



**Pre-Event Message Development
For Terrorist Incidents
Involving Radioactive Materials:
Year Two Report**

Submitted by the

**UAB Pre-Event Message Development Team
Steven M. Becker, Ph.D., Principal Investigator**

**School of Public Health
The University of Alabama at Birmingham
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UAB Pre-Event Message Development Team

UAB Pre-Event Message Development Team:

Steven M. Becker, Ph.D., Principal Investigator

Loretta Cormier, Ph.D., Investigator

Herman Foushee, Ph.D., Investigator

Linda Goodson, Investigator

Jill Reeves, Program Coordinator

Tina Dickens, Project Coordinator

Sarah Middleton, Data Analyst/
Graduate Research Assistant

Overall Multi-University Pre-Event Project Team:

The University of Alabama at Birmingham

The University of Oklahoma

University of North Texas (subcontractor)

Saint Louis University

University of California at Los Angeles

Contact Information: UAB Pre-Event Message Team, Dr. Steven M. Becker, Department of Environmental Health Sciences, School of Public Health, The University of Alabama at Birmingham (UAB), 530 Ryals Building, 1665 University Boulevard, Birmingham, AL 35294-0022 U.S.A., Tel: (205) 934-6089, Fax: (205) 975-6341, Email: smbecker@uab.edu

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Introduction

Background

The menace of global terrorism has stimulated much activity and resource mobilization within the public health community over the past three years. One concern has been to assure that the health care system has the capacity to respond effectively in an emergency. Efforts to establish drug stockpiles, improve hospital and health department facilities, and train health providers and first responders have greatly expanded at the national, state and local levels.

Another major concern has been on improving communication plans and informational materials for the general public. Getting useful, clear information to people in a timely fashion is essential if morbidity and mortality are to be reduced and trust and confidence are to be maintained. Recognizing this, the Centers for Disease Control and Prevention (CDC), in concert with the Association of Schools of Public Health (ASPH), responded by funding the “Pre-Event Message Development Project” (PEMD).

Pre-Event Message Development Project

The PEMD project provided funding in the Fall of 2002 to four leading schools of public health (Saint Louis University, University of Alabama at Birmingham, University of California at Los Angeles, and the University of Oklahoma) along with several partnering schools. The four University teams working on this project were selected as each brought unique skills, perspectives and experiences to the effort. The aim was an ambitious one: to better understand how to most effectively communicate critical information that speaks to what audiences want to know as well as information that the research team, CDC, and ASPH recognize as needs to be known.

The basic charge the four Pre-event teams have addressed in the first two years of the project is how to develop and evaluate pre-event messages relevant for unconventional terrorism events for the general population, using well designed formative research to define, craft, and pre-test crisis communications messages.

What evolved was a remarkable collaborative process among the four schools in which standardized methods were used across all of the institutions. Research using the same approach was carried out with samples of persons from culturally and geographically diverse backgrounds across the U.S. This collaborative, multi-site approach has generated richer, more generalizable results than any one of the schools could have produced by itself.

Initially the teams debated whether it would be more useful and efficient to focus on generic all-hazards prevention messages to be used to educate the public prior to an event, or to focus the research on agent-specific emergency messages for use during and after a terrorist attack. The literature differentiates disaster warnings and responses from public hazard education. The latter involves general knowledge that can be transmitted independent of the hazardous event. Disaster warnings and responses are event specific and happen either right before, during, or

after an event. (Mileti and Fitzpatrick 1991; Mileti and Sorensen 1988). These messages are important in regards to saving lives, reducing unnecessary service utilization, facilitating relief efforts, and reducing anxiety among the general public.

Because many other researchers were already conducting research with an all-hazards thrust, the PEMD schools, in consultation with CDC and ASPH, decided to take the agent-specific emergency message approach.

Each University team was charged with assessing public response to one of the following agents representing a particular class of threat: an infectious agent (plague), a toxin (botulism), a chemical agent (VX), and a radiological agent (dirty bomb). The basic idea was to obtain sufficient information from qualitative formative research to be able to construct prototypes message scripts for each of the different types of agents.

The first year of the project involved open-ended formative research that sought to understand information needs, information seeking strategies, and other responses to hypothetical terrorist emergencies on the part of the public, as well as preliminary audience testing of existing government informational materials and messages. Findings from Year 1 of the PEMD Project were presented in a series of reports, presentations and published articles (Vanderford, 2004; Becker, 2004; Wray and Jupka, 2004; Glik, Harrison, Davoudi and Riopelle, 2004; Henderson, Henderson, Raskob and Boatwright, 2004).

For Year 2, findings from previous year were used to guide content development for new draft message scripts and materials. It was known from Year 1 that most persons in the general public had little knowledge about the specific agents being discussed. Persons had some idea of what to do in crisis and disaster situations, but were not familiar with current terminology, and often had little understanding of disaster response planning that is currently taking place at local, state and federal levels. Levels of trust of media and government were mixed. In addition, there was a clear “hierarchy of resort” voiced as regards information seeking, with most persons turning to the mass media for initial information, and then print, internet and interpersonal sources for more in-depth coverage. However there was also a substantial minority of persons who were more likely to turn to community and interpersonal sources of information first: these were often in more isolated, disadvantaged, ethnic minority or rural communities.

Year 1 data also helped the University teams as regards the framing and organization of messages. Specifically, the researchers were reminded of the importance of prioritizing information that addresses the concerns of persons in potential crisis situations. One basic idea is that messages should address survival concerns first, then meaning, then assurance about organized responses to the event. In other words, messages should first tell persons what to look for, what to do, or how to get help or prevent exposure (problem identification, actions, reconnaissance, symptom recognition, help seeking). The next set of messages explains why they need to do it (epidemiology, transmission, treatment, prognosis). The third type of message is to assure persons that something is being done by someone or some agency (to stop the problem, help the afflicted, find the culprit).

In the first half of Year 2 (January - June 2004), the four PEMD Teams took Year 1 findings and, through an iterative process, created sets of message scripts for each agent. Several types of message materials were created: 1) draft radio scripts, 2) draft television scripts, and 3) draft printed/web materials/fact sheets. Content was reviewed CDC Subject Matter Experts (January -

February). Then all four schools participated in a message review process using the RAIN technique to test for readability for the scripted materials. This readability system looks at many factors (words, writing style, grammar, format) that can increase reading level of materials. The goal was to bring materials to a readability level where lower literacy persons could understand them. The challenge in creating materials such as these is to make them effective and credible tools for communication balanced with concerns about scientific validity and accuracy.

The materials were revised (March) and then television production began and continued through April and May, with some revision of rough cuts of materials in late May and early June. Radio production occurred in June and concurrently fact sheets were finalized and formatted in a standardized manner. Ultimately, the schools were able to produce prototypes of radio clips, short videos, and fact sheets for pre-testing. Scripts for these materials can be found in the appendices of this report.

In retrospect, the approach taken by the four PEMD Project schools has proven to be highly informative and efficient, as it has provided a rich and multilayered research data base that can be used to help craft both agent specific and all hazards preparedness messages. That is, even though the focus was on specific unconventional terrorism agents, much of the information is also relevant to all hazards preparedness. Information about what persons understand in regards to infectious or toxic agents, chemicals or radiological events and what to do about them not only may have relevance to other similar agents, there was also much information gleaned about information seeking in times of a crisis or disaster, cultural differences in response to disasters, perceptions of the role of government the media and first responders, and insight into persons' understanding of basic concepts and terms used in warning and disaster preparedness (e.g., sheltering in place, quarantine, isolation, prophylaxis, immunization, handling food and water, decontamination, coping and stress reduction, and information seeking).

This report, which was prepared by the Pre-Event Message Development Team at the University of Alabama at Birmingham (UAB), summarizes the Year Two research on radiological terrorism (radiological dispersal devices, or dirty bombs). In the sections that follow, the methods used to test the draft informational materials are described in detail, and the human subject protection assurances followed are discussed. This is followed by a presentation of findings, first from focus groups, and then from cognitive response testing. After the sections on focus group and CRT findings, the report includes a special section of findings based on the second order analysis of Year One data for professionals (first responders, public health, hospital ED personnel). Finally, the report's concluding section summarizes key findings from all of the Year Two work on radiological terrorism.

To assist the reader who wishes additional detail on the research, an extensive series of appendices has also been included in the report. All relevant research guides and materials are provided, as are copies of the draft scripts and a revised and updated Creative Brief that incorporates the findings from Year One and Year Two research.

Methodology

DATA COLLECTION

Two research methods were used in Year 2 to pre-test the fact sheets, radio and television clips: focus group discussions and cognitive response interviews. The purpose of the focus groups was to elicit information about audience response and to direct revisions and improvements of the message materials (Krueger, 1994; Kreuter, et al., 2000). Focus groups are an effective means of collecting *opinion and preference* information among selected audience segments (Morgan, 1988; Stewart & Shamdasani, 1990; Krueger, 1994).

The Year 2 focus groups were built on the structure of the Year 1 groups in which participants were asked to respond to a three-part hypothetical attack involving the relevant agent. In Year 2, after each scenario section was introduced, participants were then exposed to the draft message materials – radio clips after the first, the television clip after the second, and the printed fact sheet after the third. Regardless of which material was being presented, the participants were asked to respond to the same set of questions, inquiring about: comprehension, appeal, credibility, emotional response, confidence in recommended actions, channel appropriateness, and recommendations for improvement. The project partners developed the interview guides collaboratively (see Appendices).

The purpose of the cognitive interviewing was to gain knowledge on participants' understanding of messages and emotional response to messages (Forsyth & Lessler, 1991; Sudman, Bradburn & Schwartz, 1996). Cognitive testing allows us to explore general reactions to messages, problematic features of the educational messages, emotional responses, and the comprehension of different messages. Cognitive interviews focus pre-testing on specific blocks of text that are thought to contain especially difficult or ambiguous language, identified in the expert review. The cognitive interviews were designed to assess message comprehension and clarity through such strategies as thought listing, paraphrasing, and word definition. In addition, participants were asked to comment on their feelings after reading specific passages. The project partners developed the interview guides collaboratively (see Appendices).

Forty-six focus groups and 129 CRTs were conducted by the partner universities in the public sectors. The focus groups and CRTs were conducted in places convenient for the participants and designated by the subject recruiters. Discussions were transcribed by a professional transcriptionist, a stenographer, or by project staff. The partner universities conducted groups and interviews with the same general public audience segments as in Year 1: African American, American Indian, Asian, Caucasian, and Hispanic populations, as well as new immigrant groups studying English as a second language. For all but the Asian and new immigrant groups, groups were convened with residents of both rural and urban areas.

HUMAN SUBJECTS PROTOCOL

Protocol development and IRB submission

Over the course of several months, representatives from each member institution provided input on the content and wording of a joint human subjects protocol to be submitted to each institution's review board. Drafts were circulated among the institutions and changes were noted and incorporated until a final document was agreed upon. In addition to the protocol, each institution prepared consent forms and packets under guidelines of their review board for submission. After submission, each institution provided an IRB approval letter to the funding agency.

Study Groups

The cooperative agreement under which the work was carried out was awarded by the Association of Schools of Public Health and the Centers for Disease Control and Prevention. Four institutions served as project partners: Saint Louis University; the University of Oklahoma at Oklahoma City; the University of California at Los Angeles; and the University of Alabama at Birmingham. The University of North Texas was awarded a subcontract by the University of Oklahoma. As requested by the CDC, each of the four schools, along with subcontract institutions, conducted a series of focus groups and cognitive response interviews with various elements of the US population (Caucasian, African American, Hispanic, Asian, Native American and ESL).

Role of participants

The primary aim of the research was to test draft television, radio and printed messages that had been developed for plague, VX, botulinum toxin, and radioactive dirty bombs. Two complementary methods were employed to gather this information. The first method involved the use of focus groups with the various audience segments. Focus groups were led by moderators trained to guide discussions in non-directive, and non-judgmental ways, and to elicit responses from all participants. The second method involved the use of cognitive interviews. Here, one-on-one interviews were conducted with participants to get detailed comment on draft fact sheets. The fact sheets were read and given to participants to respond to and to use for reference in answering the interview questions, as they assessed their quality. Specifically, participants were asked to assess the materials in the areas of: (1) Clarity of the material and information conveyed; (2) Comprehensibility of the information; (3) Adequacy of the level of detail; and (4) Recommendations for improvement.

As total of 46 focus groups were conducted as part of the overall Pre-Event Message Project. Table 1 (next page) sets out the division of focus groups by population group, agent, and school.

Table X. Radio/TV/Web Content Focus Group Testing

By Agent Type					
	<u>Bio-Plague</u>	<u>Bio-Bot</u>	<u>Radiological</u>	<u>Chemical</u>	<u>Total</u>
Urban African American	SLU (1) UAB (1)	SLU (1)	SLU (1) UAB (2)	SLU (1), UAB (1)	8
Rural African American	SLU (1)	UAB (1)	UAB (1)	SLU (1)	4
Urban Hispanic	UAB (1)	ULCA (1)	UOK (1) UAB (1)	UOK (1) UAB (1)	6
Rural Hispanic	UOK (1)	UOK (1)	UOK (1)	UOK (1)	4
Asian Urban	ULCA (1)	ULCA (1)	ULCA (1)	ULCA (1)	4
English 2 nd Language	ULCA (1)	ULCA (1)	ULCA (1)	ULCA (1)	4
Urban White	SLU (1)	ULCA (1)	UAB (3), UOK (1)	ULCA (1)	7
Rural White	SLU (1)	SLU (1)	UAB (2)	SLU (1)	5
Native American	UOK (1)	UOK (1)	UOK (1)	UOK (1)	4
Total	10	9	16	11	46

A total of 129 cognitive response interviews were conducted as part of the overall Pre-Event Message Project. Table 2 sets out the division of cognitive interviews by population group, agent, and school.

Table Y. Fact Sheet Content Cognitive Testing

By Agent Type					
	<u>Bio-Plague</u>	<u>Bio-Bot</u>	<u>Radiological</u>	<u>Chemical</u>	<u>Total</u>
Urban African American	SLU (3) UAB (3)	SLU (3)	SLU (3) UAB (3)	SLU (3), UAB (3)	21
Rural African American	SLU (3)	UAB (3)	UAB (3)	SLU (3)	12
Urban Hispanic	UAB (3)	ULCA (3)	UOK (3) UAB (3)	UOK (3) UAB (3)	18
Rural Hispanic	UOK (3)	UOK (3)	UOK (3)	UOK (3)	12
Asian Urban	ULCA (3)	ULCA (3)	ULCA (3)	ULCA (3)	12
English 2 nd Language	ULCA (3)	ULCA (3)	ULCA (3)	ULCA (3)	12
Urban White	SLU (3)	ULCA (3)	UAB (6), UOK (3)	ULCA (3)	18
Rural White	SLU (3)	SLU (3)	UAB (3)	SLU (3)	12
Native American	UOK (3)	UOK (3)	UOK (3)	UOK (3)	12
Total	30	27	39	33	129

Inclusion and exclusion criteria

As a collaborative effort, the combined study sample of all participating institutions was intended to draw on the principal population subgroups in the United States. In drawing the convenience sample for the general public audience segments, every effort was made to balance representation of both sexes and to include a wide range of adult age groups. Only adult populations were examined, so only individuals who have attained the legal age for consent under the applicable law in the state in which the focus groups were conducted were considered for participation in focus groups (45 CFR 46.402). For all institutions involved, the age of eighteen years was agreed upon as a minimum age for participants. Consequently, children were excluded from the study.

In an attempt to minimize risk to study participants, stringent efforts were made to exclude individuals with a history of trauma from the study. Exclusion criteria included, but were not limited to, combat experience, violent crime, terrorist incident, motor vehicle accident, disaster (natural or manmade), domestic violence, or sexual abuse. Individuals with a history of psychiatric illness including, but not limited to, anxiety disorder, depressive illness, bipolar disorder, posttraumatic stress disorder, psychosis, alcoholism, or substance abuse were also excluded from focus group participation. Additionally, individuals who have had relatives or friends killed or injured in a terrorist incident were excluded.

Participant recruitment

Participants in focus group activities and participants in individual interviews were drawn from a convenience sample of members from each target population. Each university established community and professional contacts, or used existing databases to derive a sample. Although groups were already delineated by race for the general public, there was an attempt to also consider age, SES, and gender while recruiting in order to produce a study population with maximum diversity.

Focus groups and individual interviews were also stratified using an urban vs. rural distinction. Rural counties having less than 12,000 adults over the age of 16 were considered. Gender representation was to be approximately half male/half female. Different literacy levels were included as well. This difference was especially important to ensure that messages were evaluated by people with varying reading levels.

Individual participants from all research segments were paid for research sessions in which they were involved. Total focus group time was approximately 1 to 2 hours in length. The individual interviews were approximately 30 minutes in length.

Focus Group and Interview Procedures

As part of the focus group and interview introductions, the focus group moderator or the interviewer reviewed issues related to confidentiality and risk/benefit. Participants were told that their participation was voluntary and that they could choose not to complete the study or any part of it without penalty or loss of benefits to which they were otherwise entitled. They were told that the materials they reviewed and discussed might be potentially distressing and that they might choose not to participate in any part of the discussion, to leave the group temporarily, or to terminate participation completely. Upon request, they would be given the name and telephone number of a mental health clinician. An informed consent document was reviewed by each

participant before the group began, and in cases where the IRB protocol required it, signed by participants.

Referral information was readily available. The conducting institution contacted potential clinicians before focus groups begin to secure their willingness to assist in case a participant required attention. The University of Oklahoma mental health team, a partner school, was willing to assist by telephone, in addition to a list of willing potential clinicians for referral purposes at a local level.

DATA CODING AND ANALYSIS

Coding of Data

The coding analysis process was generated from 1) literature on the theory of the Cultural Construction of Realities, 2) literature of Grounded Theory, and 3) code domains identified in collaboration with participating universities, CDC, and ASPH (Glaser & Strauss, 1967; Strauss & Corbin, 1996). As Miles and Huberman (1994) note, the coding process is simultaneously data collection, method, and analysis (Miles & Huberman, 1994). Consequently, code categories are not simply convenient labels facilitating text retrieval, they are crucial data leading to an auditable trail of findings (Strauss & Corbin, 1994; Miles & Huberman, 1994). In this study, “code categories” will be referred to as “domains.”

Focus group and CRT tapes were transcribed and entered into the [Ethnograph] qualitative data analysis programs for coding using the designated coding protocol. For each transcript, coding proceeded from macro domains to smaller units of coded material (see Appendices). Coding and recoding were completed when all portions of the transcripts were classified, domains were “saturated” (information began to be repetitive), and common themes emerged (Strauss & Corbin, 1994).

Analysis of Data

After coding of transcripts was completed, research relevant statements were extracted from each interview and analyzed for meanings. These meanings were clustered into themes that could be analyzed across focus groups (Morse, 1994). Thematic analysis is a process that encodes qualitative information, with themes generated as the coding proceeds. It is important to note that frequency of the response is only one aspect of identification of themes. The significance of meaning as judged by the nature of the subject’s discourse could mean that something less frequently mentioned could also represent a theme, provided, for example, that it is mentioned with great emphasis (Valle, 1989).

Themes elicited for each focus group were compiled into Topline Summary Reports (see Appendices) and presented to the partner universities for utilization in the crafting of Final Topic Specific Creative Briefs for designated content areas (see Appendix A). The CRT coding process identified terms and concepts that were confusing to participants, and patterns could be discerned across participants. These were also presented to partner universities for the compilation of agent-specific reports (see Appendices).

Issues of Coding Reliability

The coding of transcripts proceeded from the first coding of the manuscript to a process known as “check-coding” in which 1) two researchers code the same data set and coding difficulties or disagreements are discovered and/or 2) one researcher codes the data set and repeats the process

on an identical un-coded manuscripts several days later. The processes of check-coding increase definitional clarity and validate reliability, and are also an assessment of internal consistency in individual coders (Miles and Huberman, 1994).

The coding of focus groups by the partner universities achieved acceptable levels of code-recode reliability. Verification of results was also achieved by a process of cross-group validation in which findings were compared across universities and similarities identified. It is notable that this level of reliability was achieved in this research.

Limitations of the Study

The Focus group and CRT participants in the study represent a non-random convenience sample of the population. The partner universities accessed participants from six diverse populations, and this is of considerable benefit. However, there is much discussion in the literature about the use of non-probabilistic sampling techniques. In probability samples, each member of the population has an equal chance of being included in the study. The most common uses of a probability sample are to determine distribution in a population and to test the relationships between variables. However, a primary limitation of this type of sampling is that it cannot easily be used to obtain information about the meaning of a construct (Morse, 1986).

The assumption underlying the use of non-probability sampling is that not all subjects experience the phenomenon of interest in the same ways. In qualitative research, sample size is dependent upon the purpose of the inquiry. In-depth information from a small target population is the desired outcome rather than dilute information from a large number of subjects. In a project such as this one, the researcher's main emphasis is on understanding and identifying culturally-driven constructions which will in turn facilitate the crafting and delivery of messages important to the continued health and well-being of the public. In addition to other issues, the validity of the study after its completion depends upon the richness of the information obtained, and the observational and analytic skills of the researcher (Patton, 1990).

Issues of Validity

Validity is the degree to which the research measures what it is supposed to measure. Krueger (1994) states that the use of focus groups in qualitative research is valid if the focus groups are used carefully for a problem that is amenable to focus group inquiry. The validity depends upon the context in which it is used and the procedures followed in the conduction of the groups (Krueger, 1994). Focus groups are particularly valuable prior to initiating a social marketing campaign for the purpose of successfully communicating with designated population groups. The cognitive response testing assured that terms and phrases used in the publicly-distributed printed materials on chemical attack were fully understandable and of use to the targeted population segment.

In order to insure validity, the findings must be grounded in the data, inferences made from the data must be logical, analytic strategies applied correctly, and alternative explanations accounted for (Schwandt & Halpern, 1988). The findings of this research were consistent across four universities, and this consistency of findings constitutes the verification process necessary to assessment of validity. Ideally, the research should have the possibility of being replicated by other investigators. "Transparency" of method addresses the issue of clarity of data and procedures such that the study may indeed be replicated at a later date (Miles & Huberman, 1994). Methodology was consistent across the four universities involved in this research. In this study external validity is limited in that the findings cannot be generalized to the entire U.S.

population. They can, however, be generalized to the populations that were accessed for the focus group participants. Therefore, it is felt that the research contains important and valid information that may be of value to the CDC and ASPH in the crafting of pre-event messages addressing the issues extant in the realities of bioterrorist activity, especially in regard to targeted special populations.

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Findings: Focus Groups

- **Introduction**

UAB and the three other schools on the Pre-Event project conducted a total of 16 focus groups with 154 participants who discussed response to a terrorist event involving a dirty bomb. The focus group sessions utilized a three-part “roll-out” scenario that provided participants with increasingly more detail from beginning to end. For each part, a brief update on the emergency was read aloud, after which media developed to provide self-protection information were presented for feedback. The first such message was a radio news flash, while the second was a television clip. The third and final message was a multi-page fact sheet. After presentation of the scenario parts and each message, the participants were asked a series of questions aimed at eliciting feedback on the message. Participants were encouraged to comment on any aspect of the message as well as reactions to the scenario, the terrorism threat, etc. A copy of the FG guide may be found in the appendices.

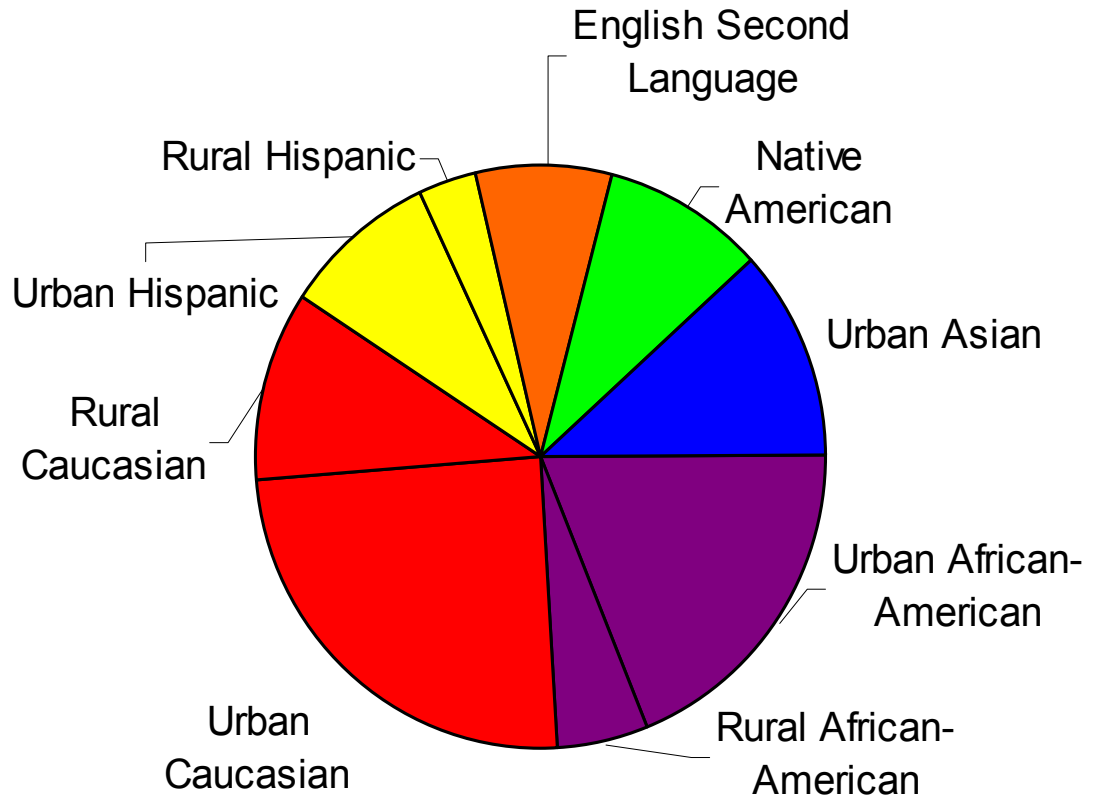
- **Focus Group Breakdown:**

Population	Conducted by	Number of Participants
Urban African American	SLU	9
Urban African American	UAB	10
Urban African American	UAB	10
Rural African American	UAB	9
Urban Caucasian	UOK	9
Urban Caucasian	UAB	9
Urban Caucasian	UAB	6
Urban Caucasian	UAB	12
Rural Caucasian	UAB	8
Rural Caucasian	UAB	9
Urban Asian	UCLA	18
Urban Hispanic	UAB	5
Urban Hispanic	UOK	9
Rural Hispanic	UOK	5
Native American	UOK	14
English as Second Lang.	UCLA	12
TOTAL		154

- **Demographics:** Detailed pie charts and tables describing the demographic characteristics of the focus group participants may be found on the next eight pages. After the review of focus group participant demographics, the focus group substantive findings are presented.

Ethnicity/Race

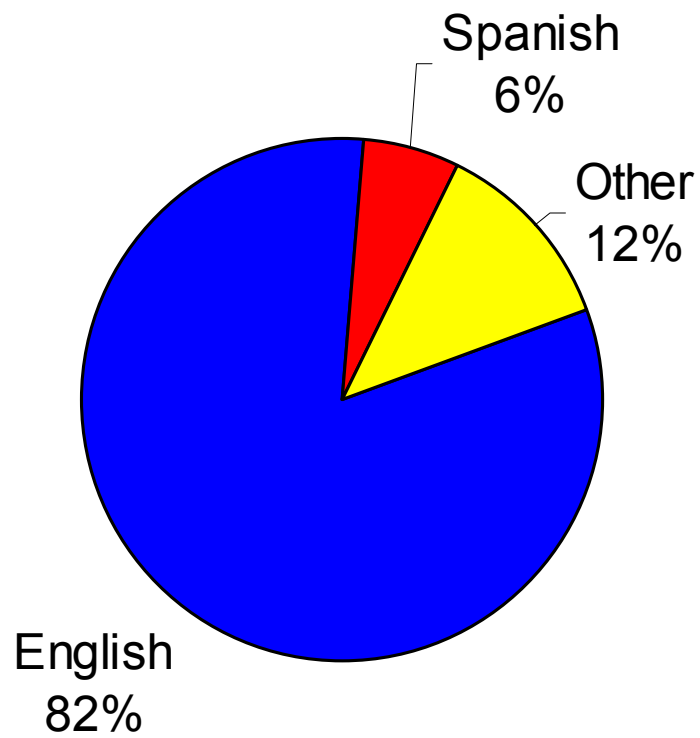
N = 154



Focus Group Participants, Radiological

Spoken Language

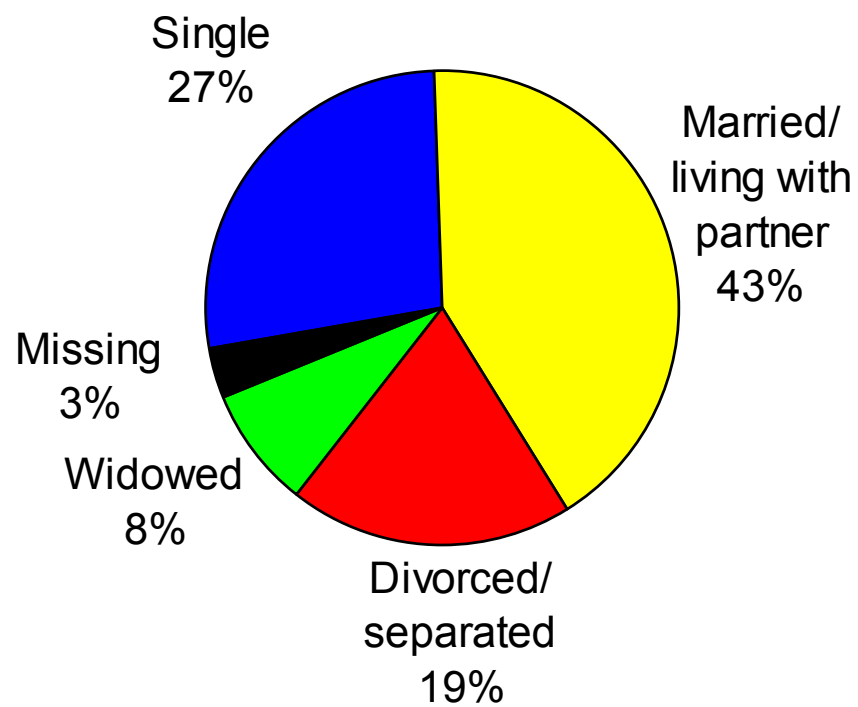
N = 154



Focus Group Participants, Radiological

Marital Status

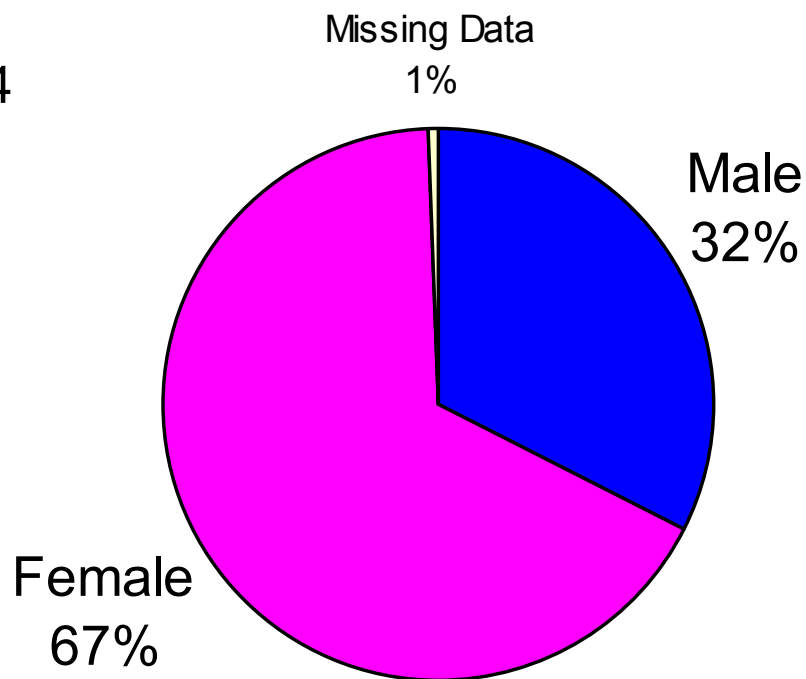
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Focus Group Participants, Radiological

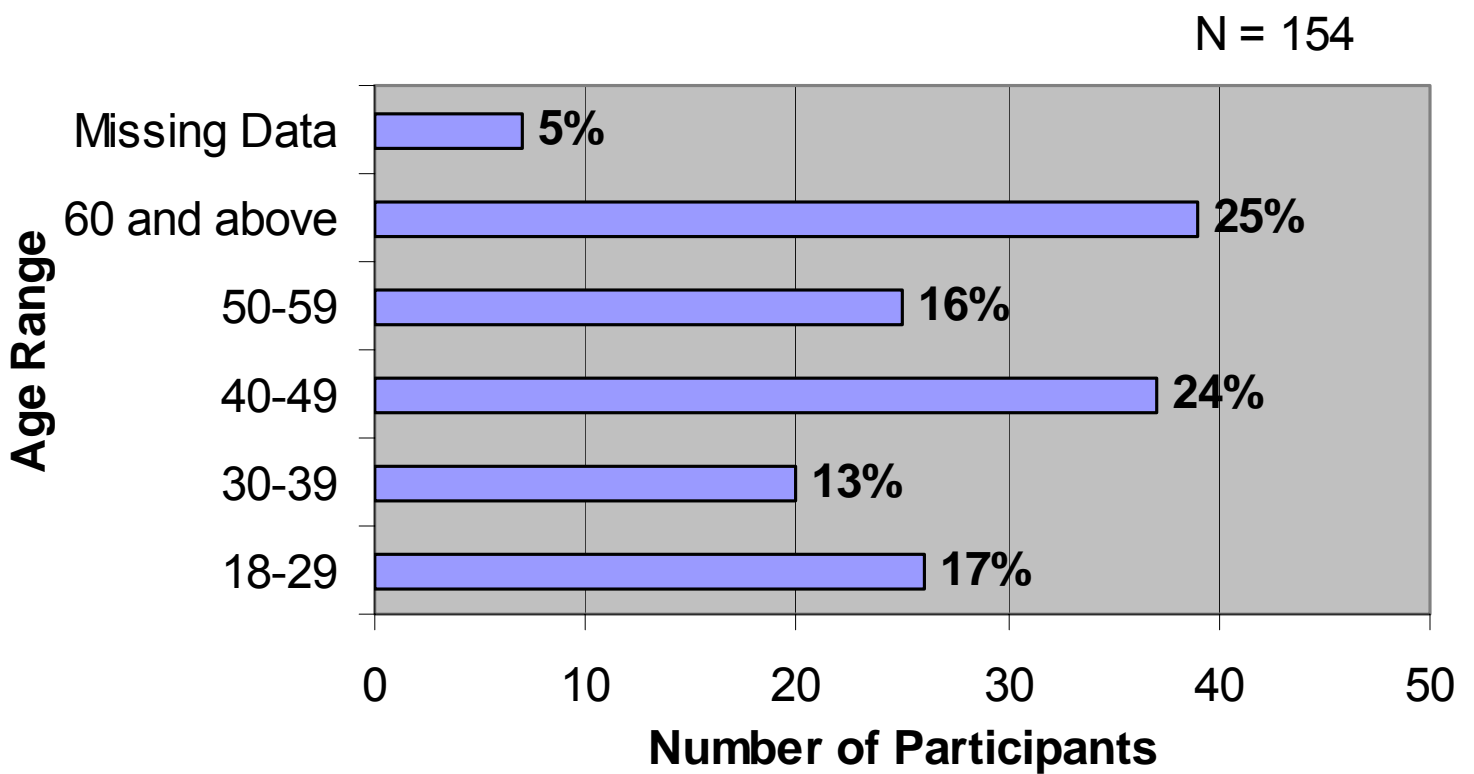
Gender

N = 154



Focus Group Participants, Radiological

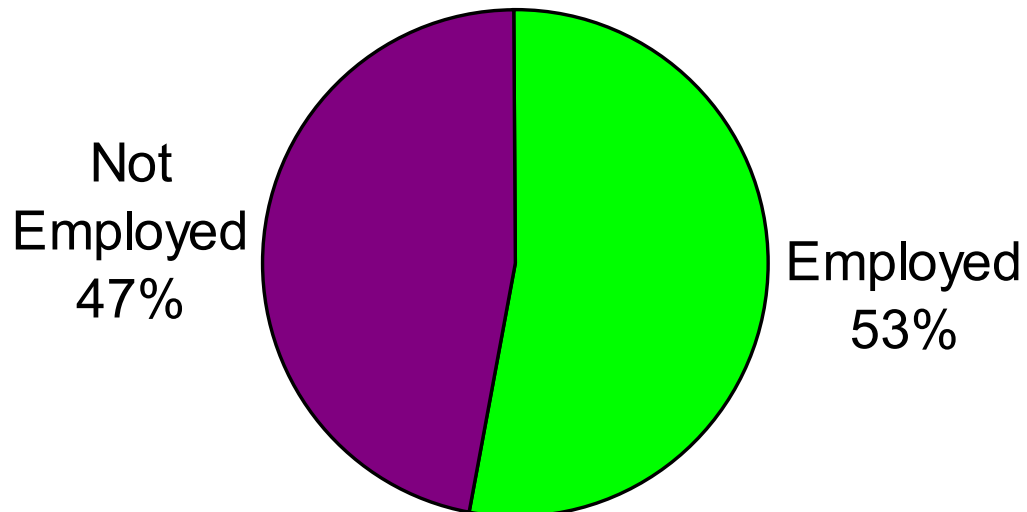
Age Distribution



Focus Group Participants, Radiological

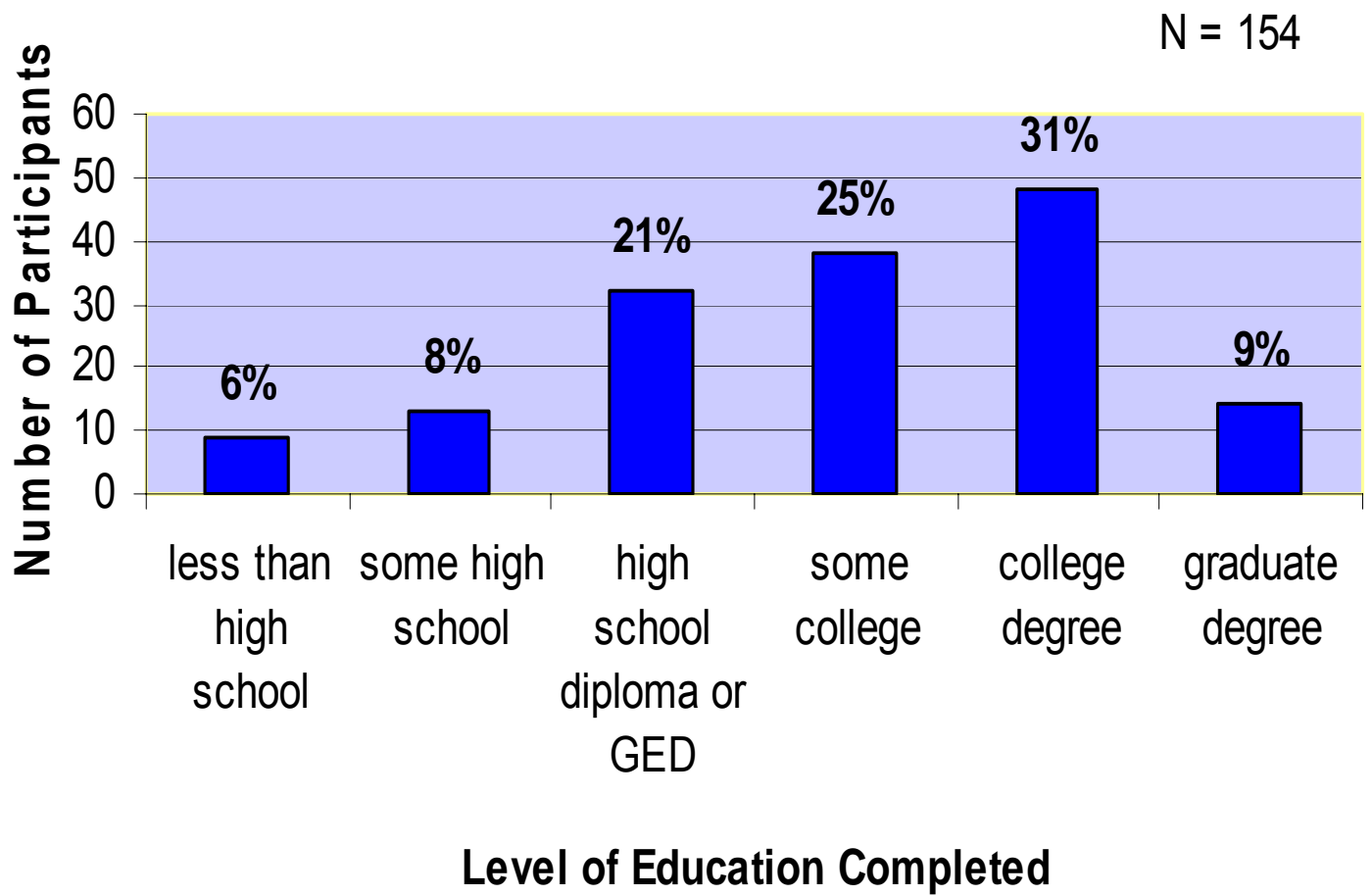
Employment

N = 154



Focus Group Participants, Radiological

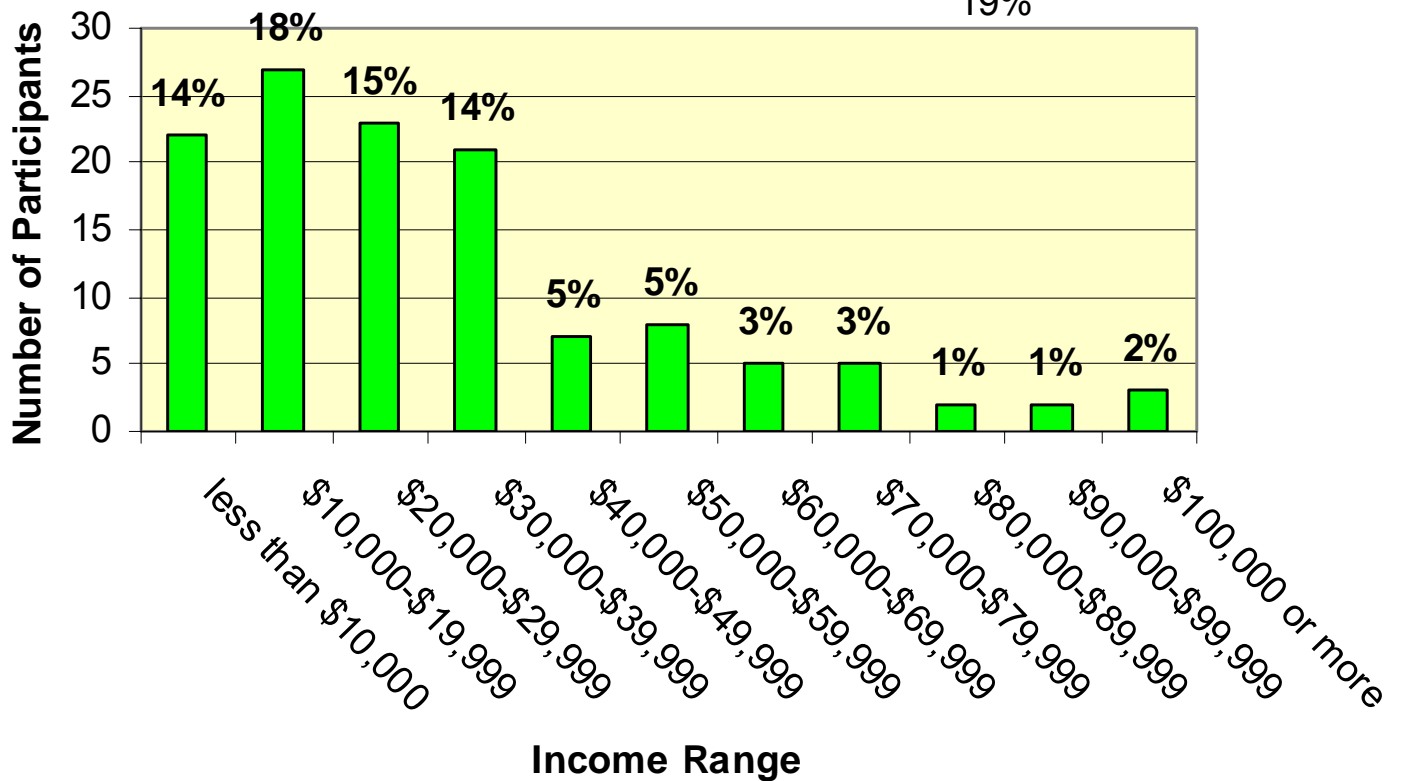
Education



Focus Group Participants, Radiological

Yearly Family Income

Total = 125
Missing Data = 29,
19%



Focus Group Findings

Response to Scenario:

Though the emotional responses of participants in the focus groups was only a prediction of their actual responses in a radiological terrorist event, they provide clues to the context in which emergency managers would have to present safety information.

Most Significant Trends:

- Emotional response to scenario was typically a combination of fear/anxiety about the event and relief at having information.
 - “I’d be worried about my family, especially my children”
 - “Panicky”
 - “It freaked me out. I got scared.”
 - “At least by hearing the message (radio) we would know for sure what was going on. Even though I would have an anxiety attack, I would get into action.”
- Some fatalistic attitudes towards terrorism in general and radiation in particular were evident, particularly among minority populations.
 - “I don’t know what I would do. I don’t know what I would do. Try to leave, get as far away as I can. Or just go in the house and sit and pray.”
 - “So if the threat level is red, if you were outside, I don’t think you’d have a chance to make it back on the inside.”
 - “I don’t think we’d have a chance when the terrorist attack.”
 - “A bomb is a bomb, regardless of what it is. It’ll kill you.”
 - “It’s radioactive material. Once it gets in you, you dead anyway.”
 - “If you exposed to radiation, there is nothing you can do.”
- Some participants, particularly minorities, expressed skepticism and fear motivated by mistrust.
 - “I wouldn’t be totally concerned by at least the red alert. And also it depends on whether or not it is in the middle of the election year.” (Urban African American)
 - “my first thought would be that this is political here and you are trying to get something to make people feel that you are doing so much as the President to protect this country.” (Rural African American)
 - “I’m being manipulated a lot. So it’s informative but, you know, I’m not sure...” (Urban American Indian)
 - “So who’s going to help our people, because the United States doesn’t care about us basically.” (Urban American Indian)
 - “I wouldn’t be concerned because the Homeland Security advisory system has been so unreliable that I guess I wouldn’t pay much attention. (Rural African American)

- Fatalism was sometimes associated with the view that special equipment was needed to survive and incident
 - “Why do these people that are working on radioactive materials have to suit up head to toe?”
 - “Are we supposed to have masks? I mean, where are we supposed to get them?”
 - “Basically, I think it is kind of illogical because if you were outside at all, you were already exposed.”

Response to Messages Presented:

Most Significant Trends:

- Overall response to messages was generally favorable
 - “I think that was good advice.” (radio)
 - “Informative.” (radio)
 - “It didn’t play around, joke around or anything. He just gave straight information. I would believe it.” (radio)
 - “It was informative. Let us know what we needed to protect ourselves.” (TV)
 - “Good instructions” (TV)
 - “Good information” (TV)
 - “I thought it was very explanatory” (fact sheet)
 - “Gave you a lot of information” (fact sheet)
 - “Quick and simple” (fact sheet)
- Information was generally well understood
 - “I thought it was pretty straight-forward.”
 - “It seemed quite clear.”
 - “It seems pretty clear cut.”
- Key points of the instructions were generally retained by the majority of participants.
 - “To get yourself and everybody else, including pets, inside.”
 - “Cover your mouth”
 - “Wash your body with soap and water”
- However, some confused radiation with other types of harmful agents, such as chemicals and infections.
 - “Ain’t nothing nobody can do about chemicals, and if you wash and wash all day, it’s not going to wash off those chemicals once it touch your body.”
 - “Isn’t a dirty bomb... I think it’s like germ warfare.”
 - “like poison gas, or whatever”
- Participants emphasized the importance of having a clear explanation of what dirty bombs are

- I think for me I am really not sure I know what radioactive terrorism is. If you can't smell it, see it or feel it, how do you know what it is? What really is radioactive? They are not clear on what it is. We know what to do but what is it.
- "I'm not real clear on the difference between an actual nuclear explosion and a dirty bomb."
- "Dirty bombs- I don't know how to explain it."
- Many people were confident that the actions would help to keep them safe.
 - "I don't think they will keep you totally safe, but they are like the basics that this will help you out."
- People typically indicated that they would undertake the prescribed protective actions.
 - "Cover my nose, wash my body, take my clothes off, all of it."
- However, some suggested that they would not comply with the recommendations if they felt that it would interfere with their ability to protect their families, especially children in school
 - "I'm not gonna stay in my house, I'm gonna try and find my kids."
 - "Everyone is going to head to get you child regardless. You are not going to keep me from my baby. Watch someone try to stop me from getting my baby."
 - "I put myself in danger with the tornadoes to get home to make sure my kids were safe. I would do the same in a terrorism event."
- Some expressed concerns about barriers to carrying out actions.
 - "Realistically, is people really going to cut their air conditions.., because people have asthma and it is extremely hot outside, I mean, I don't know."
- Practicality of guidance was seen as a problem at times, especially the guidance relating to being in a car
 - "If I'm on the road, I probably don't have a handkerchief or something to cover my mouth half the time."
 - If you are in your car, and it is like 89 degrees, you are going to suffocate."
- More information was needed on potassium iodide
 - "It has something to do with protecting your thyroid, but I am not really sure about it."
 - "It says that KI can be dangerous to some people. In times of panic or emergency, am I going to take a chance of being poisoned or poisoned already from the radiation?"
- Most thought the radio message was valuable for it's use in the car.
 - "If you're in your car, you can just use the radio."
- Participants wanted radio messages to better communicate a sense of urgency.

- “too calm”
- “it’s gotta be a grabber”
- “I thought it was unusually calm.”
- ”I would probably change stations. It wasn’t ...serious enough to make me stop and listen to it.”
- “I would say making the [radio] message more professional, more believable, because there’s a lot of people who wouldn’t pay attention to it and blow it off as nothing.”
- Participants cautioned that radio message information came across very quickly. Participants suggested the need for information to be repeated.
 - “I think after the first time, you come back and repeat it again.”
 - “It was kind of fast. It’s a lot to get.”
 - “The amount of information that was given to somebody who hasn’t heard anything like that before was awfully quick and not spoken slowly enough to sink in.”
- The TV message seemed to produce more reassurance than the radio message.
 - “better because you know what to do”
 - “I felt really relieved ... when they say... with your clothes you take away 90% of the radioactive dust and with the shower the other 10% is gone.”
 - “I liked the TV one much better because it actually told you what to do if you are in your car.”
- Fact sheets received the most favorable comments as to clarity and completeness of information.
 - “It was very concise and gave you a lot more information and I felt more in control of what I was being informed about.”
 - “You can read and reread if you don’t understand something, whereas with the radio and TV, you can’t reflect.”
- Fact sheets were seen as providing the clearest explanation of a dirty bomb
 - “I knew the atomic with the mushroom cloud. But the definition of a dirty bomb, it clarified it for me.”
- Participants wanted information from fact sheets prior to the event.
 - “If it [fact sheets] were possible to go out in the mail, I think it would be great.”
 - “I think if something like this on paper was sent out in the mail, it would benefit a lot of people.”
 - “You mail out something like this [fact sheet] ... to the communities, all over the nation, people have got an idea, and maybe it help them not to panic.”
 - “I would say that I would definitely like to have this sheet for if anything ever happened so that I would feel more secure in the event and I wouldn’t, wouldn’t feel so out of control.”
- Participants said they would turn to many sources of information in a real-world incident.

- “I think I would be checking all sources to have some validity.”
- “I think you have to have all three ways...”
- However, TV was by far the first choice.
 - “I’d go straight to the TV.”
 - “I think the TV is more effective.”
- Some participants were concerned that information would not reach the elderly and people with disabilities.
 - “I would be concerned about them because a lot of our senior citizens, old ones, that really wouldn’t know what to do. They would be like- I can’t hear, I can’t see, what am I supposed to do?”
 - “You need to get it out there, especially to our senior citizens, because there are a lot of them out there that can’t read or anything, you know. What they going to do?”
 - “As a hearing impaired person, no only did they need to have a sound [before the message], they also needed to have a flashing light.”
 - “Will this be in Braille?”
- Participants thought the messages needed to be available in multiple languages.
 - “The part about Spanish and TTY, the whole thing was in English. How are they supposed to know anything?”
 - “I would be transmitting this in other languages so that people get the message.”
 - “Say the news in the different languages, you know because that the people in city, state, they speak a different language.
 - “When you panic, you want to speak your own language.”
- Rural participants also voice some unique concerns about receiving adequate information and assistance in the case of a terrorist event.
 - “I don’t listen to television much and I don’t listen to radio so how would I know to protect myself?”
 - “if the electricity and phones went out, we can’t even use our cell phones. We’re in a dead area.”
 - “Just like these early warnings for the tornados, you could have a specific tone for the siren that anybody out there in the far reaches of the woods could hear.
 - “We live out in the country, we wouldn’t hear the sirens.”
 - “... there’d be some use for loudspeakers to go around the neighborhood ... tell the people to get inside ...”
 - “Or a siren different from the tornado warning, but still tell you go inside and listen to whatever news media sources you got.”
 - “We’re the ones that are overlooked, the big city people, they have all the advances. But as far as country people go, up here we’re left out.”

Findings: Cognitive Response Testing

- A total of 39 “dirty bomb” cognitive response testing (CRT) interviews were conducted by the four schools. The aim was to gain feedback on seven key blocks of text in the draft “dirty bomb” fact sheet in order to identify problematic terms or other difficulties.
- The breakdown of the radiological terrorism CRT interviews by population group and school conducting the interview is noted below.

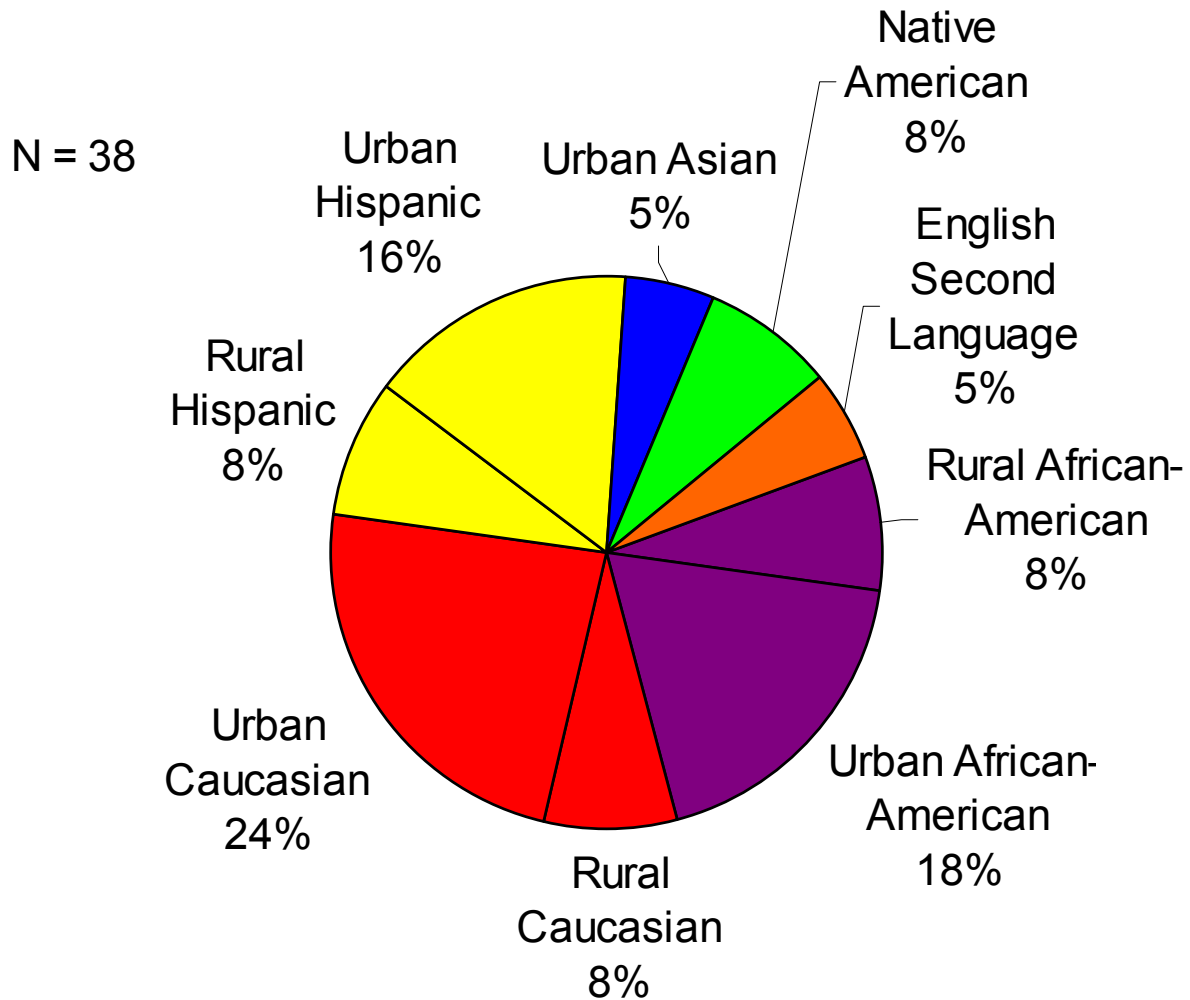
CRT Interviews: Radiological (Dirty Bomb)

POPULATION GROUP	SCHOOL
Urban African American	SLU (3) UAB (3)
Rural African American	UAB (3)
Urban Hispanic	UOK (3) UAB (3)
Rural Hispanic	UOK (3)
Asian Urban	UCLA (3)
English as a Second Language	UCLA (3)
Urban Caucasian	UAB (6), UOK (3)
Rural Caucasian	UAB (3)
Native American	UOK (3)
Total	39

- A detailed description of the radiological CRT interview demographics may be found in the following 8 pages. Afterwards, the substantive findings are presented.

Cognitive Response Testing, Radiological

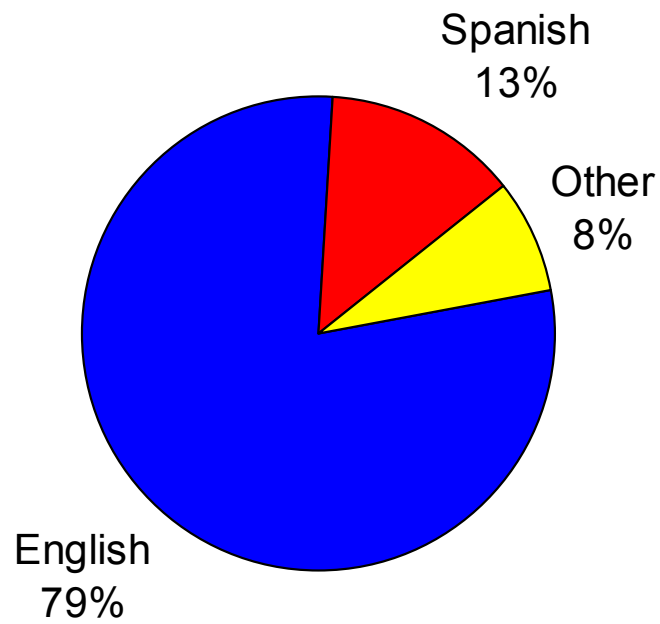
Ethnicity/Race



Cognitive Response Testing, Radiological

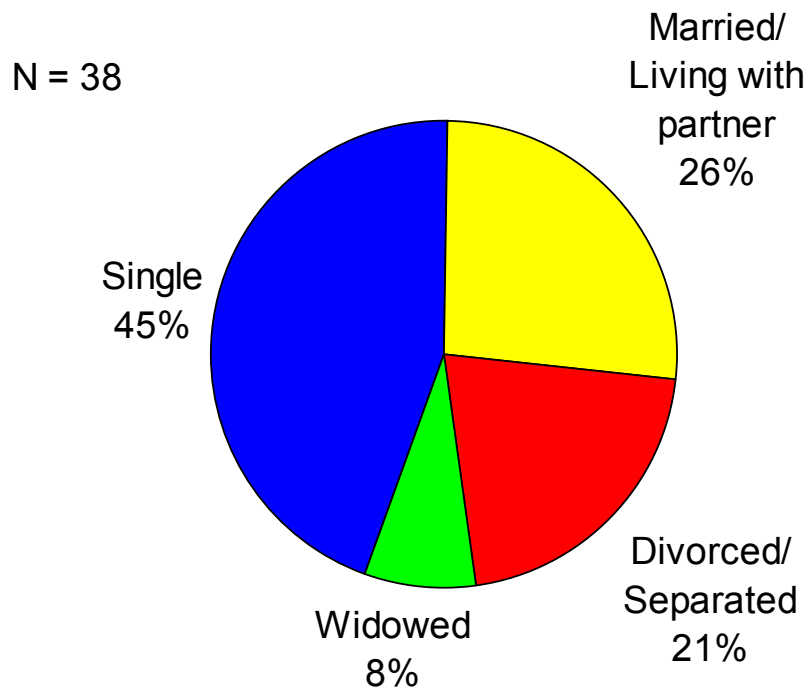
Spoken Language

N = 38



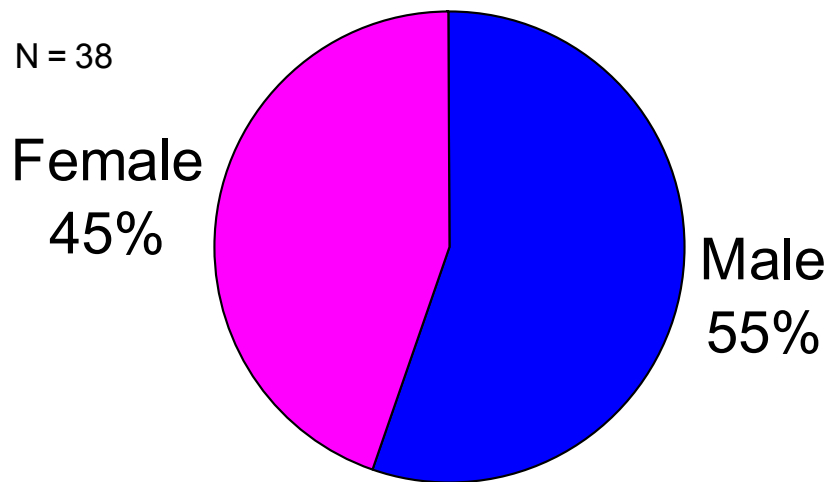
Cognitive Response Testing, Radiological

Marital Status



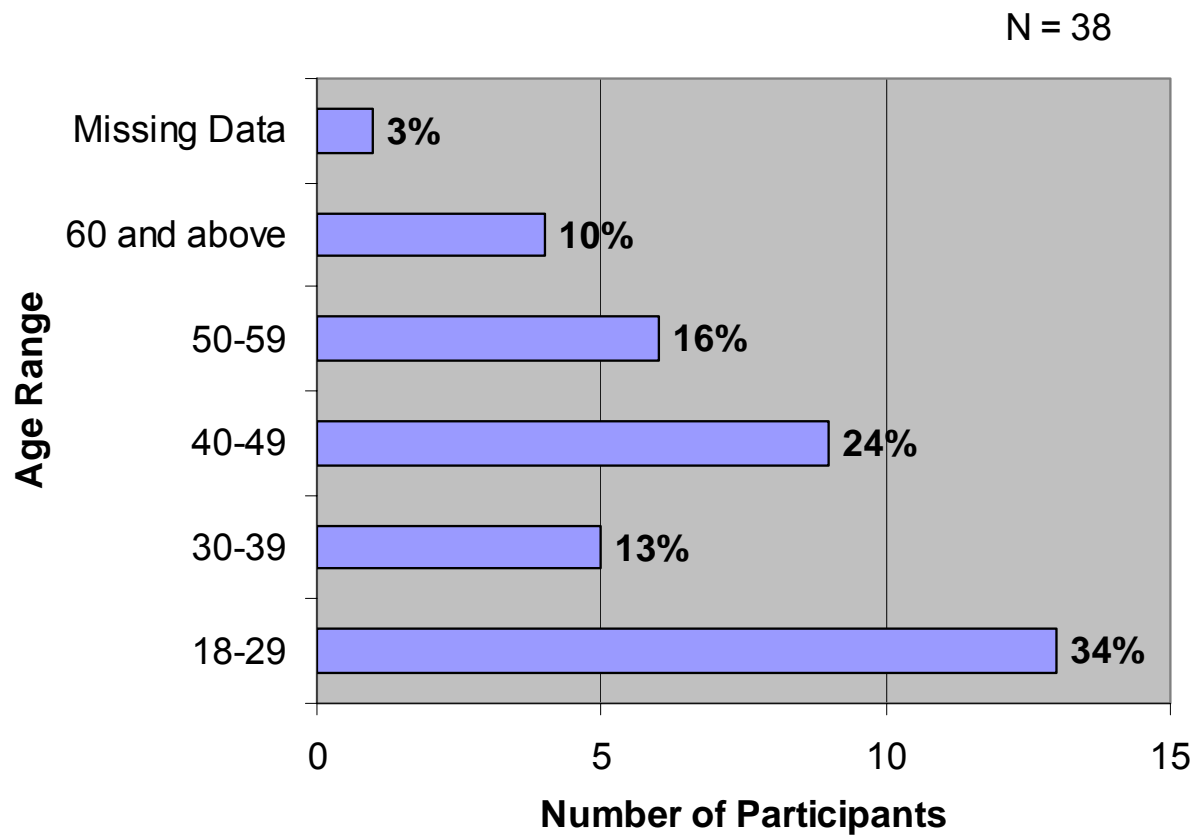
Cognitive Response Testing, Radiological

Gender



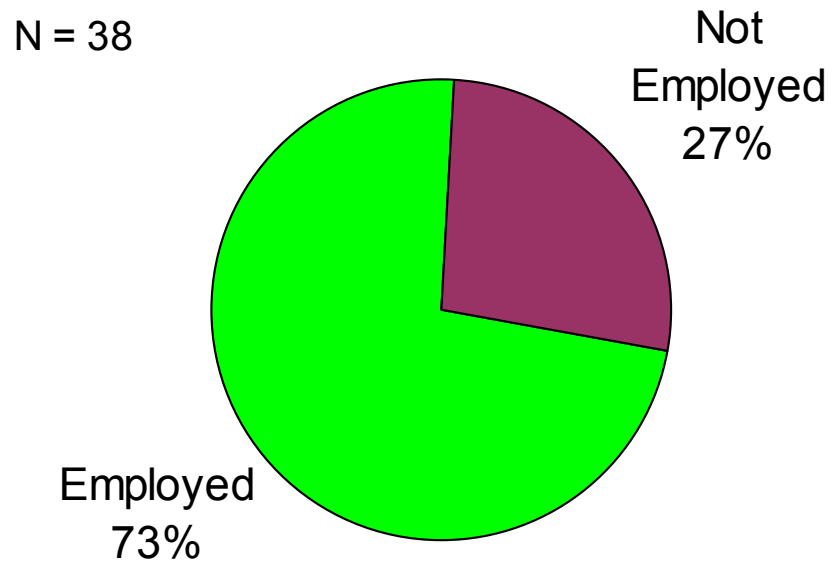
Cognitive Response Testing, Radiological

Age Distribution



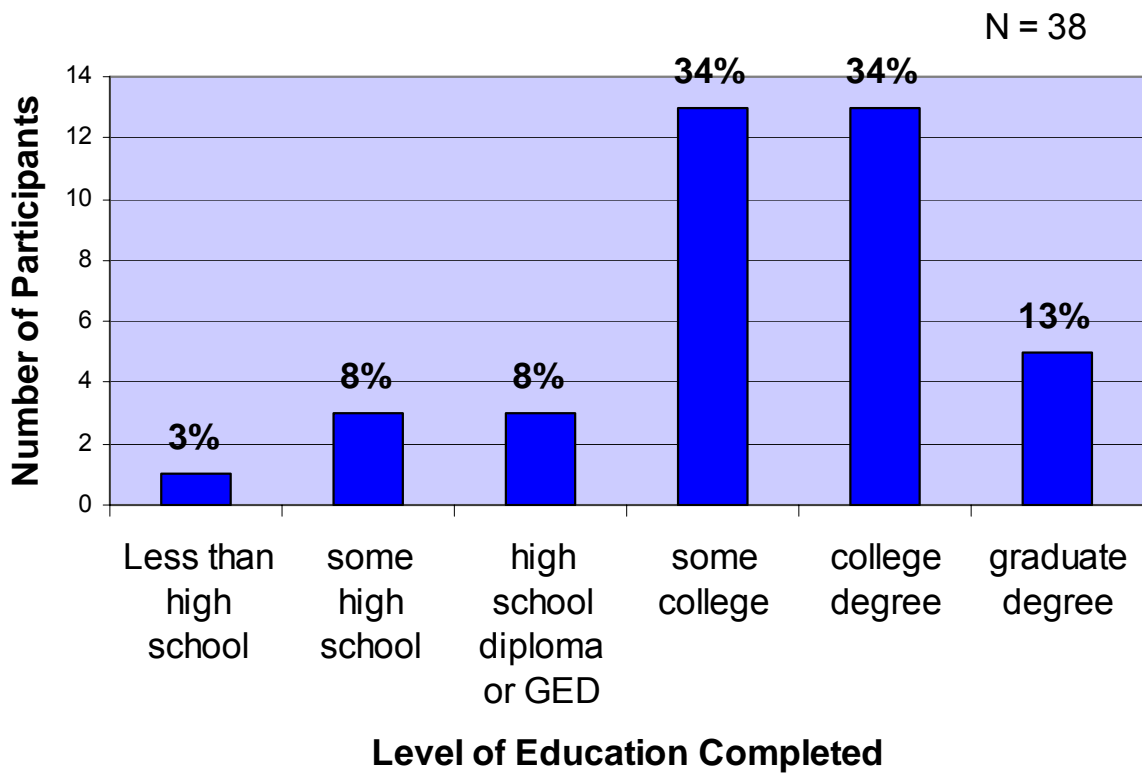
Cognitive Response Testing, Radiological

Employment



Cognitive Response Testing, Radiological

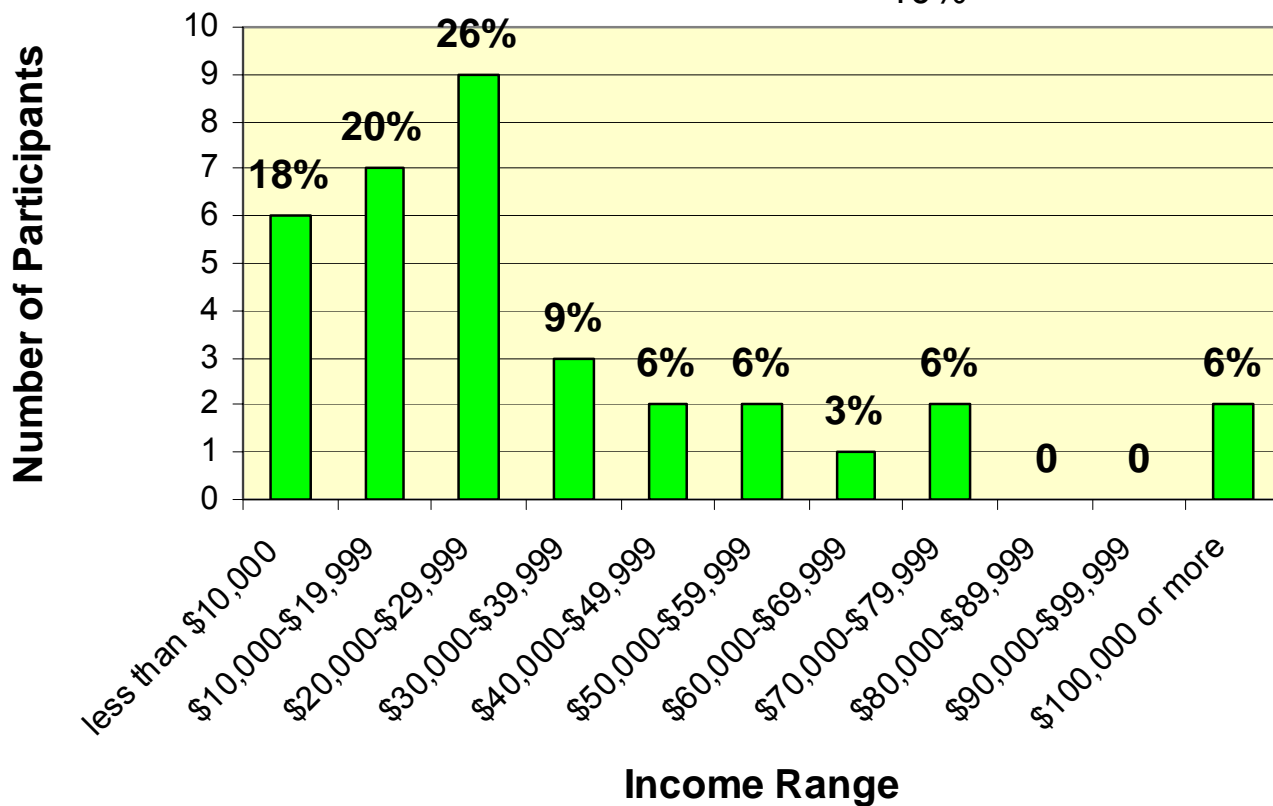
Education



Cognitive Response Testing, Radiological

Yearly Family Income

N = 34
Missing Data: N = 4,
10%



Cognitive Response Testing (CRT) Interview Findings

Part 1

The first section of the interview read by the participant gave a brief description of a “dirty bomb.” Additionally, it explained how a “dirty bomb” differs from an atomic bomb. Questions posed to the participant tested comprehension of this information.

Most significant trends

- Participants felt that it was important to have a clear explanation of what a dirty bomb is
- The majority of the participants understood that there is a difference between a dirty bomb and an atomic bomb.
 - “A dirty bomb is a combination of, say, dynamite and other explosives, whereas like... the atomic bomb when it detonated it would mushroom up into a cloud. But the dirty bomb didn’t mushroom up like the atomic bomb did.”
 - “A dirty bomb lets off radioactive material, but in a different way than an atomic bomb. It still causes damaging effects, but not in the same way that the atomic bomb does. Well, when I read that paragraph, it said that the atomic bomb produces this big mushroom-like cloud and that maybe it was more destroying than the dirty bomb. But I know the dirty bomb still has radioactive material that will spread, but in a different way than the atomic bomb.”
 - “The difference is the atomic bomb is going to be more energy, a blast, the dirty bomb is dangerous too, it’s going to release radioactive particles but the atomic bomb is going to do more damage, more physical damage to the area.”
- However, a few participants misinterpreted “dirty” or did not understand what radiation is.

Part 2

The second section of the interview described the dangers of a “dirty bomb”. It delved into greater detail about specific effects of a “dirty bomb” and how it might affect people.

Most Significant Trends

- The overwhelming majority of participants understood the main dangers of a “dirty bomb.”
 - “The main dangers of a dirty bomb. “... it’s giving me more information about the seriousness of it, what happens after the explosion, how it can affect my health, and what I can expect in the short term afterwards.”
 - “It tells me that this just, it can be harmful, but not deadly.”
 - “It says that a “dirty bomb,” it probably would not create enough radiation exposure to cause immediate serious illness, except possibly very close to the blast site.”

Part 3

The third section of the interview offered information about protective actions that could be taken after a dirty bomb explosion if a person found himself/herself outside.

Most significant Trends

- All were able to understand the safety instructions, including the purpose of showering and removing of outer clothes.
 - “Cover your nose and don’t breathe it in and go into a shelter where there are not broken windows. Take off you clothes, don’t put them back on, shower good and stay turned to the news.”
- Most participants understood what the recommended safety measures were and most expressed confidence in them.
- Only four out of the thirty-nine participants did not believe that the instructions would keep them safe.
 - “My feeling is what going to be is going to be. There’s nothing that I can do about it.”
 - “I don’t think that there is any protection at all that you can have.”

Part 4

The next section of the interview provided safety instruction in the event of being inside and close to a dirty bomb explosion.

Most Significant Trends

- Most participants understood the instructions on what to do if you are inside and close to the emergency.
 - “If you are inside when this happens, don’t go outside. And turn off your air conditioning if you got one on. And if the walls and windows of a building are broken go into an interior room where there’s not any.”
 - “Well, it’s just like it said, if you in a building and it breaks the windows, you know everything from the outside is going to come there. So if you can, get into another room that’s, you know, sealed off and turn off all your air conditioning, because those fumes, it sucks them in. And, you know, and take off your outer clothes and put them in a plastic bag and wash real good. And just try to keep the doors and windows closed to, because.”
- A few participants demonstrated a lack of clarity/comprehension of the instructions.

- It appeared that English Second Language (ESL) participants had some difficulty in understanding the instructions.
 - “How much is a percent that it could be threat to your health inside? Do you always have to come indoors or what?”
 - “What do they mean by ‘Stay tuned to the news for more instructions?’”
 - “What do you mean by ‘stay tuned’?”
 - “The only word I don’t understand is ‘duct.’”

Part 5

The fifth section discussed what do if in a car when a dirty bomb explosion occurs.

Most Significant Trends

- The majority of the participants understood the instructions if you are in a car when the emergency happens.
 - “If I’m in my vehicle, turn of the air conditioner, heater, vents. And cover your mouth with anything you can get to, that you can breathe through. Keep the dust and smoke out.”
 - “It said if you are in your car, you gotta keep yourself safe. So you gotta do what you gotta do to keep yourself safe, so if you are out, say you’re in the middle of nowhere and , you know, it happens, you gotta keep it out of the care. You know, keep something over your face, and get you somewhere where you can get out, to a house or something like that, to go there, to a bigger space and, you know, and won’t get....”
- Some people questioned the benefit of being in the shade or what to do if there was no close available shady place.
 - “Personally, I would ask why they provided that if it’s a hot or sunny day try to stop under a bridge or in a shady spot. Is that for the comfort of the person having to wait in the vehicle? Or is that because you are less likely to attract radioactive particles in a cooler, darker place? ... I don’t know why they are telling you to stop under a bridge or shady spot.”
 - “Under a bridge is not an option for the average person.”

Part 6

In the next section, instructions were given on how to protect your children, family and pets in the event of a dirty bomb explosion.

Most Significant Trends

- All participants understood the instructions concerning children and pets.
- But some participants felt that significant questions were not addressed by the section.

- “If it is safe to do so [to bring pet inside] – I mean, how are you going to determine if it is safe or not.”
- “Do schools have emergency plans for radioactive dust?”

The majority of the participants found this section to be clear and concise. However, some participant indicated that not enough information was given to ensure their complete confidence, such as how to judge the safety of bringing in pets and how to know if schools were prepared to care for their children in the event of this kind.

Part 7

The seventh section explained described potassium iodide (KI) and who should or should not take it. Also, this section discussed how a people would know if they have been exposed to radiation and what to do if symptoms were present.

Most Significant Trends

- Many participants expressed confusion about potassium iodide and asked for additional information
 - “I know what potassium is and I know what iodine, but the two together, I don’t know.”
 - “It has something to do with protecting your thyroid, but I am not really sure about it.”
- Several participants were unsure whether taking potassium iodide would be helpful.
 - “It says that KI can be dangerous to some people. In times of panic or emergency, am I going to take a chance on being poisoned or poisoned already from the radiation?”
 - “KI, I think it’s better not to take it.”
- Most participants understood that radiation could not be sensed without special equipment.
 - “It doesn’t have a smell or taste or feel.”
- Most participants could list symptoms of radiation poisoning after reading the section and stated that medical help should be sought.
 - “I would feel nauseous, have a headache, and be vomiting.”
 - “Go to the doctor. Go to the hospital. Go to the emergency room.”
- However some participants associated a wide range of symptoms with radiation exposure
 - itching
 - shortness of breath
 - watering of the eyes.

Findings: Second Order Analysis

Second Order Analysis

The UAB Team conducted a second order analysis across all professional groups and across all WMD agents. A total of 10 focus groups from Year One were included in the analysis: First Responders (5 groups), Public Health (4 groups), Emergency Department (1 group). The breakdown in terms of agents was as follows: Radiation (4), Botulism (2), Plague (2), Chemical VX (2). In terms of geographic area, the distribution was as follows: Southeast (5) Midwest (5).

The discussion begins by describing commonalities across the groups and agents. This is followed by an examination of key differences between groups and agents. Finally, some preliminary conclusions are presented at the end of the section.

I. Commonalities Across Professional Groups and WMD Agents

1) Key Concerns, Issues and Responses

- Concern for Safety of Family, Co-Workers, and Friends

"The first thing would just be to take care of your family, then your brother fire fighter..." [FR-SE-NU]

"First thing I'd think of is where is my family and are the places they're at, are they prepared and do they know what to do?" [PH-SE-PL]

- Concern Over How the Public Will Behave

"...how to stay calm and how to deal with the situation and, you know, follow the appropriate authorities" [FR-MW-BO]

"...it is essential for us to try to control the terror and the havoc" [ER-MW-NU]

"Our run levels are going to increase dramatically because people are going to get paranoid and they are going to start calling 911 over everything" [FR-SE-NU]

- Coordination of Resources

"There is going to be problems with mutual aid...other departments, other cities" [FR-MW-BO]

"when you're talking about manpower issues, one of the biggest deals is trying to coordinate all of these people who would respond and where to put them and how to assign them, and how to

deploy them so that they are where they need to be or where they are the most help..." [ER-MW-NU]

- Communication

"A system that's just for the agencies, that the public is not aware of. So they can't overwhelm them" [FR-MW-BO]

"I think the phone lines would tie up really fast" [ER-MW-NU]

"If you are not in the effected area, stay away from it...don't everyone be cruising up and down the street... don't be tying up the telephone lines, don't be, you know, overflowing the system" [FR-MW-BO]

- Concern that insufficient resources and supplies to handle a large scale crisis

"Where are we gonna take these people? Whose gonna accept these people, whose not gonna accept these people?" [FR-MW-BO]

"Ideally, you'd need a fleet of ambulances to take people where they needed to go; the difficulty is finding a place for them to go that's any better than where we are here. And, that's a toughie, because I see beds are full, burn beds are full, beds get full all throughout our region, so we deal with that on a daily basis. I can't imagine hundreds" [ER-MW-NU]

"I mean, with the SARS we were running on this summer, we're walking in...we don't know where to take 'em, you know, it's the same thing" [FR-MW-BO]

2) Key Information Needs of Professionals

- Signs and symptoms of exposure

"What are the signs and symptoms I should look for if I had been exposed?" [ER-MW-NU]

"What symptoms do I look for" [FR-MW-BO]

- Where to seek treatment if it is needed

"I think that they want to know where do we need to go for services...where do we need to go for help, who can we call, who is it that is the leader in this so that we know where to go" [PH-SE-PL]

"They're gonna want to know where to go, and when could I get that shot" [FR- MW-BO]

- How to protect yourself and others from exposure

"How to protect ourselves, number one" [FR-MW-VX]

"the emphasis should be on how can I protect myself first! That is the most important thing that

should be emphasized" [PH-SE-NU]

- Specific instructions for the initial response

"What is expected of you at the initial response? I think that is important because if you want to mitigate the incident, you have to start off properly" [FR-MW-VX]

"how you treat it, where the treatment needs to be, what kind of triage needs to be done" [PH-SE-PL]

"...where do we start, where do we go first?" [ER-MW-NU]

- Specific information regarding agent, location and extent of event

"The first thing you need to know is location" [FR-SE-NU]

"...the radius of impact" [ER-MW-NU]

"...those affected, in what populations and people who are affected" [PH-SE-BO]

"There's got to be some way of rapid identification" [FR-MW-BO]

"My primary concern is what am I dealing with first...it tells me the potential hazards this could cause" [FR-MW-VX]

3) Key Sources of Information Identified by Professionals

- Television was the most frequently identified information source, followed by the internet and radio

"I rely on CNN, stuff like that" (PH-SE-PL)

"Watching CNN" [FR-SE-NU]

"Internet, the web site" [FR-MW-BO]

"TV, radio, internet" [PH-SE-NU]

4) Feedback on Draft Information Sheets

- Simplify text and include graphics

"It's too complex...and most people won't read it anyway." [FR-MW-NU]

"Things need to be brought down or a fourth or fifth grade level at least" [PH-SE-BO]

"Graphics to help keep peoples attention, because this looks real text booky" [FR-MW-BO]

"it needs pictures in it...pictures of a flea and a rat, or somebody washing their hands" [PH-SE-PL]

5) Other Issues Related to Information and Communication

- Distrust of information/need for a trusted local messenger

"Here we go again...we've been given so many of these threats....I think every time they pull this trick our effectiveness goes down a bit...you can only cry wolf so many times" [FR-SE-NU]
(note: referring to Federal Warning System)

"That would be my other thought, yes. Are we getting the full story?" [ER-MW-NU]

"...somebody that the public trusts to say, this is what is happening, this is what we are going to ask you to do, this is the problem as we see it, this is the solution as we see it. Do not panic, we will keep you informed" [FR-SE-NU]

"Most people are looking for someone local that's trustworthy" [PH-SE-PL]

II. Differences Across WMD Agents and Professional Groups

1) Differences in General Pre-Event Level of Preparation

- First Responders indicated the greatest level of confidence in responding to a crisis

"We've got our set procedures on what is going to happen. You go to work and know that for the foreseeable future that you will be operating under these guidelines" [FR-SE-NU]

"Very confident to respond. I mean as far as firefighters and first responders, we have SOP's [standard operating procedure] and protocol to go by. So follow the SOPs. We should at least be able to get to the scene and do what our SOPs call for" [FR-MW-VX]

"...it's an everyday event for us, that we deal with sick people. And then once we get knee deep into this, and then everybody's running on the same type of calls in a one or two mile area, that's when we find out...oh no, there's probably something going on here more than just...sick people" [FR-MW-BO]

- Public health professionals were more confident in responding to bioterrorism than nuclear terrorism

Nuclear

"Is somebody going to come down our streets and give us instructions? Will there be a foghorn thing? Do I turn to a public radio station? What do I do?" [PH-SE-NU]

"In terms of a public health employee response, I don't know. My best guess is that it would be

situation specific. Somebody help me! [PH-SE-NU]

"The health department is extremely unprepared for a disaster like this" [PH-SE-NU]

Biological

"Being public health workers, we will be the ones that people would call with these questions so we need to know what types of training or what information to give people" [PH-SE-BO]

"I'm fairly confident [in knowledge about plague]" [PH-SE-PL]

- Hospital ED professionals had variable levels of prior preparation and training

"I have experience dealing with that. It's old hat for us, and nuclear medicine technologists have been dealing with spills and with accidents" [ER-MW-NU]

"I would be very worried, because although we have drilled on this, it has been many, many, many, many, many years ago, and I would be concerned about how prepared we are to take this on as a healthcare facility" [ER-MW-NU]

"I think the thing that's coming out of so much of this discussion is we would all feel a lot more comfortable if we had further discussions and had done some more planning" [ER-MW-NU]

2) Differences Among Professional Groups Regarding Official Sources of Information

- First responders rely heavily on internal chain of command for information

"that's where you're gonna get the information, is here (at work), not watching News Channel ____ (name of local station)" [FR-MW-BO]

"It may come down to who is in charge and that kind of thing. It wouldn't come down to the general fireman anyway. If it is just general information, it is alright." [FR-SE-NU]

- First responders: additional important sources of information for chemical emergencies are the department of transportation, material safety data sheets, and Chemtrek

"The only thing we got is the DOT book on the truck. That's the Department of Transportation hazardous chemicals manual. It gives you a generic description. If you know what you're dealing with...it will tell you this is what you should do, how far you should isolate and things of that nature" [FR-MW-VX]

"The MSDS is the material safety data sheet that is usually in the front driver door of a tractor trailer or its usually accessible in the warehouses, by the office or by one of the front doors. It is site specific" [FR-MW-VX]

"My thing, I would call Chemtrek before I really looked at this paperwork" [FR-MW-VX]

- Public health/bioterrorism: government agencies (particularly the CDC) and government agencies are important sources of information

"I would like to know what the CDC's recommendations are" [PH-SE-PL]

"I'd try CDC or some place like that, some...some...a governmental agency, and try to get hold of them....they've got a 1-800 number" [FR-MW-BO]

"I would like to hear a lot of updates from the state health officer, frequent updates" [PH- SE-PL]

3) Differences in Level of Anxiety Across Professionals and Agents

- The nuclear scenario generated more expressions of anxiety across groups, but was greatest among public health professionals

First Responders

"I feel like since I am over 40 that I am dead meat anyway" [FR-SE-NU] (note: referring to contraindication of KI)

"you just can't staff and you can't plan for something this massive" [FR-SE-NU]

"...there would be so many emotions going on that you would really have to keep your mind straight to keep focused on what you are doing. And that is going to take its toll" [FR-SE-NU]

ED Professionals

"All of this is giving me an upset stomach. I need some Maalox" [ER-MW-NU]

"They are going to come here and they're going to die" [ER-MW-NU]

"But you need preparation in terms of drilling or whatever...its better...to make the attempt" [ER-MW-NU]

Public Health Professionals

"Scared because what do I do. I am not leaving my house, my children are not leaving my house, but where do we go? Is somebody going to come down our streets and give us instructions? Will there be a foghorn thing? Do I turn to a public radio station? What do I do? What is the smartest thing for me to do first and next. Where do I turn for information?" [PH-SE-NU]

"I feel frantic. I need my cell phone near me and charged...I am freaking out" [PH-SE-NU]

4) Differences in Clarity of Role Among Professionals and Across Agents

- First responders expressed the lowest overall levels of role ambiguity

"So that is it. That is what we do, after family, we go to work" [FR-SE-NU]

"Time to go to work" [FR-MW-BO]

"Just go do your thing" [FR-MW-BO]

- Public health professionals exhibited a greater level of role ambiguity with nuclear terrorism than bioterrorism

Nuclear

"I am a nurse, but at this point I don't know. I am not and don't see myself and haven't been told that I am, or have been prepared that I might be someone that might be used in the forefront....I don't see myself in the frontline" [PH-SE-NU]

Bioterrorism

"...we're usually the frontline as far as like having to actually go out if there is something involved" [PH-SE-PL]

"I can take that news release and then make sure that it is getting out to area directors and then give it out to the local supervisors that...can give it to the nurse that is on the frontline in the county health department so if she answers the phone, she's got that statement to read. So it's a pretty good system" [PH-SE-PL]

5) Differences in Attention to Special Needs Populations

- Public health professionals placed greater stress on providing information to special needs populations

Public Health

"Rather than ethnic groups, I think the populations that may need special attention are the elderly and children. I think those persons may have different needs and different concerns than the average [name of city] citizens. I don't necessarily know the difference that's happening in groups, but definitely the elderly, those living on their own. The same with children." [PH-SE-BO]

"languages...different language barriers" [PH-SE-PL]

"children with special health care needs...pregnant women, children in general who usually tolerate illness or disasters in different ways...mental health issues" [PH-SE-PL]

"the rural areas too...we have people that are so spread apart in ____ [name of state] and just getting to those people..." [PH-SE-PL]

6. Differences in Organizational/Response Issues Across Groups/Agents

- Professionals anticipated greater stress on available resources in the nuclear scenario

"When they [dead bodies] start stacking up in this hospital, which they will...we're going to have to put them someplace" [ER-MW-NU]

"I think about how chaotic it would be if something were to happen. To what point it would stress our resources" [FR-SE-NU]

"There will be problems with traffic; it will be chaos like you wouldn't believe, everyone wanting to leave, and our times going in and coming out could be hindered tremendously" [FR-SE-NU]

- Potassium iodide delivery was a specific concern

"Yes, where do we get 40,000 doses of KI? [ER-MW-NU]

"I doubt seriously that the pharmacists in this community have enough potassium iodide to block everybody's thyroid" [ER-MW-NU]

Second Order Analysis: Preliminary Conclusions

The secondary analysis of focus groups was organized into commonalities and differences across groups and agents. Common key informational needs across groups included signs and symptoms of exposure, where to seek treatment, how to protect oneself, initial response instructions, and specific information on the agent, location and extent of the event. Professionals shared in the identification of television, internet, and radio as important sources of information. Professionals also shared the view that the information sheets needed simplification. In terms of response, common themes across professions were concern for the safety of family, co-workers, and friends, and a concern regarding public reactions following a terrorist attack. Shared material/infrastructural concerns included anticipated difficulties coordinating the efforts among multiple agencies responding to a crisis, concern that communication lines would breakdown among professionals, and concern that current material resources and human manpower are inadequate to handle a large scale crisis. Two significant areas of difference in information needs across professionals involved prior level of preparation for a crisis and differences in some information sources. First responders expressed the greatest levels of confidence of all three groups in responding to an emergency. Public Health professionals differed by agent: less confidence was felt about handling a nuclear emergency, but more confidence was expressed in ability to respond to bioterrorism. In addition, first responders differed from the other two groups in their heavy reliance on chain of command in the workplace as a source of information. Additional differences were that public health professionals identified the CDC and other government agencies as information sources (particularly for bioterrorism) and first responders to VX scenarios identified Chemtrec and the Material Safety Data Sheets (MSDS) from the Department of Transportation as important sources of information. Agent-specific differences were found, with the nuclear scenario generating more anxiety. Greater role ambiguity was found among public health professionals than the other two professional groups. In addition, public health professionals placed greater stress on the problems in

providing information to special needs populations. Finally, agent differences were found in material/infrastructural domain with professionals anticipating greater resource stress and higher levels of public chaos with the nuclear scenario than the other two.

Because these conclusions are based on only ten focus groups, they are necessarily preliminary in nature. This is particularly the case since some professions were only minimally represented (hospital ED personnel). Further exploration is clearly warranted. Toward this end, the Pre-Event Message Development Team at the University of Alabama at Birmingham (UAB) is in the process of conducting additional focus groups with professionals. Results are expected in 2005.

Conclusions

Year Two Focus Group & CRT Interviews: Radiological Terrorism

- The overall response to the dirty bomb messages was generally favorable
 - “I think that was good advice” (radio)
 - “Informative” (radio)
 - “Good instructions” (tv)
 - “Informative” (tv)
 - “It was informative. Let us know what we needed to protect ourself” (tv)
 - “Good information” (tv)
 - “I thought it was very explanatory” (fact sheet)
 - “Gave you a lot of information” (fact sheet)
 - “Quick and simple” (fact sheet)
- Information in the messages was generally well understood
 - “Clear”
 - “It seemed quite clear”
 - “It seems pretty clear cut”
- Key points in the messages were generally retained
 - “To get yourself and everybody else, including pets, inside.”
 - “It tells you what to do to get rid of radiation...cut off air conditioners, close windows, doors and the fireplace damper.”
 - “Don’t touch objects that came in contact with it.”
 - “Cover your mouth”
 - “Wash your body with soap and water.”
 - “Put your clothes in a bag.”
- Participants wanted radio and tv messages to better communicate a sense of urgency
 - Radio and TV messages “too calm.”
 - “There wasn’t no emergency tone before the message... that would have caught people’s attention.”
 - “Introduction like, we’re breaking your normal broadcasting for an alert.”
 - “You would interrupt the broadcast with ‘This is not a test.’”
 - “It’s gotta be a grabber.”

- Some participants were concerned that information would not reach minorities and special populations
 - “As a hearing impaired person, not only did they need to have a sound, they also needed to have a flashing light.
 - “The part about Spanish and TTY, the whole thing was in English. How are they supposed to know anything?”
- Some people confused radiation with chemicals, infection, germs
 - “If they don’t drop the chemicals right in my living room, I think I can carry it out...”
 - “Ain’t nothin’ nobody can do about chemicals, and if you wash and wash all day, it’s not going to wash off those chemicals once it touch your body.”
 - “Isn’t a dirty bomb, germ... I think it’s like germ warfare.”
- Having a clear explanation of dirty bombs was seen as crucial
 - “Dirty bombs, I don’t know how to explain it.”
 - “I’m not real clear on the difference between an actual nuclear explosion and a dirty bomb.”
 - “I think a dirty bomb is that nuclear materials that hadn’t been blown up.”
- The fact sheet was seen to have been best at defining/explaining dirty bombs
 - “It gave us a definition of ... what’s the difference between a dirty bomb and an atomic bomb. It have us a better definition than I’ve ever heard before.”
 - “the difference between a dirty bomb and an atomic bomb”
 - “There’s no mushroom cloud, and it’s also... not the germ thing.”
 - “Like the dirty bomb, yes and how it spreads the radioactive material and stuff. What it will do.”
 - “I knew the atomic with the mushroom cloud. But the definition of a dirty bomb, it clarified it for me.”
- Emotional response to messages was a typically a combination of fear/anxiety about event and relief at having information
 - “I’d be worried about my family, especially my children.”
 - “Upset”
 - “A little panicky”
 - “Panic”
 - “It raises your awareness level.”
 - “At least by hearing the message we would know for sure what was going on. Even though I would have an anxiety attack, I would get into action.”

- The TV message seemed to produce more reassurance than the radio message
 - “But better because you know what to do.”
 - “You don’t feel totally just vulnerable.”
 - “I felt really relieved... when they say... with your clothes you take away 90 percent of the radioactive dust and with the shower the other 10 percent is gone.”
 - “Put you a little more at ease.”
 - “Just the information I can take something simple as a handkerchief, shut off air flows... I know there is something I can do....”
- Many people were confident that the actions would help keep them safe
 - “If you just follow their instructions everything would end up alright”
 - “I don’t think they will keep you totally safe but they are like the basics that this will help you out.”
- People were also usually confident that they could carry out the prescribed protective actions
- People typically indicated that they would undertake the prescribed protective actions
 - “Cover my nose, wash my body, take my clothes off, all of it.”
- Others, however – particularly ethnic minorities – were more fatalistic
 - “Your house, you have cracks in the ceiling, some live in raggedy houses. It’s radioactive material. Once it gets in you, you dead anyway.”
 - “The damage is already done. I don’t think nothing you can do ... is going to alleviate the exposure.”
 - “It was useless because unless your handkerchief is made out of lead that’s not going to help a whole lot.”
 - “If you exposed to radiation, there is nothing you can do.”
- Fatalism was often associated with the belief that special equipment was needed to survive, or that protective measures were inadequate
 - “Why do these people that are working on radioactive materials have to suit up head to toe.... I mean, that’s something to think about.”
 - “When you go to the doctor and have an x-ray, which is a lot lower dose than what they going to spit out there, she puts on lead, she runs behind the glass room, shuts the door and then she pushes the button.”
 - “I feel as though that, um, the United States, should, um, participate in a ... mass campaign like Israel has. All of its citizens have these special masks and they keep them in their home or car.”
 - “Do we have any masks? And if we don’t... we’re still up the creek without a paddle.”
 - “Are we supposed to have masks? I mean, where are we supposed to get them?”
- Some participants suggested that they would not comply with the

recommendations

- “If you have kids, the first thing you do is to get to your kids.”
- “You’re not thinking of covering up, you’re trying to get to that child at that time.”
- “I’m not gonna stay in the house. I’m gonna try and find my kids.”
- “My first response would be to go find my children.”
- Some people expressed concerns about impediments to carrying out protective actions
 - “I’m in a homeless situation and my wife is in a homeless situation ... it would be hard to find shelter.”
 - “Realistically, if people really going to cut their air conditions... at home, because people have asthma and it is extremely hot outside, I mean, I don’t know.”
 - Maybe I’m in an area where I... can’t wash myself, don’t have a handkerchief with me or anything to put over my face, not even a piece of paper. What am I supposed to do?”
 - “For people who have an opening in their homes they can’t close. We need that information also.”
- More information was needed on potassium iodide
 - “I know what potassium is, and I know what iodine is, but the two together, I don’t know.”
 - “It has something to do with protecting your thyroid, but I am not really sure about it.”
 - “It says that KI can be dangerous to some people. In times of panic or emergency, am I going to take a chance of being poisoned or poisoned already from the radiation.”

Findings
- Having information about what to do in a car was seen as very important
 - “I liked the TV one much better because it actually told you what to do if you are in your car.”
- But serious concerns were expressed about the practicality of the guidance
 - “If you are in your car, and it is like 89 degrees, you are going to suffocate.”
 - “Do we supposed to just ride around with these handkerchiefs, because if I’m on the road I probably don’t have a handkerchief or something to cover my face half the time.”
 - “If you car traveling along the road, everyone can’t pull over to a shady area”
- Assessing the three messages
 - Some preferred radio to tv, other preferred tv to radio
 - “You could actually see and understand more than just when it was done on the radio announcement”
 - “If you’re in your car you can just use the radio”
 - Fact sheet received the most favorable comments overall

- Fact Sheet

- Best discussion of atomic bomb vs. dirty bomb
- “I think the fact sheet was better because it was more inclusive.... This was more correct and factual than the misinterpretation you got from the TV.”
- “It was very concise and gave you a lot more information and I felt more in control of what I was being informed about.”
- “Even if I hear it on the radio, if you read it, it sinks in.”
- “I thought it [fact sheet] was the best method of delivering the message... you can read it at your own pace and it seems more serious.”
- “You can read and reread if you don’t understand something, whereas with radio and TV you can’t reflect....” .
- “Some folks, people could have a problem reading it, depends on their reading level.”
- “Will this be in Braille?”

- In terms of where they would turn in a real incident, participants often said they would use multiple sources

- “I think I would be checking all sources to have some validity”
- “I’d be listening out of this ear and this ear, trying to find out from every source that there is.”
- “I think you have to have all three ways....”

- However, in general, TV was by far the first choice for most participants

- “I’d go straight to TV.”
- “I think the TV is more effective.”
- “TV”
- “The TV”
- “I like the TV”

- Overall Assessment:

Based on Year One and Year Two findings, it appears that the dirty bomb t.v. script, radio script, and fact sheet are largely “on target” in providing the clear, scientifically accurate information that people want and need to protect themselves and their loved ones in a dirty bomb situation. However, feedback from focus group and CRT interview participants suggests that improvements can still be made in the following areas: (1) communicating a somewhat greater sense of urgency; (2) ensuring that messages are available in multiple languages; (3) ensuring that special populations such as the homeless are reached; (4) addressing the problem of fatalism by, among other things, emphasizing that protective actions are tried and true;

(5) incorporating content related to schools and the well-being of children; (6) ensuring that people understand the difference between an atomic and a dirty bomb; (7) providing additional information on potassium iodide; and (8) modifying the advice on what to do in a car to make it more practical/feasible.

Appendix A

Updated and Revised Creative Brief: Terrorist Incidents Involving Radioactive Materials

Creative Brief for Terrorist Events Involving RADIOACTIVE MATERIALS

Revised November 2004 (based on Yr. 1 & Yr. 2 data)

Project: "Targeted Pre-Event Message Development for WMD Threats" (CDC/ASPH)
Prepared by the Disaster and Emergency Communication Research Unit, The University of Alabama at Birmingham (UAB), School of Public Health, 530 RPHB, 1665 University Boulevard, Birmingham, AL 35294-0022 U.S.A., Principal Investigator: Dr. S.M. Becker, Tel: (205) 934-6089, Email: sbbecker@uab.edu

1. Target Audience

- Primary target audience is the U.S. general population
- Focus is on *terrorist incidents* involving radioactive materials
- Special concerns and information needs of ethnic/racial and other subgroups are identified throughout the creative brief

2. Objectives

Messaging for terrorist situations involving radioactive materials should seek to achieve, and be guided by, the following key aims:

- (1) To provide a set of simple, clear, scientifically accurate steps that individuals can take to protect themselves and their loved ones in the immediate aftermath of a terrorist incident involving radioactive materials;
- (2) To have those steps relate to all of the most likely places/situations that people might find themselves in at the time of an attack (at home, at work, at school, in the car);
- (3) To present the steps in a manner that is responsive to people's most salient concerns. Typically, health issues are central.
- (4) To make clear that the recommended protective actions are both sensible (feasible) and effective.

Specific Protective Actions to be included in messages include the following:

- **COVER MOUTH AND NOSE:** Recommend that people to cover their mouths and noses with a handkerchief or other cloth so as to avoid inhaling radioactive dust.
- **STAY INSIDE OR GO INSIDE AN UNDAMAGED BUILDING:** Encourage people who are already in an undamaged building to shut the windows, doors and fireplace dampers, *temporarily* shut the ventilation system, and stay there; encourage people who were caught outside during a radioactive release to quickly go to an undamaged building. (Exception: If the terrorist incident occurs inside of *your* building, go outside.)

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- **IF DRIVING, GET OFF THE ROAD, SHUT THE ENGINE, CLOSE VENTS THAT DRAW OUTSIDE AIR, COVER MOUTH AND NOSE:** Encourage people to pull over in a manner that will not block or interfere with the movement of emergency vehicles; encourage drivers to *temporarily* shut down car/truck a/c, vents, etc. to avoid taking in radioactive dust; and encourage driver and passengers to cover mouths and noses as above.
- **REMOVE DIRTY CLOTHES:** Advise anyone who has gotten dust or dirt from the incident on himself/herself to remove his/her *outer layer* of clothes, seal them in a plastic trash bag, and place the bag in a location where others will not come in contact with it.
- **SHOWER OR WASH:** Recommend that people who have gotten dust or dirt from the incident on themselves shower or wash as well as possible, and put on clean clothes.
- **DON'T TOUCH UNUSUAL DEBRIS OR GLOWING OBJECTS:** Discourage people from touching unusual metal debris, glowing objects, etc. following the incident, since these may be radioactive.
- **TUNE IN:** Recommend that people stay put and listen to the TV or radio for further information and instructions. This applies whether individuals are at home, at work, in school, or in a car.

Note: The protective actions noted above are intended for use *in the immediate aftermath of the incident*. They represent a series of generic steps intended to reduce the risk of exposure/inhalation of radioactive materials. Once the specific nature of the incident/threat is known, it is advisable to use a second, more detailed set of pre-developed informational materials covering such issues as whether evacuation is appropriate, hazards posed by radioactive exposure and/or contamination, symptoms of exposure, whether to seek medical care, etc.) See the final section of this creative brief (Follow-On Messages) for a brief review of key areas needing to be covered in follow-on messages.

3. Special Considerations and Potential Obstacles

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General

- *Unclear or confusing terminology* – Research from the nuclear/radiological focus groups conducted as part of the Pre-Event project suggests that terms commonly found in fact sheets and other official informational materials are sometimes misunderstood by members of the public. Most notably, the phrase “shelter in place” generated a variety of conflicting understandings. It may be best, therefore, to avoid this phrase in videos, fact sheets, etc. If the term must be used, it should be simply and clearly explained so as to avoid confusion that impedes protective actions.
- *A sense that the protective measures are not “tried and true”* – Some respondents in focus groups expressed a lack of confidence in some of the protective measures, saying that there was no evidence that they really worked. (Sample quote: “Once you get radiation on you, you can wash all you want but the radiation is on you. You can take off your clothes and wash yourself all you want but the radiation is on you.”) Some indication that the measures are “tried and true,” complete with successful examples or support statements, would likely increase believability.
- *Conflicting information from other sources* – Such conflicts or inconsistencies can create confusion. For example, one current federal government fact sheet advises that in an RDD situation, “the most effective is to leave the affected area. Do not shelter in place.” This advice (which is likely aimed at those in the most immediate area of an RDD attack) may be viewed as being in conflict with the more general advice of CDC and other agencies.
- *Dirty bombs vs. atomic bombs* – Focus group and cognitive response testing data suggest that it is crucial to have a clear explanation of dirty bombs and the difference between dirty bombs and atomic bombs.
- *Lack of a clear understanding of potassium iodide and its role* – Some focus group and interview participants indicated that people would want to know more about KI, what it does, when to use it or not use it, etc.
- *Stress and fear* – Overwhelming emotion is likely to affect many people in the immediate aftermath of a terrorist attack involving radioactive materials, reducing people’s ability to follow complicated directions. Message simplicity and clarity are crucial.
- *Desire to leave in order to gather children, loved ones* – People’s fears for the well-being of their children sometimes translated into a strong desire to go get them -- even if it required ignoring recommendations to shelter. If protective actions are to be fully effective, it is crucial that communications directly address such concerns and specifically discuss the well being of children/schools.

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Obstacles to specific protective actions

- *Concern about lack of access to needed items* – Some individuals expressed concerns that they wouldn’t have access to items such as handkerchiefs or pieces of cloth to cover their mouths and noses.
- *Modesty* – some people in focus groups expressed strong reservations about having to take off clothes if there isn’t a private place in which to do it. In addition, people who are concerned about lack of availability of clean clothes may resist removing potentially contaminated clothes. To address this issue, messages must make very clear that only the outer layer of clothing is being removed, and that this step is very effective as a protective measure.
- *Concerns about the feasibility/safety of shutting down air conditioning systems* – A concern often expressed by people was that they could not shut down air conditioning systems, particularly in hot weather, without endangering the elderly, asthmatics, and others. More generally, there were concerns that having people sit in a closed up car without air conditioning on a hot day might produce suffocation or other problems.

Obstacles related to ethnic/racial or other population groups

- *Fatalism, helplessness* – Although a degree of fatalism can be found throughout the general population, minority populations appear to exhibit a significantly higher degree (“There’s nothing you can do”). This could impede protective actions. Messages can address this problem through a combination of appropriate spokespersons and an emphasis on the “tried and true” nature of protective actions.
- *Fatalism and “special equipment”* – Fatalism was often associated with the belief that gas masks or special suits were needed for self-protection, and that without them, survival was problematic.
- *Lack of trust* – Minority populations also appear to exhibit lower levels of trust in authorities. This could reduce the likelihood that official announcements would be followed or believed.
- *Prayer/spirituality* -- African-Americans mentioned prayer and spirituality as an immediate reaction to the situation far more than other population segments. It is unclear how this might affect willingness to undertake protective actions. On the one hand, it might have a calming effect, increasing people’s ability to take protective measures. On the other hand, a combination of prayer and fatalism might reduce people’s willingness to undertake protective measures.

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- *Homeless populations* – Homeless individuals were not clear how advice about “staying put” in a home or building applied to them.

4. Key Promise

- By taking a few simple steps, you can do a lot to protect yourself and your loved ones from contamination after a terrorist incident involving radioactive materials.

6. Tone

Serious, with a sense of urgency (“a grabber”), but also positive and empowering. The main idea is to overcome the idea that “the radiation will inevitably get us” or the belief that “there is nothing we can do,” and impress upon people that a simple, easily done set of actions can significantly reduce the threat. “There are some simple things you can do to protect yourself and your family, the steps are easy to do, and doctors, scientists, research, experience, etc. shows that they work.”

7. Media

Television & Radio; Internet; Emergency Broadcast System

8. Openings

It is highly likely that all news and radio stations will be providing special coverage of the unfolding event. This emergency message about protective actions will, therefore, have a wide range of openings.

Creative Brief for Terrorist Events Involving RADIOACTIVE MATERIALS

Revised November 2004 (based on Yr. 1 & Yr. 2 data)

Project: “Targeted Pre-Event Message Development for WMD Threats” (CDC/ASPH)
Prepared by the Disaster and Emergency Communication Research Unit, The University of Alabama at Birmingham (UAB), School of Public Health, 530 RPHB, 1665 University Boulevard, Birmingham, AL 35294-0022 U.S.A., Principal Investigator: Dr. S.M. Becker, Tel: (205) 934-6089, Email: sambecker@uab.edu

9. Creative Considerations

- *The accent should be on health issues* - Given that health issues are central to people’s concerns, communication should be structured in a manner that clearly says to people that this message is about health and that it will help protect my loved ones and myself.
- *Messages should feature spokespersons that are credible on health issues* – Given the primacy of health issues, messages would likely benefit from having at least one speaker/spokesperson who is seen as highly credible on health issues. One possibility is the Surgeon General of the U.S. or another high credibility healthcare professional (particularly one with expertise on radiation). Use of Surgeon General or other respected healthcare figure would quickly communicate that this is serious, that it deals with health, and that the information comes from an expert (not a “politician or “bureaucrat.”
- *Messages would also benefit from the inclusion of trusted local figures* – Along with respected health figures, messages should include trusted local figures (e.g. fire chief). Both types of spokesperson were identified in focus groups as being credible and trusted. The one allows messages to deal authoritatively with health issues while the other is more familiar to people.
- *Messages should make use of pictures* – People want to see pictures or illustrations that show them how to “do” protective actions. On the other hand, mock pictures of symptoms, health effects, etc. are not seen as useful.
- *Printed materials are important* - While tv and radio are often seen as the first source, many people like printed materials. Such materials can be referred to repeatedly, allowing recommendations to “sink in.” Campaigns built around tv and radio should not lose sight of the value of accompanying printed materials.
- *A potential role for weather forecasters/meteorologists* - Because many people’s frame of reference for emergencies is natural disasters (tornados in the South, earthquakes in the West, etc.), and because many population segments have come to trust *local* weather forecasters and *local* newscasters in such situations, the pre-developed video above needs to be complemented with a media pack that can

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quickly be given to local media. Just as the local weather person or newscaster tells people how they protect themselves during a tornado, so, too, would this trusted person provide information on appropriate protective actions.

Creative Considerations - Other recommendations

- Use of an easy-to-remember acronym/word, with each letter standing for one of the protective actions, might be the easiest way to ensure that people can easily recall what steps they should take. This can be particularly helpful in the context of a crisis, where people are anxious, under stress, etc. An alternative would be to use some sort of rhyming words.
- Need videos and media packets to be available in English and Spanish. Also need appropriate materials for hearing impaired people.

Creative Brief for Terrorist Events Involving RADIOACTIVE MATERIALS

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10. Follow-On Messages

As noted on page two of the creative brief, protective actions covered here are intended for use in the immediate aftermath of the incident. Once messages relating to them have been disseminated/broadcast, there will soon after be a need for a second set of messages more specifically keyed to the specific nature of the terrorist incident. Pre-developed informational materials will also be important for these follow-on messages.

While this second set of messages requires preparation of a separate Creative Brief, findings from the “Radiation” focus groups provide some useful guidelines:

What did people indicate should be included in messages?

- Information about “symptoms” of exposure to radiation/radioactive contamination
- Guidance on whether and when they need to seek medical care
- Where to go for medical care
- Where to find more information
- What to do to protect pets
- What to do if your children are in school
- More on potassium iodide
- How long the event/the radiation will last

Appendix B

Focus Group Guide: Radiological Terrorism

Focus Group Moderator’s Guide – Radiation (UAB ver. 1)

INTRODUCTION (3 min.)

- Hi, my name is <your name> and I work for <your university>.
- Thank you for being here and for helping us with this important project. We are developing informational materials regarding possible emergency situations. We have asked you to come here today to think about these situations and look at some of our materials. We are very interested in your opinions. Please note that there are no right or wrong answers, only different ideas. So please be honest and share what you think. I am not an expert in these subjects and I am not the person making the materials — so please do not worry about hurting my feelings!
- I’d like to introduce our project team. (*Introduce team members by name*). They are going to take notes during our discussion today.

Informed “consent” (5 min.)

- Before we look at the materials, I’d like to review an important form with you. (*Nonverbal notetaker will distribute the “informed” consent document.*)
- This paper explains the purpose of the discussion group and what you can expect while you’re here.
- Let’s go over the key points.
- First, I want you to know that your participation today is completely voluntary and you don’t have to answer any question that makes you feel uncomfortable. You may leave at any time without penalty.
- Second, our discussion today will be tape recorded. This will allow us to pay close attention to your comments and make our notes more accurate. Your name will not be identified in any of our transcripts and only our project team will have access to those transcripts.
- You will receive \$20 cash after our discussion, which will last no more than 2 hours.
- Possible benefits of participating in our discussion include:

- Being better informed about the terrorism threats
- Having increased confidence in your ability to make an informed decision about the terrorism threats
- Having the opportunity to discuss your fears and concerns
- Possible risks of participating in our discussion include:
 - Feeling distress or anxiety by discussing the possibility of a terrorist attack.
 - During this focus group, we will be discussing potential terrorist threats. Due to the sensitivity of this subject, people who have already experienced terrorism or violent acts, or had family or friends experience such things, may want to reconsider participating in this focus group. Please keep in mind that the nature of this discussion may be upsetting especially if you are particularly sensitive to this subject matter. Also, anyone who has experienced post-traumatic stress disorder or who has a known psychotic disorder should not participate in this focus group.
- You will be compensated for your time regardless of your participation in this group.
- Does anyone have questions?
- Okay, if no one has any more questions, could you please sign both pages of the informed consent form and <name> will collect them.
- After you have signed the informed consent form, we would appreciate it if you could take a minute to fill out the demographic form. We're not asking for your name, answering is voluntary, can refuse to answer any questions and still participate in the discussion group.
- Okay, let's get started.

Guidelines (5 min.)

- Please try to talk one at a time so that we can hear everyone.
- We're very interested in your opinions. There are no right or wrong answers, only different ideas. So please be honest and share what you think.
- During our discussion, you may think of a lot of questions that you have about terrorism. We'd like you to write them down.

- We won't be able to answer your questions during the discussion, in part because the reason we're here is to see whether the materials answer all your questions.
- If we answer questions during the discussion this could affect your response to the materials you'll review later. At the end of our discussion, an expert from <university> will be available to answer any remaining questions you have.
- Also, at this time please turn off cell phones and pagers if you are able to.
- Are there any more questions before we begin?

(NOTE TO MODERATOR: If participants ask questions during the discussion, say: "*We can't answer your question now as it may influence the results of the discussion. Please write down your questions and an expert will be available at the end of the discussion to answer them.*")

Icebreaker/introductions (7 min.)

- Okay, let's go around the room and please introduce yourself by saying your first name only and telling us one of your favorite hobbies.
- For today's discussion, we will not be using your real names in the discussion. Rather, we would like you to use a number every time you talk. That way we can tell one comment from another in the tape without having to identify the name of the speaker. So, from my left, you will be number one, the next person will be number two, and so on. Is that okay with everyone?
- Are there any questions?
- Okay, let's go around the table in order and say our numbers.
- We would very much appreciate it if you could use your number before speaking each time you talk. So, for example, number three, if you were going to make a comment, you would say, "Number Three, I think such and such is interesting."

- In your view, what were the 2 or three most important points in the materials?
- Was any information in the message new to you? What was new?
- What parts of message were clear?
- Were there any parts that were not clear?
- Was there anything that didn't make sense the first time you heard it?
- Were there parts that were difficult to understand?

Prompts (if needed): About the nature of the threat, about protective actions, etc.

Emotional Response

- How did this radio message make you feel?

Prompts (if needed):

Repeat for each emotion mentioned

- What about the message makes you feel (emotion)?
- Do you think it would be better if we changed the message to make it less/ more (emotion)?
- How could we change the message to make it less/ more (emotion)?

Actions

- How confident are you that the actions recommended in the radio message will keep you safe? (Efficacy)
 - PROBE (if needed): Why or why not?
- How confident are you that you can carry out these recommendations? (efficacy)
 - PROBE (if needed): Why or why not?

- Which of the directions do you intend to follow? What direction do you believe you won't follow? (intention)

Channel Appropriateness

- Is this the kind of information you would like to get from the radio if an incident occurred?
- Is there other information you would want to hear on the radio?
- Is there a better way – other than radio - to get this information to you?
- Where else would you look for additional information?
 - Why is this the best place to look?

Response to the materials

- What was your overall impression of the radio message? (overall impression.)
- Did anything grab your attention? (appeal)
 - What did you like?
 - What didn't you like?
- How believable is the information in the message? (credibility)
 - How believable are the people in the message?
- Given these events in the story we read, what information was useful to you? (relevance)
- Do you have any recommendations to make this radio message better or more useful to you?

Part Two

You now turn on your t.v. and see a local government official issuing a statement about the situation. She confirms that terrorists have set off a radioactive “dirty bomb” in <location>. Initial emergency responders have detected some radiation near the attack site, and people injured by the explosion are being treated near the site and/or transported to local hospitals. Members of the public in the vicinity of the incident are being advised to watch the following emergency message in order to learn how to protect themselves.

TV Clip

- Next, I’d like to ask you watch to a short TV bulletin providing information on the hypothetical attack and then we’ll discuss it.

(Show TV clip)

(After TV clip)

- Now I’d like to ask you some questions about the TV bulletin only.

Comprehension

- In your view, what were the 2 or three most important points in the materials?
- Was any information new to you? What?
- What part of the message was clear? What parts of the message were unclear?
- Difficult to understand? What didn’t make sense the first time you saw or heard it?
- What questions do you still have?

Prompts (if needed): About the nature of the threat, protective action, etc..

Emotional Response

- How does this information bulletin make you feel?

Prompts (if needed):

Repeat for each emotion mentioned

- What about the clip makes you feel (emotion)?
- Should we change the information bulletin to make it less/more (emotion)?
 - How could we change the clip to it less/ more (emotion)?

Actions

- How confident are you that the actions recommended in the tv information bulletin will keep you safe? (Efficacy)
 - PROBE (if needed): Why or why not?
- How confident are you that you can carry out these recommendations? (efficacy)
 - PROBE (if needed): Why or why not?
- Which of the directions do you intend to follow? What direction do you believe you won't follow? (intention)

Channel Appropriateness

- Is this the kind of information you would like to get from the TV?
- What additional information would you want to see on the TV?
- What might be a better way to get this information to you?
- Where else would you look for additional information?
 - Why is this the best place to look?

Response to the materials

- What was your overall impression of the tv message? (overall impression.)
- Did anything grab your attention? (appeal)

- What did you like?
- What didn't you like?
- How believable is the information in the tv message? (credibility)
 - How believable are the people in the message?
- Given the events these events what information was useful to you? (relevance)
- Do you have any recommendations to make this information bulletin better or more useful to you?

Part Three- Release of Print Information

In the next part of our story, local officials release more information about how you can protect yourself from the attack.

We're going to show you some materials of the sort that might be released should such an attack like this ever happen. Please give us your honest thoughts, feelings and responses to these materials. Again, please keep in mind that there are no right or wrong answers; we are just looking for your reactions.

(Distribute dirty bomb fact sheet.)

- Take take your time and look over the fact sheet. Feel free to write on it if you have any questions, comments or concerns. When you're finished, please turn over the paper just to indicate that you're done reading. Do you have any questions?

Comprehension

- What were the 2 or three most important points in the printed material?
- What information in the print material was new to you?
- Were any parts of the print material unclear? Which?

- Difficult to understand? What didn't make sense the first time you saw or heard it?
- What questions do you still have?
Prompts (if needed): About the nature of the threat, about protective actions, etc.

Emotional Response

- How does the print material make you feel?
Prompts (if needed):
Repeat for each emotion mentioned
 - What about the print materials makes you feel (emotion)?
 - Should we change the print material to make it less/ more (emotion)?
 - How could we change the print material to it less/more (emotion)?

Actions

- How confident are you that the actions recommended in the print material will keep you safe? (Efficacy)
 - PROBE (if needed): Why or why not?
- How confident are you that you can carry out these recommendations? (efficacy)
 - PROBE (if needed): Why or why not?
- Which of the directions do you intend to follow? What direction do you believe you won't follow? (intention)

Channel Appropriateness

- Is this the kind of information you would like to get from a fact sheet?
- Is there any additional information you would want?

- What additional information would you want to read?
- Is there a better way to get this information to you?
 - What might be a better way to get this information to you?
- Where else would you look for additional information?
 - Why is this the best place to look?

Response to the materials

- What was your overall impression of the print material? (overall impression.)
- Did anything grab your attention? (appeal)
 - What did you like?
 - What didn't you like?
- How believable is the information in the print material? (credibility)
 - How believable are the people in the print materials?
- Given the events these events what information was useful to you? (relevance)
- Do you have any recommendations to make this fact sheet better or more useful to you?

Part Four

Now thinking about all three messages presented – the radio message, the t.v. information bulletin, and the fact sheet...

Preferred channels for terrorism information dissemination

- Did you find one type of message - radio, television, or print - more helpful?
 - Why or why not?

- How would you rank the three – one, two, three - in terms of their helpfulness?
- What information source – radio, tv, or fact sheet - would you have most likely turned to during the described crisis?

CONCLUSION (15 min.)

- This concludes our work for the day. Thank you again for volunteering to help us. Your comments have been extremely valuable. The information you have provided will help us develop better and more useful informational materials, and this, in turn, will contribute to improved emergency preparedness.
- Please leave the printed materials, which we need to collect.
- (IF ANYONE REQUESTS THE PRETEST MATERIALS, SAY: “*The materials we are currently testing still need to be finalized and approved before they will be available for release.*”)

COLLECT MATERIALS

- If you have any questions about radiological terrorism, dirty bombs or other related subjects, our expert, < name >, will be happy to discuss them with you after the session.
- Before you go, don't forget to see < name > to receive your \$20.
- Thank you again.

Appendix C

Materials Tested in Focus Groups: Television Script

Draft TV Script – Terrorist Incident Involving Radioactive Materials

Prepared by UAB with CDC Revisions March 31, 2004

VIDEO	AUDIO
	<p>VO:</p> <p>This message contains important safety information from experts at the Centers for Disease Control and Prevention (CDC) and from your local medical and health agencies.</p> <p>Your health and safety are our highest priority.</p> <p>Please pay close attention. We will provide you with practical advice to protect yourself and your loved ones after a terrorist attack involving radioactive materials.</p>
	<p>VO:</p> <p>People cannot see, smell, feel or taste radiation.</p> <p>If police or firefighters think that a terrorist attack might have released radiation in your area, they will quickly check for radiation using special equipment. They will also determine how much radiation is present and whether it poses any danger in your area.</p>
	<p>VO:</p> <p>Right now, you can take immediate action to protect yourself and your loved ones.</p> <p>Please listen carefully and follow these simple steps that are recommended by doctors and other health professionals.</p>
	<p>VO:</p> <p>If you are <u>outside</u> during or right after an attack in your area:</p> <ul style="list-style-type: none"> • Cover your nose and mouth with a handkerchief or cloth to avoid breathing in radioactive dust or smoke • Don't touch any objects thrown off by the attack – they might be radioactive

	<ul style="list-style-type: none"> • Quickly go into a building where the walls and windows have not been broken by the attack. This will shield you from radiation that might be outside • If you have pets outside, and it is possible to safely take them inside with you, do so
	<p>VO:</p> <p>Once you are inside:</p> <ul style="list-style-type: none"> • Take off your outer layer of clothing and seal it in a plastic trash bag • Shower or wash yourself with soap and water • Wash your pets with soap and water as well • Store the plastic bag where others will not touch it
	<p>VO:</p> <p>If you were <u>inside</u> when the attack took place, and the walls and windows of your building were not broken, stay in the building and do not leave.</p> <p>To keep any radiation from getting inside:</p> <ul style="list-style-type: none"> • Shut all windows and doors, and close the fireplace damper • Turn off fans and heating and air conditioning systems that bring in air from outside
<p>TO BE ADDED</p>	<p>If you are in your car during or right after an attack in your area:</p> <ul style="list-style-type: none"> • Close the windows and turn off the air conditioner, heater, and vents. • Cover you nose and mouth with a handkerchief or other cloth to avoid breathing radioactive dust or smoke. • If you are close to your home, your office, or a public building, go there immediately and go inside quickly. • If you cannot get to your home or other building safely, pull over to the side of the road and stop in the safest place possible. If it is hot or sunny outside, try to stop under a bridge or in a shady spot. • Turn off the engine. • Listen to the radio for instructions.

	<ul style="list-style-type: none"> • Stay where you are until you are told it is safe to get back on the road. • Be aware that some roads may be closed or traffic detoured. • Follow the directions of law enforcement officers.
	<p>VO:</p> <p>Remember:</p> <p>Covering your nose and mouth with a handkerchief or cloth will help keep radioactive dust and smoke out of your body.</p> <p>Removing and bagging your outer clothes removes over 90 percent of radioactive dust, and showering and washing removes what is left.</p> <p>Carrying out these simple steps will help protect you and your loved ones.</p>
	<p>VO:</p> <p>Stay tuned. Further information will be provided shortly.</p>
	<p>VO:</p> <p>For more information on radiation contact:</p> <ul style="list-style-type: none"> • The Center for Disease Control’s website at www.bt.cdc.gov • Hotline <ul style="list-style-type: none"> ○ English (888) 246-2675 ○ Español (888) 246-2857 ○ TTY (866) 874-2646

Appendix D

Materials Tested in Focus Groups: Radio Script

Draft Radio Spots – Terrorist Incident Involving Radioactive Materials

Prepared by UAB Pre-Event Team with CDC Revisions 3/31/04

45 seconds

This message contains important safety information about today's terrorist attack. Please pay close attention. We will provide you with practical advice to protect yourself and your loved ones.

If you were outside during or right after an attack in your area, don't touch any objects thrown off by the attack – they may be radioactive. The greatest risk to your health is breathing in radioactive dust or smoke. To protect yourself, the Centers for Disease Control recommends that you cover your nose and mouth with a handkerchief or cloth and go inside.

Once inside, take off your outer layer of clothing and seal it in a plastic bag. Then shower or wash yourself with soap and water. If you have pets outside, and it is possible to safely take them inside with you, do so. Wash your pets off, too.

If you were already inside during or after the attack, stay there. Shut all windows and doors and fireplace dampers. Turn off heating and air conditioning systems that bring in outside air.

Taking these steps will help protect you and your loved ones.

Stay tuned to this station for further information.

30 seconds

This message contains important safety information about today's terrorist attack. Please pay close attention.

If you are outside during or right after an attack in your area, the greatest risk to your health is breathing in radioactive dust or smoke. To protect yourself, the Centers for Disease Control recommends that you cover your nose and mouth with a handkerchief or cloth and go inside. Take off your outer layer of clothing and seal it in a plastic bag. Then shower or wash yourself with soap and water.

If you were already inside during or after the attack, stay there. Shut all windows and doors and turn off heating and air conditioning systems that bring in outside air.

Stay tuned to this station for further information.

15 seconds

This message contains important safety information from the CDC about today's terrorist attack.

If you are outside and in the areas of the attack, cover your nose and mouth with a cloth and go inside. Remove your outer clothing, put it in a plastic bag, and wash your body with soap and water. If you were already inside, stay there and close all doors and windows.

Stay tuned to this station for further information.

Appendix E

Materials Tested in Focus Groups: Web Content/Fact Sheet



Frequently Asked Questions (FAQs) about Dirty Bombs

People have expressed concern about dirty bombs and what they should do to protect themselves if a dirty bomb incident occurs. Because your safety is our very highest priority, the health experts at the Centers for Disease Control and Prevention (CDC) have prepared the following list of frequently asked questions and answers.

What is a dirty bomb?

A dirty bomb mixes explosives, such as dynamite, with radioactive powder or pellets. When the dynamite or other explosives are set off, the blast carries radioactive material into the surrounding area.

- A dirty bomb is not the same as an atomic bomb

An atomic bomb, like those dropped on Hiroshima and Nagasaki, involves the splitting of atoms and a huge release of energy that produces the well-known atomic mushroom cloud. While a dirty bomb can still be dangerous, it works completely differently and *cannot create an atomic blast*. Instead, a dirty bomb uses dynamite or other explosives to scatter radioactive dust, smoke or other material in order to cause radioactive contamination.

What are the main dangers of a dirty bomb?

The main danger from a dirty bomb is from the blowing up of the explosives, which can cause serious injuries and property damage. The radioactive materials most likely to be used in a dirty bomb would probably not create enough radiation exposure to cause immediate serious illness except, possibly, very close to the blast site. However, the radioactive dust and smoke spread further away could be dangerous to health if it is inhaled. Because people cannot see, smell, feel, or taste radiation, you should play it safe and take immediate steps to protect yourself and your loved ones.

What immediate actions should I take to protect myself?

These simple steps - recommended by doctors and other health professionals - will help protect you and your loved ones. The specific steps you should take depend on where you are located when the incident occurs: outside, inside, or in a car.

- If you are outside and close to the emergency
 - Cover your nose and mouth with a cloth to avoid breathing in radioactive dust or smoke.

UAB Draft 6/9/04 **Do not circulate**

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION
SAFER•HEALTHIER•PEOPLE

- Don't touch objects thrown off by an explosion – they might be radioactive.
- Quickly go into a building where the walls and windows have not been broken. This will shield you from radiation that might be outside.
- Once you are inside, take off your outer layer of clothing and seal it in a plastic bag. Put the cloth you used to cover your mouth in the bag, too. Removing outer clothes gets rid of 90 percent of radioactive dust. Then put the plastic bag where others will not touch it and keep it until authorities tell you what to do with it.
- Shower or wash with soap and water. This will remove any remaining dust.
- Stay tuned to the news for more instructions.
- **If you are inside and close to the emergency**
 - If the walls and windows of the building were not broken, stay in the building and do not leave.
 - To keep radiation from getting inside, shut all windows, outside doors, and fireplace dampers. Turn off fans and heating and air conditioning systems that bring in air from the outside. It is not necessary to put duct tape or plastic around doors or windows.
 - If the walls and windows of the building are broken, go to an interior room and do not leave. If the building has been heavily damaged, quickly go into a building where the walls and windows have not been broken. If you must go outside, be sure to cover your nose and mouth with a cloth. Once you are inside, take off your outer layer of clothing and seal it in a plastic bag. Store the bag where others will not touch it. Shower or wash with soap and water.
 - Stay tuned to news for more instructions.
- **If you are in a car when the emergency happens**
 - Close the windows and turn off the air conditioner, heater, and vents.
 - Cover your nose and mouth with a cloth to avoid breathing radioactive dust or smoke.
 - If you are close to your home, office, or a public building, go there immediately and go inside quickly.
 - If you cannot get to your home or another building safely, pull over to the side of the road and stop in the safest place possible. If it is a hot or sunny day, try to stop under a bridge or in a shady spot.
 - Turn off the engine and listen to the radio for instructions. Stay in the car where you are until you are told it is safe to get back on the road.

What should I do about my children and family?

- If your children and family are with you, have them stay with you and take the same actions to protect themselves.
- If your children and family are in another home or building, they should stay there until you are told it is safe to travel.

- Schools have emergency plans and shelters so if your children are at school, it is usually best for them to stay there until it is safe to travel.

How do I protect my pets?

- If you have pets outside, bring them inside as long as it can be done safely. Wash your pets with soap and water to remove any radioactive dust.

Should I take potassium iodide?

- Potassium iodide, also called KI, only protects a person's thyroid gland from exposure to radioactive iodine. It will not protect a person from other radioactive materials or protect other parts of the body from exposure to radiation.
- Since there is no way to know at the time of the explosion whether radioactive iodine was used in the explosive device, taking KI would probably not be beneficial. Also, KI can be dangerous to some people.

Will food and water supplies be safe?

- Most likely, food and water supplies will remain safe. However, any food or water that was out in the open and close to the incident may have been exposed to radioactive contamination. It should, therefore, not be consumed. Authorities will monitor food and water quality for safety and keep the public informed.

How do I know if I've been exposed to radiation or contaminated by radioactive materials?

- People cannot see, smell, feel, or taste radiation so you may not know if you have been exposed. Police or firefighters will quickly check for radiation using special equipment to determine how much radiation is present and whether it poses any danger in your area.
- Low levels of exposure, as would be typical in most dirty bomb situations, do not cause any symptoms. Higher levels of radiation, which would likely only occur very close to the incident, may produce symptoms such as nausea, vomiting, diarrhea, and swelling and redness of the skin.
- If you develop any of these symptoms, you should contact your doctor, hospital, or other sites recommended by authorities.

Where do I go for more information?

For more information, visit www.bt.cdc.gov, or call the CDC public response hotline at (888) 246-2675 (English), (888) 246-2857 (español), or (866) 874-2646 (TTY).

Appendix F

Cognitive Response Testing Guide: Radiological Terrorism

Cognitive Response Testing Guide – Radiation (UAB Ver. 1)

INTRODUCTION

Hi, my name is <name> and I work for <university>. I'd like to thank you for volunteering to help us. We are developing informational materials related to possible emergency situations. We have asked you to come here today to think about these situations and look at some of our materials.

Informed “consent” (2 minutes)

Before we look at the informational materials, I'd like to review a few things with you. [*Present participant with informed consent document*]. This document explains the purpose of this interview and what you can expect while you're here. I'd like to call your attention to a few key points.

First, I want you to know that your participation today is voluntary and you don't have to answer any question that makes you feel uncomfortable. You may leave at any time without penalty. Second, we will be recording our interview today. This will allow us to pay close attention to your comments and make our notes more accurate. Your name will not be identified in any of our transcripts and only our project team will have access to those transcripts. And finally, you will receive \$20 cash after our discussion, which will last no more than 2 hours.

There are several possible benefits of participating in our discussion today:

- Becoming better informed about terrorism threats and what to do about them;
- Experiencing increased confidence in your ability to make an informed decision about a possible terrorist attack; and
- Having the opportunity to provide feedback on educational materials that will benefit others in case of a terrorist attack.

Possible risks of participating in our discussion include:

- Feeling distress or anxiety produced by discussing a terrorist event.
- Possible feeling of being tired due to participation in this interview.

Please take a minute to fill out the demographic form. We're not asking for your name. Answering the questions is voluntary; you can refuse to answer any question and still participate in the discussion group. Please feel free to ask me any questions.

Guidelines (5 minutes)

Before we begin our discussion today, I want to again emphasize that we are very interested in your ideas and views. So please be honest and share what you think. I am not an expert in these subjects and I am not the person who made the materials — so please do not worry about hurting my feelings!

During our discussion, you may think of a lot of questions that you have about emergencies. We'd like to ask you to write them down. We won't be able to answer your questions regarding the subject of terrorism during the discussion.

Please don't feel frustrated about not getting answers to your question right away. At the end of our discussion, an expert from <university > will be available to answer those questions and any others that you have.

Also, at this time please turn off cell phones and pagers if you are able to do so.

[IF SOMEONE REQUESTS THE PRETEST MATERIALS, SAY: The materials we are currently testing still need to be finalized and approved before they will be available for release.]

Okay, does anyone have any questions before we begin?

I am going to begin recording now. I will be giving you seven short paragraphs to read, one at a time. After each paragraph, I will be asking you a few questions about it to get your thoughts and views.

[Place Section A in front of participant. Do not read the section titles to the participant – they are for your own information.]

Section A (Overview - What is a dirty bomb?) (10 minutes)

Please read the following section [*place Section A in front of participant*]:

What is a dirty bomb?

A dirty bomb mixes explosives, such as dynamite, with radioactive powder or pellets. When the dynamite or other explosives are set off, the blast carries radioactive material into the surrounding area.

- **A dirty bomb is not the same as an atomic bomb**

An atomic bomb, like those dropped on Hiroshima and Nagasaki, involves the splitting of atoms and a huge release of energy that produces the well-known atomic mushroom cloud. While a dirty bomb can still be dangerous, it works completely differently and *cannot create an atomic blast*. Instead, a dirty bomb uses dynamite or other explosives to scatter radioactive dust, smoke or other material in order to cause radioactive contamination.

- a. What is this paragraph telling you?
- b. In your own words, how would you describe a dirty bomb? (*If the participant does not know, explain that an expert will go over it at the end of the interview*).
- c. What is the difference between a “dirty bomb” and an “atomic bomb”? (*If the participant does not know the difference, explain that an expert will go over it at the end of the interview*).
- d. Please tell me if you think there are any unclear words or sentences in this section.

Section B (Main dangers from a dirty bomb?) (10 minutes)

Please read the following section [*place section B in front of participant*]:

What are the main dangers of a dirty bomb?

The main danger from a dirty bomb is from the blowing up of the explosives, which can cause serious injuries and property damage. The radioactive materials most likely to be used in a dirty bomb would probably not create enough radiation exposure to cause immediate serious illness except, possibly, very close to the blast site. However, the radioactive dust and smoke spread further away could be dangerous to health if it is inhaled. Because people cannot see, smell, feel, or taste radiation, you should play it safe and take immediate steps to protect yourself and your loved ones.

- a. What is this section telling you?
- b. In your own words, please describe what are the main dangers from a dirty bomb. (*If the participant does not know, explain that an expert will go over it at the end of the interview*).
- c. Please tell me if you think there are any unclear words or sentences in this section.

Section C (Safety Precautions – What to do if outside) (10 minutes)

Please read the following section [*place section C in front of participant*]:

- **If you are outside and close to the emergency**
 - Cover your nose and mouth with a cloth to avoid breathing in radioactive dust or smoke.
 - Don't touch objects thrown off by an explosion – they might be radioactive.
 - Quickly go into a building where the walls and windows have not been broken. This will shield you from radiation that might be outside.
 - Once you are inside, take off your outer layer of clothing and seal it in a plastic bag. Put the cloth you used to cover your mouth in the bag, too. Removing outer clothes gets rid of 90 percent of radioactive dust. Then put the plastic bag where others will not touch it and keep it until authorities tell you what to do with it.
 - Shower or wash with soap and water. This will remove any remaining dust.
 - Stay tuned to the news for more instructions.

- a. What is this section telling you?
- b. In your own words, please tell me how a person can protect himself or herself from radioactive dust or smoke. (*If the participant does not know, explain that an expert will go over it at the end of the interview*).
- c. What is the purpose of removing your outer clothes? (*If the participant does not know, explain that an expert will go over it at the end of the interview*).
- d. What is the purpose of showering or washing? (*If the participant does not know, explain that an expert will go over it at the end of the interview*).
- e. Please tell me if you think there are any unclear words or sentences in this section.

Section D: (Safety Precautions - Inside) (10 minutes)

Please read the following section [*place section D in front of participant*]:

- **If you are inside and close to the emergency**
 - If the walls and windows of the building were not broken, stay in the building and do not leave.
 - To keep radiation from getting inside, shut all windows, outside doors, and fireplace dampers. Turn off fans and heating and air conditioning systems that bring in air from the outside. It is not necessary to put duct tape or plastic around doors or windows.
 - If the walls and windows of the building are broken, go to an interior room and do not leave. If the building has been heavily damaged, quickly go into a building where the walls and windows have not been broken. If you must go outside, be sure to cover your nose and mouth with a cloth. Once you are inside, take off your outer layer of clothing and seal it in a plastic bag. Store the bag where others will not touch it. Shower or wash with soap and water.
 - Stay tuned to news for more instructions.

- a. What is this section telling you?
- b. What should a person do to keep radiation from getting inside a building? (*If the participant does not know, explain that an expert will go over it at the end of the interview*).
- c. Please tell me if you think there are any unclear words or sentences in this section.

Section E: (Safety Precautions – In a Car) (10 minutes)

Please read the following section [*place section E in front of participant*]:

- **If you are in a car when the emergency happens**
 - Close the windows and turn off the air conditioner, heater, and vents.
 - Cover your nose and mouth with a cloth to avoid breathing radioactive dust or smoke.
 - If you are close to your home, office, or a public building, go there immediately and go inside quickly.
 - If you cannot get to your home or another building safely, pull over to the side of the road and stop in the safest place possible. If it is a hot or sunny day, try to stop under a bridge or in a shady spot.
 - Turn off the engine and listen to the radio for instructions. Stay in the car where you are until you are told it is safe to get back on the road.

- a. What is this section telling you?
- b. What should a person do if her or she is in a car when the dirty bomb emergency happens? (*If the participant does not know, explain that an expert will go over it at the end of the interview*).
- c. Please tell me if you think there are any unclear words or sentences in this section.

Section F: (Safety Precautions – What should I do to protect my children, my pets?) (10 minutes)

Please read the following section [*place section F in front of participant*]:

What should I do about my children and family?

- If your children and family are with you, have them stay with you and take the same actions to protect themselves.
- If your children and family are in another home or building, they should stay there until you are told it is safe to travel.
- Schools have emergency plans and shelters so if your children are at school, it is usually best for them to stay there until it is safe to travel.

How do I protect my pets?

If you have pets outside, bring them inside as long as it can be done safely. Wash your pets with soap and water to remove any radioactive dust.

- a. What is this section telling you?
- b. In your own words, please describe what you can do to protect your children and family after a dirty bomb incident. (*If the participant does not know, explain that an expert will go over it at the end of the interview*).
- c. What should be done to protect pets? (*If the participant does not know, explain that an expert will go over it at the end of the interview*).
- d. Please tell me if you think there are any unclear words or sentences in this section.

Section G: (Should I take KI? How do I know if I have been exposed to radiation, what are the symptoms, and what should I do if I have symptoms?) (10 minutes)

Please read the following section [*place section G in front of participant*]:

Should I take potassium iodide?

- Potassium iodide, also called KI, only protects a person's thyroid gland from exposure to radioactive iodine. It will not protect a person from other radioactive materials or protect other parts of the body from exposure to radiation.
- Since there is no way to know at the time of the explosion whether radioactive iodine was used in the explosive device, taking KI would probably not be beneficial. Also, KI can be dangerous to some people.

How do I know if I've been exposed to radiation or contaminated by radioactive materials?

- People cannot see, smell, feel, or taste radiation so you may not know if you have been exposed. Police or firefighters will quickly check for radiation using special equipment to determine how much radiation is present and whether it poses any danger in your area.
- Low levels of exposure, as would be typical in most dirty bomb situations, do not cause any symptoms. Higher levels of radiation, which would likely only occur very close to the incident, may produce symptoms such as nausea, vomiting, diarrhea, and swelling and redness of the skin.
- If you develop any of these symptoms, you should contact your doctor, hospital, or other sites recommended by authorities.

- a. What is this section telling you?
- b. What is potassium iodide and what does it do? (*If the participant does not know, explain that an expert will go over it at the end of the interview.*)
- c. What does radiation look like? Smell like? Taste like? (*If the participant does not know, explain that an expert will go over it at the end of the interview.*)
- d. In your own words, please describe how you would know if you have been exposed to radiation?
- e. In your own words, tell me what are the symptoms of radiation?
- f. In your own words, please describe what you should do if you have symptoms.
- g. Please tell me if you think there are any unclear words or sentences in this section.

CONCLUSION

Is there anything else you would like to comment on that we haven't talked about?

Thank you for joining us today. We really appreciate you taking the time to meet with us. The information you have provided will help us develop better and more useful informational materials, and this, in turn, will contribute to improved emergency preparedness.

Please leave the printed materials, which we need to collect.

(IF ANYONE REQUESTS THE PRETEST MATERIALS, SAY: "The materials we are currently testing still need to be finalized and approved before they will be available for release.")

[Give participant his/her \$20 bill.]

If you have any questions about radiological terrorism, dirty bombs or other related subjects, our expert, < name >, will be happy to discuss them with you after the session.

[Expert will stay around to answer questions.]

Thank you again. Have a nice day!

Appendix G

Cognitive Response Testing Materials

What is a dirty bomb?

A dirty bomb mixes explosives, such as dynamite, with radioactive powder or pellets. When the dynamite or other explosives are set off, the blast carries radioactive material into the surrounding area.

- **A dirty bomb is not the same as an atomic bomb**

An atomic bomb, like those dropped on Hiroshima and Nagasaki, involves the splitting of atoms and a huge release of energy that produces the well-known atomic mushroom cloud. While a dirty bomb can still be dangerous, it works completely differently and *cannot create an atomic blast*. Instead, a dirty bomb uses dynamite or other explosives to scatter radioactive dust, smoke or other material in order to cause radioactive contamination.

What are the main dangers of a dirty bomb?

The main danger from a dirty bomb is from the blowing up of the explosives, which can cause serious injuries and property damage. The radioactive materials most likely to be used in a dirty bomb would probably not create enough radiation exposure to cause immediate serious illness except, possibly, very close to the blast site. However, the radioactive dust and smoke spread further away could be dangerous to health if it is inhaled. Because people cannot see, smell, feel, or taste radiation, you should play it safe and take immediate steps to protect yourself and your loved ones.

- **If you are outside and close to the emergency**

- Cover your nose and mouth with a cloth to avoid breathing in radioactive dust or smoke.
- Don't touch objects thrown off by an explosion – they might be radioactive.
- Quickly go into a building where the walls and windows have not been broken. This will shield you from radiation that might be outside.
- Once you are inside, take off your outer layer of clothing and seal it in a plastic bag. Put the cloth you used to cover your mouth in the bag, too. Removing outer clothes gets rid of 90 percent of radioactive dust. Then put the plastic bag where others will not touch it and keep it until authorities tell you what to do with it.
- Shower or wash with soap and water. This will remove any remaining dust.

- **If you are inside and close to the emergency**

- If the walls and windows of the building were not broken, stay in the building and do not leave.
- To keep radiation from getting inside, shut all windows, outside doors, and fireplace dampers. Turn off fans and heating and air conditioning systems that bring in air from the outside. It is not necessary to put duct tape or plastic around doors or windows.
- If the walls and windows of the building are broken, go to an interior room and do not leave. If the building has been heavily damaged, quickly go into a building where the walls and windows have not been broken. If you must go outside, be sure to cover your nose and mouth with a cloth. Once you are inside, take off your outer layer of clothing and seal it in a plastic bag. Store the bag where others will not touch it. Shower or wash with soap and water.
- Stay tuned to news for more instructions.

- **If you are in a car when the emergency happens**

- Close the windows and turn off the air conditioner, heater, and vents.
- Cover your nose and mouth with a cloth to avoid breathing radioactive dust or smoke.
- If you are close to your home, office, or a public building, go there immediately and go inside quickly.
- If you cannot get to your home or another building safely, pull over to the side of the road and stop in the safest place possible. If it is a hot or sunny day, try to stop under a bridge or in a shady spot.
- Turn off the engine and listen to the radio for instructions.

What should I do about my children and family?

- If your children and family are with you, have them stay with you and take the same actions to protect themselves.
- If your children and family are in another home or building, they should stay there until you are told it is safe to travel.
- Schools have emergency plans and shelters so if your children are at school, it is usually best for them to stay there until it is safe to travel.

How do I protect my pets?

If you have pets outside, bring them inside as long as it can be done safely. Wash your pets with soap and water to remove any radioactive dust.

Should I take potassium iodide?

- Potassium iodide, also called KI, only protects a person's thyroid gland from exposure to radioactive iodine. It will not protect a person from other radioactive materials or protect other parts of the body from exposure to radiation.
- Since there is no way to know at the time of the explosion whether radioactive iodine was used in the explosive device, taking KI would probably not be beneficial. Also, KI can be dangerous to some people.

How do I know if I've been exposed to radiation or contaminated by radioactive materials?

- People cannot see, smell, feel, or taste radiation so you may not know if you have been exposed. Police or firefighters will quickly check for radiation using special equipment to determine how much radiation is present and whether it poses any danger in your area.
- Low levels of exposure, as would be typical in most dirty bomb situations, do not cause any symptoms. Higher levels of radiation, which would likely only occur very close to the incident, may produce symptoms such as nausea, vomiting, diarrhea, and swelling and redness of the skin.
- If you develop any of these symptoms, you should contact your doctor, hospital, or other sites recommended by authorities.

Appendix H

Focus Group Summary Reports (Toplines)

PRE-EVENT MESSAGE DEVELOPMENT PROJECT
Final Summary Report of Qualitative Analysis of Focus Group

Population: Urban African American
Agent: Radiological

Region: Southeast
Focus Group Date: July 29, 2004
Report Date: September 17, 2004

Prepared by:
The Pre-Event Message Team
The School of Public Health
University of Alabama at Birmingham (UAB)

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- Overall, the participants described the radio, television, and printed materials to be understandable and useful
- Participants indicated that they would follow-through with instructions although some doubted their effectiveness
- The feasibility of the recommendations for responding in a car were questions

Results of qualitative analysis by scenario and materials presented

Scenario 1 with Radio Spot

Overall, the participants had a favorable impression of the radio spot, indicating that it was useful information. Four members of the group identified the following as the most important information from the radio clip: to protect oneself, to close the doors, to wash with soap and water, to wash pets, and to turn of the air conditioning and heating (pg. 2). Several indicated the need for additional information. Several indicated that more specific information was needed about the location of the event, the type of radiation involved, and local contact information (pg. 2, P1, P4, and P6; pg. 4-5, P4). Another requested more information regarding preventing air from entering one's home, "for people who have an opening in their homes that they can't close" (pg. 2, P1).

Although there was indication in the group that the radio announcer was credible and that they would follow through with the recommendations, doubts were expressed about the effectiveness of the measures to keep one safe, "very believable" (pg. 4, P7, P9); "I get concerned about hype" (pg. 1, P1); "pretty high confidence in carrying out the specific actions...pretty low confidence in regards to the efficacy of those actions" (pg. 3, P4). Two participants answered when asked about their emotional response to the radio spot, "frightening" (pg. 3, P10), "upsetting" (pg. 3, P7). When asked about channel appropriateness, one informant responded favorably to radio and suggested other useful media, "all media would be good, civil defense sirens and T.V. (pg. 3, P6).

Scenario 2 with Television Clip

The general response to the television clip was favorable. One participant indicated appreciation for the greater detail provided in the television clip, "more detail and more specific information (pg.5, P1), another responded favorably to the television announcer's voice, "voice quality of speaker" (p. 5, P1), and another indicated improved comprehension in a visual channel compared to auditory, "visual information easier to understand" (pg. 5, P8). Similarly, one informant indicated that there was more "realness" in the television spot (pg. 6, P1). When asked about the most important information provided in the television spot, two responses were, "to stay calm" (pg. 5, P6) and "contact numbers" (pg. 6, P5). Similarly, one participant indicated that the provision of information itself in the television spot had a calming effect, "specific instructions are calming" (pg. 6, P6).

The general consensus of the group was that they would follow the recommendations, however several needed clarification about how to follow recommendations appropriately in a car. Specifically, they envisioned themselves on the freeway in the summer where they could not pull over and would be concerned about overheating if they could not lower the car windows or turn on the air conditioning, "everyone can't pull over to a shady area" (pg. 6, P10); "being stuck on the freeway when it happened...it would be kind of hard" (p.7, P5); "I think that at some point it would be difficult for a lot of people to maintain a closed environment in their automobile in the hot conditions without an air conditioner, which would probably result in a few suffocations" (pg. 7, P4)

Scenario 3 with Printed Materials

Although this group provided little elaboration on their impressions of the printed materials, the general response was favorable. One participant characterized the materials as "informative" (pg. 9, P10) and another identified new information in the printed materials as "the difference between a dirty bomb and an atomic bomb" (pg. 9, P6). When asked, there was general agreement that the recommendations would be followed, although one group member commented that one might have difficulty following through if one were away from home, "what do you do with your clothes if you are in a building and there are no plastic bags available" (pg. 9, P3). Several commented on the channel appropriateness of the printed materials, both that it was a means to reach some members of the population and that it might be a difficult medium for others, "like you're in a business setting where you don't have access to television or radio" (pg. 9, P8); "there's a tremendous number of people who don't know how to read," (p. 10, P1). In addition, several comments were made regarding their emotional response to the printed materials, "...angry for one...bothered that we

have to be dealing with this" (p.10, P1); "have to keep back the emotions" (p.11, P4); "remember that we have to stay calm. If you panic, you're not going to remember what to do" (pg. 11, P1).

**PRE-EVENT MESSAGE DEVELOPMENT PROJECT
Final Summary Report of Qualitative Analysis of Focus Group**

**Population: Urban African American
Agent: Radiological**

Region: Southeast
Focus Group Date: August 4, 2004
Report Date: September 22, 2004

Prepared by:
The Pre-Event Message Team
The School of Public Health
University of Alabama at Birmingham (UAB)

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- Overall, the participants were skeptical that any safety measures would be effective if exposed to radiation
- Participants were suspicious that the intent of the messages was to control panic rather than provide safety information
- Many of the safety measures were considered impractical to follow

Results of qualitative analysis by scenario and materials presented

Scenario 1 with Radio Spot

The overall reaction to the radio spot was one of extreme skepticism. When questioned about the most important informational items in the radio spot, members of the group shared the attitude that the information was not useful. The primary rationale expressed behind the lack of utility of the radio announcement was the belief that there was no effective treatment for radiation exposure, "It was useless because unless your handkerchief is made out of lead, that's not going to help a whole lot" (pg. 2, P9); "If you exposed to radiation, there is nothing you can do" (pg. 4, P3); "I'm going back to sleep. There is nothing that I can do" (pg. 4, P2); "You can't wash it off. I'm not bringing the dog in" (pg. 3, P9); "It's too late by then" (pg. 5, P8).

In addition to the fatalistic attitude towards radiation exposure, a number of group members expressed skepticism as to the intention of the message. Several indicated that the purpose of such a message would be to prevent panic rather than to provide measures that could actually keep one safe, "...taking your clothes inside and putting them in a plastic bag, you've exposed the house...sounds like something to keep you busy until you croaked" (pg. 2, P9); "Like # 9 said, it's just something to keep you occupied while you wait to die. There is nothing you can do" (pg. 5, P3). The emotional response of public panic was a clear concern of the group, "I think people are going to panic because we have people on their way to work and kids in school...you got 700 to 800 kids on school grounds, on playgrounds (pg. 3, P6); "if they just found out about it, they might as well just leave it alone. Not say nothing because this would just create panic" (pg. 6, P1).

In terms of follow-through, several members of the group questioned the feasibility of the instructions as they applied to an actual situation, "Basically, I think it is kind of illogical because if you were outside at all, you were already exposed" (pg. 1, P1); "If you are outside...I don't think taking a shower and taking off your clothes would be the first immediate thing that you do, or make sure your dog is alright. I would be like let me call my grandma and see if she is alright, or someone else" (pg. 1, P7); "...if you were in your car our something...it gave you no information (pg. 3, P9); "...if you are in your car and the children are at school...how are they going to shower and do all those things?" (pg. 6, P8); "It really doesn't give you any information on how to protect yourself" (pg. 5, P5); "They haven't really told them anything that is going to be worthwhile anyway. So I don't think this message is no avail at all" (pg. 6, P1). In addition, in terms of an actual event, two comments indicated a need for local information, "I would have been more comfortable if they had given a better idea of the location" (pg. 2, P9); "where in greater [city name] it happened (pg. 7, P9).

Scenario 2 with Television Clip

The general nature of the discussion of the radio clip involved criticisms of the style, format, and content of the information and discussion of information that would be needed that the television clip did not provide. Several comments spoke to the style of the radio announcement. Several indicated that the television clip was too long to hold one's attention, "It should have been more like quick and to the point...it was too slow" (pg. 8, P10); "It was too long. I mean your interest is gone" (pg. 10, P3). In addition, several responders described the television clip as seeming more like a commercial than an emergency broadcast, "Would I take it serious? No. Because if I were watching my T.V. and that came on, I would be like it is just another commercial" (pg. 9, P7); "A little too Geico-ish, I mean like a Geico insurance commercial" (pg. 10, P8). One participant noted a lack of diversity among the actors, "I would assume it was talking about somebody else's neighborhood cause there was nobody on there that looked like me" (pg. 9, P9) and "the whole thing was in English" (pg. 9, P9).

In terms of follow-through, participants expressed doubts about the effectiveness and feasibility of the measures. Several continued to be skeptical that the protective measures would be effective, "I do think that if you shower, you get the excess off...still you don't know how much they have absorbed through the skin or breathing or whatever" (pg. 8, P1);

"if any of those precautions were real, that lady wouldn't be donning all that stuff as she takes my x-ray" (pg. 13, P9); "to be honest, I don't think anything can be done" (pg. 12, P6). Another area of potential lack of follow-through identified was that for some, the first priority would be retrieving their children from school, "if this happens during school hours...I am getting in my care and going to find my kid" (pg. 12, P9); "you still need to know what they are going to do with your kids" (pg. 12, P8).

Others indicated that closing windows and turning off the air condition could present additional hazards in some situations, "if people are really going to cut their air conditioners...out at home because some people have asthma and it is extremely hot outside" (pg. 8, P4); "If you are in your car and it is like 89 degrees...you are going to suffocate" (pg. 8, P8). One group member pointed out that if you took a shower, then washed the dog, that you would re-contaminate yourself, "and then he gonna go back and bathe the dog and re-contaminate himself" (pg. 9, P9). Another participant stated that some indication was needed of how long one should stay indoors, "What going to happen when you get in the house. Are you going to stay in the house for the rest of your life?" (pg. 11, P1).

In terms of channel appropriateness, the general consensus was that television and radio were effective media, "T.V. and radio" (pg. 10, P7); "we're geared to turn on the T.V. and radio whenever we are trying to find out what's going on" (pg. 10, P1). However, additional media were also suggested, "It's good if you are at home or in your car, but if you happen to be at work probably neither is playing" (pg. 10, P9); "some type of alert should go out just like it does with the tornado" (pg. 11, P8); "it needs to be on the internet" (pg. 11, P?); "cell phones" (pg. 11, P7). Additional comments were the need to know the location, "The only thing I want to know is which area" (pg. 10, P2) and the specific radioactive material involved in the event, "you still need to know what kind of radioactive source you were exposed too because all of them have different half-lives and therefore some are more penetrating than others" (pg. 8, P1).

Scenario 3 with Printed Materials

In general, the response to the printed materials was more favorable than the response to the television and radio clips, for example, "I think the fact sheet was better because the fact sheet was more inclusive..."it was more correct an factual than the misinterpretation you got from the T.V." (pg. 15, P1); "...give you a better understanding...dirty bomb" (pg. 14, P8). However, several indicated that radio or television would be more effective means of communicating information during a crisis, "I would say TV or I would say radio. It's too late to pass out flyers" (pg. 24, P7); "the advertising piece for the video is more effective than just reading something" (pg. 15, P7).

Several members of the group had criticisms of or suggestions for the formatting of the printed materials. One concern was the reading difficulty, with some suggesting that pictures be added, "I'm concerned about the literacy level on this...there should be pictures attached" (pg. 15, P9); "...you've got some people who can't read...something with pictures" (pg. 17, P8); "...it should be short...with some pictures on it" (pg. 17, P4); "It takes for granted that you have some knowledge of radiation" (pg. 15, P1)

Another topic of discussion was concern for participants involved the availability of shelter children away from home and for individuals with outdoors occupations, "If you can imagine between 7:00 and 8:30 how many kids are walking to school...I've got one walking ...I'm not going to stay in the house" (pg. 16, P6); "...you do need some shelters...you've got homeless people living on the freeway" (pg. 18, P8); "the man who works on the telephone pole" (pg. 18, P9); "there are a lot of construction workers" (pg. 18, P8). It should also be noted that skepticism continued to be expressed in the group, "I would panic regardless if I had information or not" (pg. 15, P3); "We gone and it be a lot of kids in this...I would rather not know" (pg. 17, P6).

PRE-EVENT MESSAGE DEVELOPMENT PROJECT
Final Summary Report of Qualitative Analysis of Focus Group

Population: Urban Caucasian
Agent: Radiological

Region: Southeast
Focus Group Date: August 26, 2004
Report Date: September 22, 2004

Prepared by:
The Pre-Event Message Team
The School of Public Health
University of Alabama at Birmingham (UAB)

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- Participants raised concern about ability to follow-through on recommendations in various situations (e.g. no building nearby, comprised windows in home)
- Participants impression of the printed materials was most favorable of the three and radio the least favorable
- The need for local contact information and local information about the event itself was stressed

Results of qualitative analysis by scenario and materials presented

Scenario 1 with Radio Spot

Participants in the group were able to repeat key information provided in the radio spot, "stay inside" (pg. 1, P1, P2); "you weren't supposed to touch anything" (pg. 1, P3); "shower" (pg. 1, P3). However, many had additional questions regarding air and water safety, "how long can you actually seal off outside air?" (pg. 3, P2); "how do you know if the water is safe," (pg. 3, P1) and about car safety, "if you were driving in your car, then what would you do?" (pg. 3, P5). In addition, two participants thought more specific local information was needed about the nature of the terrorist attack, "what comes next?" (pg. 1, P3); "they didn't say how close by it was" (pg. 2, P2); "I think they should say where, if there's been an attack, and the nature of it" (pg. 5, P2).

Participants generally indicated that they would follow through on most of the recommendations although one expressed doubt about their efficacy, "yes, I would do them" (pg. 2, P6); "I don't believe I would go back outside to get the pet" (pg. 3, P1); "I'm a little dubious if the government came up with them [recommended actions]" (pg. 3, P3). Another issue related to credibility was the emotional reaction to the content of the radio message, "scared" (pg. 2, P2), "cautious" (pg. 2, P6) was at odds with the style of the announcer's presentation, "I thought it [actor] was unusually calm" (pg. 2, P3); "It wasn't...serious enough to make me stop and listen to it...I would probably just think it was a commercial" (pg. 2, P5). However, some participants did indicate that radio was an appropriate medium for broadcasting safety information, "radio is the best way...most everybody has a radio" (pg. 4, P3); "radio and television" (pg. 4, P1).

Scenario 2 with Television Clip

The general response to the content of television clip was similar to that of the radio announcement in that participants were able to identify key and/or new information presented, but had numerous questions and suggestions. When asked regarding the most important or new information, some responses were, "it was saying close the windows, stay inside" (pg. 7, P3); "what you should do if you are driving" (pg. 6, P5); "information...about the water being safe" (pg. 6, P1). Additional information needs included local information, "how widespread the damage" (pg. 6, P3); "they ought to have video...to let us see how serious it is for ourselves" (pg. 10, P1); more information about dirty bombs, "at some point they should say what a dirty bomb is" (pg. 10, P3); and how to protect yourself if you cannot get to indoor shelter, "when there is no where to go, no building, where do you go" (pg. 7, P1). Two participants indicated that repetition of the information would be beneficial, "they didn't repeat the numbers...and the website...they could have at least repeated it" (pg. 7, P2); "they ought to keep repeating it over and over" (pg. 8, P3).

The overall response to the television clip was that it was more credible than the radio clip, "I would be more likely to trust it [comparing to radio]" (pg. 6, P1); "...she was serious because you were able to see it" (pg. 9, P1). However one informant commented that the announcer was outside while telling you to stay inside, "she was standing outside somewhere when that was being made, wasn't she?" (pg. 9, P2). Although the group generally indicated that they would follow-through with the recommendations "yes" (pg. 8, P6); "in a perfect situation" (pg. 8, P3), many had concerns about situations that would make such follow through difficult. For example, the ability to follow through if one were in a car, "being in a car makes it a whole lot riskier" (pg. 8, P2), "park in someplace like a tunnel, that seems a little bizarre" (pg. 7, P2); the ability to obtain additional information by phone, "they gave all these 888 phone numbers to call...they'll all be busy" (pg. 7, P3); special needs populations, "unless you were disabled" (pg. 8, P3); and those in homes with insecure windows, "what about people who live in a home...got broken windows and loose windows?" (pg. 8, P1). In addition, two suggestions were made for local warning systems, "there'd be some use for loudspeakers to go around the neighborhood" (pg. 10, P3); "a siren" (pg. 10, P2).

Scenario 3 with Printed Materials

Participants had a favorable response to the quality and quantity of the information in the printed materials, although many raised additional concerns and questions. In general, the printed material was viewed as the most informative and useful, "they told you how...vast of an area this dirty bomb would cover" (pg. 11, P5); "I think I was more reassured with this, because, to me, it gave me more information combined that the radio and the television" (pg. 12, P1); "I thought it was more comprehensive" (pg. 12, P3); "I think was probably presented the best as far as people friendly, because it gives you the numbers and everything and the website, where you would have to worry about the time to write it down" (pg. 13, 5); "of the information that was given on the three formats, I think the fact sheet was the best" (pg. 14, P1).

One concern that was raised was the feasibility of distributing print material in the midst of an emergency, "how fast could they get something like this printed out?" (pg. 12, P2); "I think the biggest problems with this, would be getting it to the people" (pg. 13, P5); "we all said that we needed this before something happened, not after" (pg. 13, P3). Some questioned whether there would be appropriate follow-through with the recommendations in some situations, such as those that would make decontamination difficult, "where are you going to get a shower if you just go into any old building" (pg. 12, P3); "you always have to have a plastic bag available...it sounds like everybody automatically carries a plastic bag with them" (pg. 12, P2) or with regards to trusting that one's children would be safe at school, "I think it is an idealized situation when they say your children will be safe at school, when that may not be the case in a lot of schools I've heard about" (pg. 13, P2); "if their kids are in school...some of them will try to get there" (pg. 13, P3). Two questions were raised about radiation, "it doesn't say how long the radioactivity is likely to be dangerous" (pg. 12, P3); "it's not too clear how you find out if you have actually been exposed to the radiation" (pg. 13, P3) and one participant felt that the information about potassium iodide was not useful, "the potassium iodide...I don't know it was helpful, because to me it was just more confusing than helpful" (pg. 12, P2). Local information was also requested, "if they have any idea how widespread it is....they ought to say so" (pg. 11, P3).

PRE-EVENT MESSAGE DEVELOPMENT PROJECT
Final Summary Report of Qualitative Analysis of Focus Group

Population: Urban Caucasian
Agent: Radiological

Region: Southeast
Focus group date: August 28, 2004
Report date: September 22, 2004

Prepared by:
The Pre-Event Message Team
The School of Public Health
University of Alabama at Birmingham (UAB)

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- Participants said that they would be able to perform the actions.
- First concern would be “my family, especially my children.”
- Participant felt it needed noise, something that grabs your attention.
- Participants felt simplicity was the key to a good message.
- CDC was mentioned as the most creditable source.

Results of qualitative analysis by scenario and materials presented

Scenario 1 with Radio Spot

Overall, participants understood the radio message. New information consisted of taking clothes off, sealing them up and taking a shower. Concern about type of radioactive material involved, when it occurred and the severity of what is expected. Participants wanted to know if there was a blast, where it took place in relation to their neighborhood, the weather conditions and which way the wind was blowing. Participants said that they would be able to perform the actions. One participant said, “I wouldn’t fool with the dogs, that they’ve already been radioactive.” There was concern about the effectiveness of turning off the air conditioner and closing up the dampers. One participant compared what the radio message said to the advice given in Anniston when the radioactive material was incinerated, “They told you to do was tape up, but they also said get the heavy plastic and tape over doors and windows and things.” Some participants felt they would have an anxiety or panic. Others said they would follow the actions just like a tornado or hurricane. First concern would be “my family, especially my children.”

Most said they would listen to the radio, but they would turn on the TV. Other Media: Check the internet ... CNN. Message was clear and understandable. Participants wanted more details about the attack. Message needs to be more “professional.” Alarms should be sounded or announcement made. For example, “We’re breaking your normal broadcasting for an alert.”

One participant suggested that it should be practiced prior to an actual event so people will know what to do if there is an attack. For example, ‘Like on television, they’ll have “This is a test.” So, if you had tests on the radio that we had heard before, we would know what to look for if there was an attack, and you would interrupt the broadcast with “This is not a test.” ... that grabs your attention when you know it’ not a test.’

Scenario 2 with Television Clip

Participants were unclear if it was an announcement or what to do in the event of an attack. One older participant thought it was difficult to read “white writing against all the moving pictures.” Some participants could read it, but felt it was unclear. Participants thought it was an advance announcement. Unclear on the difference between an actual nuclear explosion and a dirty bomb. For example, one participant thought a dirty bomb was “nuclear materials that hadn’t blown up” and another participant thought it was “germ warfare.” Video gave the basics that will help out. Some participants felt the actions would keep you and appreciated the “extra information about what to do if you were in your vehicle.” Other participants were unsure the effectiveness of the recommended actions. For example, “Doesn’t radioactivity just come right through the windows and walls and the roof?” Participants don’t feel they would be safe. One participant asked, “Would this be a good time to put on your gas mask or whatever? Minimal emotional response because it didn’t seem that serious.

Several participants felt the television had all the information needed. Several participants felt the information was not believable. Other participants would have kept flipping because it looked like an infomercial. Participants thought it was very boring. One participant thought, “It looked like a paid infomercial.” Woman was not very authoritative and it did not catch your eye.

Bad television show. One participant stated, “Any time I’ve seen, you know, like, around 911, the newscaster that we are used to seeing all the time, they were emotional... she obviously knew she was taping something for us to have focus groups for, and it wasn’t really happening.”

Generally, the woman in the video was too calm. Band across the bottom with the words on it.

One participant pointed out that if you are told there is an attack in Birmingham, you would not have to do much to get everybody’s attention. Better to have local weatherman saying, “Take cover immediately!” Participant felt it needed noise, something that grabs your attention. One participant suggested, “I think you should test it, and I think it should be different

from weather related, it shouldn't be weather related, it should be something terrorist." Another participant said it should be, "The Civil Defense testing."

Scenario 3 with Printed Materials

Information was clear, concise and explanatory. New information given about difference between a dirty bomb and an atomic bomb. For example, "the water and food supplies were safe." Gave a lot of information. Quick and simple. One participant stated, "it's like, what is it, the KISS policy, keep it simple stupid." Need more information about what to do if you are in a car or you can't get to a building or your home safely. Information made participants feel better. Gave a sense of control to participants. Depressing about the guy in the car all alone with no provisions. "Is that just a tom? ... Sitting in a car, no air circulating."

Beneficial to a lot of people if it were sent in the mail still need the TV or radio also. Print is a good idea ahead of time. If an event took place, 5 out of 9 would look to TV first. Other media: Internet. Overall, a positive response to the materials. Participants interested in the information before, not after event happens. Generally, some participants felt it was the best method of delivering the message because "you're reading it, you can read it at your own pace and it seemed more serious, seeing it in writing than the infomercial on the TV." "Is there a safe period of time after it happens? What would be a safe period of time before you could leave the home?" Participant suggested, "One effective method of distributing this also would be to have large employers, like UAB, the electric company, distribute to their employees through like we use campus mail..." People tend to read mail at work because they assume it is important, unlike at home where you receive a lot of junk mail. Important to get information out to the public now.

Another participant pointed out that "when people feel that they are well informed and they are prepared, ... think will do what needs to be done ... less casualties because people will have prepared for the event." General guidelines about this event. "One, when you start out, it's like notification of an emergency and now they've kinda gotten into education of the public of what to do in an emergency, and those are two different things, and education should be done, I guess, prior to whenever, then the notification is a different thing."

PRE-EVENT MESSAGE DEVELOPMENT PROJECT
Final Summary Report of Qualitative Analysis of Focus Group

Population: Rural Caucasian
Agent: Radiological

Region: Southeast
Focus Group Date: August 13, 2004
Report Date: September 18, 2004

Prepared by:
The Pre-Event Message Team
The School of Public Health
University of Alabama at Birmingham (UAB)

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- Credibility and understandability of the radio announcer's spot is a concern
- Expression of need for more local information
- The radio spot was the least clear and the printed materials the most clear

Results of qualitative analysis by scenario and materials presented

Scenario 1 with Radio Spot

Responses to information provided in the radio spot included criticism of the style of the announcer. One informant commented that the announcer spoke too quickly, "the information...was awfully quick and not spoken slowly enough to sink in" (pg. 4, P6), another stated a preference for a female announcer, "I don't like the voice...a woman's voice is more calming" (pg. 1, P6), and another commented that the information needed to be repeated, "you should come back and repeat it again" (pg.4, P7). The style of the announcer's presentation made the message less credible in the opinion of one informant, "he sounded...more like a salesman advertising on a commercial than anything" (pg. 8, P6). Several participants expressed concern about needing alternative means of getting information to the public if electricity were not available for radio and television. Another felt that the advice to bring in pets could put people in unnecessary danger, "in an emergency situation, is it really smart to tell people to go out and get their pets if they are able to?" (pg. 2, P6).

Participants were able to recall key points of the message including "the warning to go inside" (pg. 5, P4), "take your clothes off and take a bath" (pg. 6, P5), and to "seal them [clothes] up" (pg. 6, P6). However, participants also indicated the need for additional information. Two participants indicated the need for more local information, "who to contact" (pg. 1, P1), "it would be helpful to know what part of the country it was in" (pg. 4, P7). Additional comments were that further information on self protection was needed, "more instructions on how to take care of yourself" (pg. 1, P1) and a question about whether a dust mask could be used to cover one's mouth, "can you use dust masks?" (pg. 2, P5).

When participants were questioned about follow-through with recommendations, several indicated that they would follow-through although one expressed uncertainty about whether or not the measures would be effective in keeping one safe, "I don't know...not with radioactivity" (pg. 3, P1); "I would do what they told us to do, basically" (pg.2, P1). One informant commented that appropriate follow-through would depend on one's emotional state, "the main thing is to stay calm" (pg. 2, P8). In addition, despite the criticism by some informants of the announcer's voice, another felt it had a calming effect, "the tone of the man's voice...I think it would help calm" (pg. 2, P2)

Scenario 2 with Television Clip

The general response to the television clip was that it was clearer and provided more necessary information than the radio clip, "I think it was a little more thorough" (pg. 10, P7); "...they were clear, especially what to do in your car" (pg. 12, P2); "I think if you see something rather than hear it...you are more affected by it" (pg. 11, P5). One participant repeated key information items in the television clip when the question was posed to the group, "she said go in and close your doors, windows, seal up everything" (pg. 13, P7). One participant commented on the channel appropriateness when the question was posed, "TV, radio, just however you can get it out to the people" (pg. 12, P7).

One participant indicated definite follow-through with the recommendations, "no problem to follow" (pg. 12, P1); however, a number expressed the need for additional information and clarity on several items. The need for local information was expressed again, "they should give the location, where it happened" (pg.10, P1); "a scrolling bar on the bottom telling you what area is at what level" (p.12, 6). Two participants asked for clarity in how to appropriately follow-through on the recommendations if they were away from home, "how are you going to take your clothes off in a public building and take a shower" (pg. 9, P5); "if you're in your car, can I go home?" (pg. 9, P2). In addition, one participant indicated a disconnect between the local emergency situation presented in the scenario and the generic television information, "the message didn't even start out that there was a radioactive problem, it just started out like how to protect yourself...it never even let you know than an incident had even happened" (pg. 9, P5).

Scenario 3 with Printed Materials

The overall impression of the printed material was favorable in this group. Several members of the group repeated back key or new information provided in this medium: "explaining what a dirty bomb actually was" (pg. 14, P1); "I didn't know about this KI...that's very important" (pg. 15, P5); "The most important thing is that people need to be aware that

you cannot see, you can't feels, you don't know that you're contaminated" (pg. 15, P4); "take off you clothes, take a bath. It's 98% gone" (pg. 16, P7). Members of this group did not have recommendations for improving the printed materials, but did have suggestions for wider dissemination of the materials, "I think they ought to take something like this and mail it to everybody" (pg. 14, P7);

"I think that it should be in all schools" (pg. 17, P1) (P6 and P7 made similar comments);

"someone behind her doing sign for the people who can't hear...and do it in Spanish or something" (pg. 18, P7).

PRE-EVENT MESSAGE DEVELOPMENT PROJECT
Final Summary Report of Qualitative Analysis of Focus Group

Population: Rural Caucasian
Agent: Radiation

Region: Southeast
Focus Group Date: August 20, 2004
Report Date: September 22, 2004

Prepared by:
The Pre-Event Message Team
The School of Public Health
University of Alabama at Birmingham (UAB)

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- Participants wanted to have more information regarding location of attack.
- Participants expressed concern about not knowing level of danger.
- Participants expressed concern about having enough information and time to protect themselves, including their air, food and water.
- Participants expressed desire to have more information, preferably before and attack, in order to respond in a calmer fashion.
- Participants wanted more information about safety precautions while in a vehicle.
- Some participants expressed concern regarding how people would be alerted if they didn't have access to a radio or television.
- Participant would like information taught in schools.

Results of qualitative analysis by scenario and materials presented

Scenario 1 with Radio Spot

Information was clear and believable: "It was very clear. It didn't play around ... he just gave straight information. I would believe it." (pg. 5, P8). Not knowing the level of danger: "You just don't know how much in danger you are. They didn't tell you that. I guess they can't at all times, but they didn't tell you how much danger you are, where the radioactive fallout and debris is going to be ..." (pg. 3, P5). "You can't see what it's doing to you ..." (pg. 2, P5). Preparedness: "Well, go inside and prepare, do the best you can, the preparation. Be sure you have all the things you need." (pg. 3, P2) "I know how AC is, if they say "Snow," the stores are just flooded. Everybody's getting milk and bread ... and you know if you're not prepared, everybody's going to be scrambling ... and I think we should be prepared before we hear this." (pg. 3, P4). Concerns regarding panic: "Don't panic. I think the first thing you need to do, don't panic." (pg. 3, P8). Concerns regarding location of attack and time to prepare: "If it were to happen in B, would it apply to us in AC? Maybe if it did happen in B or M, that would give us time to seal our windows and whatever precautions we wanted to take." (pg. 2, P1). Clear and workable: "I think the instructions were clear and concise, as long as you stayed calm and in control, I think you could do what you were asked to do." (pg. 4, P6). More information is better: "The more information they give out, the better. As soon as possible, the more the better." (pg. 4, P5). Protection of food and water.

Panic: "The reaction of people just automatically go berserk. I mean, when you hear something like that you just automatically explode. You know, it's just a natural reaction." (pg. 4, P1). Strong desire to contact family members: "Personally, my daughter lives in B. I've gotta get in touch with her." (pg. 3, P5). "I know I have family, a daughter and a granddaughter in M and I would want to get in touch with them." (pg. 4, P?). Television: "The TV would be the next resource because I don't have a computer." (pg. 4, P1) "I think television is the most quickly response because if something really happens, they break in with emergency messages." (pg. 5, P1). Radio: "If your TV went out then maybe you could get the radio, one with the battery ..." (pg. 5, P3).

Scenario 2 with Television Clip

Information was clear: "They were very specific about what to do, to go inside ... and even outside, if you were in your vehicle ... good instructions." (pg. 6, P4) "I think the piece was concise and clear and it gives you something to do when there is nothing you can do." (pg. 7, P5) Concerns about people outside when attack takes place: "You know lots of people jog and walk. What about those people?" (pg. 7, P8) "I don't listen to television much and I don't listen to radio so how would I know to protect myself?" "Lots of times I never turn anything on in the morning. I just get up, eat my breakfast, go outside and I never go in until probably 11:00, 12:00 or 12:30. We live out in the country, we wouldn't hear sirens." (pg. 8, P8) "Take your cell phone with you when you are outside." (pg. 8, P?) Confidence in message: "I think they need to do just what they did, because if I heard that, you might not think of ... at the time you might not think of what to do and they are telling you what to do." (pg. 9, P4) Repeat the message: "... do it often." (pg. 9, P5) "I think our radio stations should be alerted and give the spots frequently." (pg. 10, P1) Knowledge of location of attack: "The location of where this was and how far it might reach out." (pg. 10, P8) "Be more explicit as to what the area is ... what amount of territory it would be covering." (pg. 10, P1) "Well, I would love to know how far out, just take for instance, something happened here in AC, how far would that go out?" (pg. 10, P7) Unsure of performing certain actions: "You may not have a plastic bag when you go in ... Do you go wading through the house to find a plastic bag." (pg. 6, P1) Questioning clarity of actions for safety in vehicle: "It just said,

pull over to a safe place ...Would the glasses and all rolled up keep the contamination outside ... are they tight enough to keep it out?" (pg. 7, P1)

Feelings reminiscent of 911: "Shock, anger, crying (a single sob heard in the background), standing there in front of the TV, crying my heart out and praying." (pg. 9, P8) Assurance of safety: "... at least they would know that basically they personally are safe." (pg. 9, P5) Adverse reaction to visual of child: "...that little boy is just standing there looking at you and they are talking about ... I just didn't see the need for that ... why tug at the heart strings ..." (pg. 10, P5) Use of phone to notify: "What would be the best way for you to hear? Would someone be calling you?" (pg. 8, M) "That would be it, because I never turn on the radio and I don't look at the television ..." (pg. 8, P7) "Take you cell phone with you when you are outside." (pg. 8, P?) Emergency Management: "The only other source would be from the Emergency Management, because they would have the first alert." (pg. 9, P1)

Scenario 3 with Printed Materials

Interesting: "I think it's good that people know the different between a dirty bomb and the more intense radioactive incidents that can happen." (pg. 12, P5) Message was clear: "I think the fact sheet was clear and very explanatory." (pg. 12, P1) "... but I think it is real clear. I like the fact that it does give a distinction. It explains clearly what a dirty bomb is and isn't." (pg. 14, P5) Concern about safety of food and water: "It goes back to would the food and water supplies be safe?" (pg. 13, P1) No comments about recommended actions

Unease: "Just a feeling of unease." (pg. 13, P8) More comfortable with threat in present day: "Before us so much the news media about threats and terrorists, and I think we are more open to the information." (pg. 13, P1) Internet: "I live on the internet..." Should be taught in a class: "...students are required, in the state of A, to take a health class. I think this should be part of the curriculum..." (pg. 12, P5) "...teach this in a health class to inform people, because a lot of people don't pay any attention to anything like this." (pg. 12, P1) "... you can ask any kid ...more than 8 years old, what they are supposed to do if they catch on fire, and they will say 'Stop, drop, and roll' because we have ingrained it in them ... it's part of the health curriculum." (pg. 12, P5) Television: "I think television." (pg. 14, P7) Radio or scanner: "Radio or scanner. If you have a scanner that has a battery in it that would be great." (pg. 14, P3)

PRE-EVENT MESSAGE DEVELOPMENT PROJECT
Final Summary Report of Qualitative Analysis of Focus Group

Population: Urban Hispanic
Agent: Radiological

Region: Southeast
Focus Group Date: August 23, 2004
Report Date: September 22, 2004

Prepared by:
The Pre-Event Message Team
The School of Public Health
University of Alabama at Birmingham (UAB)

RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- The applicability of protective measures to children was not clear to some participants
- Dissemination in multiple languages was stressed
- Appropriate follow-through with special populations and under special conditions was a concern

Results of qualitative analysis by scenario and materials presented

Scenario 1 with Radio Spot

When participants were asked to identify the key information in the radio spot, they were able to identify numerous important information items. For example, "radiation is like airborne" (pg. 1, P1); "I must stay inside my house, close the doors, take my clothes off outside, put it in a bag, wash my pets, and just stay there" (pg. 1, P?); "you also have to close all the windows" (pg. 1, P4). Another participant characterized the message as "very clear" (pg. 2, P1). The group was characterized by mixed feelings as to whether or not the measures would be effective, "maybe we can save some lives" (pg. 2, P1); "I think those measures would not be enough" (pg. 2, P5); "We don't have enough information to know what is going on" (pg. 3, P5). Responses regarding the color code threat advisory presented in scenario 1 were also mixed, "...it would be good that education continues to explain what the different colors are" (pg. 5, P4); "the Homeland Security advisory system has been so unreliable that I guess I wouldn't pay much attention to the color code" (pg. 4-5, P5). One informant questioned the advisability of instructions regarding care of pets, "I think it may be kind of like a contradicting message, in regards to the pets" (pg. 3, P4).

In this group, a number of participants indicated that they had a strong emotional reaction upon hearing the message, "my heart started pounding thinking, 'what am I going to breath?'" (pg. 1, P4); "maybe nervous" (pg. 3, P3); "I think my reaction is nervous" (pg. 3, P2); "I would be really scared and I'd be calling everyone I know" (pg. 5, P5). However one participant who was a medical professional had a different reaction, "maybe its my background...with patients we don't panic" (pg. 4, P1).

When questioned regarding the channel appropriateness of the radio message, several informants indicated other media and sources of information that they would turn to in an emergency. These included television, the internet, and telephoning a professional resource, "television" (pg. 4, P1); "on T.V." (pg. 4, P5); "the computer, the internet" (pg. 4, P3); "maybe call someone for more information" (pg. 4, P3). One participant also noted other would be needed for those who do not have radios, "what if the person doesn't have a radio?" (pg. 2, P4). In addition, two recommendations to improve the radio message were to repeat the key information items, "repetition...keep repeating and repeating" (pg. 5, P1) and to offer the message in multiple languages, "I would be transmitting this in other languages" (pg. 3, P4); "...say the news in different languages" (pg. 5, P2).

Scenario 2 with Television Clip

The overall impression of the television clip was favorable in terms of style, content, and presentation. Some of the responses were, "...it was very clear and it was really to the point" (pg. 10, P5); "I think this is good...makes think, get ready, be ready" (pg. 11, P1). Two comments indicated that the visual content of the television clip would have broad benefit to populations served, "I think that I could follow it and I think that probably a child could follow it too just by looking and following the example" (pg. 10, P4). "...the size of the letter is big enough for older people and also for the people that are going to be reading for the hearing impaired" (pg. 12, P4). Participants were also able to identify specific information and instructions presented in the television clip, "cover your mouth, don't breathe, get as soon as you can to a safe place...if you are in a car, stop at a building or something where you can go inside, take your clothes off, put it in a bag, put in somewhere where no one can get close, and take a shower" (pg. 6, P1); "...it showed how to close the windows and turn the fans" (pg. 6, P4).

Although two participants expressed a strong emotional reaction to the television clip, "when I see the video, for the first time, I feel scared" (pg. 9, P3); "I feel panic" (pg. 9, P2), one participant indicated that the information provided relieved stress through providing specific measures that could be taken to protect oneself, "I felt really relieved...with your clothes you take away 90% of the radioactive dust and with the shower, the other 10% is gone" (pg. 10, P5). A related comment was that although the scenario presented an immediate crisis, the television clip did not reflect an unfolding terrorist event, "It doesn't seem like an emergency, it seems like something they would write, produce, and do for a place where terrorist attacks are expected" (pg. 8, P5).

Several participants identified questions and concerns that still remained after viewing the television clip. One participant expressed concern that the process of removing one's clothes might contaminate the home, "What about the area where you took your clothes off. How contaminated with that area be...?" (pg. 6, P4). Similarly, this informant was unclear about how long one should remain inside to be safe, "nobody would have a clue of how long you would have to stay inside...you might stay inside maybe a couple of hours" (pg. 10, P4). Two group members indicated that it was not clear whether or not the same protective measures should be used for children, "I would think, what about the children" (pg. 7, P2); "...it should say something about children...anything...the least I would expect is 'follow the same measures with your children'" (pg. 12, P5). Another informant expressed concern that the emergency hotline would not be accessible with multiple people calling in for information, "I was a little worried about those telephone numbers. Can you imagine how many thousands of people call at the same time?" (pg. 7, P1). One additional concern involved how one should cover one's nose and mouth if a handkerchief were not available, "What if you don't have anything to cover your mouth and nose with" (pg. 6, P4).

The group had several recommendations to improve dissemination of the message. As with the radio clip, repetition of the information was considered important, "there's just so many sources and so many things...the anthrax, it could be kidnappers, it could be anything...so I think through repetition I would start believing..." (pg. 11, P5). Several comments were related to the applicability of the message to children. One suggestion was to include children in the visual depictions, "maybe use children in the video" (pg. 13, P4) and two suggestions involved creating a message geared specifically for children, "a special program for children" (pg. 13, P3); "maybe make the message in cartoons" (pg. 13, P2). One participant commented on the lack of diversity of the actors in the enactments, "...in the video, to be inclusive of all ethnicities and all races" (pg. 17, P4). One group member expressed concern that a television clip may not reach special populations, "how about the homeless" (pg. 13, P5) and another suggested sounding an alarm system to alert the population that an emergency had occurred, "I think that one thing that I could attention is when the sirens they go" (pg. 12, P1).

Scenario 3 with Printed Materials

The general response of the focus group to the printed materials was positive although several members indicated aspects of the information that were not clear. Two positive comments indicated that the information was written in understandable language, "It doesn't have a lot of jargon like it could have" (pg. 14, P4) and "It seems like the information is progressively getting better, and this is like the best" (pg. 15, P5). Another commented on that the information on potassium iodide was beneficial, "I like the fact of the potassium iodide...that it can be dangerous to some people" (pg. 14, P4). In addition, one general favorable comment was that the printed information should be widely disseminated, "More people should have this type of thing" (pg. 14, P1).

Several areas of concern related to how to follow through appropriately with the recommendations under circumstances that the television clip did not address. For example, one group member raised the concern about individuals living in homes with compromised structural integrity, "what if the windows of the house a persons lives in were cracked or a window was missing" (pg. 14, P4). Two comments indicated that it might be difficult to follow-through with the recommendations in a car or in some buildings, "...if I'm in my car, I'm not taking my clothes off" (pg. 15, P4); "...what if the building you go to, there's no running water?" (pg. 14, P4). The applicability of the measures to small children was also reiterated, "I think we need to know that the measures are the same for small children as they are for adults and pets" (pg. 14, P5). Another comment involved the appropriateness of the term "dust" to describe radioactive contamination when the materials indicated that such contamination would not be visible, "...you say radioactivity, no smell, you cannot see it, but here it says, 'get rid of 90% of the radioactive dust'" (pg. 15, P1).

Group members also offered several recommendations to improve either the format or dissemination of the printed materials. The issue of multiple languages was again raised, "are you going to have it in different languages?" (pg. 15, P4). One member suggested that presentation of the printed material could be enhanced through including color, "...make this in different colors of papers" (pg. 17, P2). Pharmacies were identified as an important locus for disseminating information to the Latino/Hispanic population, "...tradition of Latino people they get a lot of their information from the drug stores" (pg. 18, P4). In addition, a general comment was multiple media should be used to reach the largest number of people possible, "...all mediums should share this information because some people would not read it" (pg. 17, P5).

FOCUS GROUP REPORT

Prepared by: St. Louis University

Group: Urban African American

Agent: Radiation

Date of Group: 9/18/04

Thoughts and comments about the focus group:

1. Overall, did the focus group proceed smoothly?

Yes

Comments:

- Once the group got started (about an hour late), it went smoothly.
- The group was very engaged and took their assignment seriously.

2. Did participants appear to be comfortable participating in the discussion?

Yes

- At times, perhaps too comfortable!

3. Were there any dominant participants in the focus group?

No

- With the exception of one participant, the participants were all very lively and shared their opinions freely.

4. Were there any reserved participants in the focus group?

Yes

Comments:

- One person didn't contribute at all.

5. What occurrences, behaviors, gestures, etc. are important to note that were not mentioned above? Please list them separately and briefly describe the matter of importance in the space provided below.

- One participant left immediately before the start of Part 1 (Radio Clip); he didn't ask for nor did he receive an incentive. Another participant walked in right after that and heard the beginning of Part 1 (Radio Clip). He was consented and filled out the demographic form after the group was over.
- Congressman Lacy Clay was present at the location during the group and asked to address the participants about 10 minutes from the end of the group. The congressman spoke for about 5 minutes.
- Congressman Clay arrived because the agency hosting the focus group was also hosting a voter registration drive. When the Congressman learned that we were conducting a focus group he asked to speak to the participants. He first asked the moderator to explain what we were doing. Once told he said that he remembered that Bill going through Congress. He also thanked the participants for contributing to this important work.

6. Was there anything about the setting that was noteworthy? I.e. did participants appear comfortable; was it hard to concentrate because it was too dark, cold, etc.?

- The setting was comfortable.
- The group took place in a social service agency conference room. Setting was very comfortable.
- Potential hitch of apparent availability of only two-prong outlets was overcome.

7. Any additional information that should be included?

- The group got started an hour late due to paperwork snafus, technical issues, and a lack of focus group participants. One of the two participants present offered to go recruit some people, and she came back with 6 more participants in a 10-minute time period!

Transcription Guide

Below are several themes/ constructs. Please indicate whether or not this focus group contains good quotations, stories, or interesting perspectives on any of these topics.

Comprehension of the materials

Usefulness of the materials

Readability of the materials

Credibility of the materials

Unintended effects

Other (please describe)

Key Findings

What are your top three impressions of this group?

- Not afraid to share their opinions
- Understood the main point of the materials
- Liked being able to contribute to this project
- The participants were very enthusiastic, and took their job seriously.
- Participants were surprised at the Congressman's visit, and gratified.

In your opinion, what are the top three findings of this group?

- Feel very strongly about their family, and kids in particular, and wanting to be with their kids after a bioterrorist event even if that means retrieving their kids from a different location.
- There was disagreement as to the tone of the voice of the radio announcer – would a calm voice or an urgent voice be better?
- Participants felt that recommended actions were clear, well articulated and consistent.
- Despite some hesitation and suspicion of government, participants said they were confident about the efficacy of the recommended actions, and that they could carry them out.
- This group had remaining questions that were event specific – location of explosion, their proximity to it, and implications of that location for their precautionary actions.

SOUTHWEST CENTER FOR PRE-EVENT MESSAGE DEVELOPMENT

Focus Group Pre-analysis Report

Population: American Indian
Agent: Radiation

Region: Oklahoma
Focus Group Date: August, 2004

Prepared by the Department of Health Promotion Sciences
University of Oklahoma College of Public Health
Report date: September 15, 2004

Part One: Radio

Comprehension

- Group recites most facts
- Stripping down intriguing idea
- Important info missing, how large is my “area”, what constitutes proximity? (map)
- What is the proportion of threat?

Emotional Response

- Cynical and nervous humor
- Ranged from disbelief to paranoid panic statements, most found Radio uninspiring emotively
- Our 80 yr old termed them disconcerting

Actions

- Actions understood as having common sensibility but not compelling without additional information
- Alternatives for people who live outside

Channel Appropriateness

- Local Radio is credible
- Other localized warning systems should be used
- Produced too much like a top-forty DJ

Response to the Materials

- Radio might work better with one salient piece of information localized and direction to other sources
- Talking too fast

Part Two: Television

Comprehension

- Concepts related to actions recommended recited
- Radioactive vs. fission not entirely clear from harm perspective
- What at least equal in importance to where (proximity) how close is close?
- Does radiation last how long? Travel how far? some corrected the group that this was not that kind of radioactive exposure but a nice graphic would help

Emotional Response

- Ho hum
- Suspicion of intent
- Delivery and scenario did not stimulate emotion

Actions

- Portrayal of actions understood in preference to radio
- Acting and some scenes laughable or distasteful (i.e. man in shower)
- Actions to take to get more info if TV knocked out unclear
- Maps critical
- Actions presented in animation reinforced by on-screen print better

- If everyone drives to shade there will be a big traffic jam

Channel Appropriateness

- TV ranks over both print and radio but not every body has one
- Visual media good but not this visual material

Response to the Materials

- Favorable response to the combination ,visual and “good info”
- Would like a true pre-event message , not an event simulation
- Using experts while important raises other flags, whose Doctor is this anyway, is this manipulation to keep Indian People in place?
- Why is there no evacuation plan? Is that only for scientists and politicians?

Part Three: Release of Print Information

Comprehension

- A little dense but well comprehended
- Radioactive material vs. fission blast starting to add up

Emotional Response

- Sober
- Fearful
- suspicious

Actions

- ignore unless fairly close to blast(unspecified)

Channel Appropriateness

- print viewed as most credible
- but not preferable
- official but under the federal logo a little suspect

Response to the Materials

- Too many word, insincere, devoid of feeling motivated to learn more, learned new stuff, more afraid of Terrorism but not enough.
- Material felt manipulative and unfocused on defusing historical cynicism

Part Four

Preferred Channels for Terrorism Information Dissemination

- Prefer TV, then Print, then Radio
- Local ,local ,tribal not network
- Or interestingly Emergency Broadcast
- Pre-Event best delivered through school; and tribal health programs

SOUTHWEST CENTER FOR PRE-EVENT MESSAGE DEVELOPMENT

Focus Group Pre-analysis Report

**Population: White Urban
Agent: Radiological**

Region: Oklahoma
Focus Group Date: August, 2004

Prepared by the Department of Health Promotion Sciences
University of Oklahoma College of Public Health
Report date: September 15, 2004

Part One: Radio

Comprehension

- Participants could relate the important points conveyed by the radio clip
- New information consisted only of not touching objects exposed
- Not enough information given about protection inside the house.
- Participants felt that the messages were clear, specific, and straightforward
- Participants wanted more information about where the attack took place, type of bomb, where the fallout was, how long would precautions need to be taken, drinking water safety, surviving in a sealed h house.

Emotional Response

- **Apprehension, feelings of being endangered, i.e., not safe, anxiety.**
- Worries about children and their safety
- Confidence increased by knowing what to do; Secure feeling from information given in message
- Want information quickly
- Are more attacks expected?
- Changes: None recommended, but need additional information re: degree of fallout, areas affected. Confidence would be built by providing more information.

Actions

- Some did not feel that the actions would be effective, especially the sealing of the house.
- Some felt they would be very effective as they are common sense actions.
- All felt they could carry out the recommended actions.
- All intended to carry out the actions, with the exception of disrobing inside the house. Participant recommended disrobing outside the house.

Channel Appropriateness

- TV preferred by majority.
- Sirens recommended to alert people to tune in.
- Other channels: Emergency Broadcast system, highway signs, internet, cell phones, public address system from vehicle.

Response to the Materials

- Informative, relevant, and believable
- More information needed about attack
- Will help people not to panic
- Does not grab attention
- No recommendations

Part Two: Television

Comprehension

- Important points understood
- New information concerned vehicles
- Clear information
- Scene with persons standing outside who suddenly go inside: How do they know to go inside?
- Would like information before event happens

Emotional Response

- Anxiety, concern about future attacks
- Fatalism about dying from a nuclear attack
- Video made participant more anxious than radio clip
- Frustrated by information given after the fact rather than before the fact
- More information needed about the location of the attack

Actions

- Efficacy of actions regarding cars negative
- Leaving area (city) discussed as effective

Channel Appropriateness

- No other channels recommended
- Request people to stay off of cell phones

Response to the Materials

- Clip too long
- Cheap video
- People will not follow the recommendation regarding vehicles. Would attempt to get home as fast as possible.

Part Three: Release of Print Information**Comprehension**

- Difference between atomic bomb and dirty bomb: new information but well understood
- Other information well understood
- Exception: Potassium iodide not well understood

Emotional Response

- Amount of information made participants feel safer
- Felt more informed, more secure

Actions

- Confident in ability to perform actions
- Need list of supplies to have on hand
- More information regarding potassium iodide

Channel Appropriateness

- Can review whenever needed, unlike clips
- Venues: Wal-Mart, Post Office, grocery stores, schools
- Put this information on TV, scrolled, perhaps
- In-service provision in the communities

Response to the Materials

- Very positive
- Much more information provided than radio and TV clips
- Would like the sheet ahead of an attack
- Evacuation options not addressed

Part Four**Preferred Channels for Terrorism Information Dissemination**

- Print materials most helpful
- TV second in preference
- Print materials ahead of attack, followed by TV and then radio clips

SOUTHWEST CENTER FOR PRE-EVENT MESSAGE DEVELOPMENT

Focus Group Pre-analysis Report

Population: Hispanic
Agent: Radiological-Rural

Region: Texas
Focus Group Date: September 11, 2004

Prepared by the Department of Social and Behavioral Sciences
University of North Texas Health Science Center School of Public Health
Report date: October 19, 2004

GROUP CHARACTERISTICS

What are the characteristics of the group?

Agent: Radiological **Date:** September 11, 2004
Population: Hispanic Urban **Participants:** 5 (5 demographic forms completed)

DEMOGRAPHIC CHARACTERISTICS

Characteristic	Category	N = 9
Age	Range	27-47
	Mean	33
Sex	Male	60%
	Female	40%
Education	Less than high-school	40%
	High-school diploma or GED	60%
Ethnicity/race	Hispanic	100%
Language in home	English	40%
	English / Spanish	20%
	Spanish	40%
Marital status	Single	20%
	Married or living with partner	40%
	Missing	40%
Children	Yes	40%
	No	20%
	Missing	40%
	Age Range	1-10
Currently employed	Mean Age	6
	Yes	60%
	Missing	40%
	Health Care Professional	0%
Family income	Less than \$10,000	20%
	\$30,000 – \$39,000	20%
	\$40,000-\$49,999	20%
	Missing	40%

Occupations provided: Electrician (1), Housewife (1).

Part One: Radio**Comprehension**

- Recap of information given in clip
- Unclear about how to care for animals
- Should offer more about radiation contamination

Emotional Response

- Scared
- Spiritually difficult
- Fear and uneasiness
- Need to feel informed
- Nervous laughter

Actions

- Scared would forget to do something
- Confident acting for prevention

Channel Appropriateness

- Radio is appropriate
- Television was seen as another medium to use

Response to the Materials

- A lot of good information and new information
- Professional, credible, and believable

Part Two: Television

Comprehension

- Unclear about the span of the radiation, area it covers and how far it spreads
- Recited information given in television spot
- Offer a channel just for covering the emergency

Emotional Response

- Worried for friends and family
- Want more information
- Wants to know what schools, banks, stores etc. are doing for safety

Actions

- Would follow the recommendations
- What to do about family members that are in another area
- Would go get children from school even if told not to

Channel Appropriateness

- Appropriate

Response to the Materials

- **Didn't have enough information**

Part Three: Release of Print Information

Comprehension

- **Unsure what to do about children away from home**
- **Recites precautions**
- **Provides more details and definitions**
- **Clear and straight forward**

Emotional Response

- **At ease**
- **Able to take action because you have the information in front of you, no waiting for the radio or television to make an announcement**

Action

- **Confident they can carry out actions**
- **Wanted more information on actions they can carry out themselves**
- **Want to know the radius of the exposure areas**

Channel Appropriateness

- **Good information for the medium**

Response to the Materials

- **Offer materials in all languages**
- **Had more details**

Part Four: Preferred Channels for Terrorism Information Dissemination

- **It takes awhile to get written information out**
- **Use community members to pass out information or alert others**
- **Television and radio would be better**

SOUTHWEST CENTER FOR PRE-EVENT MESSAGE DEVELOPMENT

Focus Group Pre-analysis Report

Population: Hispanic
Agent: Radiological-Urban

Region: Texas
Focus Group Date: September 8, 2004

Prepared by the Department of Social and Behavioral Sciences
University of North Texas Health Science Center School of Public Health
Report date: October 19, 2004

GROUP CHARACTERISTICS

What are the characteristics of the group?

Agent: Radiological **Date:** September 8, 2004
Population: Hispanic Urban **Participants:** 9 (9 demographic forms completed)

DEMOGRAPHIC CHARACTERISTICS

Characteristic	Category	N = 9
Age	Range	27-54
	Mean	35
Sex	Male	0%
	Female	100%
Education	Less than high-school	45%
	High-school diploma or GED	33%
	Some college	22%
Ethnicity/race	Hispanic	100%
Language in home	English	67%
	English / Spanish	11%
	Spanish	22%
Marital status	Single	45%
	Married or living with partner	22%
	Divorced or separated	11%
	Widowed	11%
	Missing	11%
Children	Yes	89%
	No	0%
	Missing	11%
	Age Range	1-31
	Mean Age	19
Currently employed	Yes	22%
	No	67%
	Missing	11%
	Health Care Professional	0%
Family income	Less than \$10,000	45%
	\$20,000 – \$29,000	11%
	\$40,000-\$49,999	11%
	Missing	33%

Occupations provided: Housekeeper (2), student (1), service representative (1), front desk attendant (1).

Part One: Radio

Comprehension

- Recap of information given in clip
- Concern about message: too short, too fast
- New knowledge that radiation can be a dust
- Recap what to do after exposure
- Question about what will happen to you if you breathe it in

- **Should you rush to the ER or stay home and wait for it to clear?**
- **Unclear about the symptoms after exposure**
- **More information makes you more aware**

Emotional Response

- **Radio may not be taken seriously**
- **Terrible feeling**
- **Was a reality check**
- **Attention getter**
- **Scared**

Actions

- **Confident but worried about family that may be exposed and if I would go help them**
- **Confident acting for prevention**
- **Think that the information went to quick to catch. How it was you could keep safe?**
- **Would go to the internet to get more information to know what to do**
- **Would not stay at home**
- **Worried about children away from their parents**

Channel Appropriateness

- **Radio is good but info should be in all forms of technology if it is that important**
- **Television was seen as another medium to use**
- **Using warning sirens, like for tornados**
- **Online or Internet would also be helpful**

Response to the Materials

- **A lot of good information and new information**
- **Professional, credible, and believable**
- **Offer more information on precautions**

Part Two: Television

Comprehension

- **Visuals helped make it more clear**
- **Added text was helpful**
- **Precautions were clear and easy to understand**
- **Recited the information regarding symptoms and prevention**
- **Unsure on what radiation really is**

Emotional Response

- Because it was an hypothetical situation there was little emotion

Actions

- Would follow the recommendations
- Would not want to be alone and would drive to locations where other people gathered

Channel Appropriateness

- Would contact local authorities
- Would look to the Internet
- Would ask neighbors

Response to the Materials

- Good, grabs your attention, credible

Part Three: Release of Print Information

Comprehension

- Understood the need for immediate action
- Recites precautions
- Provides more details and definitions
- Clear and straight forward

Emotional Response

- Gives you peace of mind
- Confident, because you have knowledge

Action

- Confident they can carry out actions
- Would like to know how they can decontaminate things

Channel Appropriateness

- Television would be more useful and preferred
- Television is easier to remember because of the visual input

Response to the Materials

- Good that they offer phone numbers to call in English and Spanish
- Had more details

Part Four: Preferred Channels for Terrorism Information Dissemination

- Prefer television because offers visual information

UCLA Focus Group Topline Report

Agent: Radiological
Population: ESL

Date: August 26, 2004
Participants: 12 (12 demographic forms turned in)

DEMOGRAPHIC SUMMARY

- ♦ **Ethnicity:** Majority (7) Latino/Hispanic, followed by Asian/Pacific Islander (3)
- ♦ **Age:** Range between 21 and 68; average age 35
- ♦ **Sex:** 9 female, 3 male
- ♦ **Language:** ½ (6) speak English at home; other languages are Chinese (3), Russian (2), Spanish (2)
- ♦ **Education:** Majority have higher education degree: college degree (6), graduate degree (2)
- ♦ **Marital Status:** Majority (7) single
- ♦ **Children:** Majority (7) have no children; child age range 5-26; average age 13
- ♦ **Employment:** Majority (8) employed
- ♦ **Family Income:** Provided data reflects that no family income exceeds \$59,999

DETAILED CHARACTERISTICS

Characteristic	Category	N = 12	Mean
Age	Range	21-68	
	Mean	35	
Sex	Male	25%	
	Female	75%	
Education	High school diploma or GED	8%	
	Some college	25%	
	College degree	50%	
	Graduate degree	17%	
Ethnicity/race	Asian/Pacific Islander	25%	
	Caucasian/White	8.3%	
	Latino/Hispanic	58.3%	
	Other (unidentified)	8.3%	
Language in home	English	41.66%	
	Spanish	16.66%	
	Russian	16.66%	
	Chinese	16.66%	
	Chinese & English	8.33%	
Marital status	Single	58.3%	
	Married or living with partner	8.3%	
	Divorced or separated	25%	
	Missing	8.3%	
Children	Yes	42%	
	No	58%	
	Age Range	5-26	
	Mean Age	13	
Currently employed	Yes	67%	
	No	33%	
	Health Care Professional – unknown (see bold below)	8%	
Family income	Less than \$10,000	25%	
	\$10,000 - \$19,999	16.7%	
	\$20,000-\$29,999	16.7%	
	\$30,000-\$39,999	16.7%	
	\$40,000-\$49,999	—	
	\$50,000-\$59,999	16.7%	
	\$60,000-\$69,999 - \$100,000 or more missing	— 8.3%	

Occupations provided: administrative assistant (2), sales/customer service, school clerk, **researcher** (not known if health-care related), interpreter, data coordinator, apartment manager, student (2)

SESSION OVERVIEW

It was a relatively large, racially mixed group with a good dynamic and good conversation flow. A number of the participants liked to crack jokes; this kept the discussion lively. The few that seemed reserved at first, eventually opened up to the rest of the group. The general trend was that participants who spoke English with more fluidity felt more at ease to speak often. The moderator was engaging, and facilitated the participation of people who did not fall into the passive or dominant categories. The room condition and setting was fine, but there was an ongoing distraction of a participant's cell phone ringing. The CDC was present at this session.

SEGMENT 1 (RADIO)

The conversation began smoothly.

- ◆ **Important Points:** Participants were able to recall a number of key points from the clip: preventive actions (“cover mouth and nose,” “don’t touch any debris,” “close all the windows”), exposure actions (“washing off,” “radioactive clothes in a bag”). The main points on the dirty bomb easily arose
- ◆ **New Information:** Immediately taking a shower after exposure was mentioned.
- ◆ **Clear/Unclear:** Not touching anything was clear to participants, but exposure boundaries -- the “safe zone” -- was not to at least one. They suggested alternating male and female voices to help keep information points from melding together. A participant admitted that the reason for any confusion might have been due the newness of the topic itself:
 - “I think the message was pretty clear. It’s just the beginning part. The whole identifying the object that kind of threw me off.”Some participants complained that they had trouble grasping all of the information on the radio script. As one participant observed, “It was kind of fast. It’s a lot to get.”
- ◆ **Emotional Response:** When the participants were asked to describe their emotions, they could only describe their reactions of “shock” and “trying to figure out what I need to do.” They were more factually based than opinionated. Their responses to the moderator’s request for “one thing we could do to change the emotional tone” of the clip were less about its tone and more about its structure. (See “Recommendations for Improvement” for stated suggestions.)
- ◆ **Acting on Recommendations:** Initial consideration of action steps was directed toward family members:
 - “I’d be more concerned about my daughter than myself. So I think I’d be more aware of what to do for her.”
 - I’d just be concerned to go out with the family as well, so I might take a shower and stay healthy instead in my house”
- ◆ **Believability:** Participants expressed having confidence in the information provided in the clip; no one questioned its legitimacy.
- ◆ **Recommendations for Improvement:** “More safety tips, what to do” was recommended. They suggested a hotline number, and “directions for people who are already outside” (i.e., those at a higher risk of being impacted). They wanted more information on the impact of radiation, and direction on which hospitals were setup for treatment.
- ◆ **Overall Impression:** Participants felt that the clip didn’t sound “urgent enough” or “too serious.” They attributed this to the announcer’s delivery, which, they thought, sounded like a typical radio to television ad, and could therefore be easily dismissed. Beginning and ending the clip with reinforcement that the information “is not a test” was suggested.
- ◆ **Effectiveness of Medium:** Participants felt that information should be disseminated via “every form of communication,” and that it should be available online “24/7.” Having the information channeling through different media would also reinforce that the situation was real:
 - “Turn on the T.V. and see it there, or look on the news, online and see it there, then I know it’s for real.”

SEGMENT 2 (TV)

During the screening of the video clip, some participants laughed and mimicked the depictions, especially the one where someone touches radioactive material. Nevertheless, everyone played close attention. Overall, the group contributed well to each other's comments and there weren't very many conflicting opinions other than varying impressions about the clip's visuals (some found them to be over-stimulating, while others didn't mind them).

- ◆ **Important Points:** Once again, participants were quick to list covering the mouth, taking showers, bagging clothes, not touching anything, and staying in the car.
- ◆ **New Information:** Participants “didn’t know taking off the clothes would help that much” and that “if you take a shower that would really help.” They learned about washing pets, but wondered if one should do so with or without gloves.

- ◆ **Clear/Unclear:** One participant thought the clip was “full of procedures,” “full of advice,” and “very effective” on those counts, but also felt that “the graphics were really distracting, and [during] the first part ... you’re kind of not understanding exactly what’s going on, so keep it simple and more practical.” Another was unclear about who the announcer represented. They discussed how the video clip’s recommendations to stay in the car at first “[don’t] make any sense” to someone watching television (i.e., not in car), but ultimately concluded that action steps for drivers could be communicated by others (family, friends) who had seen the video.
 - ◆ **Emotional Response:** Feelings expressed were more along the lines of impressions. They thought the car scenarios looked real and that the instructions provided were “pretty cool.”
 - ◆ **Acting on Recommendations:** Participants felt that people would instinctively drive home (regardless of where they were), and that they’d have a hard time pulling over and “staying put.” Taking a shower, going inside, and avoiding the impacted area were doable.
 - ◆ **Believability:** The clinical setting and “too many graphics” threw off some participants, making the clip look like a commercial. Others saw it as a pre-event message:
 - “It’s like a warning. ... This is something that they broadcast early before something actually happens. That’s what it looks like. It’s a warning [of] what to do, what to expect. Not [during an] actual emergency.”
 - ◆ **Recommendations for Improvement:** There was a suggestion to have one hotline number that could then direct callers to different languages. They also considered the best order for families to wash up:
 - “If you’re going to wash kids, wash them before yourself.”
 - “Babies [are] more effected because [they’re] small. You need to take care of them first.”
 Ultimately, they wanted more information on treating children and elderly people, and recommendations on minimizing the risk of contaminating them. One participant brought up a “household meter test” as “the safest way” to check for contamination.
 - ◆ **Overall Impression:** Participants reiterated their feeling that the clip’s overall tone was not serious enough and seemed to be “something you would sort of show [to] high school kids to let them know what to do versus showing us on during the actual emergency.”
- Effectiveness of Medium:** They found the information useful. During the print material segment of the session, they added that people would turn to stations of their native language to get this type of information.

SEGMENT 3 (PRINT)

- ◆ **Important Points:** Symptoms, protection, “what to do,” “the hidden dangers,” and information on “the children” were identified as important points from the material.
- ◆ **New Information:** Information regarding children and testing iodine was new to participants.
- ◆ **Clear/Unclear:** While the print material contained more detailed information, how to proceed remained unclear:
 - “I don’t understand the order of the things we would actually do.”
- ◆ **Emotional Response:** The material left participants feeling “more informed,” particularly with “the combination of the video simple instructions and the [radio] clip, it’s very helpful.”
- ◆ **Acting on Recommendations:** Not addressed?
- ◆ **Believability:** Not addressed?
- ◆ **Recommendations for Improvement:** Simplifying the material’s language was suggested. “Make it as simple as possible,” one participant stated. Adding pictures and graphics from the video was also recommended.
- ◆ **Overall Impression:** Some participants thought the material was too long:
 - “I don’t know where to start to read. If the emergency comes, should I read this first or should I go to the page where ...? What do I do first?”
 - “By the time you get home and you read about it, there [would be an] explosion.”
 They thought the information was suitable for adults.
- ◆ **Effectiveness of Medium:** Printing key points from the material onto refrigerator magnets was suggested. Also suggested, in case of an emergency, was dispatching the information via cells phones. Participants liked the idea of having it in different languages, and having it available “ahead of time” at local libraries or police stations.

PREFERRED CHANNEL

Television clips broadcast in various languages on English and non-English stations were preferred.

CONCLUSION/POST-SESSION

Conclusion was upbeat. Participants were friendly upon departure.

UCLA Focus Group Topline Report

Agent: Radiological
Population: Urban Asian

Date: August 31, 2004
Participants: 18 (18 demographic forms completed)

DEMOGRAPHIC SUMMARY

- ♦ **Ethnicity:** All Asian/Pacific Islander
- ♦ **Age:** Range between 31-76; average age 50
- ♦ **Sex:** 11 female, 7 male
- ♦ **Language:** More than half speak Filipino (6) or Filipino and English (4) at home (10 total), followed by English (4) and Thai (4)
- ♦ **Education:** Majority (8) have a college degree; education varied between some high school and graduate degree
- ♦ **Marital Status:** More than $\frac{3}{4}$ (14) are married or living with a partner
- ♦ **Children:** $\frac{2}{3}$ (12) have children, total child count 35; child age range 1-45; average age 20
- ♦ **Employment:** Majority (11) not employed; 2 health care professionals
- ♦ **Income:** Range between less than \$20,000 and \$60,000-\$69,999

DETAILED CHARACTERISTICS

Characteristic	Category	N = 18	Mean
Age	Range	31 - 76	
	Mean	50	
	Missing	6%	
Sex	Male	39%	
	Female	61%	
Education	Some high school	5.6%	
	High school diploma or GED	11.1%	
	Some college	27.8%	
	College degree	44.4%	
	Graduate degree	11.1%	
Ethnicity/race	Asian / Pacific Islander	100%	
Language in home	English	22.2%	
	Filipino	33.3%	
	Filipino and English	22.2%	
	Thai	22.2%	
Marital status	Single	16.7%	
	Married or living with partner	77.8%	
	Widowed	5.6%	
Children	Yes	67%	
	No	33%	
	Range	1-45	
	Mean	20	
Currently employed	Yes	33%	
	No	61%	
	Missing	6%	
	Health Care Professional (in bold below)	11%	
Family income	Less than \$10,000	11.1%	
	\$10,000 - \$19,999	38.9%	
	\$20,000-\$29,999	11.1%	
	\$30,000-\$39,999	16.7%	
	\$40,000-\$49,999	5.6%	
	\$50,000-\$59,999	—	
	\$60,000-\$69,999	11.1%	
	Missing	5.6%	

Occupations provided: Church worker, minister, **certified nursing assistant (2)**, caregiver (3), analyst, data entry, valet attendant, lawyer, self-employed, housewife (2), unemployed due to health reasons, retired

SESSION OVERVIEW

Group was very large (17 people); some participants knew each other. Participants came in and sat and waited expectedly. The room set up was not ideal and not very comfortable. The session took place in a computer/recreation room where there were couches and computer stations; as a result, some participants were three rows away from moderator (making it difficult for her to see and address). Two of the three people in the distant row were rarely engaged in the session (they spoke between themselves regularly); another male participant almost fell asleep. A woman (at the far end of the second row) dealt with her quiet but somewhat distracting child. One participant, who wore a large floppy sun hat, was somewhat dominant by occasionally giving whatever response she thought would move the discussion along. Sometimes after she'd do so, others in the group would not add comments on the point being discussed. The video was projected on closed window blinds (the only free wall space). After this session, it was determined that group count would not exceed 15.

SEGMENT 1 (RADIO)

The group started off very reserved. The moderator asked participants not to watch the waving image that appeared on the screen while the audio played, but many participants still did so. This may have been due to a language barrier (i.e., participants may not have understood the instruction). Others listened with their eyes cast down. Some were distracted by their folder material. The discussion got off to an awkward start, with participants speaking together or interrupting each other.

- ◆ **Important Points:** Participants recalled preventative steps:
 - taking off clothes and bagging them
 - washing yourself
 - covering your nose
 - turning off the air conditioning
 - don't touch objects
 - bring animals inside
- ◆ **New Information:** No response; items might have been already stated above.
- ◆ **Clear/Unclear:** Asked if anything in the radio clip was not clear, a dominant smiled and said "very clear," and there were 5-6 nods. The sense was that this answer was being given because it was easiest. When moderator pursued the point by asking if they understood everything, there were more nods. After a moment, one participant asked, "What is this radiation all about?" Moderator took a minute to explain a dirty bomb, and some participants nodded. The moderator then tried to bring the group back to the matter at hand (determining if they understood the clip being played), but participants pursued conceptual "clear/unclear" points that went beyond the clip:
 - "What happens when you breathe in radiation?"
 - "I want to know the cause of radiation."
 - "How safe are we if we stay in the house?"Why is it an issue, where did it come from, and who was responsible were also asked.
- ◆ **Emotional Response:** Having stated their larger concerns about radiation, participants stated feeling "frightened," "panic," "worry" to express their emotional response, and the majority of silent participants nodded in agreement. One participant added, "It was like Hiroshima."
- ◆ **Acting on Recommendations:** When asked if they could do any of the actions recommended in the radio clip, a participant smiled meekly and said "Not really." Participants looked at each other while thinking of a response, and would then give their responses aloud. "Get inside," "stay calm," and "if you are a mother" thinking of "your kids first before yourself" were stated,
- ◆ **Believability:** Asked if clip was believable, a participant smiled and nodded, "You have to believe it." The clip's introduction (read by the moderator) that included "warnings from the government" helped a participant to feel that "it is believable."
- ◆ **Recommendations for Improvement:** The group agreed with the idea to include an emergency disaster alarm at the beginning of the clip, to start off with "an urgent feel" to help get listeners' attention. Someone stated that the clip was "too fast ... it is like breaking news ... if you don't watch it, you don't know what will happen." They also discussed providing the information in various languages including Spanish, Chinese, and Korean. A participant sat with her child on her lap as she began to provide her ideas, but never completed her statement. Another took a phone call, left, and reentered with a new participant.
- ◆ **Overall Impression:** Some in the group stated that the clip is "bad news," and others smiled in response. Asked if it was helpful, there were nods in agreement. When asked if anyone had anything else to add to the discussion, someone said something inaudible; when moderator asked her to repeat her comment, she smiled and timidly looked down (saying nothing).

- ◆ **Effectiveness of Medium:** They felt that radio was a good channel for this type of information; there were lots of nods in agreement. When TV was mentioned, there were fewer nods, but a participant then added that, “it could be better if they show it on TV,” the likes of CNN.

SEGMENT 2 (TV)

Some participants were leaning forward as moderator read the scenario; the rest sat back in their seats. During the video clip, everyone watched for the most part. One person looked at her fellow participants (for their reactions?), another looked down at times. Someone took notes; some wrote down contact information provided at end.

- ◆ **Important Points:** Asked what they found out, the group once again began with bigger questions like, “If it gets inside your body ... how long or can you survive?” When the moderator told the person asking to write his question down for later, he listened but did not do so. Some participants seemed to lose focus: one faced away and down, another read the consent form, and another filled out her demographic form. The group looked at each other when not speaking, and looked a little uncomfortable. The group was able to provide some feedback: “Safety measures,” “wash everything and cover yourself ... close your windows and vents [in the car] and turn off your air conditioner” was offered, as was “numbers to call.”
- ◆ **New Information:** Information about car-related safety measures and the website were offered as new information. Participants stated that they knew what TTY was. A participant brought up survival again, and another added:
 - “I don’t think you want to know that at the time...you are going to die in two days...I don’t think so.”

People smiled and nodded in response to this statement. At this time, the two participants in the third row briefly discussed something that seemed unrelated to the session.

- ◆ **Clear/Unclear:** A question about what was clear and/or unclear was asked, but participants’ responses were about bigger concepts addressed in “Emotional Response” section below.
- ◆ **Emotional Response:** A number of participants felt “scared” in response to the clip. Another’s thoughts went to extreme measures:

- “You don’t want to push people to suicide.”

Masks and Geiger counters to check radiation in the house were brought up. Someone expressed his concern regarding unknown exposure problems:

- “Since you cannot feel it ... [if] you are outside and your radio is on and this thing happened ... how would you know long you have been exposed and how would you know that taking these precautions now would help you?”

When the moderator rephrased the participant’s point as “timeframe for exposure ... before it is hopeless,” there were nods. Perhaps upon noting the fear and helplessness being expressed by the group, the moderator at this point explained the difference between a dirty bomb and an atomic bomb, trying to clarify that they are “very different.” All but those in the last row were engaged at this point in the discussion. Specifically, one glanced at her folder, another was reading, and another was looking through her daily planner instead of paying attention.

- ◆ **Acting on Recommendations:** “Take shelter ... go inside” was something a participant said she/he could do, while another brought up the possibility of exposing others inside the house by doing so. “Cover your nose and mouth if you are outside,” was also stated. A participant laughed and motioned “cover[ing] yourself with a blanket.” “I would panic,” another admitted. “[And] after you panic?” the moderator pursued. “Follow instructions,” the participant responded.
- ◆ **Believability:** Participant found the announcer acceptable. “Calm and collected,” someone stated.
- ◆ **Recommendations for Improvement:** Participants nodded that there were positive and negative elements to the clip (no noticeable difference in the nods for the two extremes). When the moderator asked if there was anything they did not like about the clip, a participant responded, “The effects of radiation.”
- ◆ **Overall Impression:** One participant expressed feeling “neutral” about the clip. Participants nodded that they felt it was informative.
- ◆ **Effectiveness of Medium:** Asked about TV as the preferred channel for this sort of information, there were nods in support of one participant’s, “of course.” They brought up using the telephone to contact friends in the event of an incident. Participants nodded in support of a community-based outreach effort:
 - “There must be an assembly in a certain place whereby you have some precautions.”
 - “Maybe if there is some kind of alarm system that tells people to tune in to this station or call this number to come to this meeting place.”

When someone asked if the information would be provided before an incident, a number of people watched for moderator’s response and agreed with the suggestion. The moderator asked participants about the idea of information “running continuously,” and there many nods:

- “Just to educate people on what to do.”

- “[I]t is not to put fear in them but to subconsciously put it in their mind that this is what they need to do. As soon as they hear it again they know this time it is for real...they know what is coming and they are not going to sit instead of focusing on what they need to do...it is already going to be there subconsciously.”

A participant made a comment away from the notetaker's view to another person, who moments later suggested "a fire drill" (on behalf of the other participant?). "Just like an earthquake drill...[schools] do that every semester," someone added. ("The kids would need to know what to do too" had been stated moments earlier.)

SEGMENT 3 (PRINT)

The material was distributed. There were not enough copies so some people had to share. Some shared by leaning and reading together, or reading and passing the material to another person. Most engaged participants seemed to read through the sheets. When the discussion began, some people seemed to still be reviewing the material.

- ◆ **Important Points:** Participants were able to recall important points from the sheets: symptoms, shortness of breath, and water supply information were mentioned. When moderator stated that the material provided “a lot of information,” people smiled and nodded.
- ◆ **New Information:** Not directly addressed.
- ◆ **Clear/Unclear:** Overall, participants thought the material was “easy to understand” and “clear.” Once again, comments about what was clear/unclear went beyond what was provided in the material. Someone asked a question about a car-related procedure. The moderator told him she couldn’t answer the question but that he should write down to ask at the end of the session or to forward to a bioterrorism expert. The participant smiled and sat back in his chair (not doing what the moderator suggested). Another participant also asked another question, and someone (mocking the procedure) quickly laughed and blurted, “Write it down!” They laughed with each other and pulled out the question sheet.
Participants nodded as food safety concerns and taking medication were addressed. Someone asked, “[I]s there a [specific] center that you need to go to be tested?” The last row members talked amongst themselves.
- ◆ **Emotional Response:** Not directly addressed.
- ◆ **Acting on Recommendations:** Not directly addressed.
- ◆ **Believability:** Not directly addressed.
- ◆ **Recommendations for Improvement:** When moderator tried to pursue comments about improving the document, one of the group’s dominants smiled and said, “It’s good” matter of factly, giving the impression that she was politely trying to move the conversation along. When probed, participants liked the idea of adding graphics and turning the material into various forms that could be displayed in visible areas of their house (refrigerator magnets, stickers, postings).
- ◆ **Overall Impression:** Moderator asked if the format was helpful. “Very helpful” drew nods. Meanwhile, third-row participants’ conversation went further off-track by discussing between themselves unrelated piece of paper that one of them pulled from her purse. Some participants were listening to the group discussion but were not engaging. A few looked bored.
- ◆ **Effectiveness of Medium:** Participants explained that the print material was particularly helpful in educating them, particularly after getting interested in the topic:
 - “I believe the reason why it is good for us is because we struggle talking about [such topics]...you let us listen to [the clips] but if you just give [the handout] ... I am getting educated and learning things that I don’t know...especially when you said that an atomic bomb is not the only form of bomb and that makes you curious and want to learn more.”
 - ◆ “It is like having a disease in the family...if you are the patient you will try to read about it...go on the Internet [and] research about it and what you can do and what you should do....”

PREFERRED CHANNELS

TV drew favored response, followed by radio, then the Internet.

CONCLUSION

“Thank you for getting us prepared,” a participant stated. Tested fact sheets were swapped with currently available online versions. Most participants waited their turn to submit their demo sheet to receive their gift certificate. Only a few participants stayed behind after the event (to grab a bite). The majority left quickly.