organizers, etc.)
  - Shared involvement with community
  - Knowledgeable of local beliefs and attitudes about radiation
  - Viewed by community as credible and trustworthy
- **CDC SPOKESPERSON QUALITIES**
  - Scientific knowledge of radiation
  - Representative of federal public health officials
  - Empathetic to community needs
  - Ability to be candid
- **SPOKESPERSON/CONTACT NEEDED IN COMMUNITY AND CDC**
  - News conferences
  - News releases
  - Partner networks

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## STEP 2: DETERMINE AUDIENCE STRATEGIES

### Distribute Tasks

STEP 2: DETERMINE AUDIENCE STRATEGIES → Distribute tasks

In deploying the communication messages to the various target Who will be assigned what tasks audiences?

*Preparedness and Response Communication Considerations:*

Personnel	Task	Deadline	Materials/Resources Needed

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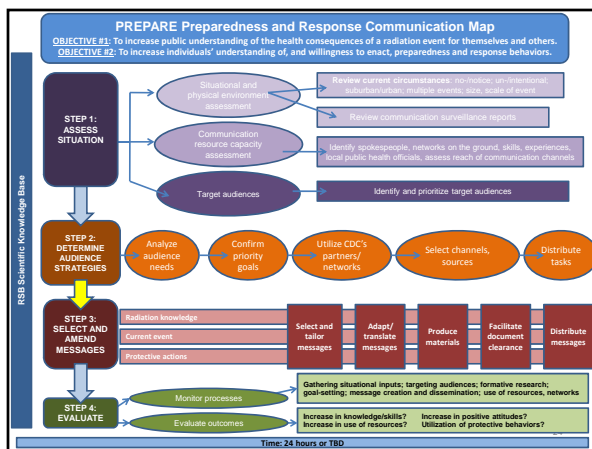
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## STEP 3: SELECT AND AMEND MESSAGES

### Select and Tailor Messages



Will target audiences understand and respond appropriately to the messages?

#### Preparedness and Response Communication Considerations:

- **BASIS FOR MESSAGES AND OUTREACH STRATEGIES**
  - Key characteristics of audiences
  - Communication channels
  - Threat/efficacy profile
  - Core messages

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## STEP 3: SELECT AND AMEND MESSAGES

### Adapt/Translate Messages



Will target audiences understand and respond appropriately to the messages about preparedness behaviors based on their needs according to their language, cultural norms, and levels of literacy?

#### Preparedness and Response Communication Considerations:

- **LANGUAGES:** Language(s) and dialect(s) spoken by audiences
  - Census Tract Data (language spoken at home)
- **LITERACY LEVELS:** Messages that fit the literacy/reading level of audiences
  - Flesch-Kincaid reading level
- **HEALTH AND THREAT LITERACY LEVELS:** Recommended actions that audiences can understand
  - Knowledge of how to perform protective actions
  - Knowledge of and access to the information sources being suggested
  - Knowledge of how to self-assess personal risk and susceptibility to radiation exposure

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## STEP 3: SELECT AND AMEND MESSAGES

### Adapt/Translate Messages, cont'd



Will target audiences understand and respond appropriately to the messages about preparedness behaviors based on their needs according to their language, cultural norms, and levels of literacy?

#### Preparedness and Response Communication Considerations:

- **CULTURAL NORMS:** Materials that accurately represent the culture(s) of the audiences
  - Symbols and images/representations of the members of the culture
  - Morals, values, beliefs, and social norms
- **MEDIA:** Media commonly used by the audiences
  - Easily and accurately translated messages
  - Review how media sources are translating messages
- **TESTING MESSAGES**
  - Local community members and/or cultural representatives review adaptation and translation of messages

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### STEP 3: SELECT AND AMEND MESSAGES



#### Produce Materials

What media would target audiences use the most to get information on radiation and preparedness behaviors?

*Preparedness and Response Communication Considerations:*

- **TEMPLATES**
  - Core messages
  - Placeholders for State and local partners to insert local details and specific considerations for different audiences
- **FORMATS**
  - News releases (radio, TV, print, online)
  - Fact sheets
  - News conference (radio, TV, print, online)
  - Digital media (e.g., online FAQs)
  - Phone text alerts
  - CDC INFO voice messages

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### STEP 3: SELECT AND AMEND MESSAGES



#### Facilitate Document Clearance

Do the messages meet specifications set by CDC and its document regulations?

*Preparedness and Response Communication Considerations:*

- Ensure documents and materials are 508 compliant
- Send documents and materials through the appropriate print and online clearance procedures
- Test contact information on documents and materials (e.g., URLs, e-mails, addresses)

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### STEP 3: SELECT AND AMEND MESSAGES



#### Distribute Messages

How will messages be sent to audiences? How often will messages be sent?

*Preparedness and Response Communication Considerations:*

- **NEWS RELEASES, FACT SHEETS, AND WEB SITE**
  - Preparedness: Frequency of updates to educational materials
  - Response: Frequency of updates on the event even without new information
  - Suggested every 2 hours for 48 hours
  - Response: Subscription communication channels (e.g., e-mail, phone text alerts)
- **NEWS CONFERENCES IN RESPONSE**
  - Periodic broadcast during the immediate aftermath of the event
  - Suggested every 12 hours for 48 hours
  - Forum for questions and answers
  - Interviews on national news programs to distribute messages nationally

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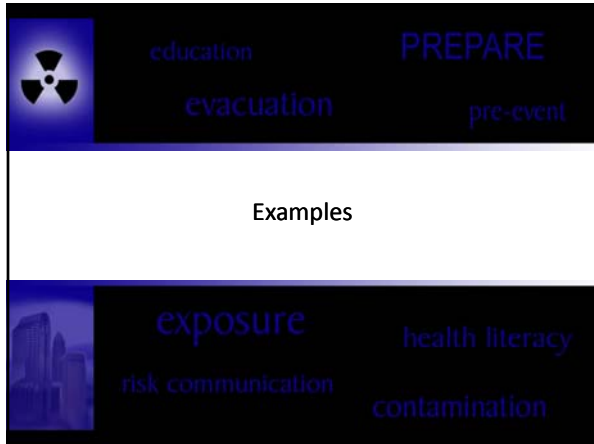
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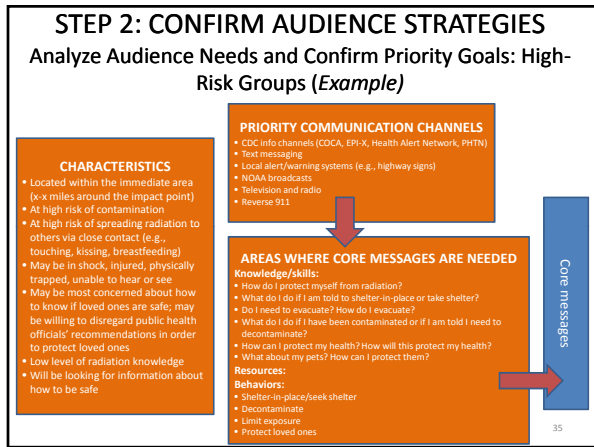
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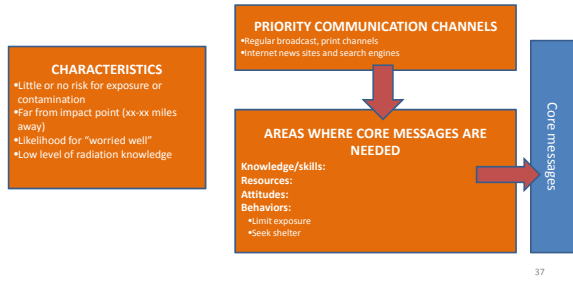
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## STEP 2: CONFIRM AUDIENCE STRATEGIES

### Analyze Audience Needs and Confirm Priority Goals: No-Risk Groups (Example)




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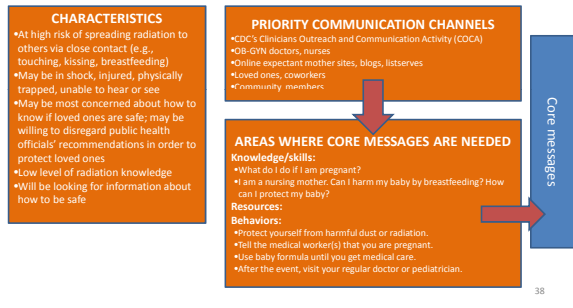
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## STEP 2: CONFIRM AUDIENCE STRATEGIES

### Analyze Audience Needs and Confirm Priority Goals: Pregnant/Nursing Women (Example)




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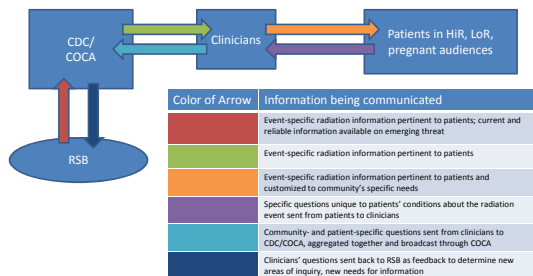
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## Step 2: CONFIRM AUDIENCE STRATEGIES

### Utilize CDC's Partners/Networks (Example)

- Clinician Outreach and Communication Activity (COCA) – monthly conference calls, weekly e-mail updates ([www.emergency.cdc.gov/coca](http://www.emergency.cdc.gov/coca))




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 **Components of Cognitive Response**

- Comprehension
- Retrieval
- Judgment (Decision)
- Communication (Response)

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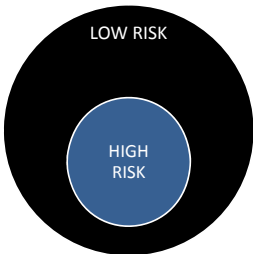
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 **Target Audiences**



Special Populations:

- Pregnant women
- Nursing mothers

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 **Interview Participants**

- 32 Atlanta area; 28 Washington DC metro
- Women and men
- Ages 18–65 years
- Race/ethnicity
  - Black
  - White
  - Hispanic/Latino
- Average income \$25K–\$50K
- 60% have children <18 years

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education      **PREPARE**  
 evacuation      pre-event

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Key Concepts  
 Results



exposure      health literacy  
 risk communication      contamination

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**Term *Shelter-in-Place***

- None of the participants were familiar with the term *shelter-in-place*
- Most participants were familiar with shelter
- Many recommended using simple, direct language
  - Seek shelter
  - Stay indoors
  - Get indoors as soon as possible

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**Responses to Shelter-in-Place Messages**

- Shelter was interpreted in many different ways
- The term *radiation* resonated with participants
- Although the message was relatively clear, more information needed
  - "How would they contact you when you are in there?"*
  - "How would you know when to come out?"*
- Participants very concerned about the timing of this message—afraid they may act before receiving it
  - "It's a catch-22 if you are in the building after the explosion. At 9/11, people were running from the first tower to the second and it was a bad move. I would have just run as far away from there as possible and would still be alive."*

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## Term *Decontamination*

- Familiar term
- Most participants did not trust how “simple” the process of decontamination is for radiation
- Hispanic/Latino (ESL) respondents seemed to have a stronger grasp of the term

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## Responses to Decontamination Messages

- Want more information  
*“What type of dust is it?”*  
*“We don’t know about the material. I would be concerned about that. I want to know what is the material. Should I go to water and wash it off? I would think about my eyes. Maybe people could help each other. Be more specific.”*
- Would follow the instructions, but not confident in the effectiveness of the instructions  
*“It’s too late...it’s already in your system”*  
*“Would do this to start...then go to the hospital”*
- Response depends on situation
  - Public versus private place
  - Availability of shower (soap and water) and clean clothes
- Some men and women would feel uncomfortable removing their clothes in public  
*“I’m not sure how I’d be in the trauma. If I was in a crowd I might try to brush it off and take off what I’m comfortable taking off. I might rip parts of it off. It depends on what I am comfortable with, but I don’t now my state of mind. I might do it all.”*

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education
PREPARE

evacuation
pre-event

### Target Audiences

Results

exposure
health literacy

risk communication
contamination

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## Pregnant Women

- Messages were clear and easy to understand
- Great concern for the health of their baby
- Questions about timeline for seeking care
  - How soon upon hearing this should they seek medical attention?

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## Nursing Mothers

- Clear message, but evokes fear
- Some questions about how radiation affects breast milk
- Confident in their ability to follow the instructions depending on resources available
  - *What if I don't have baby formula?*
- Want more information about how to protect themselves

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## High-Risk Audience

- Not enough information about the event—fear evoking
  - *"[It] seems secretive that they are not telling us what is going on."*
- Seeking shelter in this situation counterintuitive
  - *"At some point your own personal judgment has to come into play because you are not going to sit there forever."*
- Concern about access information
  - *"What if you don't have a TV or radio?"*
  - *"If you are inside an enclosed place how do you communicate with emergency workers who are outside?"*

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## High-Risk Audience(cont'd)

- Overall, participants did NOT like evacuation message  
*"Even though I know we should do this, it might be hard to do it. People might have ideas from movies or September 11. I think that people will leave anyway."*
- The term may convey uncertainty  
*(Laughing) "It's not funny, but I think about Katrina and they did a poor job. Homeland Security wasn't prepared. I don't know. I couldn't imagine what I would do—just keep safe from dying."*
- Participants' comments suggested that they would seek help, regardless of their (lack of) symptoms

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## Low-Risk Audience

- Not enough information about the situation—reluctant to respond accordingly without pertinent information  
*"What are the geographical boundaries of the emergency?"*  
*"How long do I need to wait?"*
- First and strongest instinct would be to evacuate
- Reference to loved ones not well received—evoked strong feelings of anxiety, fear, panic

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## Hispanic/Latinos (ESL)

- Often used "context clues" to interpret the messages
  - At times, this could result in misinterpretation
- Would follow the instructions, especially if they come from local authorities
- Contamination, decontamination, and radiation were understood
- Terms *barrier* and *interior* were confusing to some

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## Overarching Findings

- Need details on the situation
- Messages that include rationales well received (e.g., do this so you don't breathe in radiation, this will help create a barrier between you and the radiation outdoors)
- At times, native Spanish speakers misinterpret the instructions
- There were no consistent differences across key subgroups:
  - Education (< HS, college degree)
  - Age
  - Income

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## For More Information

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